

KERALA UNIVERSITY OF HEALTH SCIENCES

THRISSUR – 680 596, KERALA



REGULATIONS, CURRICULUM, AND SYLLABUS OF

POST GRADUATE COURSE (MD/MS) IN AYURVEDA

(With effect from 2012-13 admission)

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1. INTRODUCTION

1.1 Preamble

The regulations of the MD/MS COURSES being conducted by the Kerala University of Health Sciences is in accordance with the recommendations of the C.C.I.M, with an emphasis on the health needs of the State of Kerala.

1.2 Nomenclature of the degree

The nomenclature of Post-graduate degree in respective specialties shall be as follows.

1. Ayurveda Vachaspati (M.D.-Ayurveda) – Ayurveda Sidhanta
2. Ayurveda Vachaspati (M.D.-Ayurveda) – Kriya Sharir (Dosha-Dhatu-Mal Vigyana)
3. Ayurveda Vachaspati (M.D.-Ayurveda) – Dravya Guna Vigyana
4. Ayurveda Vachaspati (M.D.-Ayurveda) – Ras Shastra
5. Ayurveda Vachaspati (M.D.-Ayurveda) – Bhaishajya Kalpana
6. Ayurveda Dhanwantri (M.S.-Ayurveda) – Prasuti Tantra avum Stri Roga
7. Ayurveda Vachaspati (M.D.-Ayurveda) – Kaumar Bhritya-Bala Roga
8. Ayurveda Vachaspati (M.D.-Ayurveda) – Kayachikitsa
9. Ayurveda Vachaspati (M.D.-Ayurveda) – Swastha Vritta
10. Ayurveda Vachaspati (M.D.-Ayurveda) – Rog Nidan avum Vikriti Vigyana
11. Ayurveda Dhanwantri (M.S.-Ayurveda) – Shalya Tantra Samanya
12. Ayurveda Dhanwantri (M.S.-Ayurveda) – Shalya Tantra-Kshar Karma avum Anushastra Karma
13. Ayurveda Dhanwantri (M.S.-Ayurveda) – Shalakya Tantra Netra Roga
14. Ayurveda Dhanwantri (M.S.-Ayurveda) – Shalakya Tantra Shiro-Nasa-Karna avum Kantha Roga
15. Ayurveda Vachaspati (M.D.-Ayurveda) – Mano Vigyan avum Manas Roga
16. Ayurveda Vachaspati (M.D.-Ayurveda) – Panchakarma
17. Ayurveda Vachaspati (M.D.-Ayurveda) – Agad Tantra avum Vidhi Vaidyaka

2 AIMS AND OBJECTIVES OF MD/MS COURSES

The aims of the Post-graduate degree courses shall be to provide orientation of specialties and super specialties of Ayurveda and to produce experts and specialist who can be competent and efficient teachers, physicians, surgeons, obstetricians and gynaecologists (Stri Roga, Prasuthi Tantragya) pharmaceutical experts researchers and profound scholars in various fields of specialization of Ayurveda.

3. REGULATIONS

3.1 Academic eligibility for admission

3.1.1 A candidate must possess BAMS or equivalent Degree from recognized University with minimum 55% marks.

3.1.2 A candidate should qualify the Entrance Examination conducted by the competent authority as per the existing Rules of Government of Kerala and the Central council of Indian Medicine (CCIM).

3.2 Selection of students

The selection of students for the Post Graduate course shall be made based strictly on merit as decided by the Entrance Examination conducted by the competent authority approved by the Government of Kerala/Kerala University of Health Sciences and as per guidelines of the Central Council of Indian Medicine (CCIM).

3.3 Registration

3.3.1 By making a formal application in the prescribed format.

3.3.2 Original degree certificate and mark lists of qualifying examination.

3.3.3 Original Council registration certificate.

3.3.4 Allotment letter from the competent authority who conducted the Entrance Examination/ allotment letter from the Principal in the case of NRI candidates.

3.3.5 Equivalency and migration certificate wherever needed.

3.3.6 Original SSLC/equivalent certificate.

3.3.7 The fees prescribed for the course.

3.4 Duration of course

Every candidate seeking admission to the training programme to qualify for the Degree of MD/MS in the subjects conducted under the University shall pursue a regular course of study, in the concerned Department under the guidance of a recognized Post Graduate teacher for a period of three years.

3.5 Medium of instruction

The medium of instruction is English.

3.6 Period of study and attendance

3.6.1 The student shall have to undergo a study for a period of three years after the admission, out of which first year shall be devoted to preliminary course and following two years for specialty course.

3.6.2 The students shall have to attend at least eighty percent of total lectures, practicals and clinical tutorials or classes to become eligible for appearing in the examination.

3.6.3 The students shall have to attend the hospital and other duties as may be assigned to them during the course of study.

3.6.4 The students shall have to do house job duties and Clinical Registrar's duties in their respective departments during preliminary and final courses.

3.6.5 The students shall have to attend special lectures, demonstrations, seminars, study tours, and such other activities as may be arranged by the teaching department.

3.6.6 The graduate teachers having three years teaching experience shall be allowed to undertake Post-graduate training as regular student.

3.7 Post graduate department

3.7.1 Only a Department, defined as an independent academic entity of a teaching Institution, having the minimum facilities as per Norms of the C.C.I.M shall be permitted to commence a Post Graduate training programme to qualify for the award of the MD/MS Degree.

3.7.2 Minimum requirements for a Post Graduate Institution, bed strength in clinical Department, out-patient Departments, laboratory facilities, equipments, prescribed strength of faculty, number of Post Graduate students to be admitted and general aspects of training programme are in accordance with the C.C.I.M Regulations.

3.8 Minimum requirement for Post-graduate teaching centre

3.8.1 The Post-graduate education centre shall satisfy the entire minimum requirements of under graduate training as prescribed by the Council.

3.8.2 Facilities regarding training in basic sciences of Ayurveda and other supporting subjects as specified by the Council shall be provided by the Centre.

3.8.3 All the facilities of ancillary departments shall be made available by the Centre.

3.8.4 The Centre shall have adequate equipment and research facilities required for training in the related specialty and subject.

3.8.5 The minimum additional teaching staff required for starting Post-graduate course shall be one Reader and one Lecturer of concerned subject. In addition to the teachers stipulated for under graduate teaching. The specialty, which does not exist as independent department at UG level shall have one Professor, one Reader and one Lecturer for starting PG and in the absence of professor, one Reader and two Lecturers of the concerned specialty can start PG Course with intake capacity of 4 students.

3.8.6 In department of Rachana Sharir, Kriya Sharir, Dravyaguna, Rasa Shastra, Bhaishajya Kalpana, Rog Nidan and Vikriti Vigyan, Shalya Tantra, following non-teaching staff shall be posted:-

- i) Laboratory Technician (one)
- ii) Laboratory Assistant (one)
- iii) Multipurpose worker (one)

3.8.7 The Centre shall have a fully equipped hospital consisting of at least one hundred fifty beds with specialty wise adequate facilities in all departments.

3.8.8 The student bed ratio in the clinical department shall be 1:5.

3.8.9 The annual average bed occupancy in the hospital shall be more than sixty percent.

3.8.10 The teacher in post-graduate teaching shall necessarily be recognized by the University as Post-graduate teacher in concerned subject.

3.8.11 In clinical departments one Registrar or Senior Resident shall be appointed for every twenty beds.

3.9 Facilities for Post-graduate students

The stipend and contingency shall be provided at the rates prevailing in the state for other medical Post-graduate students.

3.10 Students teacher ratio

The teacher student ratio shall be such that the number of Post-graduate teachers to the number of Post-graduate students admitted per year is maintained at 1:2 in case of Professors and Readers and 1:1 for Lecturer(s). Maximum number of students per year per specialty shall not exceed six.

3.11 Qualification for Post-graduate teachers

3.11.1 The teachers deputed/appointed for Post-graduate teaching shall possess Post-graduate degree qualifications in the concerned subject.

3.11.2 For the post of Professor, thirteen years teaching experience including five years as Reader in Post-graduate teaching in the concerned subject shall be required.

3.11.3 For the post of Reader, eight years teaching experience as Lecturer including three years in Post-graduate teaching or total ten years experience of undergraduate teaching in the concerned subject shall be required.

3.11.4 For the post of Lecturer, three years professional experience after Post-graduation as Clinical registrar or Senior Resident or three years research experience in a recognized institution or three year teaching experience in the concerned subject in a recognized college shall be required.

3.11.5 Wherever there is a post of Senior Lecturer, the Lecturer with four years regular service shall be designated as Senior Lecturer.

3.12 Criteria for recognition

3.12.1 The Post-graduate education centre shall satisfy the entire minimum requirements of undergraduate training as prescribed by the Council; and in addition shall fulfill additional

requirements of Post-graduate training depending upon the type of work to be carried out in the department:

Provided that the Post-graduate Centre established by the Central Government shall satisfy the requirement specified in these regulations.

3.12.2 Facilities regarding training in Basic sciences of Ayurveda and other supporting subjects as recommended by the council shall be provided.

3.12.3 All the facilities of ancillary departments shall be available.

3.12.4 The centre shall have adequate equipment and research facilities required for training in the related specialty and subject.

3.12.5 The Centre shall have a fully equipped hospital consisting of at least one hundred fifty beds with specialty wise adequate facilities in the concerned departments.

3.12.6 The student-bed ratio in the clinical departments should be 1:5.

3.12.7 The annual average bed-occupancy should be more than sixty percent.

3.13 Method of training

3.13.1 Intensive training shall be provided in classical knowledge along with comparative and critical study in the respective specialty.

3.13.2 The emphasis shall be given on theoretical and intensive applied training and not in dictative lectures.

3.13.3 The students shall have to acquire the knowledge about the methods and technique of research in the respective fields making use of Information Technology.

3.13.4 In clinical subjects the students shall undertake responsibility in management and treatment of patients independently and deal with emergencies

3.13.5 The students shall have to participate in the teaching and training programmes of Under-graduate students or interns in the respective subjects.

3.13.6 In the first year of the course, students shall have to acquire knowledge in the applied aspects of the fundamentals of Ayurveda.

3.13.7 In the clinical training the students shall have to acquire the knowledge of independent work as specialist.

3.13.8 In the specialties of Shalya, Shalakya and Stri Roga and Prasutitantra, the students shall have to undergo training of investigative procedures, techniques and surgical performance of procedures and management in the respective specialty.

3.13.9 The student shall have to undertake training in teaching technology and research methods during the course of studies.

3.14 Examination

3.14.1 Examination and assessment

1. The Post-graduate degree course shall have two examinations in the following manner:
 - (a) The preliminary examination shall be conducted at the end of one academic year after admission.
 - (b) The final examination shall be conducted on completion of two academic years after passing preliminary examination.
 - (c) Examination shall ordinarily be held in the month of June or July and November or December every year
 - (d) For being declared successful in the examination, student shall have to pass all the subjects separately in preliminary examination.
 - (e) The result of student shall be announced as pass or fail only.
 - (f) If a student fails in one subject only in preliminary examination, he/she shall have to pass in that subject before he/she is allowed to appear in the final examination.
 - (g) If the student fails in theory or practical in the final examination, he/she can appear in the subsequent examination without requiring to submit a fresh dissertation
 - (h) The Post-graduate degree shall be conferred after the dissertation is accepted and the student passes the final examination.
2. The examination shall be aimed to test the clinical acumen ability and working knowledge of the student in the practical aspect of the specialty and his/her fitness to work independently as a specialist.
3. The clinical examination shall aim at a careful assessment of the competence of the student, so that his/her familiarity with Ayurveda and scientific literature in the specialty could be judged.
4. The viva-voce part of the practical examination shall involve extensive discussion on any aspect of the specialty.

3.14.2 Subjects of examination

1. The preliminary examination at the end of one academic year after admission shall be conducted in the following subjects:-
 - (a) Medical statistics and research methodology
 - (b) Fundamentals of concern subjects of Ayurveda with an emphasis on applied aspects along with relevant studies of basic sciences of modern medicine.
2. The students shall have to undergo training in the department concerned and shall maintain month wise record of the work done during the last two years of study in the specialty opted by him/her as under:-

- a. The study of literature related to specialty
 - b. Regular clinical training in the hospital
 - c. Practical training of research work carried out in the department
 - d. Active participation in various seminars, symposia and discussions
 - e. Finalization of topic of dissertation and synopsis
 - f. The assessment of the work done during the first year on the above points shall be done at the time of preliminary examination
3. The final examination being conducted at the end of two academic years shall consist of:-
 - (a) Dissertation
 - (b) Written papers
 - (c) Clinical, oral and practical examination, as the case may be.
4. There shall be four theory papers in each specialty and one practical or clinical and viva-voce examination in the concerned specialty or group of sub-specialties' selected by the student for special study.

3.14.3 Scheme of examination

The scheme of preliminary examination and final examination to be followed in practical, clinical and oral examination shall be as follows:-

1. The examiners shall not be appointed for a period of more than three years at a time and may be re-appointed after an interval of two years
2. The examiner shall possess teaching experiences of five years Post-graduate teaching.
3. Medium of instructions shall be English.

3.14.4 Dissertation.

1. Before a student is allow to undertake the work of dissertation, the title of the dissertation shall be registered with the University within a period of six months from the date of admission and the synopsis not later than six months after passing the preliminary examination.
2. The application for registration of the title of the dissertation shall clearly mentioned the full title of the dissertation with a synopsis of the proposed scheme of the work indicating the familiarity of the student with proposed theme of work, the name of the department and the name of the designation of the guide of supervisor and co-guide, if any.
3. For approving the title a scrutiny committee shall be constituted by the University.
4. One copy of the synopsis of the dissertation shall be submitted to the Registrar, Central Council of Indian Medicine as soon as the title is approved.
5. The subjects of every dissertation shall be practical oriented, devoid of unpromising specialties and helpful in the development of Ayurveda.
6. Once the title for dissertation is approved by the scrutiny Committee of the University, the student shall not be allowed to change the title or the proposed theme of work without permission of the University.
7. The registration of the student shall be cancelled if he/she fails to submit the title.

8. No student shall be allowed to submit the dissertation before the expiry of one calendar year after approval of the topic and before six months of final year: Provided that the students shall continue his or her regular studies in the institution after submission of dissertation.
9. The subject of the dissertation shall have relation with the subject matter of the specialty.
10. The dissertation shall contain the methods and data of the research carried out by the student on the problem selected by him and completed under the guidance of the teacher approved by the University.
11. The dissertation shall consist critical survey of relevant literature, results of the research, discussion on the basis of existing literature of the subject, summary conclusion, and references cited in the dissertation.
12. The dissertation shall consist of not more than two hundred typed pages.
13. The dissertation shall contain, at the end, a summary of not more than one thousand five hundred words and the conclusion not exceeding one thousand words.
14. The guide or supervisor shall be a person of status of a Professor or Reader or Lecturer with five years teaching experience in the subject.
15. A Professor or Reader can register maximum two students in each academic year and a Lecturer can register only one student in one academic year.
16. The dissertation shall be a literary presentation and suitable for publication either as such or in an abridged form.
17. Five copies of the bound dissertation along with a certificate from the supervisor or guide should reach the office of the Registrar of the University six months before the final examination.
18. The dissertation shall be assessed by two external and one internal examiners appointed by the University.
19. The dissertation shall be accepted only after the approval of examiners appointed under sub regulation (17) and in case of disapproval by one external examiner; the dissertation shall be referred to third examiner.
20. If the dissertation is not accepted, the same shall be returned to the student with the remarks of the examiners and the student can resubmit the dissertation after making necessary improvement in the light of examiners report to the University within a further period of six months
21. The student shall be permitted to appear in the final examination of post graduate degree course only after the examiners appointed for the purpose have approved the dissertation.

Dissertation and synopsis within the period specified under sub regulation (1)

3.15 Award of degree

A candidate who has passed in all subjects of MD/MS will be eligible for award of Degree during the ensuing convocation.

3.16 Migration and transfer

Migration/ Transfer of students undergoing any Postgraduate course (Degree) shall not be permitted under any circumstances.

4. COURSE CONTENT

4.1 Syllabus and scheme of examination of existing MD/MS course

The syllabus, scheme of examination and model question papers of existing M.D/M.S. courses is appended herewith.

KERALA UNIVERSITY OF HEALTH SCIENCES
THRISSUR

SYLLABUS FOR POST - GRADUATE COURSE IN AYURVEDA

Preliminary Examination

Research Methodology & Medical Statistics
Basic Principles of Ayurveda (Sidhanta and Samhita)

Final Year Examination

1. AYURVED SIDDHANT
2. KRIYA SHARIR
3. DRAVYAGUNA VIGYAN
4. RASASHASTRA
5. BHAISHAJYA KALPANA
6. AGADA TANTRA EVUM VYAVAHARA AYURVED
7. SWASTHAVRITTA
8. ROGNIDAN & VIKRITI VIGYAN
9. MANOVIGYAN EVUM MANASROG
10. PRASUTI & STRI ROG
11. KAUMARBHRITTYA
12. KAYACHKITSA
13. SHALYA TANTRA (SAMANYA)
14. SHALYA KSHAR EVUM ANUSHAstra KARMA
15. SHALAKYA (NETRA ROG VIGYAN)
16. SHALAKYA (KARNA-NASA-KANTHA-SHIROROG)
17. PANCHKARMA

Syllabus for MD (Ayu) Preliminary Examination

PAPER – I **RESEARCH METHODOLOGY AND MEDICAL STATISTICS**

(A) METHODS OF RESEARCH

Aims and objects of research in Ayurveda, Ancient modern methods of Research. Setting up of a basic research laboratory including Animal House.

Principles and methods of fundamental, clinical, drug, and literary research, Manuscriptology principles and methods of survey of medical plants.

Radio-isotopes and their role in medical research. Radiation and their biological effects.

Introduction of specific research instruments like chromatography Spectrometer, Calorimeter, Electrophoresis apparatus and other latest research instruments.

(B) MEDICAL STATISTICS

1. Application of statistical methods to Ayurvedic research, collection, compilation and tabulation of medical statistics, methods of presentation of data. Calculation of mean, median and mode, measurement of variability, standard deviation, standard error, and normal probability curve.
2. Concept of regression and co-relation and their interpretation.
3. Tests of significance, t_x^2 and F test and their simple application.
4. Principle of medical experimentation on variation in experimental design.
5. Vital statistics.

Reference Books

- | | |
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| 1. Ayurvediya Anusandhan paddhati | - P.V.Sharma |
| 2. Research Methodology | - Prof. V.J.Thakar |
| 3. Drug Survey | - Mayaram Uniyal |
| 4. Methods in Biostatistics for Medical Students | - B.K.Mahajan |
| 5. Introduction to Biostatistics | - Huldali Bancroft |
| 6. Practical Problem in Statistics | - D.N.Elhance. |
| 7. Health Statistics | - N.S.N.Rao |
| 8. A Short text book of medical Statistics | - Sir.A.B.Hill |
| 9. Introduction to Clinical Research- William C Scheffer | |
| 10.A short text book of Medical Statistics | - Sir.Austin Brocdtord Hill
(Indian edition) |

PAPER- II
MAULIK SIDDHANT

Basic Principles of Ayurveda (Sidhanta and Samhita)

Basic Principles of Ayurveda, Principles and technical terms of other darshan along with Sankhya and Vaisheshik darshana.

Specific knowledge of principles of Sankhya & Vaisheshik along with other darshana (Philosophy) incorporated in Ayurvedic literature. Importance of Ayurvedic Philosophical concept, determination of padartha, determination of tetra, description of vada-marga, proper knowledge of Basic principle of Ayurveda, theory of evolutions, determination of purusha according to dhatu-bheda, description of tantraukti its utility, number and knowledge of technical terms of Ayurveda. Ayurvedic concept of body. Purusha-akadhaddhupurusha, shad dhadhupurusha. chaturvimsati purusha, concept of genetics in relation with sukra sonitha, Agni types relation with digestion. Immunity, ojus, balam. Definition of mana. Different types of prakrithi. General knowledge of investigation technics, X-ray, ECG, EEG, USG, CTscan, and MRIscan.

Basic principles of Kriya Sharir

Study of the main principles of practical rachana sharir & Kriya sharir (anatomy and physiology). Specific study of the following matters in the preview of prakriti & vikriti: Definition and synonyms of sarir. Types of purusha. Ayurvedic concept of body, concept of prakrithi.

- 1) Study of Sira & Dhamani along with the study of Snayu, Nadi, and Kandara.
- 2) Analysis of srotas according to Charak & Sushrut.
- 3) Detailed study of marma, with definition, variety, description, site anatomical distribution, specific action & establishment of its importance.
- 4) Knowledge of Agni, its importance, specific variety and characteristics.
- 5) Narration of Mahasrotas, description of kostha, anatomical & physiological study of Hridya (Heart), Kloma, Phuphus (Lungs) Yakrit, Pliha, Unduk, Vrikka (Kidney), Nabhi, Dimba, Basti etc. Functional study of Dhatu, Oja, Gyanedriya, Mana, Buddhi etc. & other related structures.
- 6) Knowledge of modern investigation techniques, x-ray, ECG, EEG, USG, CTscan, MRIscan etc.

Racana Sareera

1. Basic principles of racana sareera
Nirukti and interpretation of sareera. Importance of sareera jnana, shadanga sareera, pancha bhouthikatva and sukshmatva of sareera, trigunatmakatva, tridoshamayatva and dosha dhatu mala moolakatva of karma purusha sareeras.
2. Garbha paribhasha, garbha sareera, sookshma garbha sareera, beeja bhaga, beeja bhaga avayava, anuvamsikata (hereditary), garbhadanam, garbhavriddhikara bhava, garbha poshanam, garbhavakranti. Study of Sira & Dhamani along with the study of lasika, tvak, pesi, kala, grandhi, snayu, Nadi, and Kandara. Detailed study of marma, with definition, variety, description, site anatomical distribution, specific action & establishment of its importance. Nirukti, division and number of srotas. Analysis of srotas according to Charak & Sushrut. description of kostha, anatomical & physiological study of Hridya (Heart), Kloma, Phuphus (Lungs) Yakrit, Pliha, Unduk, Vrikka (Kidney), Nabhi, Dimba, Basti etc. indriya vijñana sareera. Knowledge of human anatomy.
3. Knowledge about Panchekarana, pancha bhautikatva of - sareera, dosha, dhatu and mala
4. Investigation techniques. Xray, ECG, EEG, USG, CT, MRIscan.

Basic Principles of Dravyaguna Vigyan

(A) Fundamentals ayurveda related to Dravyaguna vijnana.

History of dravyaguna from ancient period to Vedas.

Study of ashtanganighantu, dhanwanthari nighantu, shodalanighandu, madanapalanighandu, rajanighandu, kayyadevanighandu, their authors and contents.

Panchabhoutika and samanya vishesha sidhandha.

(B) Basic principles in relation to the dravya guna vijnaana

Comparative knowledge regarding the quality of the drugs mentioned by aacarya Caraka, Sus'ruta and Vaagbhata.

The classification system followed by the above mentioned aacaaryaas as well as the authors of other nighantu.

The classification, definition, general knowledge regarding gurvaadi and paraadi guna, importance of guna.

Definition, classification as per different aacaaryaa, etymology, the paancabhautikata of rasa Differentiation between rasa and anurasa, the effect of rasa in different rtu

The features of different rasa, their qualities and functions.

The administration of food and medicine as per the different rasa.

The etymology of vipaakam, classification, characteristics of different vipaaka, qualities and functions.

The hypothesis of multiple vipaaka

The etymology of veerya, characteristics, classification, functions.

The hypothesis of multiple veeryas, a discussion on veerya samkhya.

The etymology of prabhaavam, its characters and functions.

The hypothesis of vicitra pratyaraabhata as well as the importance of vipaaka.

The etymology of karma, characteristics, classification

Knowledge about deepanam, paacana, samshodhanam, samshamanam, anulomanam, sramsanam, recanam, bhedanam, graahi, lekhnam, stambhanam, madakaari, pramaathi, vyavaayi, vikaashi

(C) The basic principles of dravya guna & rasashaatra in relation to dravyagunavijnaanam.

The definition of the science of dravya gunam

The knowledge of sapta padaartham, the characteristics of dravya, the importance of dravya.

The collection of drug, purification, prevention of decay, shelf life.

Detailed study of following drvyas 1,vatsanabha,ativisha,gudoochi,pada,daruharidra, ahibhena,varuna,tuvaraka,nagakesara,saal,baladwaya,nagabala,salmali,gokshura,charngeri,n imbuka,bilwa,guggulu,thejahwa,nimba,jyothishmati,karkadakasringi,bhallathaka,sigru,palas a,aparajitha,yashtimadhu,yavasa,saliparni,prasniparni,karanja,kapikachu,sarapungcha,baguji, kanchanara,asoka,sirisha,aragwadha,khadira,haritaki,vibhitaki,lavanga,dadima,ghathaki,indr avaruni,koosmanda,mandukaparni,ptola,hingu,satapushpa,dhanyaka,ajamoda,yavani,jeeraka ,krisnajeeraka,manjishta,madanaphala,jadamanji,bhringaraja,pushkaramula,kishta,chitraka,v idanga,lodhra,sapthaparni,kutaja,sarpagandha,karaveera,arkadwaya,saribadwaya,kapeelu,kir atatikta,sankapushpi,trivrith,kantakari,bhrhruthi,aswagandha,dattoora,katuki,bhrmhi,syonaka, padala,vasa,nirgundi,agnimandha,bharnagi,gambhari,thulasi,punarnava,apamarga,maricha,pi ppali,jatiphala,twak,karpura,agaru,chandana,eranda,danthi,arjuna,udhumbara,bhanga,devada ru,taleesapatra,haridra,arddraka,eladwaya,rasona,kumara,satavari,vacha,mustaka,useera,pipp alimoola,palandu,misreya,lathakaranja,dronapushpi.Basic principles of drug standadisation. Basic knowledge of ethnomedicine. Basic knowledge of adulterance and substitutes.

(D) The application of the basic principles in treatment

The rogapareeksha vidhi- the darshanaadi trividha pareeksha

The aaptopadeshaadi pareeksha

The shadvidha pareeksha

Ashta sthaana pareeksha

Dashavidha pareeksha

Srotopareeksha

Dwidhopakramam

Shadvidhopakramam

The differential analysis of various disorders.

The timings of drug administration

The use of anupaanam.

Knowledge of modern investigations, X-ray, ECG, EEG USG, CTscan and MRIsan.

(A) Basic Principles of Rasa-shastra

Definition of rasa, difference between rasa and rasayana. Development of

Rasasastra and its importance.

Construction of rasasala, collection of materials needed for its construction.

A critical analysis of dehavaada, dhaatuvaada, and their importance. The selection and training of a student. The features of an ideal student and teacher of rasa shastra.

Important acharyas and their disciples.

The construction and placement of rasalinga.

Rasa darshanam- the study of texts like rasaratna samuccayam, rasatarangini, rasaratnaakaram.

(B) Basic principles of shareera in relation to rasashaastram.

The relevance of paribhaasha

Knowledge of kajjali, rasapishti, rasapangha, bhavana, sodhana, avapa nirvapa, marana, yantra, moosha, koshta, puta etc

Bhasma pareeksha

(C) The basic principles of dravya guna and rasa shaatra in relation to rasa shaastram

The etymology of rasa, synonyms, types, pratisthaanam, ideal qualities, graahya and agraahya lakshana, morphological features, parade dosha, shodhanam

Ashtasamskara, parada gati, parada bandha, hingulodha parada study detail.

Classification of Rasa-mahaarasa, uparasa and saadhaarana rasa. Description of Dhatu, Updhatu, Ratna, Uparatna, Visha, & Upavisha, sudhaadi varga& their shodhana methods

The preparation of rasa aushadhi- paarada muurchanam, the description of sagandha, nirgandha, saagni and niragni types with two examples, their therapeutic administration with dosage.

Description of Kuupipakwam, kharaleeyam, parpati, potali rasa with examples. Their therapeutic application with dosage.

Drugs and cosmetics act.

The knowledge of modern instruments in the manufacture of rasa aushadhi

Maana paribhaasha

Drug standardization technique of rasa aushadhi

(D) Application of basic principles in treatment

The rogapareeksha vidhi- the darshanaadi trividha pareeksha

The aaptopadeshaadi pareeksha

The shadvidha pareeksha

Ashta sthaana pareeksha

Dashavidha pareeksha

Srotopareeksha
Dwidhopakramam
Shadvidhopakramam
The differential analysis of various disorders.
The timings of drug administration
The use of anupaanam.

Knowledge of modern investigations, X-ray, ECG, EEG, USG, CTscan and MRIscan.

Basic Principles of Bhaishajyakalpana

Definition, etymology, history and development of bhaishajyakalpana. Drugs and cosmetic act. Routes of administration and excretion of drugs (Ayurveda&Modern). Modern view of preparation useful in oral diseases. Medicaments administered through nasal route. Rules of application of lepa and mechanism of its absorption. Mechanism of action of vasti according to ayurveda and modern sciences. Knowledge of yantras used in bhaishajya kalpana
Panchavidha kashaya kalpana, expiry period, dosage, misrakalpana-ahara kalpana, sneha kalpana, sandhana, leha, vadika, choorna, lepa varthi, guggulu, lavana, mashi, kshara, ayaskriti, satwa, dhoopana and malahara.
Padhya kalpana. Different kalpanas used in mukharoga and netraroga. nasya kalpana, vasti kalpana. Collection, purification and storage of drugs. Adoption of modern pharmaceutical techniques to prepare Ayurvedic medicines. Good manufacturing practice. Intellectual property rights. Drug standardisation techniques. Oushadha sevana kala. Anupana. Investigation techniques. Xray, ECG, EEG, USG, CT, MRIscan.

Basic Principles of Rog -Nidan & Vikriti Vigyanam

A] Basic knowledge of nidana and chikitsa

Nirukti, paryaya, bheda, nirvachana, vyavacheda nidana.
Purvarupa-nirvachana, lakshana, bheda, paryaya
Roopam-lakshana, paryaya, bheda
Upasaya-anupasaya nirupanam
Samprapti-lakshana, bheda, paryaya etc
Basic knowledge of arishta, upadrava, udarka.
Importance of nidana panchaka in chikitsa
Basic concept of doshagati.
Dosha-dhatu-mala: swaroopa, sthana, bheda, vridhi kshaya lakshanas
Asrayasrayi bhava, kriyakala varnana
Vyadhikshamatva.
Rogamarga, dhatupradoshaja vyadhis.
Concept of ama, nirukti, parichaya, Sama nirama lakshana
Chikitsa chatushpada, concept of srotas.
Vyadhi-nirukti, nirvachanam, bheda.
Ashtanindita purusha and endocrinological disorders.
Nidanarthakara rogas.
Different opinions about ashtamahagadas in classics.
Doshapakam, dhatupakam
Samanyaja vyadhi and nanatmaja vyadhi.
Doshaprakopa hetus.
Kayam-nirukti, paryaya, bheda.
Chikitsyapurusha niroopanam, chikitsa prayojanam.
Relation between saririka and manasika, nija and agantu vikaras.
Role of margavarodha and dhatukshaya in vatavidhi hetus.
Deha prakriti-modern considerations

Relation between tridhatu (vayu, mayu, valasa) and tridosha with modern correlations.

B] Basic concept in shalya and shalakya

Types of vyadhi according to sushruta.

Samanya nidana of urdhwa jatrugata rogas.

Vrana-samanya nidana, nija agantu bheda, sadhyaasadyata.

Sadyovrana-nidanam and types.

C] Basic principles in prasooti streeroga and kaumarabhrutya

Yoni-roga samanya nidana, importance of vata in yoni-roga.

Balaroga nidana, sahaja vyadhis

Garbhopaghatakara bhavas, garbhavriddhikara bhavas.

D] Rogeepariksha vidhi

Detailed study of various methods of the examination of diseases and patients specially Dvididha, Trividha, chaturvidha, Panchavidha, Shadvidha, Astavidha & Dasavidha pariksha and their specific utility in medical science.

Srotopareeksha.

Dwidhopakrama, shadwidha upakrama, roga vyavachhedaka niroopanam

Oushadha sevana kalam, anupanam,

Classification of diseases according to modern science

Detailed study of all investigative procedures ayurvedic and modern. Xray, ECG, EEG, USG, CT and MRI scan

Basic Principles of Shalya Tantra

A] Basic principles of shalyatantra

Nija and agantu type of vyadhi, sadhyaasadyata.

Vrana sapham, vidradhi-nirukti, nidanam, samprapti, prakara, lakshana, upadrava, amapachyamana-pakwavastha, samanya chikitsa.

Vrana, vranasopha-samanya pariksha

Dwivraneeya chikitsa

Nadeevrana- prakara, lakshana, samanya chikitsa

Sadyovrana-nidana, prakara, lakshana, upadrava, samanya chikitsa and raktastambhana upayas

Bhagna-samanya lakshana, vargeekarana, samanya chikitsa.

Pranashtasalya vijnana and its chikitsa

Arsa, bhagandara, mootraghata, asmari, arbuda, apache, galaganda-samanya lakshana and chikitsa.

B] Basic principles of shalya and shalakya

Shalya nirukti, shalyatantrasya nirukti.

Knowledge of dhanwantari, sushruta, and their period.

Importance of shalyatantra among ashtangas

Agropaharaneeya, yogyasutreeyam-samanya parichaya

Concept of rakta as 4th dosha

Yantra shastra samanya parichaya

Trividha karma and ashtavidha karma

Kshara, Agni, raktamoksha-basic concept.

Marma-nirukti, bheda, sthanam, marmaghata samanya lakshana, chikitsa, importance of trimarma in shalyatantra.

Yantra shastras in shalyatantra

Armachedana vidhi,

Karna, oshta, nasa sandhana vidhi

C] Prasooti, streeroga, kaumarabhrutya

Yantra shastra in prasooti and streeroga.

Garbhasayamukhavistriteekarana, garbhasayalekhana, and garbhasayamukha dahanam.

Moodagarbha samanya parichaya.

Nabheenali chedana vidhi and its upadrava vyadhis.

Karnavyadhana vidhi.

Sastrakarma vidhi in karna Paliroga [karnasandhana vidhi]

D] Principles of chikitsa

Roga pareeksha vidhi-darshanadi trividha pariksha, aptopadeshadi pariksha,shadwidha pariksha,dashavidha pariksha,sroto pariksha,dwividhopakrama,shadvidhopakrama

Differential diagnosis, oushadha sevana kala, anupana.

Pre operative, operative and post operative technics, surgical ethics. Study of investigation, Xray, ECG, EEG, USG, CT, MRIscan.

Basic Principles of Shalaky Tantra

Proper knowledge of diseases above the clavicle, their etiology and clinical features. Netra-karna-mukha- siroroga nidana, poorvaroop, lakshana, samprapthy and management. Samanya chikitsa of netra rogaga, mukha roga, karnaroga, nasaroga and siroroga. Knowledge of different yantras and sastras used in diagnosis and treatment in salakyatantra. Knowledge of different surgical procedures like chedana, bhedana, lekhana, bhedana, kuttana etc. Knowledge on application of agnikarma, ksharakarma and jalukavacharana in salakya thantra. Knowledge of anatomy and physiology of eye based on panchabhoota principles. Knowledge of anatomy and physiology of ear, nose, mouth etc.

Knowledge of practical application and method of preparation of different procedures applicable in diseases above the clavicle like ashchyotan, vidalaka, putapaka, tarpana, Anjan, Dhumpna, Kavala, Gandusha, karnapurana, moordhataila Raktamokshan, nasya, Sirovasti etc.

Knowledge of different yogas used in salakya thantra-chandanadi varti, paasupata varti, jaateemukuladi varti, saptaamrita lauham, kshara tailam, anutailam, shadbindu tailam, padoladi ghritam, jeevantiyadi ghritam, traibhala ghritam, ilaneer rasakriya, mukkadividala yoga etc. Knowledge of Proper care of nasa, karna and netra of newborn. Karna vedana vidhi, complications. Teeth extraction and its complication-kukunakam. Examination of patients. Description along with practical application of newer instruments applied in different diseases depicted in Shalaky Tantra. Knowledge of Xray, CT, MRI, ECG, EEG and USG.

Basic Principles of Prasuti tantra and Stri Rog

Description of importance of female anatomy, anatomy of uterus, associated hormones of menstrual cycle, ovum, fertilization & implantation, formation of twin pregnancy, underlying causes of the formation of fetus, Sada-dhatvatmka form of fetus, Maternal factors, and development of fetus, foetal implantation, Endometrial membrane, Nutrition of the fetus, Sex formation in fetus and ante-natal and pre-natal care, formation of Jarayu (amniotic membrane) and Placenta.

Different stages of labour management, haemorrhage and its control, types of foetal expulsion, Therapeutic measures of normal labour, Abnormal labour, knowledge of cephalo-pelvic disproportion, Mudhagarbha (Obstructed labour), complications and treatment of abortion and miscarriage, Post-labour measures, cutting of umbilical cord, abnormalities of lactation.

Yoni-Vyapada, Stanya Rog, general disease in female, Rakta gulma (hydatidiform mole), Breast and Uterine cancer, Uterine prolapse, exogenous vaginal diseases. Etiology, pathogenesis and symptomatic treatment of diseases occurring in females, knowledge of methods uttrar Basti, pichu, Varti, lepa, dhupan (fumigation), dhavan (douching), agnikarma

(Cauterisation) etc. Different types and uses of various surgical methods in different female disorders. Knowledge of investigative procedures such as USG, x-ray, ECG, EEG, CT, MRI.

Basic Principles of Kaumarbhritya

A) Knowledge of nidana and chikitsa of disease related to kumara.

Definition of vyadhi, seven types of vyadhi, sahaja vyadhi, adhibalapravrutha, janmabalapravrutha, sanghatabala pravvrutha daivabalapravrutha. General knowledge and treatment of birth injuries, mooda garpha janya vyadhis, nabhi sambandha roga, stanya dushti nidana, mrthbakshajanya pandu, parigarbika nidana, dantolpathijanya vikara, danta samrakshana, vatavikara, krimijanya vyadhaya kriminirharanam, unmada and apasmara, kuposhanajanya vikara, phakka roga nidana and chikitsa, Neonatal examination and related topics of vedanadya in kasyapa samhita.

B) Principles of Salya and salakya related to koumarabruthya

Definition of moodagarbha and its nirharanopaya. resection of umbilical cord in neonates. complications due to improper cutting of umbilical cord. Treatment of umbilical herniation. Surgical treatment of jalasirsha. Karnavedhanam, obstructed anus (sannirudha gudha), Phimosi (avapadika), nirudhaprakasa, kukunaka (ophthalmic neonatorum), sahajati mira (congenital cataract), lingana, karnapuyam, karnapalivikruthami, badiryam (hearing loss), mukatwam, minminatwam, khandoshtam (cleft lip), krimidantham, dental caries, tarunya pidaka.

C) Basic principles of prasoothithanthra & streeroga related to koumarabruthya:

Definition & knowledge of prasoothithanthra. special knowledge in kasyapa samhita, menstruation, menstrual cycle, description of treebija & pumbija. Garbiniparicharya, garbhavikruthi, garbasrava, mudagarbha, garbopakramam, prasavakalam, navajatha prsavasambandhi abhigatha (birth injuries), Purpeurial woman (suthika), sthanyam-sudhasthanyalakshanam, sthanya dosham, dhathri, vajram, sthanakeelakam, diseases of yoni and its prabhava on garbha, definition of koumar bhruthya, importance of koumarabruthya among ashtangas, balye swasthanirupamam, knowledge of doshadhathu malasina apakwasarira. Definition of garbha, Garbhasareeram, sareera utpathikramam, garbhavakranthi, sukra sonitham-especially knowledge about beeja, beejabhaga, beejabhaga avayava. Matrujathi shadbhavas and its importance in garbhavrudhi, order of garbhavrudhi and garbhavrudhikarabhavas. Nutrition of New born (neonate), jathamathra, ksheerapa (those who take milk only), ksheerannada (those who take both food and milk), balasamskarasjathakarma, namakarana (naming ceremony), karnavedana, annaprasana (food intake), upavesana, padagamana, stanyapanayanam (weaning), danthothbeda (eruption of teeth) dushta stanyajanya Balaroga, balagraha and apatharpanaganya disease.

D) Application of basic principles in treatment:

Examination of rogi-darsanadi trividha pareeksha
Apthopadesa dipareeksha, shodhidh pareeksha, ashtasthanapareeksha, srothopareeksha, dwividhopakramam (two fold line of treatment), shodhidhopakramam, rogavyavachhedaka niroopanam (differential diagnosis of disease), oushadasevana kalam (time of drug administration), anupanam, General knowledge of X ray, CT, MRI, ECG, EEG, and USG,

BASIC PRINCIPLES OF MANO VIJNANAM

A) Fundamentals of nidana and chikitsa related to mano vigyan and manas roga.

Definition of Manas – swarupa, sthana, vishaya, guna, dosha. atma nirupana, atmaguna. General knowledge about manovaha srotas, manovyaparam. Origin of knowledge, manasodayitwam. Lobha, krodha, moha, soka, vilapa, preethi, bhaya, irshya etc and its relation between the aetiopathogenesis of manas roga. Detailed knowledge of prajnaparadha and satwadi prakrithi.

Psychiatric patient assessment, general symptoms of psychiatric diseases, their classifications. Basic knowledge about organic psychosis, neurosis, schizophrenia, mood disorders, personality disorders, psychosomatic disorders, sexual perversions, sleep disorders, mental retardation. Knowledge of signs, symptoms, samprapthi and chikitsa about unmada and , apasmara, atetwabhini, vesagraham, intoxication (gadodwegam) etc. Types of nidra, nidranasa causes and treatment. Types of chikitsa- daivavyapasraya, yuktivyapasraya, satwajaya, and dravya adravaya. General treatment for manodosha. Importance of panchakarma in manas roga chikitsa. Study of moorthataila, doopana, anjana, doomapana etc. Psycho pharmacology, forensic psychiatry, community psychiatry and psychiatric emergencies.

B) Application of principles of salya and salakya in psychiatric disorders.

Raktamokshana in unmada, apasmara and other manasika rogas, manosthanam-. Relation between mind, trimarma, and role of marmabhiksha in mano roga.

C) Application of principles of prasoothithantra, streeroga, koumarabhruthya in psychiatric diseases

General knowledge Yoshapasmara, pseudocycosis, garbini chardi, child psychiatry, bhootapratishta, nidana lakshana and treatment of grahavesa, nidana chikitsa of bed-wetting.

D) Application of basic principles in treatment:

Examination of rogi-darsanadi trividha pareeksha

Athopadesadi pareeksha, shadvidhapareeksha, ashtasthana pareeksha, dasavidhapareeksha, srothopareeksha, dwividhopakramam (twofold line of treatment), shadvidhopakramam

rogavyavachedaka niroopanam (differential diagnosis of disease), oushadasevana kalam (time of drug administration), anupanam, General knowledge of X ray, CT, MRI, ECG, EEG, and USG,

KAYACHIKITSA

A) Fundamentals of nidana and chikitsa related to general medicine.

Definition, etymology, types and synonyms of the word kaya, chikitsa and vyadhi, chikitsapurusha description, vyadhinamakarana sidhantha. General knowledge of nidana panchaka nidana-definition, synonyms, types with examples and nidanarthakara rogas. Vyadhi-avastha ghatakam, kriyakala vivechanam, sama nirama vivechanam, origin of ama, lakshanas and examination of sama & nirama dosha, dathu malas. Detail study of avarana- dosha avarana-dhatu-mala and anyonya avarana. Knowledge of srotas, types & symptoms of srothodushti with examples. Poorvarupa, roopa, upasaya, anupasaya. Rogamarga, prognosis of diseases, arishta, vyadhi kshamatwa, complications, pada chthustayam, vyadhi pratikara sutras- (vividhopakrama), six fold line of treatment (shadvidhopakrama), management of dosas. treatment principles of dosa kshaya & vridhi, treatment principles of ama dosa, avarana & dhatu pradoshaja vyadhi, importance of dosa & dusya in chikitsa. Daivavyapasraya, yukthivyapasraya and sathwavachaya chikitsa. General treatment principles of different rogas.

B) Basic principles of salya & salakya (in relation to kaya chikitsa)

Knowledge of rakta as fourth dosha, general knowledge of types and procedure of raktha moksha. Treatment principle of arsas, mootraghata, asmari and udara. Shiras as uthamangam. Prayoga of shashtirupakrama in kayachikitsa. General knowledge of kriyakalpa mentioned in salakyathantra - doomapana, karnapurana, nasya and moorthataila

C) Application of principles of prasoothithantra, streeroga, koumarabhruthya in kayachikitsa:

General treatment principles of yoni vyapat.Importance of vata dosha in yonivyapat.panchakarma chikitsa in garbhini .Yukthi of chikitsa in garbini.Importance of panchakarma in balaroga.Chikitsa yukthi in balaroga.

D) Practical principles of treatments Examination of rogi-darsanadi trividha pareeksha

Aphthopadesadi pareeksha,shdvidhapareeksha,ashtasthana pareeksha,dasavidha pareeksha,srothopareeksha,dwividhopakramam(twofold line of treatment),shadvidhopakramam,rogavyavachedaka niroopanam(differential diagnosis of disease),oushadasevana kalam(time of drug administration),anupanam, General knowledge of X ray, CT,MRI,ECG, EEG, and USG,

SWASTHAVRITHA

A) Basic principles of nidana &chikitsa (related to swsthavrtha)

Knowledge of dosha,dhathu,agni,mala, srotas & their vitiation.discussion of aprasannakarana of atma,indriya, mana.importance of dinacharya,nishacharya,sadvrta,swasthyasamrakshana in maintaining susthithi of ekadashaindriyas.Detailed study of

ojas,importans,location,quality,quantity,types of vitiation including visramsas,vyapath & kshaya.classification of kala into six seasons,measures for maintenance of health during rithusandhi.measures for maintanance of homeostasis of dosas during dosa chaya,prkopa & prasama.etiopathogenesis of seasonal communicable diseases.methods to prevent spread of infection.types of immunity-natural,acquired & induced. Management of diseases due to eating disorders.annaswaroopam. Ahara kalpana, upayoga vidhi, satmya asatmya, anupana, padhya apadhy gun karma.assesment of bhumi, vayu, jala prakasham, nadi, tadaka. Definition of swastha, arogya. Pollution of air, water, food, earth etc. and their purification. Qualities of different types of water-based on its direction of flow,parvathbheda, knowledge of sarasa, tadaka,prasavana,oudbhida, choundya, vaikira, kedara, palvala & samudra.jalaguna based on desa & ritu bheda.time of collection of bhouma jala.diseases due to contamination of water,air and earth and their management. Individual,family,social and community hygene,preventive measures and management.kalaviparyaya,prangyaparadha,parinama-sabda,sparsha,roopa, rasa gandhash ch asatmaya janya vyadhi lakshana.definition ,importance & explanation of the term brahmacharya.knowledge of viruddha ahara vihara.ideal food(adarsha bhojana) Epidemic disease their cause root of spread preventive measures and management. Knowledge of nidra, types, nidra nasa and management. Etiology, Signs and symptoms of tantra.niyathathanka aniyathanka parayahethu boumothpatha, anthrikshautpada& divyothpadadi utpada vishadikarana—sudarunayojyam karma

Defenition of yoga, types,different asanas, physiology of yoga, structural identity and preventive aspect of yoga.dasavidha nadi based on yogashastra.anatomical & physiological description in yogashastra.Importance of nisurgopachara.Role & timely administration of panchakarmavidhi in swasthasya samrakshana. Study of different rasayanas-general assessment of vatatapika & kudeepravesika rasayanaprayoga.

B) Basic principles of salya & salakya (in relation to swasthavritha)

Signs and symptoms of toxicated food in amasaya,pakwasaya.Toxicated toothbrush,anjana,abyanga,udwarthana,siroabyanga,karnapoorana & their purification.Protective measures & pathyapathya for diseases of netra ,karna,mukha,sira.Vrnithakaram,pathyapathyas for vranarogi.Pathyapathya during fracture.signs and symptoms & their purification methods of vitiated pandhanam,udakam,chaya,bhaktham,dhavasam,indhanam.Bhruhaspathikrtha yoga prokshanam,dhoopanam.Detoxicating methods for sayana asana,geha.Prakrthika bouthika visamkramanakari.

C) Application of principles of prasoothithantra, streeroga, koumarabhruthya in swasthavritha:

Garbhini charya, soothika charya, garbhopakrama, garbhotpathakara bhavas, soothikagaravidhi, kumaragaravidhi, navajatha sisuparicharya.

Immunization schedule and management of mother and child.

D) Practical principles of treatments Examination of rogi-darsanadi trividha pareeksha

Aphopadesadi pareeksha, shdvidhapareeksha, ashtasthana pareeksha, dasavidha pareeksha, srothopareeksha, dwividhopakramam (twofold line of treatment), shadvidhopakramam, rogavyavachedaka niroopanam (differential diagnosis of disease), oushadasevana kalam (time of drug administration), anupanam, General knowledge of X ray, CT, MRI, ECG, EEG, and USG,

PANCHAKARMA

A) Basic principles of nidana & chikitsa (related to Panchakarma)

Knowledge of agni, srotaparichaya, shat kriya kala, immunity, panchakarma according to seasons, lamghana brimhana chikitsa, shad vidha chikitsa (as in charaka samhitha),

bheshajakala. Definition of the term panchakarma, its importance, prayogavidhi, its usage according to age. Sneha swedana-indication contraindication dose samyak ayoga atiyoga lakshanas prayogavidhi, description of the yantras & drugs used & their importance. Vamana virechana anuvasana nirooha –indications contraindications dose samya heena ati ayoda lakshanas prtayogavidhi pravara Madhya avara doshanam nirnayam & importance. Dosha of Vasthinetra & vasthiputaka. Samanyavyapat & chikitsa. General knowledge about peyadikrama & rasayana. Mode of action of vamana virechana & vasthi.

B) Basic principles of salya & salakya (in relation to PANCHAKARMA)

Types and procedure of rakthamoksha. General knowledge of ksharakarma and agni karma. Nasya-indication contraindication types dose samyak ayoga atiyoga lakshanas prayogavidhi, upayogadravya, prayojanam Basic knowledge about doomanapana gandoosha kabalam prathisarana moordhatailavidhi.

C) Application of principles of prasoothithantra, streeroga, koumarabruthya in panchakarma

Utharavasthi-indication contraindication yantras used dose ayoga atiyogajanya roga chikitsa. Basic knowledge about pichu kshalanadi. Importance of panchakarma in streeroga.

D) Practical principles of treatments Examination of rogi-darsanadi trividha pareeksha

Aphopadesadi pareeksha, shdvidhapareeksha, ashtasthana pareeksha, dasavidhapareeksha, srothopareeksha, dwividhopakramam (twofold line of treatment), shadvidhopakramam, rogavyavachedaka niroopanam (differential diagnosis of disease), oushadasevana kalam (time of drug administration), anupanam, General knowledge of X ray, CT, MRI, ECG, EEG, and USG,

AGADATHANTHRA

A) Basic principles of nidana & chikitsa (related to agadatantra)

Definition etymology and synonyms of agada. Visha paribhasha, Visha ulpathi, visha yoni, visha kriya, visha guna and visha bheda. General knowledge of sthavara and jangama visha their adhithanam. Visha swaroopa and panchabouthika examination. Knowledge of toxicated food, drink and dress their symptoms and management. visha sangatham, sankha visham. Contamination of lakes and pools of water. contamination of bouma, Annam, trinam, vayu. basic knowledge about upavisha. sthavara visha lakshnam & chikitsa. jangama visha damshtra lakshna. Detailed study of dooshi visha, causes, symptoms and management. Visha Vega lakshana and chikitsa. Difference between ojas and visha. General management of visha (upakrama as in charaka samhitha). Detailed study of snakes, snakebite, their symptoms and management. Study of anti venom and dailisis. Study of alcoholism and abuse of

drugs.madatya lakshana, stages& treatment.khanija visha- pradham, nagam, vangam, pashanam, tamram.

Forensic medicine, police inquest, oaths, professional secrets, types of witness, medical certificate, dying declaration, recording of evidence, determination of age and identification. Death—medicolegal aspects,modes of death,signs of death,changes afterdeath, mrthyukalanirnayam.chikitsaka kartavyam,acharam,rules, vyavasayika adhikaram.different types of asphyxial death,death due to cold and heat. Insanity- medicolegal aspects. Sexual offences, sexual perversion.

B) Basic principles of salya & salakya (in relation to agadatantra)

Study of injuries and accidents.Knowledge of surgery, raktha moksha, siraveda use of kshara and agnikarma, anjana, nasya, doomapana kakapadam in agadatantra.

C) Basic principles of prasoothithanthra & streeroga (related to agadatantra)

Vyabhichar apakrithi karma, garbhapatham, brunahathya, napumsaka vandyathvam -basic knowledge, kaumarasya vyavhara ayurveda parigyanam.

D) Practical principles of treatments Examination of rogi-darsanadi trividha pareeksha

Aphopadesadi pareeksha,shdvidhapareeksha,ashtasthana pareeksha,dasavidha pareeksha,srothopareeksha,dwividhopakramam(twofold line oftreatment), shadvidhopakramam, rogavyavachedaka niroopanam(differential diagnosis of disease),oushadasevana kalam(time of drug administration),anupanam, General knowledge of X ray, CT,MRI,ECG, EEG, and USG,

MD (Ay) PART II EXAMINATION
1. AYURVEDA – SIDDHANT-DARSHANA

PAPER – I
Ayurvediya Siddhant

Introduction and description of main basic principles described in Charak Samhita, Sushrut Samhita, Ashtang Hridya,Ashtang Samgraha etc.,analysis of principles specially loka-purusha samya, panchmahabhuta, tanmatra, tridosha, sapta dhatu, mala, oja, agni, ama, ashtahar-vidhi viseshsaytana,upstambha, srotas, bij chatushtaya, dravya –guna-rasa-virya-vipaka; vad-vidhi, gyanopaya, description of karanarupa padartha according to ayurveda.

PAPER II
Darshanika siddhant

Speciality of philosophy of Ayurveda, discussion, and critical study of philosophical principles incorporated in ayurvedic text especially avyaktam (parkriti), shirshtikarma,chatuvidha pariksha,pramanvada (epistemology), shat padartha, karan karya vada, description of karya and karana along with their variety, description of karya, vivartavada, satkaryavad, parinamvada, arambhavada, parmanuvada etc., analytical study of basic principles of samkhya –nyaya-vaisheshika darshana, clinical/practical applications of above mentioned principles in therapeutics and research fields.

PAPER III
Itardarshananam Paryalochanam

Comparative study of the depicted principles of Ayurveda for achieving the goal along with the principles of other philosophical schools. Manovimarsha, atma-vicara, moksha, punarjanma, svabhavoparamvada,ashtangyoga, anekantavada, syatvada, chatuviddha siddhant, tantra yukti,

tachhilya, kalpana, arthashrya, vyakhya, vakyartha bodhak vrittis, tantraguna, tantradasha, vadamarga, pada - analytical study of above mentioned principles with applying these in therapeutics and research.

PAPER – IV

Ayurveda - Darshan Vangamayasya Itihas

Introduction and description of tantra kartas (authors), pratisamskertas (redactors), tika-karas (commentators), famous personalities of rasashastra, nighantukaras and their works from ancient times till date; Introduction and contribution of famous authors of ayurvedic texts in

Twentieth century; developmental studies of branches of Ayurveda. Recognition of education and research in Ayurveda by the government, globalisation of science of ayurveda, introduction of department of AYUSH established by central government health ministry and councils under AYUSH – CCIM, CCRAS. Formation, introduction and activities of organisations like Rashtriya Ayurveda Vidhyapitha.

Practical

1. Clinical/practical study of panchmahabhuta, tridosha, dhatu, mala etc. referring to karana and karya.
2. Application of methods of examination of charak in the examination of dravya, guna, rog and rogi.
3. Examination of minimum 100 patients in hospital is essential with practical study and application of essential secondary principles in those.

Reference Books

1. Charak Samhita with Chakrapani commentary
2. Sushruta samhita With Dalhana Commentary
3. Ashtanga Samgraha
4. Ashtanga Hridaya
5. Vaisheshika Darshan - Prashastapada bhasya
6. Nyaya Darshan - Vatsyayan Bhasya Patanjala
7. Yoga Darshan - Vyas Bhasya
8. Vedantsara
9. Sarvadarshan Samgraha
10. Bhartiya Darshan - Baidev Upadhyaya
11. Ayurved Darshanam - Acharya Rajkumar Jain

2. KRIYA SHARIR

PAPER – I

Deha Kriya Vigyan Sahitam Dosha Dhatu Mala Vigyaniam

1. **Dosha dhatu mala mulam hi shariram. Tatra shariram namachetanadhishtanabhutam. Panchamahabhuta vikara samudayatmakam samayogavahi.**

Physiological study of Human body as a composite of Dosha, Dhatu and Mala
Different levels of organisation of human body; Cell – Tissue – Organ - System;
mechanism of Homeostasis. Cell physiology, Membrane physiology and Membrane potentials.

2. **Dosha dhatu malanam guna karma sthana prakara dhatutwa panchabhautikatwa Nirupanam.**
Properties, functions, locations and types of Dosha, Dhatu and Mala, their Panchabhautika composition and their function as Dhatu in their normal state.
Basic classification of tissues – Epithelial tissue, Muscular tissue, Connective tissue and Nervous tissue and their functions.
3. **Dosha dhatu malanam vrudhi kshaya karani lingani cha**
Causes and features of Vriddhi and Kshaya of Dosha, Dhatu and Malas.
4. **Dhatu paka, dhatupake tatposhane cha Agni (jatharagni, bhutagni, dhatwagni) srotasam karma vivechanam agni vivekaha, aharapaka vivechanam.**
Study of physiological function of Jatharagni, Bhutagni and Dhatvagni. Basic biochemistry digestion absorption and metabolism of fats, proteins, carbohydrates, vitamins, nucleic acids, minerals and water.
5. **Srotovivekaha srotasam swarupam lakshana samkhya prakaradinam samyak gyanam**
Physiological and clinical significance of Srotamsi, their properties, features, number and types.
6. **Mutra purisha swedadi malanam nirmana karma utsarga vivechanam**
Mechanisms of formation of urine, feces and sweat, their functions and mechanisms of excretion according to ayurveda and modern science.
7. **Ojo nirupanam**
Conceptual study of ojas. Physiological and clinical importance of Ojas. Description of Immunity and its types - Innate, acquired and artificial. Mechanisms involved in Cellular (T-cell mediated) and humoral (B-cell mediated) immunity, hypersensitivity, allergy and autoimmunity.
8. **Siddhantnam kriyashariropayogi vyavaharikam gyanam navyamatena vividha jivabhautika – jivarasayanika**
Study of recent advances in the understanding of different biophysical and biochemical mechanisms involved in physiology and their correlation with Ayurvedic fundamentals. Basics of Biophysics and Biochemistry. Effect of physical Agents on living system: Ultrasound, aviation and space physiology, deep sea physiology, Hypergravics and hypogravics, Hyperbraics. Filtration, diffusion, osmosis, ultrafiltration, surface tension and adsorption, colloid, acid-base and pH buffers reduction oxidation reactions.
9. **Shatkriyakala varnanam tatha chikitsiya mahatvam cha**
Physiological and clinical study of Kriyakala and their significance
10. **Introductory Study of Kriya Sharir in relation to environment.**

PAPER II
Prakriti Satva Saradi Vigyanam

1. **Prakritidyanasaya mahatvam**
Physiological study of Deha and Manas Prakriti. Classification and features of different types of Prakriti. Concept of somatotypes, psychological traits; classification of personality according to views of different scholars, application of the concept of personality in modern psychology.

2. **Sharirika evam manasika doshanam parasparika sambandha**
Psychosomatic and somato-psychological effects, Ayurvedic and Modern methods of determination of Prakriti of an individual.
3. **Satva – Sara – Samhanana – Pramana - Satmaya – Aharashakti - Vyayamashakti – Vaya**
Ityesham bhavanam bhedopadeyata purassaram samyak gyanam Conceptual study and physiological, clinical significance of assessment of Satva – Sara – Samhanana – Pramana – Satmya – Aharashakti –Vyayamashakti – Vaya and description of modern and ayurvedic methods to assess these factors.
4. **Manasa swarupam sthana vishaya karma tasya guna – gyanotpatti – nidra swapnotpatti.**
Physiological study of Manas – its properties, locations, objects, functions and mechanism of gyanotpatti, physiology of sleep and dreams, physiology of cognitive processes.
5. **Ayurvedasammata atmanah tasya astitvam lakshanam cha**
Conceptual study of atma – consciousness –and its features.
6. **Pramanavischayasya navyavidhinam parichayah**
Modern methods of quantitatively assess various body components; Development of possible objective parameters of assessing body components Introduction to modern anthropometry and its co-relation with Ayurvedic Pramana study.

PAPER III **Koshthanga Kriya Shariram**

1. **Koshtanganam yakrit hridaya phuphusa plihadi avayavanam kriya vivechanam.**
Ayurvedic and Modern Physiological study, embryological development, histology and functional importance of different viscerae like liver, heart, lungs, spleen etc.

Physiology, histology and functional anatomy of Gastro–intestinal tract, descriptive physiology of digestion and absorption in Gastro – intestinal tract, mechanism of secretion and composition of digestive juices, metabolic, secretory, vascular, and other functions of liver, functions of spleen and pancreas.

Physiology, histology and functional anatomy of cardiovascular system. Properties of cardiac muscles, cardiac cycle, cardiac output, venous return, Blood pressure and its control. Hypertension, Heart rate and its regulation. Physiological basis of ECG, Hemodynamics.

Physiology, histology and functional anatomy of respiratory system, define ventilation, mechanism of perspiration, gaseous exchange, transportation of gases, control of respiration, hypoxia, dyspnoea, artificial respiration, applied physiology of respiration.

Physiology of male and female reproductive system.

Foetal and neonatal physiology.
2. **Prachya – navyamata samanvaya paraspara tantrika gyanendriya vigyanam**
(Ayurvedic and modern views on physiology of nervous system including physiology of special senses)

Physiology of nervous system. Functioning and regulation of central nervous system. Physiology of autonomic nervous system and somatic nervous system. Physiology of special senses and general senses. Functions of the cerebellum, brainstem and spinal cord. Functional significance of cerebral cortex, basal ganglia, limbic system, pyramidal system and extra pyramidal system. Physiology of learning and motivation, long term and short-term memory, human behaviour.

3. **Nisrota granthimnam Nama swarupa, karma, antahsravadinam vishesha gyanam – antahsravigranthinam antahsrava tesham sharirvayaveshu prabhavaha**
Physiological study of Endocrinology, Enumeration of endocrine glands their nomenclature, properties and secretions. Study of various physiological effects of hormones on different systems.
4. Recent advance in the understanding of neuro – immuno – endocrinology
5. Introduction to sports physiology
6. Introduction to fetal and neonatal physiology

PAPER IV **Prayogik Kriya Sharir**

1. **Sharirbhavanam upadhatu maladinam prayoga sharir parikshana vigyanam**
Modern laboratory and ayurvedic and clinical methods of assess the functional mechanism of dosha, dhatu, mala and other factors.
2. **Mamsa – peshi -nadi – hridayadi anga avayavanam karmanam prayogik parikshan**
(Experiments/records to demonstrate nerve muscle physiology, arterial pulse, cardiac muscles and others).
3. Clinical examination of different systems in human body
4. Physical, chemical and microscopic examination of urine, determination of specific gravity and reaction. Detection of glucose, ketone bodies, proteins, bile salts, bile pigments and occult blood in urine.
5. Study of different types of microscopes and their care and use. Preparation of peripheral blood smear. Identification of RBC, WBC, platelets. Methods of total WBC count, total count, ESR, differential WBC count, absolute eosinophil count, reticulocyte count and platelet count.
6. Estimation of haemoglobin concentration in the blood, Blood groups, bleeding and clotting time, haematocrit value and red cell indices.
7. Practical knowledge of care and usage of equipments like stethoscope, sphygmomanometer, haemoglobinometer, haemocytometer, spirometer, kymograph, thermometer etc.
8. Methods of estimating blood sugar, serum lipids, serum protein, serum creatinine, serum cholesterol and blood urea.
9. Physico – chemical techniques and principles of associated instruments –centrifuge, chemical, physical, electronic balance, PH meter, spectrophotometer and calorimeter, radioactive counters and use of radioisotopes. Transducers, oscilloscopes, recording of bio – potentials: EEG, EKG and EMG, magnetocardiography, physiograph USG, MRI etc.

Requirements to be fulfilled by MD (Ay) Students during the period of 3 years

1. Engaging at least 25 theory classes for First Prof. BAMS students in the presence of teachers as a part of training in Teaching Methodology.

2. Presentation of at least 20 seminars in the department with submission of full PAPERS of all presentations and submission of Power Point Presentations of at least 5 seminars.
3. Appearing in at least 6 assessments at departmental level in theory and practical.
4. Participation and presentation of PAPERS in at least 2 National /International Seminars.
5. Publication/Communication of at least 1 research PAPER and 1 Article in journal /magazine.

Reference Books

- | | |
|---|-------------------------|
| 1. Relevant Parts of Charak, Sushut and Vaghata | |
| 2. Ayurvediya Kriyasharir | - Ranjit rai Desai |
| 3. Dehadhatvagni Vigyan | - Pt.Haridatt Sastri |
| 4. Kayachikitsa Parichaya | - C.Dwarkanth |
| 5. Prakrit Agni Vigyan | - C.Dwarkanth |
| 6. Prakrit Dosha Vigyan | - Acharya Niranjana Dev |
| 7. Sharir Kriya Vigyan | - Shiv Charan Dhyani |
| 8. Sharir Kriya Vigyanasya Adhunik Grantha | |

3. DRAVYAGUNA VIGYAN

PAPER I

Namarupa Vigyan

1. Dravya and its classification, importance of Namagyana of Dravya, origin of Namaraupagyana of Oushadhi in the Vedas, study on etymological derivation of various names and synonyms of oushadhas.
2. Objective of Dravya – Rupagyana in relation with the Oushadhas. Sthula and Sukshuma description (Macroscopic and Microscopic study) of Oushadas.
3. Study of synonyms of Oushadha / Ahara dravya mentioned in Vedic literature and in Bhava Prakash and Rajnighantu.
4. Analysis of Synonyms related to external morphology of medicinal plants.
5. Introduction of Pharmacognosy – following methods of classification of crude drugs – Morphological, Microscopical, chemical, Taxonomical, Alphabetical, Pharmacological, Therapeutical, Chemotaxonomical etc.
6. Brief knowledge regarding Nomenclature, Identification and Classification of drugs in Ayurveda based on Samhita and Nighantus.
7. Organized and unorganised drugs and their methods of evaluation.
8. Study of Distinguishing morphological characteristic features of important medicinal plants including following minimum 100 medicinal plants: -

Ahiphena	2.Agnimantha	3.Agaru
4.Amalaki	5.Apamarga	6.Aragvadha
7.Ardraka –shunthi	8.Arjuna	9.Arka
10.Ashvagandha	11.Ashvagola	12.Asoka
13.Ativisha	14.Bakuchi	15.Baladvayam
16.Bharangi	17.Bhallataka	18.Bidhitaka

19.Bijaka/Vijayasara	20.Bilva	21.Brahmi
22.Bringaraj	23.Brihati	24.Chandanadvaya
25.Citraka	26.Dadima	27.Danti
28.Daruharidra	29.Dhanyaka	30.Dhataki
31.Draksha	32.Durva	33.Ela
34.Eranda	35.Gambhari	36.Gokshura
37.Guduchi	38.Guggulu	39.Haridra
40.Haritaki	41.Hingu	42.Jambu
43.Jatamamsi	44.Jatiphal	45.Jirakdvaya
46.Jyotishmati	47.Kalamegha	48.Kampilla
49.Kanchanara	50.Kantakari	51.Kapikacchu
52.Karkatakshringi	53.Karpura	54.Katuki
55.Khadira	56.Kiratatikta	57.Kumari
58.Kupilu	59.Kumkum kesara	60.Kushmanda
61.Lavang	62.Kutaja	63.Lodhra
64.Madanaphala	65.Manjishtha	66.Maricha
67.Markandika	68.Musali	69.Musta
70.Nagakeshara	71.Nimba	72.Nirgundi
73.Palasha	74.Palandu	75.Pashanabheda
76.Patala	77.Patola	78.Pippali pipplimula
79.Punarnava	80.Rasna	81.Rasona
82.Saireyaka	83.Shallaki	84.Saptaparna
85.Sarpagandha	86.Sariva	87.Shalparni
88.Shalmali	89.Shankhapushpi	90.Shatavari
91.Shatapushpa	92.Shigru	93.Shirish
94.Shyonaka	95.Thalisa Patra	96.Tila
97.Tivrit	98.Tulasi	99.Tvak
100.Ushira	101. Vacha	102.Varuna

103.Vasa	104.Vata	105.Vatsanabha
106.Vidari	107.Vidanga	108.Yashtimadhu
109.Yavani	110.Deodaru	

- Drug research methods – Ayurvedic and conventional, process of Drug development.
- Standardisation of Crude Drugs as per Ayurvedic Pharmacopoeia of India (API) and WHO guidelines.
- Cultivation, Collection, Storage and preparation for the market of ASU Drugs. Introduction of Good Agricultural practices (GAP), Good Field Collection Practices (G.F.C.P) and Good storage Practices (G.S.P.) etc.
- Environmental (Desha, kala, Ritu etc), Genetic and Geneder factors affecting qualities of crude drugs.
- Introduction of tissue culture techniques used for Ayurvedic Drugs.
- Anukta dravya, (extra pharmacopeal Drugs).
- Controversial aspects of Ayurvedic Drugs.
- Adulteration and substitutes of Crude drugs, and methods of detection of adulterants.
- Knowledge of TKDL, IPR, Publications and related issues.
- Introduction of Pharmacogenomics.

Practical

- Field Identification of medicinal plants - At least three local Dravyaguna study tours within the state for field identification and one study tour should be organised out of state.
- Preparation of Minimum 50 herbarium sheets of the plants collected during study tour.
- Macroscopical, Organoleptic, and Microscopic evaluation of five different parts of plants including their powders.
- Extraction and phytochemical evaluation pertaining to TLC separation of various parts of plants (Minimum five)
- Project – Quality assessment of market sample of crude Drugs. Three crude drugs report should be produced at the time of final practical examination.

PAPER II **Guna Karma Vigyan**

- Fundamental principles of drug action both Ayurvedic and modern perspective.
- Detailed study of rasa, guna, virya, vipaka and prabhava with their applied aspects, based on views of commentators like Chakrapanidatta, Dalhana, Arunadatta, Hemadri and Indu.
- Elaborate study of karmas mentioned in Brihatrayi – etimological derivation and definition along with examples.
- Detailed study of Guna karmas (Properties and Actions) and Review of Research studies carried out on important Ayurvedic Medicinal Plants during 20th century including following minimum 110 plants.

1.Ahiphena	2.Agnimantha	3.Agaru
4.Amalaki	5.Apamarga	6.Aragvadha
7.Ardraka – Shunthi	8.Arjuna	9.Arka
10.Asvagandha	11.Ashvagola	12.Asoka

13.Ativisha	14.Bakuchi	15.Baladvayam
16.Bharangi	17.Bhallataka	18.Bidhitaka
19.Bijaka/Vijayasara	20.Bilva	21.Brahmi
22.Bringaraj	23.Brihati	24.Chandanadvaya
25.Citraka	26.Dadima	27.Danti
28.Daruharidra	29.Dhanyaka	30.Dhataki
31.Draksha	32.Durva	33.Ela
34.Eranda	35.Gambhari	36.Gokshura
37.Guduchi	38.Guggulu	39.Haridra
40.Haritaki	41.Hingu	42.Jambu
43.Jatamamsi	44.Jatiphal	45.Jirakdvaya
46.Jyotishmati	47.Kalamegha	48.Kampilla
49.Kanchanara	50.Kantakari	51.Kapikacchu
52.Karkatakshringi	53.Karpura	54.Katuki
55.Khadira	56.Kiratatikta	57.Kumari
58.Kupilu	59.Kumkum kesara	60.Kushmanda
61.Lavang	62.Kutaja	63.Lodhra
64.Madanaphala	65.Manjishtha	66.Maricha
67.Markandika	68.Musali	69.Musta
70.Nagakeshara	71.Nimba	72.Nirgundi
73.Palasha	74.Palandu	75.Pashanabheda
76.Patala	77.Patola	78.Pippalippalimula
79.Punarnava	80.Rasna	81.Rasona
82.Saireyaka	83.Shallaki	84.Saptaparna
85.Sarpagandha	86.Sariva	87.Shalparni
88.Shalmali	89.Shankhapushpi	90.Shatavari
91.Shatapushpa	92.Shigru	93.Shirish
94.Shyonka	95.Thalisa patra	96.Tila

97.Tivrit	98.Thulasi	99.Tvak
100.Ushira	101. Vacha	102.Varuna
103.Vasa	104.Vata	105.Vatsanabha
106.Vidari	107.Vidanga	108.Yashtimadhu
109.Yavani	110.Deodaru	

- Detailed study of aharadravyas as per Bhavamishra, and a brief knowledge about contemporary food items.
- Introduction to general pharmacology.
- Knowledge on procedures, Equipments and instruments used in pharmacological evaluation.
- Toxicological and safety Evaluation of Ayurvedic Drugs – Acute, subacute and chronic as well as specific toxicity studies.
- Introduction to experimental pharmacology with special reference to drug evaluation like analgesic, anti pyretic, anti inflammatory, anti diabetic, anti hypertensive, Anti lipidemic, anti ulcer, Anti microbial, Hepatoprotective, Diuretics, Adaptogens, CNS activity etc.

Practical

- Preparation of minimum one Herbal Monogram – Not less than 50 pages (to be prepared in the first year and to be submitted before examination).
- Experimental/Clinical observations of Rasapanchaka like-
 - * Taste threshold experiment (24 drugs –both ahara and oushadha dravyas)-
 - *Exothermic and endothermic evaluation of 10 ushna virya and 10 shitaviraya dravyas.
- Observation of animal experimentation models (both in vitro and in vivo)

PAPER III **Prayoga Vigyan**

- Principles of drug administration and drug delivery regimen Bhaishajya Marga (routes of drug administration), Matra (Dosage), Anupana (Vehicle), Sevenkala (Time of drug administration), Sevankalavadhi (duration of drug administration), Pathyapathyam (Do's /Don'ts) Contraindication/Adverse drug reaction etc.
- Clinico-pharmacological evaluation/Amayic Prayoga (Therapeutic administration) of drugs which including following minimum 110 plants.

111.Ahiphena	112.Agnimantha	113.Agaru
114.Amalaki	115.Apamarga	116.Aragvadha
117.Ardra – shunhi	118.Arjuna	119.Arka
120.Ashvagandha	121.Ashvagola	122.Asoka
123.Ativisha	124.Bakuchi	125.Baladvayam
126.Bharangi	127.Bhallataka	128.Bibhitaka
129.Bijaka/Vijayasara	130.Bilva	131.Brahmi

132.Bringaraj	133.Brihati	134.Chandanadvaya
135.Citraka	136.Dadima	137.Danti
138.Daruharidra	139.Dhanyaka	140.Dhataki
141.Draksha	142.Durva	143.Ela
144.Eranda	145.Gambhari	146.Gokshura
147.Guduchi	148.Guggulu	149.Haridra
150.Haritaki	151.Hingu	152.Jambu
153.Jatamamsi	154.Jatiphal	155.Jirakdvaya
156.Jyotishmati	157.Kalamegha	158.Kampilla
159.Kanchanara	160.Kantkari	161.Kapikacchu
162.Karkatakshringi	163.Karpura	164.Katuki
165.Khadira	166.Kiratatikta	167.Kumari
168.Kupilu	169.Kumkum kesara	170.Kushmanda
171.Lavang	172.Kutaja	173.Lodhra
174.Madangaphala	175.Manjishtha	176.Maricha
177.Markandika	178.Musali	179.Musta
180.Nagakeshara	181.Nimba	182.Nirgundi
183.Palasha	184.Palandu	185.Pashanabheda
186.Patala	187.Patola	188.Pippali pippalimula
189.Punarvana	190.Rasna	191.Rasona
192.Saireyaka	193.Shallaki	194.Saptaparna
195.Sarpagandha	196.Sariva	197.Shaiparni
198.Shalmali	199.Shankhapushpi	200.Shtavari
201.Shatapushpa	202.Shigru	203.Shirish
204.Shyonaka	205.Thalisa patra	206.Tila
207.Tivrit	208.Tulasi	209.Tvak
210.Ushira	211.Vacha	212.Varuna
213.Vasa	214.Vata	215.Vatsanabha

216.Vidari	217.Vidanga	218.Yashtimadhu
219.Yavani	220.Deodaru	

3. Consideration of Samyoga – Virodha (Drug incompatibility).
4. Principles of clinical pharmacology
5. Introduction to reverse pharmacology.
6. Knowledge about Pharmacovigilance (ADR) in Ayurveda and conventional system of medicine.
7. Clinical trial-stages of clinical drug Research as per GCP guidelines, protocol designing, clinical Research & data management.
8. Bioethics in Clinical Research.
9. Introduction of Pharmacovigilance/ observational study

Practical

1. Pharmacovigilance/observational study-minimum one drug.
2. Survey of Adverse Drug Reaction (ADR) in prescribed format of national pharmacovigilance programme of ASU Drugs (Minimum 3).
3. Regular clinical training in the hospital for submission of Ekala Aushadhi Prayoga (Single drugs trial/clinicopharmacological studies) (Minimum 20)

PAPER IV

Ninghantu Parichaya – Yogavigyanam

1. History of Dravyaguna.
2. Up-to-date knowledge of literature of Dravyaguna – up-to recent editions of medicinal plant database etc.
3. Utility of Nighantu. Salient features of the following Nighantus (including following nighantus) with authors, name and period – Paryaya ratnamala, Sushruta nighantu, Dhanvantari nighantu, Hridayadipika nighantu, Ashtang nighantu, Bhavaprakasha nighantu, Siddhamantranighantu, Madhanapala nighantu, Rajavallabha nighantu, Madhava Dravyaguna, Kaiyadeva nighantu, Shodhala nighantu, Chamatkari nighantu, Saligram nighantu, Nighantu adharsha, Nighantu ratnakara, Priya nighantu and other contemporary works.
4. Importance and principles of formulations as per Ayurveda.
5. Introduction to relevant provisions of Drugs and Cosmetic Act, Magic Remedies Act, Intellectual Property Right (IPR) and publication issues, Regulations pertaining Import and Export of Drugs.
6. Good Manufacturing Practice (GMP).
7. Quality control procedures of formulations prescribed by Drug Regulatory Authorities.
8. General awareness about Nutraceuticals, Cosmeceuticals, food additives, Excipients etc.
9. Detailed study of five formulations /Yogas from each kalpana of crude drugs delineated in Sharangadhara samhita and Ayurvedic formulary of India (AFI).
10. Knowledge about herbal extracts colours, flavours and preservatives.
11. Standardization of various Ayurvedic kalpana eg – Churna, Vati, Avaleha, Siddha Sneha, Asava Arishta etc.

Practical

1. Shodhana methods of Visha dravyas.
2. Preparations of two yoga from each kalpana of Ayurvedic formulary of India.

3. Microscopical evaluation of certain churna formulation e.g. Sitopaladi, Hingvashtak, Trikapu, Triphala etc.
4. Chemical evaluation of Asavas & Arishtas.

Dessertation

A Dissertation containing any aspects pertaining to drug identity, purity, quality, safety, and efficacy (experimental/clinical study) etc. should be prepared under the guidance of approved supervisor in Dravyaguna and submitted 6 months before the final examination.

A certificate endorsed by scholar and supervisor should be submitted regarding original study. The approval of Dissertation shall be essential before appearing the final examinations.

Reference Books

- | | |
|---|------------------------------|
| 1. Rigvedasya Aushadhi Suktam | - Sayana Bhashya Sahitam |
| 2. Relevent parts of Charak, Sushrut and Vagbhata | |
| 3. Dravyaguna Vigyanam | - Yadavji Trikamji Acharya |
| 4. Dravyaguna Vigyanam | - Acharya Priyavrat Sharma |
| 5. Aushadhiguna Vigyanam | - Pt. Vishwanth Dwivedi |
| 6. Kriyatmak Aushadh Parichaya vigyan | |
| 7. Dhanwantri Nighantu Rajnighantu Sahit | |
| 8. Sharangdhar Samhita | |
| 9. Yogaratnakar | |
| 10. Aushadghunadharma Shastra | - Pt. Gangadhar Shastri Gune |
| 11. Modern Texts Related to Dravyaguna Vigyan | |

4. RASA SHASTRA

PAPER I

Adharabhuta Siddhant, Rasa Chikitsa and Pharmacy Management

PART – A

Adharabhuta Siddhant and Rasa chikitsa

1. **History and Chronological evaluation** of Rasa shastra, Concept of Raseshwar darshan and study of Rasa granthas with special emphasis on Rasarnava, Rasahridaya tantra, Rasa Ratna Samucchaya, Sharngadhara Samhita, Rasendra Chintamani, Rasa Ratnakar, Rasadhyaya, Rasa kamdhenu, Anandkanda, Ayurveda Prakash, Bhavaprakash, Rasatarangini and Relevant portions of Brihatrayi.
2. **Concept of Rasamandapa** and establishment of Rasashala in accordance with GMP
3. **Fundamental Principles** of Rasashastra and Bhaisajya kalpana including principles of designing different formulations with reference to Samslesha Vishleha and other principles.
4. **Study of ancient and metric** systems of weights and measures including kala mana with their correlation.
5. **Technical terminologies** (Paribhasha) used in Rasa shastra and Bhaishajya kalpana.
6. **Concept of Kshetrikaran**, Importance of association of Rasa with Loha and Rasa-abhraka with loha (Rasyoga and Rasabhrayog), Study of Kramana (Anupana) yoga as described in Rasa Ratnakar, Rasayan khanda and Ananda kand, Study of Ashuddha, Apakva, Avidhi sevitva Rasa Dravya sevana dosha and its management. Concept of lohajirna and Rasajirna.

PART B
Pharmacy Management

1. Management of Pharmacy, Store and Inventory Management, Personnel Management, Good Manufacturing Practices related to Ayurvedic Drug Industry.
2. Marketing Pharmaceutical Services.
3. Product Release and Withdrawals
4. Community Pharmacy
5. Laws Governing Pharmacy.
- a) Relevant regulatory provisions of Ayurvedic drugs in Drug and Cosmetic Act 1940 and Rules 1945
- b) Laws pertaining to Drugs and Magic remedies (objectionable advertisement) Act – 1954.
- c) Prevention of Food Adulteration (PFA) act.
- d) Laws pertaining to Narcotics.
- e) Factory and Pharmacy Acts.
- f) Consumer Protection Act – 1986
6. Regulatory Affairs related to International Trade and Practices of Ayurvedic Drugs.
7. Introduction to Ayurvedic Pharmacopoeia of India, Ayurvedic Formulary of India.
8. Introduction to Indian Pharmacopoeia, British and United States Pharmacopoeia, Pharmacopoeial Codex.
9. Introduction to Traditional Knowledge Digital Library.

PAPER II
Aushadh Prasamsaskaran evam Rasa dravya Vigyan
PART – A
Aushadh Prasamsaskaran dravya Vigyan

1. Detailed knowledge of ancient and contemporary Yantropakarana and their accessories used in Aushadhikaran and their contemporary modification such as yantras, mushas, patas, Koshthis, Bhrashtis, Muffle furnances and other heating appliances, ovens, driers etc. used in manufacturing of Rasaushadhis in small scale and large scale along with their applications.
2. Study of Samskara, definition, types and its effect on Physico-chemical and Therapeutic properties of Samskaraha dravya. Role of Agni (Heat) – Jala and other dravas (Water and other processing liquids), Kala (Time span), Patra (Container) and other processing materials and their significance in Aushadhikaran.
3. Detailed knowledge of Shodhana with special emphasis on Shodhan dravya, instrumentation and processing techniques in relation to Shodhya dravya.
4. Study of Mardana and its Significance in Aushadhikaran. Concept of Bhavana, detailed knowledge of ancient and contemporary grinding and trituration techniques.
5. Concept of Puta, definition, types and specifications of different Putas. Significance of different Putas in relation to Bhasmikaran and therapeutic efficacy or dravya under process. Bhasma pariksha vidhi and its significance in relation to contemporary testing procedures.
6. Detailed knowledge of Marana, with special emphasis on Marak dravya, Instrumentation, Processing technique in relation to Martya Dravya.
7. Detailed knowledge of Amritikaran and Lohitikaran and its significance in preparation of Bhasma with reference to dravya under process.
8. Detailed knowledge of Satvapatan; Shodhan, Mridukaran and Maran of Satva, its significance, in relation to therapeutic efficacy of dravya under process.
9. Detailed knowledge of Druti, its processing and its significance in relation to therapeutic efficacy.
10. Concept of Jarana, Moorccana, Bandhan, Pakshaccheda and Maran in relation to Parad.

PART – B
Rasa Dravya Vigyan

1. Detailed ancient and contemporary knowledge of Parada and its compounds with reference to Source, Occurrence, availability, Physico – chemical characterisation, Grahya Agrahyatva, Shodhan maranadi vidhi, Therapeutic Properties and uses.
2. Detailed ancient & contemporary knowledge with Geochemical/mineralogical/Biological identification, source, occurrence, availability, physico-chemical characterization, grahya –agrahyatva, Shodhan Maranadi Vidhi and Therapeutic properties and uses of drvyas included in Maharasa, Uparasa, Sadharana rasa, Dhatu, Upadhatu, Ratna, Uparatna, Visha, Upavisha, Sudha Varga, Lavan Varga, Kshar Varga and other varga used in Rasashastra.
3. Detailed knowledge of Standard Operating Procedure of manufacturing, Standardisation, Quality control, storage, therapeutic efficacy, Mechanism of action, Dose, Anupan and Method of administration of following Bhasma and pishti viz:

Bhasma – Abraka Bhasma, Svarnamakshika Bhasma, Kasis Bhasma, Svarna Bhasma, Rajat Bhasma, Tamra Bhasma, Loha Bhasma, Mandur Bhasma, Naga Bhasma, Vanga Bhasma, Yashad Bhasma, Trivanga Bhasma, Pittal, Kamsya and Varthaloha Bhasma, Shankha Bhasma, Shukti Bhasma, Kapardika Bhasma, Godanti Bhasma, Praval Bhasma, Mrigashringa Bhasma, Mayurpiccha Bhasma, Kukutand twaka Bhasma, Hiraka Bhasma, Manikya Bhasma.

Pishti – Praval Pishti, Manikya Pishti, Mukta Pishti, Jahara mohara pishti, Trinakanta mani pishti.

4. Principles of Aushadhi Patha Samyojan, Standard Operating Procedure of Preparation , Quality Control, Storage and Stability of Kharaliya, Parpati, Kupipakwa and Pottali Kalpa.

PAPER III
Aushadha Yoga Vigyan
PART – A

Rasa Yoga Vigyan

Detailed knowledge of Aushadhi Patha Samyojan, Therapeutic efficacy, Mechanism of action, Dose, Anupan and Method of administration of following Aushadhi Yogas.

1. Kharaliya Yoga

Shwasakuthara Rasa, Tribhuvanakirti Rasa, Higuleshwara Rasa, Anandabharirava Rasa, Mahalakshmvilasa Rasa, Vasnathakusumakara Rasa, Vasantamalti Rasa, Bhrihatvata Chintamani Rasa, Laghusutashekhar Rasa , Sutashekhar Rasa, Ramban Rasa, Chandrakala Rasa, Yogendra Rasa, Hridyarnava rasa, Grahanikapata Rasa, Garbhapala Rasa, Chandrakala Rasa, Yogendra Rasa, Hridyarnava rasa, Grahanikapata Rasa, Grabhapala Rasa, Jalodarari Rasa, Mrityunjaya Rasa, Madhumalini vasanta Rasa, Arshakuthara Rasa, Krimimudgara Rasa, Suchikabharana Rasa, Trinetra Rasa, Smrutisagara Rasa, Vatagajankusha Rasa, Agnikumar Rasa, Ekangavir Rasa, Kamadudha Rasa, Purnachandrodaya Rasa, Prataplankeshwara Rasa, Mahavata vidhwansaka Rasa, Kasturibhairava Rasa, Ashwakanchuki Rasa, Gulmakuthara Rasa, Mahajwarankusha Rasa, Chandramrita Rasa, Kaphketu Rasa, Prabhakara Vati, Pravala Panchamrita, Gandhaka Rasayana, Chaturbhuj rasa, Navajivan rasa, Shonitargal rasa, Raktapitta kulakandan rasa, Amavatari Rasa, Kravyada Rasa, Garbhachintamani Rasa, Chintamani Rasa, Trilokyachintamani Rasa, Pradarantaka Rasa, Vangeshwara Rasa, Brihatvangeshwara Rasa, Shwasakasa Chintamani Rasa, Smritisagar Rasa, Arogyavardhini Vati, Chandraprabha Vati, Agnitundi vati, Shankha Vati.

2. Loha Kalpa

Ayaskriti, Loha Rasayana, Amlapittantaka loha, Chandanadi loha, Dhatri loha, Navayasa loha, putapakva vishamajwarantaka loha, Shilajatwadi loha, Tapyadi loha, Saptamrita loha, Amiapittantaka loha, Chandanadi loha, Dhatri loha, Punarnava Mandura, Amritasara Loha, Shankaramat loha, Pradarantaka loha, Rohitaka loha.

3. Kupipakva Yoga

Rasa Sindura, Makaradhwaja, Sidhamakuradhwaja, Samirapannaga, Swarnavanga, Malla sindura, Rasa Karpura, Rasa Pushpa, Maniikya Rasa.

4. Parpati Yoga

Rasa Parpati, Loha Parpati, Tamra Parpati, Suwarna Parpati, Gagana Parpati, Vijay Parpati, Panchamrit Parpati, Shwet Parpati, Bola Parpati.

5. Pottali Yoga

Rasagarbhapottali, Hemagarbhapottali, Mallagarbha pottali, Pottali, Hiranyagarbha Pottali, Shankagarbha Pottali, Lokanatha rasa, Mriganka Pottali.

PART – B **Bhaishajya Yoga Vigyan**

Detailed knowledge of Aushadhi Path Samyojan, Therapeutic efficacy, Mechanism of action, Dose, Anupan and Method of administration of following Aushadhi Yogas:

1. Panchavidha Kashayas and their Upakalpa

Aradraka swarasa, Tualsi swarasa, Vasa putapaka swarasa, Nimba kalka, Rasona kalka, Kulattha Kwath, Punarnavasthaka Kwatha, Rasna saptaka kwatha, Dhanyak hima, Sarivadi hima, Panchakola phanta, Mustadi pramathya, Kharjuradi mantha, Shadanga Paniya, Laksha rasa, Ajamoda arka, Yavanyadi arka, Chinchapa naka, Candana panaka, Banapsha sharkara, Nimbu sarkara, Darvi rasakriya, Amrita satva, Ardraka satva, Arjuna kshirapaka, Rasona kshirapaka.

Pathya Kalpana

Yavagu, (Krita and Akrita), Ashtaguna manda, Laja manda, peya, Vilepi, Krishara, Yusha, Mudga yusha, Kulattha yusha, Saptamushtika yusha, khad, Kambalika, Raga, Shadava Mamsarasa, Veshavara, Takra, Udasvita, Katvar, Mathita, Chhacchika, Dadhi, Tandulodaka, Neutraceuticals and Food Supplements.

2. Churna

Sitopaladi Churna, Talisadi Churna, Triphala Churna, Hingvashtaka Churna, Yashtimadhu Churna, Avipattikara Churna, Swadishta Virechana Churna, Trimada Virechana Churna, Lavana Bhaskar Churna, Sudarshana Churna, MahaSudarshana Churna, Ajanodadi Churna, Hingvadi Churna, Eladi Churna, Dadimashtaka Churna, Trikatu Churna, Vaishwanara Churna.

3. Gutika

Arogya vardhani vati, Chandraprabha vati, Chitrakadi Gutika, Sanjivani Vati, Lasundi vati, Lavangadi Vati, Vyoshadi vati, Khadiradi vati, Kankayan Vati, Abhayadi Modak, Marichyadi gutika, Amalakyadi gutika, Samshamini Vati, Kutaja Ghana vati.

4. Guggulu

Yogaraja Guggulu, Maha yogaraja Guggulu, Trayodashanga Guggulu, Kanchanara Guggulu, Rasnadi Guggulu, Triphala Guggulu, Simhanada Guggulu, Gokshuradi Guggulu, Kaishora Guggulu, Panchatikta Guggulu, Amritadi Guggulu, Vatari Guggulu, Lakshadi Guggulu, Abha Guggulu.

5. Snehapaka

Sneha Moorchhana – Ghrita Murchana, Taila Murchhana

Siddha Ghrita – Shatavari Ghrita, Jatyadi Ghrita, Phala Ghrita, Dadimadi Ghrita, Kshira shatpala Ghrita, Triphala Ghrita, Dhanvantri Ghrita, Amritaprasha Ghrita, Kalyanaka Ghrita, Brahmi Ghrita, Changeri Ghrita, Panchatikta Ghrita, Sukumara Ghrita.

Siddha Taila – Maha Narayana Taila, Maha Masha Taila, Bala Taila, Nirgundi Taila, Shadbindu Taila, Vishagarbha Taila, Sahacharadi Talla, Jatyadi Taila, Apamarga Kshara Taila, Tuvaraka Taila, Kshirabala Talla, Lakshadi Taila, Anu Taila, Kumkumadi Taila, Hingutriguna Taila, Kottumchukadi Taila, Prasarinyadi Tila, Dhanwantari Taila, Balashwagandhadi Taila, Balaguduchyadi Taila, Nilibhringyadi Taila, Brihadavadi Taila, Irimedadi Taila, Chandanadi Taila, Panchaguna Taila, Arka Taila.

6. Avaleha

Vasa Avaleha, Brahma rasayana, Chyavanprasha Avaleha, Kushmanda Avaleha, Vyagri Haritaki Avaleha, Dadima Avaleha, Bilvadi Avaleha, Kantakarayavaleha, Haridra Khanda, Narikela khanda, Saubhagya shunthi paka.

7. Sandhan Kalpa

Shukta -Ikshu shukta, Tushambu, Kanjik, Sandaki.

Madya-Sura, Shidhu, Varuni

Asava Arishta – Lodhrasava, Kumaryasava, Ushirasava, Chandanasava, Kanakasava, Sarivadyasava, Pippalyasava, Lohasava, Vasakasava, Kutajarishta, Draksharishta, Raktamitrarka, Dashamularishta, Abhayarishta, Amritarishata, Ashokarishta, Sarasvatarishta, Arjunarishta, Khadirarishta, Ashwagandha Arishta, Vidangarishta, Takrarishta.

8. Miscellaneous – Phala varti, Chandrodaya varti, Arka lavana, Narikela lavana, Triphala masi, Apamarga kshara, Snuhi kshara, Ksharasutra, Atasi upanaha, Sarjarasa malahara, Gandhaka malahara, Sinduradi Malahar, Shatadhouta Ghrita, Sahasra Dhouta Ghrita, Sikta taila, Dashanga lepa, Doshaghna lepa, Bhallataka taila, Jyotishmati Taila, Bakuchi Taila, Dashanga dhupa, Arshoghna dhupa, Nishadi Netra bindu, Madhutailika Basti, Sneha Basti, Matra Basti, Yoga Basti, Karma Basti, Kala Basti.

PAPER IV

Pharmaceutical Science

PART – A

Pharmaceutical technology

1. Scope and Evolution of Pharmacy
2. Information Resources in Pharmacy and Pharmaceutical Science
3. Posology
4. Colloidal and Coarse dispersion and pharmaceutical Rheology
5. Preformulation
6. Separation
7. Principles of Distillation, Methods of Extraction, Infusion, Décoction, Maceration, Percolation and Fusion
8. Sterilization & Sterile products, Ophthalmic and Parenteral Preparations.
9. Preservation and stabilization of pharmaceutical products

10. Drying, Open and Closed Air drying, Freeze drying, Vacuum drying and other drying methods.
11. Pharmaceutical Excipients
12. Oral Solid Dosage Forms, Powder, Size reduction & size separations, Principles of mixing Micrometrics – Methods of determination of particle size, shape & Surface area, Methods of compression & Consolidation of powder solids, Tablets, Sustained release dosage forms, Suppositories & Pessaries, Capsules – Hard capsules & soft gelatin capsules & micro encapsulation.
13. Semisolid Dosage Forms Emulsion, Suspensions and Extracts.
14. Liquids - Solution, Solubility Phenomenon, Diffusion & Dissolution , pH, Buffers & Isotonic solutions, Clarification & Filtration: Techniques of filtration & Centrifugation , Syrup , Elixirs
15. Pharmaceutical aerosols.
16. Topical drugs and Cosmetics
17. Packaging Materials and Labeling
18. Standardization of Raw Material, In process Material and Finished Product

PART – B **Pharmacology & Toxicology**

Pharmacology

1. **Principles of Pharmacology** Pharmacodynamics & Pharmacokinetics: Absorption, distribution, mechanism of action & Excretion, Dose response relationship, structure activity relationship
2. Routes of administration of drug
3. Factors modifying drug effect, Drug interactions, Adverse drug reaction and Drug toxicity.
4. Detailed knowledge of Pharmacovigilance - National and International Scenario, Pharmacovigilance of Ayurvedic Drugs Clinical pharmacology: Preclinical & clinical evaluation, Bioavailability and Bioequivalence.

Toxicology

1. Principles of Toxicology
2. Toxicology of Metallic , Mineral, Plant & Animal products General principles of Management of Acute and Chronic Toxicity

Practicals

Minimum 150 practicals to be performed covering all the dosage forms, Educational Visits to minimum Five (5) GMP approved Ayurvedic Pharmacies.
Ten days posting in R&D/Production unit in Ayurvedic Pharmacy.

Reference Books

1. Rasendra Chintamani
 2. Rasakamadhenu
 3. Rasaratna Samucchaya
 4. Anand Kanda
 5. Rasarnava
 6. Bharatiya Rasashastra
 7. Rasa – Bhaishaja Kalpana Vigyan
 8. Modern texts related to Rasashastra
 9. Rasahridaya tantra
- Vishvanath Dwivedi
- Santhosh Khandal

10. Rasa Ratnaka
11. Arka Prakash
12. Rasatarangini
13. Rasajala Nidhi
14. Kupipakwa Rasayana - Harisharananand
15. Parad Vigyaneeeyam - Vasudeva Moolashankar Dvivedi
16. Rasaadhyaya
17. Rasa Chandanshu
18. Chakradatta - Ratnaprabha commentary
19. Gada Nigraha
20. Vangasena
21. Vaidyaka Paribhasha Pradeepa
22. Rsayoga Sagara
23. Bhasma vigyan - Harisharananand
24. Ratna Dhatu Vigyan - Badrinarayana Shastri
25. Remington: Science and Practice of Pharmacy
26. Industrial Pharamacy - Lackma
27. Text Book of Phrmacology - Goodman and Gilman
28. Dana's Text Book of Minerology
29. Quality Control of Ayurvedic Drugs - PLIM, Gaziabad publication
30. Ayurvedic Pharmacopeia of India
31. Ayurvedic Formulary of India
32. Indian Pharmacopeia
33. British Phamacopeia
34. United States Pharmacopeia
35. Pharamacopeia Codex
36. Current Good Manufaturing Practices
37. Drugs and Cosmetic Act 1940 and Rules 1945
38. Drugs and Magic remedies (Objectionable advertisement) Act 1954
39. Prevention of Food Adulteration (PFA) act
40. Laws pertaining to Narcotics
41. Factory and Pharmacy Acts
42. Consumer protection Act – 1986
43. History of Hindu Chemistry - P.C.Roy
44. Ayurvedeeya Shodhan Vidhi - Dhootpapeswar Publication
45. Siddha Yoga Sangriha - Yadavaji Trikamji Acharya
46. Rasamritam - Yadavaji Trikamji Acharya
47. Dravyaguna Vijnan Part -1 and 2 - Yadavji Trikamji Acharya
48. Dravyaguna -Chakradatta CCRAS Publication
49. Sahasrayoga
50. Rasa –tantra sara evam Siddha prayoga Sangriha - KrishnagopalKaleda publication

5. BHAISHAJYA KALPANA

PAPER – I
Adharabhuta Siddhant and Pharmacy Management

PART –A
Adharabhuta Siddhant

1. Concept of Bhesajya and Kalpana, difference between Aushadh and Bhesaj, History and Chronological evaluation of Bhaishajya kalpana. Knowledge about classical texts related to Bhaishajya kalpana with special emphasis on Bruhatrayi, Sharangdhara Samhita, Chakradatta, Bhesaj Kalpa, Bhaishajya Ratnavali, Bhava Prakash Nighantu, Vaidyaka Paribhasha Pradipa.
2. Fundamental Principles of Bhaishajya kalpana and Rasa shastra including principles of designing different formulations with reference to Samslesha Vishieha and other principles.
3. Study of ancient and metric systems of weights and measures including Kala mana with their correlation.
4. Technical terminologies (Paribhasha) used in Bhaishajya Kalpana and Rasa shastra.
5. Collection, Storage and Preservation methods of different Fresh and Dry Aushadhi dravyas, their Grahya Agrahyatva.
6. Detailed knowledge of Dose, Anupana, Aushadha sevan kala and Route of Drug Administration.
7. Ancient view of Aushadha nirmana shala and Ayurvedic pharmacy in accordance with GMP.

PART –B
Pharmacy Management

1. Management of Pharmacy, Store and Inventory Management, Personnel Management, Good Manufacturing Practices related to Ayurvedic Drug Industry.
 - a. Marketing Pharmaceutical Services
 - b. Product Release and Withdrawals
 - c. Community Pharmacy
 - d. Laws Governing Pharmacy
 - i. Relevant regulatory provisions of Ayurvedic drugs in Drug and Cosmetic Act 1940 and Rules 1945.
 - ii. Laws pertaining to Drugs and Magic remedies (objectionable advertisement) Act 1954.
 - iii. Prevention of Food Adulteration (PFA) act.
 - iv. Laws pertaining to Narcotics
 - v. Factory and Pharmacy Acts
 - vi. Consumer Protection Act – 1986
2. Regulatory Affairs related to International Trade and Practices of Ayurvedic Drugs
3. Introduction to Ayurvedic Pharmacopoeia of India, Ayurvedic formulary of India.
4. Introduction to Indian Pharmacopoeia, British and United States Pharmacopoeia, Pharmacopoeial Codex
5. Introduction to Traditional Knowledge Digital Library

PAPER - II
Aushadha Prasamsaskarana
PART –A

1. Detailed ancient & contemporary knowledge with Pharmacognostical /Geochemical/Mineralogical identification, source, occurrence, availability, classification, physic-chemical characterization, grahya-agrahyatva, therapeutic properties and uses of raw material of plant, mineral and animal origin.
2. Detailed knowledge of ancient and contemporary Yantropakarana and their accessories used in Aushadhikaran and their contemporary modification such as Khalva yantras, Peshani Yantra, Pulveriser, Disintegrator, Sieve Shaker, Tableting Machine, Pill thread making and Pill cutting Machine, Mixer, Mass Mixer, Grinder, Emulsifier, Strip/Blister Packing Machine, Bottle sealing, Pouch packing Machine, Ointment Making Machine, Chullika, Koshtis, Bhrashtis, and other heating appliances, Svedan Yantra, Ovens, driers etc. used in manufacturing of small scale and large scale manufacturing of Ayurvedic Formulations along with their applications.
3. Study of Samskara, definition types and its effect on Physico – chemical and Therapeutic properties of Samskarha dravya. Role of Agni (Heat),Jala and other dravas (Water and other processing liquids), Kala (Time span), Patra (Container) and other processing materials and their significance in Aushadhikaran.
4. Study of Mardana and its significance in Aushadhikaran. Concept of Bhavana, detailed knowledge of ancient and contemporary grinding and trituration technique

PART – B

Detailed knowledge of Concept, Standard Operating Procedure of manufacturing, Standardization, Quality control, Storage, Technological development in processing and modification in following dosage forms in relation to their usage and acceptability

1. Panchavidha Kashaya, Satva, Nisyand, Kshira, Sara, Kshara, Arka Lavana. Ushnodaka, Aushadha Siddha Udaka, Pramathya, Panaka, Mantha, Tarpana, Saktu.
2. Curna, Gutika, Vatika, Modaka, Guggulu, Varti
3. Pathya kalpana
4. Sneha Kalpana
5. Sandhan kalpana
6. Bahya Prayogartha Kalpana
7. Lepa, Upanaha, Malahara, Udvartan, Avadhupan, Abhyanga\
8. Dhupan and Dhumrapan
9. Mukha, karna, Nasa and Netra Kalpana
10. Basti Kalpana

PAPER III
Aushadha Yoga Vigyan

PART – A
Bhaishajya Yoga Vigyan

Detailed knowledge of Aushadhi Path Samyojana, Therapeutic efficacy, Mechanism of action, Dose, Anupan and Method of administration of following Aushadhi Yogas:

1. Panchavidha Kashayas and their Upakalpa

Ardraka swarasa, Tulasi swarasa, Vasa putapaka swarasa, Nimba kalka, Rasona kalka, Kulattha Kwath, Punarnavasthaka Kwatha, Rasna saptaka kwatha, Dhanyak hima, Sarivadi hima, Panchakola phanta, Mustadi pramathya, Kharjuradi mantha, Shadanga paniya, Laksha rasa, Ajamoda arka, Yavanyadi arka, Chinchapa, Candana panaka, Banapsha sharkara, Nimbu sarkara, Darvi rasakriya, Amrita satva, Ardraka satva, Arjuna kshirpaka, Rasona kshirapaka.

Panthya Kalpana – Yavagu, (Krita and Akrita), Ashtaguna manda, Laja Manda, Peya, Vilepi, Krishara, Yusha, Mudga yusha, Kulattha yusha, Saptamushitka yusha, Khad, Kambalika, Raga, Shadava Mamsarasa, Veshavara, Takra, Udasvita, Katvar, Mathita, Chhacchika, Dadhi Tandulodaka, Neutraceuticals and Food Supplements.

2. Churna

Sitopaladi Churna, Talisadi Churna, Triphala Churna, Hingvashtaka Churna, Yashtimadhu Churna, Avipattikara Churna, Swadishta Virechana Churna, Trimada Virechana Churna, Lavana Bhaskar Churna, Sudarshana Churna, Mahasudarshana Churna, Gandharva Haritaki Churna, Navayasa Churna, Pushyanuga Churna, Ajamodadi Churna, Hingvadi Churna, Eladi Churna, Dadimashtaka Churna, Trikatu Churna, Vaishwanara Churna

3. Gutika

Arogya vardhani vati, Chandraprabha vati, Chitrakadi Gutika, Sanjivani Vati, Lasunadi vati, Lavangadi Vati, Vyoshadi vati, Khadiradi Vati, Kankayan Vati, Abhayadi modak, Marichyadi gutika, Amalakyadi gutika, Samshamini Vati, Kutaja Ghana vati.

4. Guggulu

Yogaraja Guggulu, Maha yogaraja Guggulu, Trayodashanga Guggulu, Kanchanara Guggulu, Rasnadi Guggulu, Triphala Guggulu, Simhanada Guggulu, Gokshuradi Guggulu, Kaishora Guggulu, Panchatikta Guggulu, Amritadi Guggulu, Vatari Guggulu, Lakshadi Guggulu, Abha Guggulu.

5. Snehapaka

Sneha Moorchhana – Ghrita Murchana, Taila Murchhana

Siddha Ghrita – Shatavari Ghrita, Jatyadi Ghrita, Phala Ghrita, Dadimadi Ghrita, Kshira Shatpala Ghrita, Triphala Ghrita, Dhanvantri Ghrita, Amritaprasha Ghrita, Kalyanaka Ghrita, Brahmi Ghrita, Changeri Ghrita, Panchatikta Ghrita, Sukumara Ghrita.

Siddha Taila - Maha Narayana Taila, Maha Masha Taila, Bala Taila, Nirgudi Taila, Shadhindu Taila, Vishagarbha Taila, Sahacharadi Taila, Jatyadi Taila, Apamarga Kshara Taila, Tuvaraka Taila, Kshirabala Taila, Lakshadi Taila, Anu Taila, Kumkumadi Taila, Hingutriguna Taila, Kottumchukadi Taila, Prasarinyadi Taila, Dhanwantari Taila, Balashwagandhadi Taila, Balaguduchyadi Taila, Nilibhrigyadi Taila, Brihadavadi Taila, Irimedadi Taila, Chandanadi Taila, Panchaguna Taila, Arka Taila.

6. Avaleha

Vasa Avaleha, Brahma rasayana, Chyavanprasha Avaleha, Kushmanda Avaleha, Vyagri Haritaki Avaleha, Dadima Avaleha, Bilvadi Avaleha, Kantakaryavaleha, Haridra Khanda, Narikela khanda, Saudhagya shunthi paka.

7. Sandhan Kalpa

Shukta - Ikshu shukta, Tushambu, Kanjik, Sandaki

Madya - Sura, Shidhu, Varuni.

Asava Arishta – Lodhrasava, Kumaryasava, Ushirasava, Chandanasava, Kanakasava, Saridadyasava, Pippalyasava, Lohasava, Vasakasava, Kutajarishta, Draksharishta, Raktamitrarka, Dashamularishta, Abhayarishta, Amritarishta, Ashokarishta, Sarasvatarishta, Arjunarishta, Khadirarishta, Ashwagandha Arishta, Vidangarishta, Takrarishta.

8. Miscellaneous – Phaka varti, Chandrodaya varti, Arka lavana, Narikela lavana, Triphala masi, Apamarga kshara, Snuhi kshara, Ksharasutra, Atasi upanaha, Sarjarasa malahara, Gandhaka malahara, Sinduradi Malahar, Shatadhouta Ghrita, Sahasra Dhouta Ghrita, Sikta taila, Dashanga lepa, Doshaghna lepa, Bhallataka taila, Jyotishmati Taila, Bakuchi Taila, Dashanga dhupa, Arshoghna dhupa, Nishadi Netra bindu, Madhutailika Basti, Sneha Basti, Matra Basti, Yoga Basti, Karma Basti, Kala Basti.

PART – B **Rasa Yoga Vigyan**

Detailed knowledge of Aushadhi Patha Samyojan, Therapeutic efficacy, Mechanism of action, Dose, Anupan and Method of administration of following Aushadhi Yogas.

1. Kharaliya Yoga

Shwasakuthara Rasa, Tribhuvanakirti Rasa, Higuleshwara Rasa, Anandabhairava Rasa, Mahalakshmi Vilasa Rasa, Vasanathakusumakara Rasa, Vasantamalti Rasa, Bhrihatvata chintamani Rasa, Laghusutashekhar Rasa, Sutashekhar Rasa, Ramban Rasa, Chandrakala Rasa, Yogendra Rasa, Hridyarnava rasa, Grahanikapata Rasa, Garbhapala Rasa, Jalodarari Rasa, Mrityunjaya Rasa, Madhumalini vasanta Rasa, Arshakuthara Rasa, Krimimudgara Rasa, Suchikabharana Rasa, Trinetra Rasa, Smrutisagara Rasa, Vatajankusha Rasa, Agnikumar Rasa, Ekangavir Rasa, Kamadudha Rasa, Purnachandrodaya Rasa, Pratapankeshwara Rasa, Mahavata vidhwansaka Rasa, Kasturibhairava Rasa, Ashwakanchuki Rasa, Gulmakuthara Rasa, Mahajwarankusha Rasa, Chandramrita Rasa, Kaphaketu Rasa, Prabhakara Vati, Pravala Panchamrita, Gandhaka Rasayana, Chaturbhuj rasa, Navajivan rasa, Shonitargal rasa, Raktapitta kulakandan rasa, Amavatari Rasa, Kravyada Rasa, Garbhachintamani Rasa, Chintamani Rasa, Trilokyachintamani Rasa, Pradarantaka Rasa, Vangeshwara Rasa, Brihatvangeshwara Rasa, Shwasakasa Chintamani Rasa, Smritisagar Rasa, Arogyavardhini Vati, Chandraprabha Vati, Agnitundi vati, Shankha Vati.

2. Loha Kalpa

Ayaskriti, Loha Rasayana, Amlapittantaka loha, Chandanadi loha, Dhatri loha, Navayasa loha, Putapakva vishamajwarantaka loha, Shilajatwadi loha, Tapyadi loha, Saptamrita loha, Amlapittantaka loha, Chandandi loha, Dhatri loha, Punarnava Mandura, Amritasara Loha, Shankaramat loha, Pradarantaka loha, Rohitaka loha.

3. Kupipakva Yoga

Rasa Sindura, Makaradhwaja, Sidhamakaradhwaja, Samirapannaga Swarnavanga, Malla sindura, Rasa karpura, Rasa pushpa, Manikya Rasa.

4. Parpati Yoga

Rasa Parpati, Loha Parpati, Tamra Parpati, Suvarna Parpati, Gagana Parpati, Vijay Parpati, Panchamrit Parpati, Shwet Parpati, Bola Parpati

5. Pottali Yoga

Rasagarbhapottali, Hemagarbhapottali, Mallagarbha Pottali, pottali, Hiranyagarbha pottali, Shankagarbha pottali, Lokanatha rasa, Mriganka Pottali.

PAPER – IV
Pharmaceutical Science

PART – A
Pharmaceutical Technology

1. Scope and Evolution of Pharmacy
2. Information Resources in Pharmacy and Pharmaceutical Science
3. Posology
4. Colloidal and Coarse dispersion and Pharmaceutical Rheology
5. Preformulation
6. Separation
7. Principles of Distillation, Methods of Extraction, Infusion, Decoction, Maceration, Percolation and Fusion.
8. Sterilization & Sterile products, Ophthalmic and Parenteral Preparations
9. Preservation and stabilization of pharmaceutical products
10. Drying, Open and Closed Air drying, Freeze drying, Vacuum drying and other drying methods.
11. Pharmaceutical Excipients.
12. Oral Solid Dosage Forms, Powder, Size reduction & size separations, Principles of mixing Micrometrics – Methods of determination of particle size, shape & Surface area, Methods of Compression & Consolidation of powder solids.
Tablets sustained release dosage forms, Suppositories & pessaries
Capsules – Hard capsules and soft gelatin capsules and micro encapsulation
13. Semisolid Dosage Forms Emulsion, Suspensions and Extracts
14. Liquids - Solution, Solubility Phenomenon, Diffusion & Dissolution, pH, Buffers & Isotonic Solutions, Clarification & Filtration Techniques of filtration & Centrifugation, Syrup, Elixirs
15. Pharmaceutical aerosols
16. Topical drugs and Cosmetics.
17. Packaging Materials and Labeling
18. Standardization of Raw material, In process Material and Finished product

PART – B
Pharmacology & Toxicology

Pharmacology

1. Principles of Pharmacology

- Pharmacodynamics & Pharmacokinetics: Absorption, distribution, mechanism of action & Excretion, Dose response relationship, structure activity relationship.
2. Routes of administration of drug
 3. Factors modifying drug effect, Drug interactions, Adverse drug reaction and Drug toxicity.
 4. Detailed Knowledge of Pharmacovigilance - National and International Scenario. Pharmacovigilance of Ayurvedic Drugs.
 5. Clinical pharmacology: Preclinical & clinical evaluation, Bioavailability and Bioequivalence.

Toxicology

1. Principles of Toxicology
2. Toxicology of Metallic, Mineral, Plant & Animal products General principles of Management of Acute and Chronic Toxicity.

Practicals

Minimum 150 practicals to be performed covering all the dosage forms. Educational Visits to minimum Five (5) GMP approved Ayurvedic Pharmacies.

Ten days posting in R & D/Production unit in Ayurvedic Pharmacy.

Reference Books

1. Relevant parts of Charak, Sushrut, Vagbhata and Sharngadhar
2. Bhesaj Kalpa
3. Bhavaprakash
4. Siddha Bhaishajya Manimala
5. Bhaishajya Ratnavali
6. Ayurvediya Aushadhikarana - Puranika and Dhamanakar
7. Rasa Bhaishajya Kalpana Vigyan - Santhosh Khandal
8. Bharat Bhaishajya Ratnakar
9. Vaidyaka Paribhasha Pradeepa
10. Kriyatmak Aushadhi Parichaya Vigyan
11. Ayurvedeeya Aushadhikarana - Puranika and Dhamanakar
12. Dravyaguna Vijnan Pat – 1 and 2 - Yadavji Trikamji Acharya
13. Dravyaguna - Chakradatta CCRAS Publication
14. Remington: Science and Practice of Pharmacy
15. Industrial Pharmacy - Lackman
16. Text Book of Pharmacology - Goodman and Gilman
17. Data Base of Medicinal Plants - CCRAS Publication
18. Quality and Standards of Medical Plants - ICMR publication
19. Quality Control of Ayurvedic Drugs - PLIM, Gaziabad publication
20. Ayurvedic Pharmacopeia of India
21. Ayurvedic Formulary of India
22. Indian Pharmacopeia
23. British Pharmacopeia
24. United States Pharmacopeia
25. Pharmacopeia Codex
26. Current Good Manufacturing Practices
27. Drugs and Cosmetic Act 1940 and Rules 1945
28. Drugs and Magic remedies (Objectionable advertisement) Act 1954
29. Prevention of Food Adulteration (PFA) act
30. Laws pertaining to Narcotics
31. Factory and Pharmacy Acts
32. Consumer Protection Act 1986
33. Siddha Yoga Samgriha - Yadavaji Trikamji Acharya
34. Sahasrayoga

6. AGADA TANTRA VYAVAHARAYURVED EVUM VIDHIVAIDYAKA

PAPER – I

Agada Tantra (Ayurvedic & Contemporary Toxicology)

1. Agada Tantra, its sequential development. Shaiva, Vaishnava, Boudha & Contemporary Toxicology.

2. Definition of Visha, properties of visha with its comparison with madya an doja, visha samprapti, visha prabhava, visha-vega, vegantara and visha karmukatha (toxicodynamic and toxicokinetic study).
3. Descriptive and comparative study of Upavisha in union with Contemporary Toxicology.
4. Examination of poisons as per Contemporary and Ayurvedic Methods
5. Descriptive study of sthavara visha, definition, classifications, classical signs and symptoms of poisoning including Vanaspatic (phyto poison), Khanija (mineral) and compound sthavara visha.
6. Study of Jangama visha and their sources (Animal poisoning and Zoonotic Diseases). Descriptive study of the snakes according to ancient & contemporary knowledge. Causes of snakebite and its types. Composition of snake venom and its pharmacological actions. Signs and symptoms of envenomation and its prognostic signs. Clinical features of Vrishchika (scorpion), Luta (spider), Grihagadhika (Lizard), Mushaka (rats), Alarka (dogs), Makshika and Mashaka (Mosquitoes) and their pathologic manifestations. Shanka visha and its management. Visha sankat and Visha Kanya.
7. Garavisha & Dushi visha, their varieties, signs, symptoms and management with contemporary relevance.
8. Detailed study of Madya visha (Alcoholism) and substances acting on the nervous system; substance abuse.
9. Detailed study of the contemporary knowledge about vishajanya Janpadodhvasaniya rog (community health problems due to poisons – Environmental pollution, soil pollution, air pollution etc their features and management according to ancient & recent concepts).
10. Concept of Virudhahara, Ahara visha and Satmyasatmyata in contemporary and Ayurvedic views.
11. Drug interactions and Incompatibility.

PAPER – II

Visha Chikitsa Vigyan (Management of Poisoning)

1. Fundamental Principles of the treatment of poisoning
2. General and specific treatments of different types of Sthavara visha.
3. General and specific treatments of different types of Jangama visha (animal poisons, insect poisons, snake bites and other zoonotic diseases).
4. Emergency medical management of poisoning including preparation administration and complications of antivenoms/ antisera.
5. Chaturvimsati upakrama (24 management procedures)
6. Management of Garavisha and Dushivisha
7. Management of the toxic manifestations caused by the contact poisons. (paduka, vasthra, abharana, mukhalepa – vishabadha etc)
8. Management of food poisoning
9. Death due to poisoning, Duty of physician in poisoning, in cases of suspected poisoning. Post mortem findings in poisoning
10. Extra – corporeal techniques (dialysis etc) for removal of poisons.

PAPER – III

Vyavaharayurved Evum Vidhi Vaidyaka (Forensic Medicine and Medical Jurisprudence)

1. Definition of Vyavahara Ayurveda, its evolution in ancient & contemporary periods
2. Personal identity and its medico-legal aspects
3. Death and its medico-legal aspects (Medical Thanatology)
4. Asphyxial deaths and its medico-legal importance.
5. Death due to starvation, heat and cold
6. Medico – legal autopsy
7. Injuries due to explosions, chemical and nuclear warfare
8. Medico-legal aspects of injuries and wounds.
9. Impotence and sterility - Its medico-legal aspects, Regulations of Artificial Insemination
10. Sexual offences and perversions
11. Medico – legal aspects of virginity, pregnancy, delivery, abortion, infanticide and legitimacy.its related acts.
12. Indian Penal Code, Criminal procedure code and study of different related acts like Indian Evidence Act, Pre Natal Diagnostic Test act, Nursing Home Act. Organ transplantation act and Anatomy act etc. Any related act enacted by the government time to time.
13. Courts and Legal procedures
14. Forensic Science Laboratory
15. Medico legal aspects of mental illness
16. Duties and privileges of physician
17. Structure of Central Council of Indian Medicine, its jurisdiction & functions. Code and Conducts as per the CCIM, Rules and Regulations there under.
18. Respective State Council of Indian Medicine, its structure, power, voluntary duties.
19. Doctor – patient relationship
20. Rights and privileges of patients. Euthanasia.
21. Professional secrecy and privileged communication
22. Professional negligence and malpraxis
23. Indemnity Insurance scheme
24. Consumer Protection Act related to medical practice
25. Ethics as in classics. Types of physicians and methods of identification, Pranabhisara and Rogabhisara Physicians, qualities of physician, responsibilities of physicians, Chaturvidhavidya vriti,duties of physicians to his patients, Vaidya sadvritam, Apujya vaidya who is accepting fees, relationship with females.

PAPER IV **Aushadha Yoga Vigyan**

1. Study of the process of sodhana, marana, and samskara of poisonous drugs.
2. Pharmacodynamics of different formulations used in Agadatantra.
3. Study of pharmacology and usage of antidotes as per the Ayurvedic and contemporary science.
4. Fundamentals of pharmaceutics according to Ayurvedic and contemporary point of view.
5. Chemical, analytical, laboratory examination of poisons and suspicious substance
6. Introduction of Different instruments / equipments used in the examination of poisons.
7. Introduction of Clinical toxicology
8. Introduction to Experimental toxicology
9. Introduction to Toxic – genomic
10. Survey and study of the traditional and folklore vishachikista sampradayas.

Reference Books

1. Useful portion of Charak – Sushruta – Vagbhata

2. Dravyaguna Vigyan - Acharya Yadavji
3. Aushadhigunadharm Shastra - Pt. Visvanth Dvivedi
4. Kriyatmat Aushada parichaya Vigyan - Pt Visvanth Dvivedi
5. Ayurvedic Vyadhi Vigyan - Acharya yadavji Trikamji
6. Madhavanidan with Madhukosha Commentary
7. Sharangadhara Samhita
8. Yogaratnakara
9. Aushadigunadharm Shastra-Pt Gangadhara Shastri Gune
10. Rasendracintamani
11. Rasaratna samuchachaya
12. Visehavigyan - Dr.Krishna Kumar
13. Related matter of Kautilya Artha Shastra
14. Harmekhlatantra
15. Anupana manjari
16. Ayurvedaprakash
17. System of clinical Medicine - Savil
18. Forensic Pharmacy - B.M.Mhithal
19. Hand book of Forensic Medicine and toxicology - Dr. P.V.Chandha
20. Viva Forensic Medicine and toxicology - L.C.Gupta
21. Forensic Medicine and Ethics - J.P.Narena
22. Modi's Medical Jurispudence and Toxicology
23. The essentials of forensic medicine and toxicology - Dr.K.S.Narayan Reddy
24. Medical Laws and Ethics - Dr.H.S.Mehta
25. M.R.K.Krishan's Handbook of Forensic Medicine
26. Text book of Medical Jurispudence and Toxicology - Dr.C.K.Parikh
27. Atlas of Forensic Medicine - Dr.Tomio Watenbe
28. Medico legal Post Morterns (Atlas) - Dr.Parikh & Others
29. T.B.of F.M.T -Dr.Pillay
30. T.B.of F.M.T - Dr. Karmakar
31. T.B. of F.M. -Dr.Singhal
32. T.B. of F.M.T - Dr.Krishnan Vij
33. Forensic Pathology -Dr. Bernard Knight
34. T.B.of F.M.T - Lyon's
35. Pocket picture guide to Forensic - Gowers Medical Publication
36. Forensic Medicine -Simpson Knight
37. Taylor's Principals & Practical of Medical -Jurisprudence J & A Churchis
38. Doctor & Law - Singhal
39. T.B. of Toxicology - Singhal
40. Medicine Harrison's Principal of Internal Medicine
41. Agad Tantra - Dr.ShekharNamboodri
42. Modern Medical toxicology - Pillay
43. Critical care toxicology - Bruent Wallace
44. Diagnosis & Management of common poisoning -Agarwal wali
45. Colour Atlas of F.M - Govindaiah
46. Guidelines of poisons - W.H.O
47. Doctors patients relationships - Dr.Lavekar

7. SWASTHAVRITTA

PAPER – I

Vaiyaktika Swasthavrittam Sadvrittam Cha

(Personal Hygiene and Moral Hygiene)

1. Concept of holistic health according to Ayurveda
2. Spectrum of health, Iceberg phenomenon of diseases, dimensions of health
3. Dinacharya - Detailed accounts by Charak, Sushrut, Vagbhata and Bhavamishra
4. Ratricharya – Bhavamishra
5. Possible Physiologic effect of different dinacharyas
6. Ritucharya – Classifcal description by Charak, Sushrut, Vagbhata, Bhela Samhita and Bhavamishra.
7. Ritus prevalent in various Indian states.
8. Ritu pattern in various continents of the world
9. Day and night pattern in various countries
10. Shodhana Schedule for Ritu sandhis.
11. Concept of Vegas, types and physiology behind each vega and vegadharana
12. Ahara – Classical food items in Charak, Sushrut, Vagbhata and Sharngadhara
13. Ahara vargas and comparison with today's food items.
14. Staple diet of various States of India
15. Staple diet of various countries and correlation with their climate.
16. Principles of dietetics, Balanced diet for healthy adult, adolescent, elderly people, pregnant ladies and lactating mothers.
17. Food intervention in malnutrition, under nutrition and over nutrition
18. Rules of food intake according to Charak, Sushrut and Vagbhata.
19. Pros and Cons of Vegetarian and Non Vegetarian Foods.
20. Viruddhahara – Classical and modern day examples.
21. Sadvritta – Compare Charak, Sushrut and Vagbhata
22. Pragyaparadha - Causes, effects and solution
23. Achara Rasayana
24. Rejuvenation for Swasthas (Kamya Rasayana, vatatapika Rasayana)
25. Aphrodisiacs for Swastha (Vajikarana)
26. Mental Health and the role of Ayurveda in it
27. Immunity - Modern and Ayurvedic concepts
28. Disinfection - Principles and practice
29. Principles of Health Education
30. Genetics and Ayurveda

PAPER - II
Roganutpadaniyam Samajikam Cha Swasthavrittam
(Community Health)

1. Concept of community health.
2. Concept of Prevention according to Ayurveda.
3. Concept of prevention, Levels of prevention and stages intervention
4. Web of causation of diseases, Multifactorial causation.
5. Natural History of diseases.
6. Ecology and community health.
7. Disinfection practices for the community – Modern and Ayurvedic.
8. Immunisation programmes. Possible contribution of Ayurveda.
9. Environment and community health (Bhumi, Jala, Vayu, Prakasha).
10. Occupational Health, Ergonomics, Role of Ayurveda in ESI and W.H.O programmes.
11. Medical Entomology and Medical Parasitology.
12. School Health Programme according to Ayurveda.
13. Demography and Family Planning.
14. Role of Ayurveda in Family Planning and Modern concept of Contraception.
15. Old age problems in community, Role of Ayurveda in Geriatrics.
16. Care of the disabled and Importance of Teritary prevention.

17. Life Style disorders (Non Communicable diseases) in community and the role of Ayurveda in them
18. Health tourism
19. Ayurvedic Resort Management
20. Medical Sociology

PAPER – III
Samkramaka Roga Pratishedham

(Epidemiology of Communicable Diseases)

1. Modern Concept of Epidemiology
2. Critical evaluation of Janapadodhwamasa
3. Epidemiology of Communicable diseases
4. Investigation of an Epidemic
5. Control of Epidemics
6. Immunization Programmes
7. Ayurvedic method of Community immunization
8. Sexually Transmitted Disorders and their control
9. Health advice to travellers
10. Hospital, Isolation ward and bio medical waste management
11. General Investigations for Communicable diseases
12. Health administration under Ministry of H & FWD
13. AYUSH, its administration, functions and programmes
14. Disaster management
15. Statistics related with Infectious diseases at International , National and State levels
16. Bio Statistics

PAPER IV
Yoga and Nisargopachara

1. Development of Yoga according to different period
2. Schools of Yoga
3. Rajayoga – Philosophy of Patanjali according to Yogasutras
4. Hathayoga - according to Hathayoga pradipika and Gheranda Samhita
5. Karmayoga – Philosophy according to Bhagavad Gita
6. Physiologic effect of Yoga on different systems of Body
7. Concept of Sthula, Sukshma and Karana Sharirs
8. Concept of Panchakoshas
9. Concept of Shad chakras and Kundlini
10. Therapeutic effect of yogic practice in the following diseases – Diabetes, Hypertension, Cardiovascular disorders, Obesity, Asthama, Piles, Irritable Bowel Syndrome , Eczema, Psoriasis, Stress Disorders, Eye disorders, Headache, Juvenile Delinquency, Mental retardation, Depression, Neurosis, Sexual Dysfunction, Uterine Disorders, Cancer,
11. History of Nature cure.
12. Basic Principles of Western School of Nature Cure -
13. Basic Principles of Indian School of Nature Cure – Panchabhuta Upasana
14. Different types of Massage and their therapeutic effects
15. Elements of Acupuncture and Acupressure
16. Chromotherapy
17. Magnetotherapy
18. Methods of Nature Cure in various diseases
19. Principles of Physiotherapy.

Reference Books

1. Relevant portions of Charak, Susruta, Vagbhata Sarangadhara
Bhavaprakasha, Madhavanidan & Yogaratnakara, Bhela Samhita
2. Hathayoga Pradipika
- 1) Swastavritta Samuchaya - Vaidya Pt.Rajesvar Dutta Shastri
- 2) Swasthya Vignyana - Dr.B.G.Ghanekar
- 3) Yoga and Ayurveda
- 4) Prakritika Chikitsa - Kedarnath Gupta
- 5) Reddy's Comprehensive Guide to Swasthavritta - Dr.P.Sudhakar Reddy

8. ROG NIDAN

PAPER - I

Dosha - Dushya Vigyaniam

1. Concept of Troidosha and its Pathological implications. 63 permutations and combination of Tridosha. Lina and Stambhita Dosha, their cause and importance in manifestation of Samparti.
2. Concept of Rakta as a Chaturtha Dosha. Importance of Rakta in context of Vidhi shonitiya adhyaya.
3. Concept of Ashrayashrayi bhava and its applied utility.
4. Different types of Dosha Gati.
5. Causative factors and practical utility of movement of Doshas from Kostha to Shakha and Shakha to Koshtha. Concept of Ashyapakarsha.
6. Trayo rog marga their diseases and clinical importance of rog marga.
7. Concept and classification of Avarana, its role in pathogenesis, mode of diagnosis of Avarana and its importance in chikitsa sutra.
8. Applied aspect of Dhatu Poshana Krama and Dhatu Samvahana. Concept of Margaga and Sthanastha Dhatus.
9. Concept and applied aspects of Doshapaka and Dhatupaka
10. Fundamental and applied aspect of Dhatu, Upadhatu and Mala. Diseases developed due to their vitiation (pradoshaja vikara)
11. Concept and applied aspects of Srotas, their importance in health and diseased conditions. Concept and applied aspects of Sroto Dushti and Khavaigunya.
12. Description of Dosha Dushya Sammurchhana. Importance of Dosha Dushya Sammurchhana in Diagnosis and treatment.
13. Concept of Vikara Vighata bhavabhava prativishesha
14. Concept of Agni and its role in manifestation of health and disease.
15. Concept and pathogenesis of Ama. Contemporary interpretation of Ama and its role In pathogenesis.
16. Sama, Nirama, Pachyamana and Pakwa stages of Dosha, Dhatu and Mala
17. Understanding Samprapti of Santarpanottha and Apatarpanottha Vyadhi

PAPER II

Vishishta Samprapti Vigyaniam

1. Detailed classification of diseases as described in Ayurveda . ICD and DSM classification.
2. Detailed understanding of Nidan Panchaka with their classification and clinical importance.
3. Relation between ‘ Hetu & Lakshana’ and 'Samprapti & Lakshna’
4. Explanation and applied aspects of Kriyakala and its utility in diagnosis and treatment.
5. Study of Samprapti in Detail of the diseases mentioned in Brihatrayi and Laghutrayi.
6. Importance of Upadrava, Arishta, Sandhyasadhyata, and Udaka.
7. Indirya Pradoshaja Vikara
8. Gara Pradoshaja Vikara; Iatrogenic disorders.
9. Concept and tools for the study of Anukta Vyadhi (Unexplained and newly emerging diseases)
10. Natural History of the Diseases.
11. Explanation of Chikitsa Sutra of different diseases described in Brihatrayi and Laghu Trayi in context of Rog Samprapti.
12. Understanding the diagnostic aspects of Bhuthavidhya.
13. Concept of Karmaja vyadhi
14. Epidemiology of diseases as described in modern medicine.

PAPER III **Pariksha Vigyaniam**

1. Aims and Objectives of Rog-Rogi Pariksha
2. Methods, applied aspect and importance of various Rogi and Rog Pariksha as per classics
3. Ayurvedic interpretation of all relevant findings of modern clinical examinations, various Laboratory and other Diagnostic tools.
4. Understanding of dagnostic procedures in medical emergencies.
5. Concept of Good clinical practice in Ayurveda and modern medicine.
6. Set up of standard clinical laboratory.
7. Follwing laboratory investigations for diagnosis of diseases, their methods, normal and abnormal values, factors influencing values and their Ayurvedic interpretations & clinical Significance.
 - a. **Blood** haematological tests, CBC, BT, CT, Ferritin, HbF, HbA1C, Iron, Iron Binding Capacity, methemoglobin, sulpho haemoglobin etc.
 - b. **Biochemical tests** related to various organ panels – Liver, Kidney, Heart, Thyroid, Pituitary and Bones.
 - c. Importance of Bio markers their utility in clinical researches
 - d. **Sero –Immunological tests**
 - e. **Urine** : Physical, chemical, microscopic, biochemical, bacteriological examinations
 - f. **Stool** : Physical, chemical, microscopic, biochemical and bacteriological examinations
 - g. **Sputum examination**
 - h. **Semen analysis**
 - i. Estimation of various electrolytes
 - j. Physical, chemical, microscopic, biochemical and bacteriological tests for various kinds of body aspirates.
 - k. Knowledge of emerging tools and technologies for Diagnosis
 - l. Knowledge of various Ayurvedic diagnostic softwares/programmes available
 8. Srotas Pariksha, Shadanga Pariksha vis-à-vis general & systemic examination of patient.
 9. Avayava Pariksha -Radio – Imaging Techniques, Sonological Techniques, ECG, EEG etc and their clinical interpretation.

PAPER – IV
Vikriti Vigyan Sahitam Jivanu Vigyanam

1. Basics of pathology i.e. inflammation and repair, reversible and irreversible cell injury, degeneration, necrosis, thrombosis, embolism, coagulation, haemorrhage, caculi formation, Neoplasia.
2. Hereditary and Congenital disorders
3. Geriatrics in Ayurveda and understanding of aging process and geriatric disorders.
4. Ojas –vis-à-vis Bala and immunity. Immune mechanism in body and its role in manifestation of diseases with Immunopathology.
5. Concept of Viruddha Ahara, Satmya and Asatmya along with knowledge of hypersensitivity reactions. Nutritional disorders.
6. Concept and applied aspect of Janapadodhvasa
7. ‘Krimi vigyan’ mentioned in Ayurveda and its possible correlation with Helminthes and other Parasites mentioned in modern medical science. Hemo parasites and intestinal parasites, their mode of infection and life cycle. Description of common symptoms and diseases caused by intestinal worms infestation.
8. Knowledge of following microorganisms with their disease processes: Bacteria, Virus, Parasites, Fungi and their classification.
9. Morphology, Nutrition requirements, culture media and methods, classification and identifications of common micro organisms.

Practicals

1. Regular posting in O.P.D.
2. Regular posting in I.P.D.
3. Regular posting in Laboratories
4. Regular posting in other departmental units.
5. Practical training of all the laboratory investigations as mentioned in theory papers. Maintenance of Daily work diary, Practical Record book, Case record books.

Reference Books

1. Sutra-nidana-viman-indriya Sthan of Charak Samhita
 2. Related Portion of Sushrut Samhita
 3. Related Portion of Ashtanga Hridaya & Ashtanga Samgraha
 4. Madhava Nidana With Madhukosh Commentary
 5. Siddhanta Nidana
 6. Ayurvediya Vidyha
 7. Rogi Pariksha vidhi
 8. Abhinav Vikriti Vigyan
- Gananath Sen
- Yadavji Trikamji
- P.V.Sharma
- Raghuvir Prasad Trivedi

9. MANOVIGYANEVUM MANAS ROG

PAPER – I
Manovyapara Sahita Manovigyanam

1. Prachya – arvachya matanusara Mano vigyansya Bhutavidyayah, Amanusha tatha Grahadinam parichya, setihasa.
2. Controversies, myths and misconcepts regarding Bhutavidya.

3. Prachya arvachya matanusara Manasah Nirupanam – Concept of Manas from Ayurveda and modern perspective.
4. Vividha darshanausara manasah varnanam.-concept of mind in various philosophies.
5. Manasah Svarupam - Structure of mind.
6. Manasah Sthanam – Location of mind.
7. Manovishayah - Objects of mind.
8. Manogunah (Anutva and Ekatva) – Attributes of mind – Minuteness and oneness.
9. Manasah Ubhayatmakatvam - Duality of Manas.
10. Manasah Dravyatvam Karanatvam cha – mind as a substance and tool.
11. Manasah Karanadravyatvam –mind as causative substance.
12. Manodoshah - (Rajas an Tamas)
13. Manasah Bhoutikatvam - Elemental nature of Manas.
14. Introduction to concept of Buddhi and Ahamkara etc – intellect and ego etc.
15. Manasah Ahamkarikatvam – orgin of mind from ego (samkhya).
16. Manasah Annamayatvam – Relationship between food and mind.
17. Manasah trigunatmakatvam-mind and the three major attributes.
18. Manasah jadatvam – inertia of mind.
19. Manasah dhatutvam-mind as a component of living being.
20. Manasah Karma – Actions of Manas
21. Manovyapara Nirupanam.
22. Manovyapare Pranodana sadhaka Bodhakadi doshanam Sambandhah – Relation of humoral fractions such as Prana, Udana, Sadhaka – Bodhaka in the activity of Manas.
23. Katham prakopayanti Manodoshah Sharirdoshan – How does manasika doshas aggravate sharirika doshas?
24. Indriya panchapanchakam – five factors in relation to the mental faculties.
25. Gyanendriyanam vishayah – the objects of sense faculties.
26. Gyanotpatti prakriyayam Manaso pradhanyam –Importance of Manas in cognitive process.
27. Indriyarthagrahananantaram manasah vyapara-Action of Manas in cognition after reception by respective Indriyas.
28. Indriyarthagrahanantaram gyanotpattou manaso dayitvam- responsibility of manas in cognition after reception by respective indriyas.
29. Knowledge of Dirgha Sahshkuli nyaya, Alata-chakra nyaya, Vichi-taranga nyaya, Kadamba-mukula nyaya.
30. Shabda – sparsha – rupa – rasa – gandhanam grahakam manah, tasya mahatvam cha – Manas as conductor of sense objects and its importance.
31. Vayuh indriyanam udyojakah tatha manasah preranam – Vayu as stimulator of indriyas and initiator of manas.
32. Vakpravrittou manasah yogadanam – Role of Manas in production of speech.
33. Pratisharire manasah bhinnatvam – Concept of individuality of mind.
34. Chikitsya purushah – treatable person (living being).
35. Atma nirupanam – description of Atma.
36. Sukshma sharirsya varnanam – description of subtle body.
37. Atma manasoh sambhandhah – relation of Manas and Atma.
38. Antah karana chatushtaya – the four internal faculties.
39. Importance of Dhi, Dhriti and Smriti – importance of intellect, will power and memory.
40. Role of manas in achieving Tri eshana and Chaturvidha Purushartha / Chatur varga – role of manas in attaining the pursuits and foru goals of life.
41. Concept of Satya buddhi and Upadha – concept of true and false knowledge.
42. Concept of Punarjanma, Purvajanma krita karma, karma phala.
43. Manovaha Srotasam Parichayah – Introuduction of Manovaha srotas (channels of mind)

44. Manovaha, Samgyavaha, Buddhivaha, Chetanavaha, Vatavaha, Raktavaha adi upayukta Srotasam Manasaroge varnanam – Description of Manovaha, Sangyavaha, Buddhivaha, Chetanavaha, Vatavaha, Raktavaha srotas etc in relation to Manasarog
45. Shadchakra nirupanam
46. Concept of Ojas and Manas.
47. Satvasarapurusha - person with mental excellence.
48. Nidravichara – Concept of sleep.
49. Swapna vichara – Concept of dream.
50. Tandravichara – Concept of stupor.
51. Concept of manasprakriti – mental temperament.
52. Concept of Manas bhava in Shareerika prakriti.
53. Manasaroge Manovigyane cha upayukta Paribhashika shabdanam vishleshanam – technical terms used in psychiatry.
54. Manasa roge upayukta samhitanam satika adhyayanam – study of portions of treatises useful in psychiatry along with their commentry.
55. Arvachina mano vigyansya adhishtana siddhanth, mastishka karmanam sthapanam cha- Fundamentals of modern psychology and establishment of functions of brain.
56. Applied Neuro-anatomy and physiology, Neurotransmitters, Psychoneuro immune endocrinology.
57. Manasah swabhavika pratirodh – Defence mechanism of mind.
58. Shishu manasashastra, vikasatmaka Manasa shastra – Shishu, Bala, Kumarah, Proudah, Vriddhah cha – Essential elements of psychology, developmental psychology: child, adolescence, adult and aged.
59. Bhava, Shila , Buddi, Smriti, Prerakatva adinam gyanam – Concept of Mood, behaviour, attitude, emotions, intelligence, memory, motivation, perception etc.
60. Manasarogvigyanasya mahatvam, phalam, prayojanam, prabhavashcha.

PAPER – II

Manovaiikariki Evam Bhutavidya

1. Manovega.
2. Mano vikarah
3. Manodosha.
4. Manashariryoh paraspara anuvaidhayitvam – mutual symbiosis of sharir and manas.
5. Manasah chanchalatvam.
6. Manaso vyadhinam ashrayatvam.
7. Manasrogeshu doshanam paraspara anubandhah.
8. Manasavyadhi utpattou sharirdoshanam vikarakaritvam.
9. Indriyadinam hinamithyatiyogah.
10. Prajnaparadha.
11. Purva janma krita karma tatha Papa Karmasya rogkarakatvam.
12. Adharmasya Achararasayana upekshanasya cha rogkarakatvam.

Bhutavidya – Definition and scope

1. Types and Charateristic features of Bhutas & Grahas.
2. Amanushopasarga Vikara caused by Bhutas & Grahas.
3. Aetio – Pathogenesis of Bhutas & Grahas
4. Relationship of Bhuta with jwara, Ojakshaya, manovikara, Arishta Lakshana and Daivabala Pravritta diseases.
5. Grahavesha, affecting time of Grahas, their specific features, prodromal featuares and prognosis.
6. Differential understanding of Balagraha andGrahabadha.
7. Sushrut's concept of invasion of Bhuta /Graha.

8. Manasa Rognam Nidan, Sampraptischa.
9. Manobuddhyadi Vibhramsha.
10. Manas dharaniya vegas.
11. Kayika-Vachika-Manasika hinamithyati yoga of karma in Manasa rog samprapti.

Manovikriti –Psychopathology

1. Bijapradosha and Kulaja bhava in manasrog – Genetics & hereditary factors in Psychiatry.
2. Manasrognam prachya arvachina matanusarena vargikaranam.
3. Classification of manas rogs yatha kevalamanas, manas sharir, Shariramanasika, agantuja adayah.
4. Recent ICD and DSM classification.

Manasa Rogi praiksha vidhi- Psychiatric examination

1. Prachya arvachina matanusarena rogi pariksha visheshena sattva pariksha – Examination of patient according to Ayurvedic and modern methods.
2. Trividha Sattva Pariksha
3. Charakokta avastha Pariksha
4. Manasika avastha Pariksha – Mental Status Examination
5. Vividha pariksha manakah – Different psychiatric assessment inventories like Hamilton's scale, Bech's Depression inventory etc.
6. Manarog chikitsiya manomapaka upakaranani cha – Psychiatric and psychometric tools for diagnosis, Evidence based diagnostic methods.
7. Prayogashaliya pariksha – Investigations – Haematological, Biochemical, neuro-physiological, endocrinal, EEG, radio imaging MRI etc.
8. Manasarognam sadhyasadhata – Prognosis of psychiatric diseases.
9. Manasa Rog Sandharbhe Vidhi Vaidyakasya vistritya gyanam.
10. Forensic psychiatry – Knowledge about legal and ethical issues in psychiatry, Indian lunacy act, mental health act etc.

PAPER -III **Manasa Rog Chikitsa**

1. Manasa Swasthya Paribhasha – Definition of Mental Health
2. Samasta manas rognam vivechanam - Adho likhithanam Vikaranam Nidanpanchaka vivechanam Chikitsa cha.
3. Unmada (Nija , Agantuja Unmada, Bhutonmada, Vishaja Unmada, Sutikonmada, Smaronmada, Tattvonmada – Paronoiya)
4. Apasmara.
5. Apatantraka and Yoshapatntraka
6. Tandavarog -Chorea
7. Yoshapasmara
8. Atavabhinivesha
9. Vishada
10. Gadodvega
11. Mada, Murcha , Sanyasa
12. Madatyaya, Panatyaya (Panavibhrama, Paramada, Panajirna)
13. Nidra vikara, Klama, Tandra, Glani
14. Bhrama, Vibhrama
15. Chittodvega
16. Smriti vikara
17. Mastishka chayapachaya, Mastishka Vepana

18. Manasa Klaibya, Sushrutokta Napumsakata
19. Manovikara, Lobha, Moha, Irshya, Krodha , Bhaya, Mana, Dambha, Ahamkara, Harsha ityadayah
20. Mood and affective disorders – major depressive disorders, mania and their Ayurvedic co-relation and management.
21. Substance abused disorders and their management
22. Delusional disorders and their management
23. Schizophrenia
24. Personality disorders
25. Behavioral disorders.
26. Organic mental disorders.
27. Stress related disorders – Mano dukhaja Unmada
28. Post traumatic stress disorders.
29. Generalized Anxiety disorders.
30. Psycho sexual disorders.
31. Sleep disorders
32. Eating disorders
33. Attention deficit disorders
34. Somatoform and dissociative disorders.
35. Obsessive compulsive disorders.
36. Senile psychiatric disorders – Dementia, Alzhiemer's disease, Parkinsonism, Menopause, Andropause and their Ayurvedic co-relation and management.
37. Adhi Vyadhi Rognam Manasika Prabhava Chikitsa Cha – Psychosomatic disorder (Bhayaja and Shokaja Atisara, Kama, Shokaja Jwara, Tamakashwasa, Prameha, Amlapitta, Parinamashula, Grahani, Uccha rakta chapa (Hypertension), shula (pain disorders), Twak Vikaranam Chikitsa).
38. Jirna – Asadhya Sopadrava vyadhinam Vivechanam tatha Chikitsa – Mental problems in chronic incurable diseases like AIDS, Cancer etc and their management.
39. Mano prakriti vikara – psychopathic personality
40. Jivana Shaili Tatha mano sammarda janya rogh tesham chikitsa cha – Life style and stress related disorders and their management.
41. Shishu tatha Kumara Manorog Chikitsa – Child and adolescent psychiatry.
42. Jadata, Buddhimandya, Adhyayana Akshamata – Mental retardation and learning disabilities.
43. Achara vaikalya – Conduct disorders.
44. Manobhava vikara – Emotional disorders.
45. Cerebral palsy, infantile autism, attention deficit disorders, Tourette's disorder etc.
46. Manasa rognam samanya vishesha chikitsa siadhantanam varnanam,
47. Daiva vyapashraya, Yukti vyapashraya, Sattvavajaya, Adravyabhuta chikitsa Upayah.
48. Manasa rogopayogi vividha aushadhenam vivechanam.
49. Ekamulika (Single drug), Panchavidha kashaya kalpana, Rasa Rasayana.
50. Brihatrayi, Yogaratnakara, Sharngdhara, Gadanigraha, Bhavaprakasha, Sahasrayoga ukta vividha yoganam vivechanam.

Brahmi, Mandukaparni, Vacha, Jatamansi, Yashtimadhu, Shankhapushpi, Kushmanda, Ashwagandha, Kushtha, Tagara, Guduchi, Jyotishmati, Srikhandadichurnam, Saraswathachurnam etc. Swarna, Swarnamakshika Bhasma, Rajata, Pravala, Mukta, Manahshila, Krishna Chaturmukharas, Krishna Chaturbhujras, kshirodadhira, Vata kulantaka rasa, Manasamitra vati, Smritisagar rasa, Unmada gajakesari ras, Apatantrakari vati, Kumarakalyana rasa etc. Kalyanaka ghrita, Brahmi ghrita, Mahapanchagavya ghrita, mahapaishachika ghrita, Mahabhutarava ghrita, Kushmanda ghrita, Purana ghrita, Panchagavya ghrita etc. Saraswatarishta, Ashwagandharishta, Chittachandirasava , etc

Himasagara taila, Tunga drumadi taila, Gandharajataila, Brahmi taila, Sidharthaka agadoa, etc.

Dhupa, Nasya, Lepa, Anjana yogas useful in Manas Rog Aushadh Karmukata and prayoga vidhi.

51. Pharmacodynamics of the above explained drugs

52. Mano Bhesaja vigyanam – Essentials of Psycho pharmacology.

PAPER – IV

Itara Manas Chikitsa Evam Yoga

Panchakarma

1. Importance of Panchakarma and other allied procedures including Keraliya Karmas in the management of Manasa rog.
2. Theoretical knowledge and application of the following karmas in Manas rog – Snehan, Svedana, Vamana, Virechana, Basti, Nasya, Raktamokshana, Shiro lepa, Murdhni taila, Anjana, Dupa, Dhupana etc.

Yoga

1. Manovigyan sandharbhe yogasya vaishishtyam. Yogashastrasya upayogita mahatvam cha.
2. Yogasya darshnika svarupgyanasahitam tasya astanganam samichinam Gyanam.
3. Ayurveda drishtya yoga adhyayanasya upayogita.
4. Ayurveda shastre pratipaditah yogasya siddhanth.
5. Satvavajaye gyana-bhakti-karma yoganam manasa roge vivechanam – Hatha yogascha.
6. Role of Shadkarma – Kapalabhati, trataka in Manasa rog
7. Naishthiki chikitsa in manasa rog
8. Therapeutic potential of yoga, psycho biological effects of yoga spiritual therapy and yoga,
9. Sudarshana kriya yoga, transcendental meditation, yoga nidra and other allied yogic techniques in manasa rog chikitsa.
10. Manas and prana (bio energy), pranic healing, means of bio energy modulation in manas rog.

Sattvavajaya

Its application and techniques in detail.

Psychotherapy

1. Various methods of psychotherapy and counselling techniques, transational analysis, behavioural therapy, psychoanalysis.
2. Hypnotherapy in Manasa rog.
3. Role of Rasayana, Medhya Rasayana and Vajikarana in Manas rog
4. Pathyapathya in Manas rog
5. Achara Rasayana in Manas rog.
6. Manas roge itara Chikitsanam cha Varnanam
7. Knowledge of psychiatric emergency an their management
8. Knowledge of surgical intervention in Manas rog
9. Recent advances in Manas rog.

Reference Books

1. Related matter of Charak, Sushrut & Vagbhata & other ancient texts.
2. Prachin Manovikara Vigyanam - Ayodhya Prasad Achal
3. Ayurvediya Padarth Vigyan - Ranjit Rai Deshai

- | | |
|-----------------------------|--------------------------|
| 4. Ayurveda Darshan | - Acharya Rajkumar Jain |
| 5. Purusha Vichaya | - Prof. V.J.Thakkar |
| 6. Ayurvediya Manasa Vigyan | - Prof. Ram Harsha Singh |
| 7. Yoga evum Ayurveda | - Acharya Rajkumar Jain |

10. PRASUTI & STRI ROG

PAPER - I

Garbhagarbhini Vigyanam

1. Shroniguha – yoni – Garbhashayadi samasta stri prajanangadinam prakrititah rachana shariram. Applied anatomy of female Genito urinary system, pelvis and Pelvic floor. Pelvic assessment and foetal skull.
2. Physiopathology of puberty. Artava, Rituchakra, Stribijam Pumbijam cha.(Neuroendocrine control of menstrual cycle).
3. Garbhadhanam (prenatal Counseling), Pumsavanam, Garbhopadanani, Garbhasya shaddhatvatmaktvam, Garbhavakranti, Matrijadayobhavaha, Garbhabhivridhhi, role of panchamahabhutas in the formation and development of fetus. Garbhasyavayotpatti, Fundamentals of reproduction – gamatogenesis, Fertilization, Implantation and early development of human embryo.
4. Apra, Garbhodaka Jarayu., Nabhinadi prabhrutyadinam nirmanam Karmani Vikarani cha (Placenta, amniotic fluid, membranes and umbilical cord - their formation, structure, Functions and abnormalities), Garbhasyaposhanam Garbhasharirkriyavaishishtyam (Foetal physiology), Garbhalingotpatti, Garbha varnotpatti Garbhasya masanumasika vridhhi (Foetal growth and development)
5. Bija – Bijabhaga – Bijabhagavayava janya, anya cha garbhanga vikarah (Birth defects, Genetics and other teratologic abnormalities)
6. Garbhininidanm, Garbhakalina lakshanani, Matrigata parivartanani Dauhridam, Physiological changes during pregnancy, Endocrinology related to pregnancy, Immunology of pregnancy.
7. Garbha sapekshanidanm, Garbhiniparicharya swasthavrittam cha, Masanumasika Pathya Apathyam cha. Ante Natal care, (examination investigation and management) Garbha upaghatakara bhavah.
8. Garbhasankhya nirnay, Bahu apatyata cha (Multiple pregnancy)
9. Garbhavyapadani – Garbhasrava and Garbhapata (abortions), Upavishtaka, Nagodara / Upashushkaka, Lina Garbha, Goodagarbha, Jarayu dosha, Antarmrita garbha (Intrauterine Foetal death), Garbha shosha, Garbha kshaya, Mithyagarbha (pseudocyesis), Bhutahrita garbha, Raktagulma (Hydatidiform mole), Ectopic pregnancy I.U.G.R, causes , clinical features, complications and treatment.
10. Garbhini vyapadani – Garbhinyah Garbhajanya anyavikaranam nidan purvarupa, rupa purassaram chikitsa cha. Early recognition differential diagnosis and prompt management of pregnancy complications. Hyperemesis gravidarum, Pregnancy Induced Hypertention, Pre-eclampsia, Eclampsia, Antepartum hemorrhage, Rh-incompatibility. Management of pregnancies complicated by medical, surgical or Gynecological diseases in consultation with the concerned specialities by team approach.
 - a) Anaemia, pyrexia, Heart disease, Diabetes mellitus, Liver disorders, Respiratory diseases, renal diseases, epilepsy, Hypertensive disorders.
 - b) Fibroids, Ovarian tumors, Carcinoma Cervix, Genital prolapse.
 - c) Recent advances in medical and surgical management.

Infections in pregnancy
Toxoplasmosis, Viral infections (Rubella, CMV, Hepatitis –B, and Herpes), Syphilis and other sexually transmitted infections including
HIV Preventi on of mother to child transmission of HIV infection (PMTCT).
11. Jataharini related to garbhini avastha

12. Evaluation of Foetal and maternal health in complicated pregnancies by making use of diagnostic modalities.
13. Prenatal diagnosis of fetal abnormalities and appropriate care. PNDT Act and its Implications.

PAPER II
Prasava – Vigyana
Prakrit prasav

1. Prasav paribhasha, Prasav kal, Prasava prarambha karanani, Prasava kalina garbha sthiti, Avi, Sutikagara.
 - a) Initiation and onset of parturition.
 - b) Examination and evaluation of patient in labour.
 - c) Physiology of labour.
 - d) Mechanism of labour.
 - e) Selection of place of delivery and labour room
2. Prasava avastha evam paricharya
 - a) Stages of normal labour.
 - b) Intrapartum maternal and foetal monitoring.
 - c) Mangement of normal labour.

Prasava vyapada

- a) Etiopathogenesis, clinical features, prevention and management of Garbhasanga, vilambita prasav & Mudhagarbha.
 1. Prolonged labour
 2. Cephalo pelvic disproportions
 3. Malpresentation
 4. Obstructed labour
 5. Methods of Induction and Augmentation of labour
- b) Complications of different stages of labour
- c) Obstetric management of high risk Pregnancies – PET, Eclampsia, Diabetes, cardiac Disease, asthma, Epilepsy, Cases of APH, Multiple pregnancy, Preterm, Post term and IUGR cases.
- d) Still birth – diagnosis, complications and management.

Jatamatra /Navajata shishu paricharya

1. Examination and management of neonate.
2. Management of birth asphyxia.
3. Detection of congenital malformation in newborn and timely referral for correction.

Sutika Vignyana

1. Sutika Paribhasha, kala maryada, paricharya, normal puerperium.
2. Sutika vyadhi and their chikitsa; stana shotha, stana vidhradhi
3. Stana sampat, Stanya utpatti, Srava, Stanya vriddhi, kshaya and dusti karana, Lakshan and its Chikitsa, Stanya pariksha.
4. Suppression of lactation.

Obstetric shock and management

1. Raktadhana: - blood transfusion and replacement of blood constituents.
2. Management of fluid & electrolyte imbalance in obstetrics.

Drugs used in obstetric practice, indications/contra indications, doses and side effects

PART – III
Stri Rog

- 1. Etiology, Pathogenesis, Signs, Symptoms and Treatment of disorders of menstruation And Female reproductive and urinary system.**
 - A. Congenital malformations of female genital tract
 - B. Artav dushti, asrigdara, anartava and alpartav.
 - C. Genital infections including sexually transmitted infections.
 - D. Abnormal vaginal discharges.
 - E. Granthi, Gulma, Arbuda, Arsha, Yonikanda, and Neoplastic growth of female genital organs.
 - F. Endocrinological disorders.
 - G. PCOS
 - H. Somarog.
- 2. Detailed study of yoni vyapad mentioned by different Acharyas with their commentaries and all possible correlations with modern gynaecological diseases.**
- 3. Vandyatva**
 - A) Hetu, Bheda, Pariksha, and Chikitsa.
 - B) Detailed study of causative factors, Investigations with recent advances in management Of infertility, Adoption law.
- 4. Stanaroga**

Detailed study of Stanashotha, Stanakilaka and stanavidradhi.
- 5. Measures of contraception**
 - A. Ayurvedic view of Garbha nirodha and Garbhapatkara yogas.
 - B. Recent studies in the field of contraception in Ayurveda.
 - C. Temporary Contraceptions – Mechanical and medicinal.
 - D. National Health programme to improve maternal and Child health, social obstetrics and vital statistics (maternal and perinatal mortality).
- 6. Sthanik Chikitsa**

Detailed study of Uttarabasti, Pichu, Varti, Dhupan, Dhavana, Parisheka, Kalkadharana etc.
- 7. Rajo Nirvritti – menopause, H.R.T, and geriatric health care**
- 8. Study of modern diagnostic techniques and Investigations.**
- 9. Important drugs used in Stri rog.**

PAPER – IV
Prasuti – Stri rog-Shalya Karmani

General principles of Gynecological and Obstetric Surgeries. Analgesia and Anaesthesia in Obstetrics and Gynaec operative procedures.

Operative Obstetrics

Decision making, techniques, diagnosis and management of surgical complications.

Dilatation and evacuation, Hysterotomy, Provision of safe abortion services – selection of cases, technique and management of complications, septic abortions, criminal abortions, MTP Act.

Cervical encircage.

Instrumental delivery (Forceps, vacuum extraction), Caesarean Section, Manual removal of Placenta, Caesarean Hysterectomy.

Operative gynecology

Selection of cases, technique and management of complications of minor and major gynaecological procedures.

Dilatation and Curettage, Cervical cauterization.

Polypectomy, Myomectomy, Cystectomy, Oophorectomy.

Surgical sterilization procedures.
 Abdominal and Vaginal Hysterectomy.
 Surgical procedures for genital prolapse.
 Surgical management of benign genital neoplasm.
 Recent advances in Gynecology and obstetrics – Diagnostic and therapeutics
 Shock and its management, Blood Transfusion, Fluid and electrolyte imbalance, Fluid therapy,
 Medico – legal aspects – ethics, communication and counselling in obstetrics and Gynecology.
 Intensive care in Obstetrics and Gynecology.

Practical Training

Seminar presentations, teaching and vigorous training in IPD, OPD and department.
 Practical knowledge and practice of all the relevant equipments, procedures, their complications with management including emergencies. Submission of dissertation on selected topic.

Reference Books

1. Related matter of Charak, Sushrut and Vagbhata
2. Kashyapa Samhita
3. Abhinav Prasutitantra - Ayodhya Prasad Achal
4. Abhivan Stri Roga Vigyan - Ayodhya Prasad Achal
5. Abhivan Stri Roga vigyan - Rajendra Prasad Bhatnagar

11. KAUMARBHRITTYA (BAL ROG)

PAPER – I

Bija, Garbha evam Balavikas Vigyaniya

(Human Genetics, Embryology and Growth & Development)

A. Prakrita Bija-Bijabhaga-Bijabhagavayava evam Tadjanya Vikriti (Genetics and related disorders)

1. Ayurvedic genetics: Shukra, Shonita, Shukra Shonita Doshas, Bija-Bijabhaga-Bijabhagavayava Vikriti, Matrija and Pitrija Bhavas, Yajjah Purushiya and Atulyagotriya
2. Modern genetics

(I) Basic concepts

- a. Cell, cell division, nucleus, DNA, chromosomes, classification, karyotype, molecular and cytogenetics, structure of gene, and molecular screening.
- b. Human Chromosomes – Structure, number and classification, methods of chromosome preparation, banding patterns.
- c. Single gene pattern inheritance: Autosomal & Sex chromosomal pattern of inheritance, Intermediate pattern and multiple alleles, Mutations, Non Mendelian Inheritance, mitochondrial inheritance, Genomic imprinting, parental disomy.
- d. Criteria for multifactorial inheritance.

(ii) Pathogenesis

- a. Pathogenesis of chromosomal aberrations and their effects, recombinant DNA, Genetic inheritance, inborn errors of metabolism.
- b. Chromosomal abnormalities: Autosomal & Sex chromosomal abnormalities

- syndromes.
- c. Multifactorial pattern of inheritance: Teratology, Cancer Genetics – Haematological malignancies, Pharmacogenetics.
- d. Chromosomal disorders
- e. Chromosomal aberration (Klinefelter, Turner and Down's syndrome)
- f. Sex Determination
- g. Genetic Counseling, Ethics and Genetics

B.Garbha – Vigyaniya (General Embryology)

1. Garbha (embryo), Garbhawastha (gestation period), sperm, ovum; spermatogenesis; oogenesis; structure of ovum.
2. Sperm in the male genital tract; sperm in the female genital tract, activation and capacitation of sperm.
3. Garbha Masanumasika Vriddhi evam Vikasa (Ayurvedic and modern concepts of Embryo and Fetal development)
 - I. First week of development
 - II. Second week of development
 - III. Third week of development
 - IV. Fourth to eighth week of development (Embryonic period)
 - V. Development from third month till birth (Fetal period)
4. Apra (Placenta)
 - Apara Nirmana (Formation of placenta), Apra Karya (Functions of placenta); Apra Vikara (Placental abnormalities)
5. Nabhinadi (Umbilical Cord)
6. Garbha Poshana (Fetal nutrition including fetal circulation)
7. Yamala Garbha (twins)
8. Garbha Vriddhikara Bhavas, Garbhopaghata Bhavas:
9. Effect of maternal medication, diet and illness over fetus.
10. Teratology: Causative factors for teratogenicity, mode of actions of teratogens,
11. Perinatal Care and Perinatal complications
12. Jataharini (Related to pediatric)
13. Prenatal diagnosis for congenital abnormalities
14. Samanya Janmajata Vikara (Common congenital anomalies of different systems).

C. Sharirika Vriddhi, Mansika evam Samarjika Vikasa (Physical Growth, mental and Social development of child)

1. Vriddhi Vikasa Karma evam Vikara
 - a. Mile stones in infancy and childhood in respect of gross, fine motor, cognitive, language and personal-social development.
 - b. Adolescent: Growth & development, and associated problems
 - c. Anthropometry –measurement and interpretation
2. Childhood Samskara

PAPER II

Navajata Shishu Vigyan evam Poshana (Neonatology and nutrition)

1. Navajata Shishu Paribhasha, Vargikarana (Important definitions and classification related to neonates).
2. Navajata shishu paricharya evam Prana-Pratyagamana (Care of the newborn including recent methodology for the resuscitation)
3. Samanya Navajata Shishu Paricharya (General Neonatal Care – Labour room onwards)

4. Samaya purva evam Samaya pashchat Jata Shishu Paricharya (Management of preterm, post term and IUGR newborn)
5. Prasava Kalina Abhighataja Vyadhi (Birth injuries): Upashirshaka (Caput, cephalohematoma), Bhagna (Fractures), Mastishkantargata Raktasrava (ICH, IVH, Subdurai haemorrhage)
6. Navjat Shishu Pariksha (Examination of newborn - Ayurveda and Modern methods)
7. Kumaragar: Navajata Shishu Kaksha Prabandhana – (Nursery management), NICU, Nursery plan, staff pattern, medical records, Visankramanikarana(sterilization), Knowledge of equipments used in nursery.
8. Navajatha Shishu Vyadhi (Early neonatal disorders): Hypothermia, Shavasavarodha (Asphyxia Neonatorum), Ulvaka (Aspiration pneumonia), Rakta Vishamayata (Neonatal septicaemia), Kamala (Neonatal Jaundice), Akshepaka (Neonatal convulsion), Pandu (Anemia), Atisara (Diarrhea), Asamyaka Nabhinal Kartanjanya vyadhi.
9. Navjata Kshudra Vikara (Minor neonatal ailments): Chharadi (Vomiting), Vibandha (constipation), Udara shul (Infantile colic), Puya Sphota (Pyoderma), Shishu Netrabhishyanda (Ophthalmia neonatorum).
10. Sadyojatasya Atyayayika Chikitsa (Management of neonatal emergencies): Shock, Fluid and electrolyte imbalance, Convulsion, Hemorrhagic diseases of Newborn etc.
11. Procedures: Shiro-Pichu, Abhyana, Parisheka, Swedan-Hasta-Pata sweda, Pralepa, Garbhodaka Vamana (Stomach wash), Ashchytana Neonatal resuscitation techniques, Blood sampling, Intravenous canulation, Umbilical vein catheterization, Bone marrow aspiration, phototherapy, Naso-Gastric tube insertion, Urethral catheterization, Exchange blood transfusion, Thoracocentesis, Bone marrow infusion, Lumbar puncture.
12. Nutrition:
 - a. Navjat Shishu Ahara (Neonatal feeding):
 - I. Specific Feeding methodology as per Ayurveda and recent advances; Day to day fluid, milk, caloric requirement for the newborn, feeding technique for the preterm baby.
 - II. Stanyotpatti and Prasruti (Lactation physiology), Matridugdha Samghatana(Composition of breast milk), Stana Sampat (Characteristics of normal breast), Stanya Sampata evam Mahatva (Properties & Importance of pure milk), Stanya-Piyusha (Colostrum); Stanya-Pana-Vidhi (Method for breast milk feeding), Stanyakshaya / Stanyanasha (Inadequate production and absence of breast milk), Stanya parikshana (examination of breast milk) , Stanyabhava pathya vyavastha (Alternative feeding methods in absence of breast milk), Various feeding methods, TPN (Total Parenteral Nutrition)
 - III. Stanyadosha (Vitiation of Breast milk), Stanya Shodhana (Purification of breast milk), Stanya Janana and Vardhanopakrama (Methods to enhance breast milk formation)
 - IV. Dhatri (Wet nurse) : Dhatri Guna and Dosha (Characteristics of Wet nurse), Concept of Breast Milk Banking.
 - V. Lehana (Elucturies)
 - b. Bala-Poshana (Child Nutrition):
 - i. Daily requirements of nutrients for infant and children
 - ii. Common food sources
 - iii. Satmya and Asatmya Ahara (Compatible and incompatible diet)
 - iv. Pathya evam Apathya Ahara (Congenial and non – congenial diet)
 - v. Stanyapanayana (Weaning)

PAPER – III
Balrog (Pediatric Disorders)

- i. Fundamentals of Ayurvedic treatment in pediatric disorders
- ii. Atura Balaka Pariksha(Examination of sick child)
- iii. Daiva Bala-Pravrita Rog (Indiopathic and Infectious disorders):
 - a) Krimi evam Aupsargika Rog (Infections and Infestations): Common bacterial, viral and prarasitic infections with special reference to vaccine-preventable diseases: Rohini (Diphtheria), Whooping cough, Aptanaka(Tetanus including neonatal tetanus), Romantika (Measles), Karnamula shotha (Mumps), Rubella and Masurika (Chickenpox), Antrika Jwar (Typhoid and Paratyphoid), Viral Hepatitis, Pravahika (Amoebiasis)Glardiasis and intestinal helminthiasis; Vishama Jwar (Malaria) and Kala-azar, Dengu fever, HIV (AIDS), Poliomyelitis, Mastishkavaran Shotha (Meningitis), Mastishka Shotha (Encephalitis).
 - b) Tvaka Vikara (Skin disorders): Ahiputana (Napkin Rashes), Shakuni (Impetigo), Sidhma, Pama, Vicharchika, Charmadal (Infantile atopic dermatitis)
 - c) Pranvaha Srotasjanya Vyadhi (Respiratory disorders) – Kasa (Cough), Shvasa (Respiratory distress Syndrome), Tamaka Shwasa (Childhood Asthama), Bronchilolitis, Shvasanaka Jwara (Pneumonia – bacterial , Viral etc) Rajyakshma (tuberculosis), Vaksha – Puyata (Pyothorax), Vaksha Vata – Purnata(Pneumothorax)
 - d) Annavaha Srotasjanya Vyadhi (Gastrointestinal disorders): Jwar (Fever), Chhardi (Vomiting), Ajirna (Indigestion), Kshiralsaka, Atisara (Diarrhea), Vibandha (Constipation, Gudukutta (Napkin rashes), Jaiodar (Ascites), Udarshula (Pain in abdomen).
 - e) Rakta evam Raktavaha Srotasjanya Vyadhi (Hematological and Circulatory disorders): Pandu (Anemia), Raktapitta (Bleeding disorders), Vishishta Hrida Rog (Specific cardiac diseases – RHD etc), Raktagat-vata (Hypertension),Thalasemia, Leukemia, Hemorrhagic disorders.
 - f) Mamsavaha Srotasjanya Vyadhi: Myopathy
 - g) Mutravaha srotasjanya Vyadhi (Urinary System disorders): Vrikkashotha (Glomerulonephritis and nephrotic syndrome), Mutrakriccha (Dysuria), Mutraghata (Anuria),
 - h) Vataavaha Sansthanjanya Vyadhi (Nervous system disorders): Ardita (Facial paralysis), Pakshavadha (Hemiplegia), Ekangaghata (Monoplegia), Adaranga Vayu (diplegia), Apasmara (Epilepsy), Mastulunga-Kshaya, Mastishka-Shotha (Encephalitis), Mastishkavrana-Shotha (Meningitis), Amavata (Juvenile Rheumatoid arthritis)
 - i) Manovaha Srotasa Vyadhi: Breath holding, Shayya mutra (Bed wetting), Autism-ADHD(Attention Deficit andhyperactive disorders), Learning Diability, Mental retardation, Temper tantrum , Pica
 - j) Antahsravi evam Chayapachayajanya Rog (Endocrine and Metabolic disorders)

- k) Kuposhanjanya Vyadhi (Nutritional disorders): Karshya-Phakka-Balshosha-Parigarbhika (PEM and allied disorders), Vitamin-Mineral and trace elements deficiency disorders, Hypervitaminosis.
- l) Anya Vyadhi (Miscellaneous disorders): Gandamala, Apachi (Cervical lymphadenitis), Galganda (Goiter), Kukulakadi Akshi Rog, Hodgkin & non Hodgkin Lymphoma, disability and Rehabilitation, Abnormal growth patterns, Short stature.
- m) Samghata-Bala Pravrita Rog: Dog bite, Snake bite, Scorpion bite etc
- n) Atyayika Balarog Prabandhana (Pediatric emergency management): Shock and Anaphylaxis, Fluid and electrolyte management, Drowning, Foreign body aspiration, Status epilepticus, Acute haemorrhage, Acute renal failure, Febrile convulsion, Status asthmaticus, Burn, Acute Poisoning
- o) Balagraha: Scientific study of Graha Rogs.

PART –IV

Ancient Status and Advancements in the field of Kaumarabhritya

1. Significant contributions of Kashyapa samhita and other texts /treatises of Ayurveda in the field of Kaumarabhritya
2. Panchakarma: Principles of Panchakarma and their application in pediatric practice.
3. Concept of Vyadhi-kshamatva evam Vardhanopaya (Concept of Immunity and recent immuno-enhancing measures including padiatrics immunization)
4. National Programs related to pediatrics
5. Update knowledge of clinical pediatrics
6. Application of Research methodology in the field of Pediatrics

Practical

- a) Seminars, presentations, teaching & training in IPD, OPD and department.
- b) Knowledge and practice of all the relevant equipments, procedures and disease management including life-threatening conditions of children.

Reference Books

1. Related matter of Sushruta Samhita, Charaka Samhita and Vagbhata
2. Kshyapa Samhita
3. Harita Samhita
4. Kumar Tantra Samucchaya – Ramanath Dwivedi

12.KAYACHKITSA

PAPER – I

1. General principles, concepts and clinical methods of Ayurveda and Modern medical science.
2. Study of different compound preparations of different kalpanas commonly used in day to day practice
3. Ability to identify the role of Ayurved in National health programmes.
4. Study of Charak samhita, Sutra sthana chapter 21 to 24, and 28, Vimana sthana chapter 5, 7, 8, all chapter 9.
5. Communication and management skills in Chikitsa

PAPER -II

Nidana, Chikitsa including Atyayika Chikitsa and advances in modern diagnostic methods of the diseases pertaining to following srotas/systems.

1. Pranavaha srotas/disorders of respiratory system. Chest diseases: Bronchial Asthma, Pulmonary Koch's, Bronchitis Bronchiectasis, COPD, Silicosis etc.
2. Udakavaha srotas / disorders of acid base and electrolyte imbalance.
3. Mahasrotas / disorders of gastrointestinal system.
4. Rasa rakta vaha srotas/disorders of cardiovascular system. Hepatic diseases: Hepatitis, Cirrhosis, Ascites and recent advances in diagnosis and treatment. CVS Disorders: CHF, Anginal disorders, LVH RVH, RHD & Valvular diseases IHD and Hypertension, congenital heart diseases. Skin & Venereal diseases: Syphilitic disorders, gonorrheal diseases, skin allergies and Infection, AIDS and recent advances in diagnosis & treatment of genral skin diseases, leprosy, psoriasis, Atopic dermatitis. Blood disorders: Different Anemia, Leukemic Diseases, Coagulation & Blood Parasitic Disease (Malaria, Kalazar etc.)
5. Annavaha Srotasa . Disorders related to GIT: Diarrhoea, Dysentery, Ulcerative diseases of GIT, IBS etc.
6. Mutra and Shukra vaha srotas / disorders of urogenital systems. Renal and urinary diseases: Nephrotic & Nephritic diseases, UTI, ARF, CRF, Uremia, Renal Hypertension etc. Renal complications of other diseases.

PAPER -III

Nidana, Chikitsa including Atyayika chikitsa and advances in modern diagnostic methods of the diseases pertaining to following srotas / systems.

- I. Mamsa, Asthi and Majja and Vata vaha srotas /disorders of musculo skeletal disorders and neuro muscular disorders. Locomotor diseases: Rheumatoid arthritis, Osteo arthritis, chronic fatigue syndrome etc.
 - II. Nidana and Chikitsa of Vata vyadhis / Neurological disorders. Psycho-Neurological disorders: Sexual disorders, CVA, Epileptic disorders, parkinsonism etc. Psychosis, Anxiety Disorders, Depression etc.
 - III. Nidana and Chikitsa of Maovaha Sroto disorders / Psychiatric disorders
1. Sankramaka and Janapadodhvamsa vikaras / communicable epidemic and environmental disorders.
 2. Occupational hazards.
 3. Endocrinal disorders: Diabetes mellitus, Thyroid diseases viz. Hyperthyroidism, Hypothyroidism, Graves's disease, Endocrinal sexual dysfunction, Addison's disease, Cushing syndrome.
 4. Auto immune diseases.
 5. Metabolic disorders: Gout, Hypercholesterolemia and other lipid disorders.
 6. Water and Electrolytic disturbances.
 7. Study of disorders not mentioned in Ayurvedic classics such as AIDS, Chikungunya, Alzheimer's disease, and Monkey fever, (KFD), Hepatitis, Dementia and Neoplastic disorders and their Ayurvedic Management.
 8. Management of emergency conditions / Critical care management in ICU and ability of referral Judgment.
 9. Recent advances in modern medicine and diagnostic aids.

PAPER – IV
Speciality in Kayachikitsa - Any one as student's choice

1.Rasayan

- a. Definition
- b. Classification of Rasayana & its application in Health and Disease
- c. Rasayana drugs, yogas and their uses
- d. Role of Rasayana in the management of Manas & Sharir Rogs.
- e. Scope of Rasayana, Chikitsa in present times.

2. Vajikaran

- a. Definition
- b. Classification of Vajikaran & its application in Health and Disease
- c. Vajikaran drugs, yogas and their uses.
- d. Vajikarana, concept, practices and remedies
- e. Scope of Vajikaran Chikitsa in present times.

Reference Books

1. Related matters of Charak Samhita, Sushrut Samhita, Ashtanga Samgraha and Ashtanga Hridaya
2. Madhav Nidana with madhukosha Commentary
3. Ayurvediya Vyadhi Vigyana -Yadavji Trikamji
4. Roga Pariksha Vidhi - Priyavrat Sharma
5. Panchakarma Vigyan - Haridasa Sridhar Kasture
6. Cikitsadarsha - Pandit Rajesvardutta Shastri
7. Kayachikitsa - Ramaraksha Pathaka
8. Cakradatta
9. Modern texts of kaya chikitsa

13. SHALYA TANTRA SAMANYA – GENERAL SURGERY

PAPER -1

Shalyatantra Siddhant – Fundamentals of Surgery

1. Etymology and Definition of Shalya Tantra.
2. Scope of Shalya Tantra and its importance.
3. Descriptions of Soshha, Dhatu and Mala Vigyan.
4. Significance and importance of Rakta as the fourth Dosha.
5. Yantras and Shastras – ancient and recent.
6. Trividha Karma – Purva, Pradhan and Pashchat Karma. Importance of trividha karma.
7. Asepsis and Antisepsis.
8. Nirjantakarana – Sterilization – Methods, Types and O.T.fumigation
9. Surgical infections – Sepsis, tetanus, hepatitis, HIV-AIDS etc.
10. Ashtavidha Shastra Karma – Critical knowledge and their application in surgical practice.
11. Suturing materials, appropriate use of sutures, drains, prosthetic, grafts and surgical implants.
12. Concept of Marma in Shalya Tantra.
13. Concept of shock – Its varieties and management.

14. Rakta srava – Types & clinical features. Concept of Raktastambhana – Haemostasis.
15. Bandana – bandaging techniques.
16. Vranasopha, Vidradhi and Prameha Pidaka.
17. Arbuda and Granthi.
18. Gulma and Udararog
19. Kshudra Rog.
20. Fluid, electrolyte, Acid Base Balance and Nutrition
 - a. Introduction to physiology of fluids and electrolytes
 - b. Dehydration and over hydration,
 - c. Specific electrolyte losses and symptomatology and management of Acidosis, Alkalosis and Acid balance.
 - d. Electrolyte changes are specific diseases like pyloric stenosis, intestinal obstruction and anuria.
 - e. Various replacement fluids in surgery, mode of administration and complications.
 - f. Nutrition – pre-operative, post-operative and intravenous alimentation.
 1. Blood Transfusion – Indications, blood groups, components, compatibility and complications with management.
 2. Knowledge of antibiotics, analgesics, anti-inflammatory and emergency drugs in surgical practice.
 3. Knowledge of imaging and diagnostic techniques – X-ray, Ultra Sonography, CAT scan, MRI and recent advances.

PAPER - II

Vishista Shalya Karma

1. Yogya – Practical and Experimental training

- a. Practice of surgical procedures on different models.
- b. Description of Yogya mentioned in texts.
- c. Specific knowledge of surgical procedures in different diseases.

2. Vrana – Wound

- a. Management of Nija Vrana, Agantuja Vrana, Dushta Vrana and Nadi Vrana.
- b. Vrana Chikitsa – Pathya-apathya and Shashti Upakramas
- c. Varieties and management of Dagdha Vrana – Burn and scalds, Diabetic wound and its management
- d. Gangrene – management.

Mutra Rog – Urological diseases.

Anatomical and physiological knowledge of kidney, ureter, urinary bladder, prostate, seminal vesicles, urethra and penis.

Investigations of Mutravaha Srotas – urinary tract.

Complete knowledge of pathogenesis, causes and surgical

Procedures of Ashmari - urinary calculi and other disorders.

Specific knowledge of swelling abscess, tumor, benign

Hypertrophy of prostate, Mutraghata, Mutrakruccha and

Traumatic injury of urinary system their causes, pathogenesis and Management.

Penis Congenital, traumatic, inflammatory and neoplastic Disorders.

Asthi rog – Orthopaedics/Marma chikitsa.

Anatomy and physiology of bone.

Diseases of bone and joints – Infection, congenital, exogenous diseases, generalized diseases, abscess, osteoporosis,

Osteomyelitis, tumours of bones and chronic joint diseases.

Aetiopathogenesis, treatment along with surgical procedures of

- Bhagna – fracture, Sandimoksha – dislocation and bone transplantation.
 Diseases of Spine, vertebral column and spinal cord.
 Sandhana Karma – plastic reconstructive and cosmetic surgery,
 Fundamentals of Sandhana Karma.
- e. Karna Sandhana – Earplasty
 - f. Nasa Sandhana – Rhinoplasty
 - g. Ostasandhana – Chelloplasty
 - h. Skin grafting
 - i. Plastic surgery of urethra, penis, testicles, vasdeference and scrotum.
3. **Anushalya Karma** –Parasurgical procedures
 - a. Kshara Karma, Kshara Sutra, Agnikarma and Raktamoskhana.

PAPER – III

Shalya Vigyaniya Nidan – Operative surgery

1. Fundamentals of modern surgery and treatment of surgical disorders including surgical anatomy, physiology and pathology.
2. Diagnosis and Surgical treatment of head injury, thoracic trauma, and abdominal trauma.
3. Diagnosis and Surgical management of neck disorders e.g. salivary glands, thyroid etc.
4. Diagnosis and Surgical management of breast diseases.
5. Diagnosis and Surgical measures of diseases of Gastrointestinal system – stomach, pancreas, peritoneum, omentum, mesentery, retroperitoneal space, small intestine, large intestine and vermiform appendix
6. Diagnosis and surgical management of proctological disorders.
7. Diagnosis and surgical measures of diseases of Hepatobiliary system liver, gall bladder, bile ducts and spleen.
8. Diagnosis and surgical management of diseases of urogenital system.
9. Diagnosis and surgical management of traumatic disorders.
10. Diagnosis and surgical measures for disorders of vein, artery, ligaments, joints and muscles.
11. Diagnosis and surgical management of diseases of scrotum and testis. -Hydrocele, ectopic testis, undescended testis etc.
12. Diagnosis and surgical management of Hernias – Inguinal, femoral, umbilical, incisional, abdominal wall and other hernias.
13. Endoscopic procedures – Gastroduodenoscopy, Sigmoidoscopy, Colonoscopy etc.
14. Diagnostic and therapeutic laparoscopy.
15. Anaesthesia – Definition, Types, anaesthetic agents, indications, contraindications, procedures, complications and management.

PAPER – IV

Shalya Vangmaya – Shalya literature, research and development

1. Thorough study of the text including portions of Brihat treya and Laghu treya related to surgical aspects.
2. Knowledge and importance of Surgical audit.
3. Value of research and teaching in surgery.
4. Medico legal issues – Understanding the implications of acts of omission and commission in practice. Issues regarding Consumer Protection Act, medical profession, national health policy – Implications in a medico-legal case like accidents, assaults etc.
5. Surgical ethics including Informed consent.

Reference Books

1. Sushrut Samhita with Dalhana Commentary
2. Sushrut with Ghanekar Commentary
3. Related matters of Astanga Sangraha, Astanga Hridaya, Madhava Nidan etc.
4. The Surgical instruments of the Hindus Mukhopadhyaya. - Girindranath
5. Shalya Tantra Samuchchaya - Pandit Ramadesh Sharma
6. Shalya Vijyan (part 1-2) - Dr. Surendra Kumar Sharma
7. Shalya Samanvaya (part 1-2) - Vd. Anantaram Sharma
8. Shalya Pradipika - Dr. Mukund Swarup Verma
9. Sushruti - Dr. Ram Nath Dwivedi
10. Clinical Shalya Vigyan - Dr. Akhilanand Sharma
11. Bhagna Chikitsa - Dr. Prabhakar Janardhan Deshpande
12. Kshara sutra management in anorectal ailments -Dr. K.K.Sharma, Dr. K.R.Sharma and Dr.Kulwant Singh
13. Anorectal diseases in Ayurveda - Dr. Sizoria & Dr. Praveen Kumar
14. Adhunka Shalya Chikitsa Siddanta - Dr. Katil Narshingham Udupa
15. Agnikarma Technology Inovation - Dr. P.D. Gupta
16. Shalya tantra Ke Sidhant - Dr. K.K. Takrai
17. Surgical Ethics in Ayurveda - Dr. Singhal
18. Susruta's Contribution to Surgery - Dr. S. Sankaran
19. Recent advances in the management of Arshas/Haemorrhoids -Dr. P. Hemantha Kumar
20. Arsha Evam Bhagandar Men Sutravacharan - Vd. Kanak Prasad Vyas
21. Kshara Sutra - Dr. S.N. Pathak
22. Surgical ethics of Ayurveda - Dr. S. Sankaran
23. Anushastra Karma - Dr. D.N. Pande
24. Concept of Vrana is Ayurveda - Dr. Lakshman Singh
25. Significance for Purva Karma in Surgical Patient - Dr. Lakshman Singh
26. Sangyahan Prakash - Dr. D.N. Pande
27. Text book of Surgery - Sabistan
28. Operative Surgery - Rob and smith
29. Fractures and joint Injuries - Watson-Jones
30. Text books of Operative Surgery - Farquharsons'
31. Principles of Surgery - Schwartz
32. Emergency Surgery - Hamilton Balley's
33. Surgical pathology - Willing Worth
34. Clinical methods in surgery - S. Das
35. Methods of Surgical Procedure - S. Das
36. Short practice of surgery - Balley and love's
37. A concise text book of surgery - S. Das
38. A manual on clinical surgery - S. Das
39. A system of surgical diagnosis - Prof. Tribhuvan. N. Patel
40. A practical guide to operative surgery - S. Das
41. Text book of Surgery – Surgeons Association of India
42. Clinical Anatomy/Surgical Anatomy - Snell
43. Essential P.G. Surgeon - Filinge, Davice
44. Outline of Orthopaedics - J.C. Adams
45. Outline of Fracture - J.C. Adams
46. Clinical orthopaedic diagnosis - Suresh Pandey

14.SHALYA – KSHAR KARMA EVUM ANUSHAstra KARMA

PAPER – I

Shalya Siddhant – Fundamentals of Surgery

1. Etymology and Definition of Shalya Tantra.
2. Scope of Shalya Tantra and its importance.
3. Descriptions of Dosha, Dhatu and Mala Vigyan.
4. Significance and importance of Rakta as the fourth Dosha.
5. Yantras and Shastras – ancient and recent.
6. Trividha Karma – Purva, Pradhan and Pashchat Karma. Importance of trividha karma.
7. Asepsis and Antisepsis.
8. Nirjantakarana – Sterilization – Methods, Types and O.T. fumigation
9. Surgical infections – Sepsis, tetanus, hepatitis, HIV-AIDS etc.
10. Ashtavidha Shastra Karma – Critical knowledge and their application in surgical practice.
11. Suturing materials, appropriate use of sutures, drains, prosthetic, grafts and surgical implants.
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13. Concept of shock – Its varieties and management.
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15. Bandana – bandaging techniques.
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17. Arbuda and Granthi.
18. Gulma and Udararog
19. Kshudra Rog.
20. Fluid, electrolyte , Acid Base Balance and Nutrition
 - a. Introduction to physiology of fluids and electrolytes
 - b. Dehydration and over hydration,
 - c. Specific electrolyte losses and symptomatology and management of Acidosis, Alkalosis and Acid balance.
 - d. Electrolyte changes are specific diseases like pyloric stenosis, intestinal obstruction and anuria.
 - e. Various replacement fluids in surgery, mode of administration and complications.
 - f. Nutrition – pre-operative, post-operative and intravenous alimentation.
21. Blood Transfusion - Indications, blood groups, components, compatibility and complications with management.
22. Knowledge of antibiotics, analgesics, anti-inflammatory and emergency drugs in surgical practice.
23. Knowledge of imaging and diagnostic techniques – X-ray, Ultra Sonography, CAT scan, MRI and recent advances.

PAPER – II

Vishista Anu Shalya Karma – para surgical procedure

1. **Kshara Karma and Duda Rog – Caustic cautery and proctology**
 - a. Introduction of Kshara, methods of preparation and introduction of the constituent.

- b. Anatomical and physiological knowledge of anus.
- c. Causes, pathogenesis and surgical management of Arsha – Piles, bhagandara – Fistula in ano, Parikartika – Fissure – in – ano, Guda bhramsa – Rectal prolapsed, Sanniruddhaguda – Obstruction of anus, Guda Vidradhi – Ano-rectal abscess, Gudagata Shalya – Foreign body in anus, ano-rectal trauma, and congenital anal disorders.
- d. Method of preparation, application of Kshara sutra and management of complications.

2. Agni Karma – Thermal cautery

- a. Introduction of Agni Karma, types, instruments and equipments as per modern and Ayurveda system.
- b. Fundamentals of Agni Karma, importance, methods of application, duration, various substances used for Agni Karma and their complications, indications and contraindicated diseases.
- c. Features of proper Agni Karma particularly in joint disorders and piles, contraindication of Agni Karma.
- d. Management of oil burn, Dhumopaghat, Ushnavata, sunburn, frost bite and electric burn.

3. Raktamoksana – Blood letting

- a. Introduction of Raktamoksana, apparatus, fundamentals and importance.
- b. Method of application, procedure, diseases, complications, indications and contraindications of Raktamoksana.
- c. Causes of vitiation of blood, determination of hematological diseases, types of bloodletting, standard amount of blood in blood letting.
- d. Methods of Raktastambana – Haemostasis.
- e. Introduction of leeches, varieties, importance, methods of applications and maintenance of leech.

PAPER – III

Shalya Vigyaniya Nidan – Operative surgery

- 1. Fundamentals of modern surgery and treatment of surgical disorders including surgical anatomy, physiology and pathology.
- 2. Diagnosis and Surgical treatment of head injury, thoracic trauma, and abdominal trauma.
- 3. Diagnosis and Surgical management of neck disorders e.g. salivary glands, thyroid etc.
- 4. Diagnosis and Surgical management of breast diseases.
- 5. Diagnosis and surgical measures of diseases of Gastrointestinal system – stomach, pancreas, peritoneum, omentum, mesentery, retroperitoneal space, small intestine, large intestine and vermiform appendix
- 6. Diagnosis and surgical management of proctological disorders.
- 7. Diagnosis and surgical measures of diseases of Hepatobiliary system- liver, gall bladder, bile ducts and spleen.
- 8. Diagnosis and surgical management of diseases of urogenital system.
- 9. Diagnosis and surgical management of traumatic disorders.
- 10. Diagnosis and surgical measures for disorders of vein, artery, ligaments, joints and muscles.
- 11. Diagnosis and surgical management of diseases of scrotum and testis- Hydrocele, ectopic testis, undescended testis etc.
- 12. Diagnosis and surgical management of Hernias – Inguinal, femoral, umbilical, incisional, abdominal wall and other hernias.

13. Endoscopic procedures – Gastroduodenoscopy, Sigmoidoscopy, Colonoscopy etc.
14. Diagnostic and therapeutic laparoscopy.
15. Anaesthesia – Definition, Types, anaesthetic agents, indications, contraindications, procedures, complications and management.

PAPER – IV

Shalya Vangmaya – Shalya Literature, research and development

1. Thorough study of the text including portions of Brihat traye and Laghutraye related to surgical aspects.
2. Knowledge and importance of Surgical audit.
3. Value of research and teaching in surgery.
4. Medico legal issues – Understanding the implications of acts of omission and commission in practice. Issues regarding Consumer Protection Act, medical profession, national health policy – Implications in a medico-legal case like accidents, assaults etc.
5. Surgical ethics including Informed consent.

Reference Books

1. Sushrut Samhita with Dalhana Commentary
2. Sushrut with Ghanekar Commentary
3. Related matters of Astanga Sangraha, Astanga Hridaya, and Madhava Nidan etc.
4. Bhavaprakash
5. Yogaratnakara
6. The Surgical Instruments of the Hindus - Girindranath Mukhopadhyaya
7. Shalya Tantra Samuchchaya - Pandit Ramadesh Sharma
8. Shalya Vijyan (part 1-2) - Dr. Surendra Kumar Sharma
9. Shalya Samanvaya (part 1-2) - Vd. Anantaram Sharma
10. Shalya Pradeepika - Dr. Mukund Swarup Verma
11. Sushruti - Dr. Ram Nath Dwivedi
12. Clinical Shalya Vigyan - Dr. Akhilanand Sharma
13. Bhagya Chikitsa - Dr. Prabhakar Janardhan Deshpande
14. Kshara sutra management in anorectal ailments - Dr. S.K. Sharma, Dr. K.R.Sharma and Dr. Kulwant Singh.
15. Anorectal diseases in Ayurveda - Dr. Sizoria & Dr. Praveen Kumar
16. Adhunik Shalya Chikitsa Siddanta - Dr. Katil Narshingham Udupa
17. Agnikarma Technology Inovation - Dr. P.D. Gupta
18. Shalya tantra Ke Sidhant - Dr. K.K. Takra
19. Surgical Ethics in Ayurveda - Dr. Singhal
20. Susruta's Contribution to Surgery - Dr. S. Sankaran
21. Recent advances in the management of Arshas / Haemorrhoids – Dr.P.Hemantha Kumar
22. Arsha Evam Bhagander Men Sutravacharan - Vd. Kanak Prasad Vyas
23. Kshara Sutra - Dr. S.N. Pathak
24. Surgical ethics of Ayurveda - Dr. S. Sankaran
25. Anushastra Karma - Dr. D.N. Pande
26. Concept of Vrana is Ayurveda - Dr. Lakshman Singh
27. Significance for Purva Karma in Surgical Patient - Dr. Lakshman Singh
28. Sangyahan Prakash - Dr. D.N. Pande
29. Text book of Surgery - Sabistan
30. Operative Surgery - Rob and Smith
31. Fractures and Joint Injuries - Watson-Jones

32. Text books of Operative Surgery	- Farquharsons'
33. Plastic Surgery	- Mc Charthy
34. Principles of Surgery	- Schwartz
35. Emergency Surgery	- Hamilton Bailey'
36. Surgery of Anorectum and colon	- Golighar
37. Surgical pathology	- Willing Worth
38. Clinical methods in surgery	- S. Das
39. Methods of Surgical Procedure	- S. Das
40. Methods of Surgical research	
41. Short practice of surgery	- Balley and love's
42. A concise text book of surgery	- S. Das
43. A manual on clinical surgery	- S. Das
44. A system of surgical diagnosis	- Prof. Tribhuvan. N. Patel
45. A practical guide to operative surgery	- S. Das
46. Text book of Surgery - Surgeons Association of India	
47. Clinical Anatomy / Surgical Anatomy	- Sneil
48. Surgical Instruments	- V.G. Kale
49. Essential P.G. Surgeon	- Filinge, Davice
50. Darugs and equipment for anesthesia	- Arun Pal
51. Manual of surgical instruments and procedures	- M.M. Kapur
52. Ward procedures	- Mansukh B. Patel and Yogesh P. Upadhyay
53. Primary Anaesthesia	- Maurice King
54. Synopsis of Anaesthesia	- Lee
55. Anaesthesia	- Edward Morga
56. Outline of Orthopaedics	- J.C. Adams
57. Outline of Fracture	- J.C. Adams
58. Clinical orthopaedic diagnosis	- Suresh Pandey

15.SHALAKYA (NETRA ROG VIGYAN)

PAPER – I

Netra Rog Vigyan Maulik Siddhant

1. Etymology, definition and importance of the word 'Shalakyā'. History and development of the science of eye disorders. Superiority of eye (Netra) among all the sense organs and its importance. Synonyms of 'Netra' and its etymological derivation.
2. Panchabhautikatva of Netra, classification as per dosha, matruja and pitruja factors and their practical importance. Descriptive knowledge of sharir rachana of netra, i.e- mandal, sandhi, patal, dristi etc. and detail and practical knowledge of vital points (Marma) related to eye and their applied aspects. Kriya sharer of netra – on the basis of tridosha, dhatu, malas in the eyes and their functions and Chakshurindriya Kriya along with the applied aspects. Current trends and contemporary developments in anatomical and physiological considerations of eyes.
3. General examination of eye, inclusive of subjective and objective examination and clinical methods. Latest instruments, diagnostic tools and technology, its utility in diagnosis and evaluation, other advanced techniques and imaging technology.
4. General hygiene for netra inclusive of netra raskanaupaya (Preventive ophthalmology). Common etiologies, pathogenesis, prodormal symptoms, general

treatment and classification of netra rogs. Understanding principles of shodhan and shaman therapy & local therapeutic measures (kriyakaipa) in netra chikitsa their development and importance.

5. General introduction of four treatment procedures (Bhesaj, Sastra, Kshar, Agni etc.), knowledge of Anushastra Karma in netra chikitsa. Study of agropaharneeeya, (pre-operative, operative and post-operative procedures) yantra-shastra, (sharp and blunt) vrnabhandha, (materials & methods) nirjantukarana, (asepsis and sterilization of OT and instruments) vranithopasana (post operative management of the patient) in general with special reference to netra shastrachikitsa.
6. Study of essential modern drugs, anaesthetic agents of diagnostic and surgical importance.
7. Ethical considerations in clinical and research in biomedical practice. Knowledge of rules, regulations and medico legal aspects of ophthalmic practice, eye donation, eye banking and grafting.

PAPER – II

Netra Rog Vigyan – (Ayurveda Vivechana)

1. Enumeration and classification of eye diseases.
2. Descriptive knowledge of etiology, pathogenesis, prodromal symptoms, clinical features, complications and prognosis of sandhi, vartma, shukia, krshna, dristi, sarvagata, shiro – rog and exogenous eye diseases available in Ayurvedic classics, Management, practical training and orientation of above said diseases.
3. Study of ocular trauma (nayanbhigata) its, management and prevention.
4. Knowledge of Preventive and community ophthalmology along with national programme for control of blindness & role Ayurveda can play in it.
5. Congenital, developmental, traumatic, neoplastic and degenerative diseases of netra.

PAPER – III

Netra Rog Vigyan (Adhunik Vivechana)

1. Knowledge and application of current diagnostic and therapeutic equipments.
2. Principles of ophthalmic optics, refraction, causes and management of refractive errors along with defects of accomodations.
3. Detailed knowledge of classification, etiology, pathogenesis, signs and symptoms, complications of ocular disorders with comprehensive knowledge of their management.
4. Ocular motility disorders and its management.
5. Neurological and systemic disorders affecting the eyes and their management.

PAPER – IV

Netra Rog Vigyan Shalya – Chikitsa & Vangmaya

1. Up-to-date practical knowledge of applied and available surgical procedures indicated in different eye disorders like – lid and orbital, conjunctival, corneal, lacrimal sac, cataract, glaucoma, vitreoretinal & squint surgeries and application of laser.

2. Details of surgical procedures like chedana, bhedana, lekshana, vyadhana and parasurgical procedures like agnikarma, ksharakarma & raktamokshana followed in eye diseases.
3. Analytical determination of subjects related to eye disorders in ancient and modern commentaries of different Samhita Granthas.
4. Netra kriya kaipa procedures like – seka, ashchyotana, bidalaka, pindi, tarpana, putapaka and anjana and their practical applications and interpretation and analysis of netra kriyakaipas based on ocular pharmacology. Standard operative procedures for preparations of drugs/dosage for topical ophthalmic use.
5. Important Ayurvedic drugs/formulations used in ophthalmology (netrarog chikitsaopayogi vishita yoganam parigyanam.)
6. Pharmacological actions and uses of plant, metal and mineral ophthalmic drugs mentioned in Ayurvedic classics.
7. Research and development update on ophthalmic drugs and surgical procedures.

Reference Books

1. Charka samhita with commentaries
2. Sushrut samhita and vaghbhata with commentaries
3. Astanga hridaya and Astanga sangraha with commentaries
4. Madhava nidana with commentaries
5. Bhavaprakasha with commentaries
6. Sarangadhara samhita with commentaries
7. Sahstrayoga Sangraha
8. Chakradhatta
9. Shalakyas Tantra - Ramanath Dwivedi
10. Shalakyas Tantra - R.C. Chaudhary
11. The Actions and uses of Indigenous Ophthalmic Drugs - N. Srikanth
12. Clinical Examination of Ophthalmic Cases - Agarwal and Gupta
13. Alder's Physiology of the Eye and Clinical Applications - Cotlier, St. Louis
14. Disease of the Lens and Vitreous, Glaucoma and Hypotony - Duke Elder, St. Louis
15. A Text Book of Ophthalmology - Ahmed
16. A Text Book of clinical ophthalmology - Dhanda
17. Modern Ophthalmology - Dutta, L.C. Jaypee Brothers
18. Manual of the Diseases of the Eye- May, C. and Worth, C. Bailliere Tindal and Casteil
19. Ophthalmology – Principles and Concepts -Neweil, F.W., C.V. Mosby Co., St. Louis.
20. Ocular Differential Diagnosis - Roy Fedrick Hamptn Lea & Febiger
21. Clinical Ophthalmology - Smith, R. Varghese Company
22. Abrahm Manual of Refraction - Duke & Elder
23. Hand Book of Ophthalmology - B.M. Chatterjee
24. Hand Book of Ophthalmology - Khurana
25. Clinical Ophthalmology - Kanski
26. Parsons Diseases of Eye
27. Stallard's Eye Surgery

16. SHALAKYA KARNA-NASA-KANTHA-SHIROROG VIGYAN

PAPER – I

Karna-Nasa-Kantha-Shirorog Vigyan Maulik Siddhant

1. Syntactical derivation, definition and importance of the word “Shalakya”. Sequential development and history of science of ear, nose, throat and Shiras disorders. Establishment of ‘Superiority of shiras’ among the organs. Determination and importance of the verse ‘**Nasa Hi Shiraso Dvaram**’. Syntactical derivation and the synonyms of the words Karna, Nasa, Kantha, Shiras etc.
2. Descriptive knowledge of the anatomy and physiology of ear, nose, throat and Shiras as per ancient and modern point of view.
3. General hygiene and preventive measures applied for ear, nose, throat and Shiras.
4. Common etiology of ear, nose, throat and Shiras disorders, their pathogenesis, prodromal symptoms, classification clinical features and general treatment.
5. Importance of shaman and sodhana therapy in ear, nose, throat and brain disorders with general introduction to local therapeutic procedures of ear nose & throat and shira eg. Kaval, gandusha etc.
6. Detailed applied knowledge of upto date diagnostic and therapeutic equipments (Yantra & Shastra) used for ENT and Shiras disorders.
7. General knowledge of ‘brana bandhana’ (bandaging of wounds) and applied bandage in ear etc. Useful conducts in the treatment of ENT disorders and descriptive knowledge of medicolegal aspects related to the subject.
8. Study of essential modern drugs, anaesthetic agents of diagnostic and surgical importance.

PAPER-II

Karna-Nasa-Kantha Shirorog Vigyan (Ayurveda Vivechana)

1. Examination of the ear, nose, throat and shira patient.
2. Number of ear disorders; descriptive knowledge of etiology, pathogenesis, prodromal symptoms, classification, clinical features Upasaya-Anupsaya (prognostic measures) and, complications of ear disorders described in the classics of Ayurveda. Detail description along with practical orientation of their treatment.
3. Detail description of disorders produced by sound pollution and their treatment.
4. Number of Nasal disorders. Descriptive knowledge, etiology, pathogenesis, prodromal symptoms, clinical features along with, complications and Upasaya-Anupsaya (prognostic measures) of nasal diseases described in classics of Ayurveda. Detail description along with practical orientation of their treatment.
5. Number of throat disorders; Descriptive knowledge about etiology, pathogenesis, prodromal symptoms, clinical features, complications and Upasaya – Anupsaya (prognostic measures) of throat diseases described in the classics of Ayurveda. Detail description along with practical knowledge of treatment.
6. Number of Shiras & Kapala (cranial vault) disorders; descriptive knowledge, etiology, pathogenesis, prodromal symptoms, symptoms, complications and Upasaya-Anupsaya (prognostic measures) of Shiras & kapala diseases described in the classics of Ayurveda. Detail description along with practical knowledge of treatment.

PAPER – III
Karna-Nasa-Kanthashirorogvigyan (Adhunika Vivechana)

Descriptive knowledge of instruments available till today to diagnose ear-nose-throat-brain disorders along with their practical application. Descriptive knowledge of etiology, pathogenesis, features, classification along with complications of different ear – nose- throat and brain disorders. Detail update therapeutic knowledge of above mentioned disorders.

PAPER – IV
Karna-Nasa-Kantha Shirorog Vigyan Shalya Chikitsa And Vangmaya

1. Knowledge of agropaharaniya i.e. pre operative and post operative measures. Knowledge of eight types of surgical procedures (Astavidha Sastra Karma) and post operative care of the patient with respect to ENT disorders (Vranitopasaniya).
2. Practical knowledge of updated surgical procedures in ear, nose and throat disorders like Tympanoplasty, Mastoidectomy, SMR, Adenoidectomy, Tonsillectomy.
3. General introduction of four treatment procedures like Bhesaj – Sastra-Kshar- Agni and Raktavsechana with their applied aspects in ear nose throat and Shiras disorders.
4. Karma-Sandhan Nasa-Sandhan, osha-sandhan fundamental and applied aspects in the light of basics of plastic surgery.
5. Applied detailed study of therapeutic measures for ear , nose, throat and shiras disorders, like kaval, Gandusha, Dhumpana, Nasya, Murdhtaila Karnapurana, Mukhalepha and Pratisarana their definition, types, indications/contraindications, procedure, features of proper, excess, deficient application and their management.
6. Analytical determination of related subjects of ear, nose, throat and Shira disorders available in ancient and modern commentaries of different samhitas.

Reference Books

1. Sushrut Samhita
2. Charak samhita
3. Ashtang Hridaya
4. Ashtang Samgraha
5. Laghutrayi
6. Modern books related to ENT disorders
7. Diseases of Nose Throat & Ear – Bhergar
8. Diseases of Nose Throat & Ear, Head & Neck EB Edr.
9. A Text book of otorhinology – Scot Brahu

17. PANCHKARMA

PAPER -I
Siddhant, Snehan And Swedan

Introduction

1. Basic Principles of Kaya Chikitsa, Kriyakala, Shadvidha and Dvividhopakrama, Antarparimarjana and Bahirparimarjana chikitsa
2. Importance of Rukshana chikitsa
3. Derivation, Definition, Histroy, Origin and scope of Panchakarma
4. Panchakarma in Ashtang Ayurveda, Significance of Shodhana

5. Indications for Shodhana and Shamana Therapy, benefits of Samshodhana, Samikshya Bhavas in Samshodhana, Trividha Karmani, Importance of Purvakarmas in Shodhana & their utility
6. Qualities of Panchakarma Vaidya
7. Varjya vishayas during panchakarma
8. Relevane of Panchakarma in presentera
9. Application of Koshta pariksha & Agni parish

Snehan

1. Etymology & definition of Sneha & Snehan
2. Introduction & General considerations about Snehan
3. Snehashrayas
4. Properties of snehan dravyas
5. Classifications of snehan
6. Quality & utility of Uttama Snehas.
7. Snehapaka vidhi, it's variety & uses
8. Need of Rukshana before performing snehan and Samyak rukshana lakshanas.
9. Indications & contraindications of Snehan
10. Abhyantara Snehan - Acchapana, Abyantara Sneha Vicharana, Sadhyasnehan & Avapidaka Sneha, Pachaprasrutika Peya, Shodhana, Shamana, Brimhana Sneha, Hrasiyasi, Hrasva, Madhya, a and Uttma Matra of Sneha.
11. Abhyantara Shodhananga Sneha Vidhi:-

Purvakarma

Rog and rogi pariksha, including relevant diagnostic techniques, Koshta pariksha and Agni nirnaya, preparation of the rogi & fixation of dose & Diet.

Pradhan Karma

Adminitration of sneha & Anupana, Observation Jiryamana/Jirna/Ajirna/Asnigdha Lakshanas, Samyak Yoga, Ayoga/Atiyoga Lakshanas, Vyapats & their managements according to Ayurveda & Modern Systems of Medicine.

Pashchat Karma

Pariharya vishaya & Parihara Kala Planning of Shodhana, Shamanana and Brumhana Snehan Vidhi Chirakalina Sneha Vyapats and their management.

Bahya Snehan

Detailed knowledge about procedure and utility of following Bahyasnehans (External oleation therapy) – Abhyanga, Samvahana, Mardana, Unmardana, Utsadana, Padhaghata, Murdhni Taila, Pichu, Karna Purana & Akshi Tarpana.

Knowledge of digestion and metabolism of fact in relation to snehan.

Karmukata of Abhyantara and Bahya Snehan

Utility of various Sneha Yogas in different disorders

Knowledge of presently available oils other than classical used at present time.

Knowledge of current different massage thechniques

Swedan

1. Etymology & definition of Swedan
2. General considerations about Swedan
3. Properties of Swedan & Swedopaga dravyas
4. Classification of Swedan therapy
5. Study of Shodhananga and Samshamaniya Sweda
6. Indications & contraindications.

7. Methods to protect the vital organs(Varja anga) during Swedan Procedure
8. Detailed Knowledge about Utility of below mentioned Swedan procedures: - Patrapinda Sweda,Shashtika Shalipinda Sweda,Churna Pinda Sweda,Jambira Pinda Sweda,Dhanya Pinda Sweda,Kukkutanda Sweda,Anna Lepa,Valuka Sweda,Ishtika Sweda, Nadi Sweda, Bashpa Sweda,Kshira bashpa sweda,Avagaha Sweda,Parisheka Sweda(Pizichil,Dhanyamla Dhara,Kashaya Dhara,Kshira Dhara)&Upanaha Sweda.
9. Disease specific administration of Swedan chikitsa in various disorders
10. Samyak Yoga, Ayoga/ Atiyoga lakshanas and their management
11. Vyapats & their management according to Ayurveda & Modern Systems of Medicines
12. Diet and regimens during and after Swedan
13. Karmukata of Swedan
14. General knowledge about current sudation modalities like Sauna bath, Steam Bath, Infrared, Etc.

Introduction to Bahirparimarjana Chikitsa – Detailed Study of other modalities like Lepa, Gandusha, kavala, Shiro Lepa, (Talapitichil), Talam, Udvartana, Takradhara, Aschotana, Anjana, Kati Basti, Janu Basti, Griva Basti & Uro Basti.

Special Study of relevant classics with commentaries

PAPER II **Vamana and Virechana Karma**

Vamana karma

1. Etimology & definition
2. General considerations
3. Detailed study of Properties of Vamaka & Varmanopaga drugs
4. Vamaka drugs according to various Samhitas
5. Vamana yogas & different ways of administrations
6. Avasthanusara Vamana and its utility
7. Indications & contraindication (General and specific) in various diseases and their stages

Purva karma

Procurement, Preservation & Preparation of Medicines, Collection of materials, Examination of the Patient. Preparation of patient Dose fixation

Pradhan Karma

Administration of drugs, Observation and assistance of the patient during Vamana, Assessment of Vegas, Upavegas and Matra. Knowledge of Laingiki/Vaigiki, Antiki and Maniki Shuddhi, Features of Samyak yoga (Proper Shuddhi), Atiyoga (Excessive Shuddhi), Hinayoga (Inadequate Shuddhi) and their management.

Pashchat karma

Dhumapana, Samsarjana (Peyadi, Tarpana and Rasa Samsarjana krama) Pariharya vishaya & Parihara Kala

1. Vyapats & their management according to Ayurveda & Modern Systems of Medicines
2. Planning for next Shodhana
3. Vamana Karmukata
4. Physiology & Pharmacodynamics of Vamana

Virechana Karma

1. Etymology & definition
2. General considerations
3. Detailed study of Properties of Virechaka & Virechanopaga drugs
4. Virechana drugs and yogas according to various Samhitas
5. Classification of Virechana & administration methods
6. Indications & contraindications (General and specific) in various diseases and their stages

Purva karma

Procurement, Presevation & preparation of Medicines Collection of materials
Examination of the Patient. Preparation of the patient Dose fixation

Pradhan karma

Administration of Virechana Yoga, Anupana, Assessment of Vega, Upavegas and Matra, Laingiki, Vaigiki, Antiki, Maniki Shuddhi, Observation of Samyakyoga, Ayoga/Atiyoga lakshana & their management.

Pashchat karma

1. Samsarjana & Tarpana karma Pariharya vishaya & Parihara kala Virechanouttara karmas
2. Vyapats & their management according to Ayurveda & Modern Systems of Medicines
3. Virechana Karmukata
4. Physiology & Pharmacodynamics of Virechanakarma

Special Study of relevant classics with commentaries

PAPER –III

Basti Karma and Nasya Karma

Basti Karma

1. Etymology & definition
2. General considerations & Introduction
3. Importance of Basti Chikitsa
4. Classification of Basti
5. Drugs useful in Basti
6. Indications & Contraindications (General & Specific) of Basti in various diseases and their stages
7. Description of Basti yantras, Basti netra & Basti putaka & their Doshas
8. Dose fixation of Niruha & Anuvasana basti

Niruha basti

Purvakarma – Dosha - Aushada-Desha – Kala etc, Examination Preparation of medicine
Preparation of patient.

Pradhankarma

Basti Pranidhana Vidhi (Administration of Basti) Basti pratyagamana, Samyakyoga, Ayoga/Atiyoga Lakshanas and their management.

Pashchatkarma

1. Follow up, Pariharya vishaya and pariharakala Diet
2. Vyapats & their management according to Ayurveda & Modern Systeme of Medicines

Anuvasana basti

Purvakarma – Preparation of medicine Diet and Preparation of patient Pradhankarma - Administration of basti Nirikshana of Basti pratyagamana, Samyakyoga, Ayoga/Atiyoga lakshanas and their management Pashchatkarama – Pariharya vishaya and parihara kala.

Matra basti

Detailed study of different basti formulations like Piccha Basti, Kshira Basti, Yapana Bastis, Madhutailika Basti, Erandamuladi Niruha Basti, Panchaprasrutika Basti, Kshara Basti, Vaitarana Basti, Krimighna Basti, Lekhana Basti, Vrishya Basti, Manjishtadi Niruha Basti, Dashamula Basti, Ardhamatrika Basti, Sarva roghara Niruha Basti, Brimhana Basti, Vataghna Basti, Pittaghna Basti and Kaphaghna Basti etc, and their practical utility.

Uttara basti

1. Definition & Classification of Uttara Basti Uttara basti netra & basti putaka Dose of Uttara Basti Sneha & Kashaya Basti Different Uttara Basti kalpanas in various diseases
1. Administration of uttara basti
2. Karmukata of Basti
- a. Physiology & pharmaco-dynamics of basti
3. Concept of 'Gut Brain' & its relevance of Vasti Therapy.
4. Study of relevant classics with commentaries.

Nasya karma

1. Etymology & definition
2. General considerations & introduction
3. Nasya drugs according to various Samhitas
4. Classification of Nasya
5. Indications & contraindications
6. Dose fixation of different Nasyas
7. Prayoga kala and Duration of different Nasyas
8. Detailed study of different Nasya formulations
9. Administration of Nasya.

Purva karma – Collection of medicines & materials, examination of the patient, preparation of Patient.

Pradhan karma – Administration, observation & follow up, Samyakyoga/Ayoga/Atiyoga-lakshanas and their management

Vyapats & their management according to Ayurveda & Modern Systems of Medicines

Pashchatkarama - Follow up, Dhumapana, kavala, gandusha, Diet, Pariharya vishaya, Parihara Kala, Nasyottara karma

Nasya Karmukata

Physiology & Pharmaco-dynamics of Nasya Karma, Special Study of relevant classics withcommentaries

PAPER - IV

Raktamokshana, Physiotherapy, Upakalpana and Applied Aspects of Sharir Related to Panchakarma

1. Definition
2. General principles of Raktamokshana
3. Importance of Raktamokshana
4. Classification of Raktamokshana
5. Indications & contraindications
6. General & Specific indications of different Raktamokshana modalities
7. Administration

Purvakama - Procurement, preservation of medicine/materials, examination of the Patient, preparation of patient.

Pradhan karma - Raktamokshana by different techniques, observation of Samyakyoga, Ayoga/Atiyoga lakshanas & their management.

Pashchat karma - Management of patient, Pariharya vishaya & Parihara kala, Vyapats & their Management such as Sandhana, Skandana, dahna, Pachana & Management according to Modern System of Medicine.

Karmukata of Raktamokshana

Upakalpana

1. Knowledge about the materials, equipments and instruments used in Panchakarma Therapy
2. Knowledge of technical modification of equipments to be used in Panchakarma.
3. Establishment & Management of Panchakarma theatre including management of Bio waste.
4. Knowledge of Ahara and Aushadhi Kalpanas used in Panchakarma.

Applied Aspects of Sharir Related To Panchakarma

Concept of Twacha, Kala, Ashaya, Kosta (G.I.T & Nervous System.) Shakha, Srotas, Nasa Sharir, Pranayatana, Shatchakra, Nadi, Peshi, Snayu, Sandhi and their implications in the practice of bio-purificatory and rehabilitative procedures of Panchakarma.

Special Study of relevant classics with commentaries

B. Physiotherapy

- a. Definition
- b. Introduction to Physiotherapy
- c. Basic principles of physiotherapy
- d. Utility of physiotherapy vis a vis Ayurveda
- e. Indications & contraindications of Physiotherapy in various disorders.
- f. Knowledge & administration of below mentioned Physiotherapy techniques & instruments-
 - a. Ultrasono therapy
 - b. Magneto therapy
 - c. Diathermy
 - d. Infrared Therapy
 - e. Ultraviolet therapy
 - f. Wax therapy etc

Reference Books

1. Charak Samhita with commentary of Ayurveda
Dipika by Chakrapanidatta & Jalpakalpa taruby - AgniveshaGangadhara
2. Sushruta Samhita with the Nibhandha Samgraha
Commentary of Dalhana& Nyayachandrika panjika
Of Gayadasa on nidansthana - Sushruta
3. Astang Hridaya with Sarvanga sundara & Ayurveda
Rasayana commentaries -Vagbhat
4. Ayurvediya Panchakarma chikitsa -Dr.Mukundilal Dwivedi
5. Panchakarma Vigyan -Dr.Haridas Shreedhar Kasture
6. Illustrated Panchakarma - Dr.G.Srinivasa Acharya
7. Clinical Panchakarma (English) -Dr..P.Yadaiah
8. Prayogik panchkarma (Hindi)
9. Vivida Vyadhiyome Panchakarma - Dr.p.Yadaiah
10. The Panchakarma Treatment of Ayurveda with Kerala
Specialities - Dr.T.L.Devaraj
11. Panchakarma Therapy - Dr.R.H.Singh
12. Principles and practice of vasti -Dr.Vasudevan ampoothiri and Dr.L.Mahadevan
13. Claiton's Physiotheraphy
14. Teddy's Physiotherapy
15. Harrison's Principles of Inernal Medicines
16. Guyton's Physiology

M.D./M.S.-AYURVEDA PRELIMINARY
PAPER-I
RESEARCH METHODOLOGY AND MEDICAL STATISTICS

Theory-100 Marks
Teaching Hours:200 Hours

PART-A
RESEARCH METHODOLOGY

60 Marks
Teaching Hours: 120

1. Introduction to Research
 - a. Definition of the term research
 - b. Definition of the term anusandhan
 - c. Need of research in the field of Ayurveda
2. General guidelines and steps in the research process
 - a. Selection of the research problem
 - b. Literature review: different methods (including computer database) with their advantages and limitations
 - c. Defining research problem and formulation of hypothesis
 - d. Defining general and specific objectives
 - e. Research design: observational and interventional, descriptive and analytical, preclinical and clinical, qualitative and quantitative
 - f. Sample design
 - g. Collection of the data
 - h. Analysis of data.
 - i. Generalization and interpretation, evaluation and assessment of hypothesis.
 - j. Ethical aspects related to human and animal experimentation.
 - k. Information about Institutional Ethics Committee (IEC) and Animal Ethics Committee (AEC) and their functions. Procedure to obtain clearance from respective committees, including filling up of the consent forms and information sheets and publication ethics
3. Preparation of research proposals in different disciplines for submission to funding agencies taking EMR-AYUSH scheme as a model.
4. Scientific writing and publication skills.
 - a. Familiarization with publication guidelines- Journal specific and CONSORT guidelines.
 - b. Different types of referencing and bibliography.
 - c. Thesis/Dissertation: contents and structure
 - d. Research articles structuring: Introduction, Methods, Results and Discussions (IMRAD)
5. Classical Methods of Research.

Concept of Pratyakshadi Pramana Pariksha, their types and application for Research in Ayurveda.

Dravya-, Guna-, Karma-Parikshana Paddhati

Aushadhi-yog Parikshana Paddhati

Swastha, Atura Pariksha Paddhati

Dashvidha Parikshya Bhava

Tadvidya sambhasha, vadmarga and tantrayukti
6. Comparison between methods of research in Ayurveda (Pratigya, Hetu, Udaharana, Upanaya, Nigaman) and contemporary methods in health sciences.
7. Different fields of Research in Ayurveda

Fundamental research on concepts of Ayurveda

 - a. Panchamahabhuta and tridosha.
 - b. Concepts of rasa, guna, virya, vipak, prabhav and karma
 - c. Concept of prakriti-saradi bhava, ojas, srotas, agni, aam and koshtha.

8. Literary Research-
Introduction to manuscriptology: Definition and scope. Collection, conservation, cataloguing.
Data mining techniques, searching methods for new literature; search of new concepts in the available literature. Methods for searching internal and external evidences about authors, concepts and development of particular body of knowledge.
9. Drug Research (Laboratory-based)- Basic knowledge of the following:
Drug sources: plant, animal and mineral. Methods of drug identification.
Quality control and standardization aspects: Basic knowledge of Pharmacopoeial standards and parameters as set by Ayurvedic Pharmacopoeia of India.
Information on WHO guidelines for standardization of herbal preparations. Good Manufacturing Practices (GMP) and Good Laboratory Practices (GLP).
10. Safety aspects: Protocols for assessing acute, sub-acute and chronic toxicity studies. Familiarization with AYUSH guidelines (Rule 170), CDCSO and OECD guidelines.
11. Introduction to latest Trends in Drug Discovery and Drug Development
-Brief information on the traditional drug discovery process
-Brief information on the latest trends in the Drug Discovery process through employment of rational approach techniques; anti-sense approach, use of micro and macro-arrays, cell culture based assays, use of concepts of systems biology and networkphysiology
-Brief introduction to the process of Drug development.
12. Clinical research:
Introduction to Clinical Research Methodology identifying the priority areas of Ayurveda
Basic knowledge of the following:-
Observational and Interventional studies
Descriptive & Analytical studies
Longitudinal & Cross sectional studies
Prospective & Retrospectives studies
Cohort studies
Randomized Controlled Trials (RCT) & their types
Single-case design, case control studies, ethnographic studies, black box design, cross-over design, factorial design.
Errors and bias in research.
New concepts in clinical trial- Adaptive clinical trials/ Good clinical practices (GCP)
Phases of Clinical studies: 0,1,2,3, and 4.
Survey studies -
Methodology, types, utility and analysis of Qualitative Research methods. Concepts of in-depth interview and Focus Group Discussion.
13. Pharmacovigilance for ASU drugs. Need, scope and aims & objectives.
National Pharmacovigilance Programme for ASU drugs.
14. Introduction to bioinformatics, scope of bioinformatics, role of computers in biology.
Introduction to Data base- Pub med, Medlar and Scopus. Accession of databases.
15. Intellectual Property Rights- Different aspect and steps in patenting. Information on Traditional Knowledge Digital Library (TKDL).

PART-B
MEDICAL STATISTICS

40 marks
Teaching hours: 80

1. Definition of Statistics : Concepts, relevance and general applications of Biostatistics in Ayurveda
2. Collection, classification, presentation, analysis and interpretation of data (Definition, utility and methods)
3. Scales of Measurements- nominal, ordinal, interval and ratio scales.
Types of variables – Continuous, discrete, dependent and independent variables.
Type of series – Simple, Continuous and Discrete
4. Measures of Central tendency – Mean, Median and Mode.
5. Variability: Types and measures of variability – Range, Quartile deviation, Percentile, Mean deviation and Standard deviation
6. Probability: Definitions, types and laws of probability,
7. Normal distribution: Concept and Properties, Sampling distribution, Standard Error, Confidence Interval and its application in interpretation of results and normal probability curve.
8. Fundamentals of testing of hypotheses:
Null and alternate hypotheses, type I and type 2 errors.
Tests of significance: Parametric and Non-Parametric tests, level of significance and power of the test, 'P' value and its interpretation, statistical significance and clinical significance
9. Univariate analysis of categorical data:
Confidence interval of incidence and prevalence, Odds ratio, relative risk and Risk difference, and their confidence intervals
10. Parametric tests: 'Z' test, Student's 't' test: paired and unpaired, 'F' test, Analysis of variance (ANOVA) test, repeated measures analysis of variance
11. Non parametric methods: Chi-square test, Fisher's exact test, McNamara's test, Wilcoxon test, Mann-Whitney U test, Kruskal – Wallis with relevant post hoc tests (Dunn)
12. Correlation and regression analysis:
Concept, properties, computation and applications of correlation, Simple linear correlation, Karl Pearson's correlation co-efficient, Spearman's rank correlation.
Regression- simple and multiple
13. Sampling and Sample size computation for Ayurvedic research:
Population and sample. Advantages of sampling, Random (Probability) and non random (Non-probability) sampling. Merits of random sampling. Random sampling methods- simple random, stratified, systematic, cluster and multiphase sampling. Concept, logic and requirement of sample size computation, computation of sample size for comparing two means, two proportions, estimating mean and proportions.
14. Vital statistics and Demography: computation and applications - Rate, Ratio, Proportion, Mortality and fertility rates, Attack rate and hospital-related statistics
15. Familiarization with the use of Statistical software like SPSS/Graph Pad

PRACTICAL

100 Marks
Teaching Hours 120

I. RESEARCH METHODOLOGY

	PRACTICAL NAME
1	Pharmaceutical Chemistry Familiarization and demonstration of common lab instruments for carrying out analysis as per API
2	Awareness of Chromatographic Techniques Demonstration or Video clips of following: • Thin-layer chromatography (TLC). • Column chromatography (CC). • Flash chromatography (FC) • High-performance thin-layer chromatography (HPTLC) • High Performance (Pressure) Liquid Chromatography (HPLC) • Gas Chromatography (GC, GLC)
4	Pharmacognosy Familiarization and Demonstration of different techniques related to:- Drug administration techniques- oral and parenteral. Blood collection by orbital plexuses puncturing. Techniques of anesthesia and euthanasia. Information about different types of laboratory animals used in experimental research Drug identification as per API including organoleptic evaluation
5	Pharmacology and toxicology Familiarization and demonstration of techniques related to pharmacology and toxicology
6	Biochemistry (Clinical) Familiarization and demonstration of techniques related to basic instruments used in a clinical biochemistry laboratory – semi and fully automated clinical analyzers, electrolyte analyzer, ELISA- techniques, nephelometry. Demonstration of blood sugar estimation, lipid profiles, kidney function test, liver function test. HbA1, cystatin and micro albumin estimation by nephelometry or other suitable techniques. Interpretation of the results obtained in the light of the data on normal values.
7	Clinical Pathology Familiarization and demonstration of techniques related to basic and advanced instruments used in a basic clinical pathology lab. Auto cell counter, urine analyzer, ESR, microscopic examination of urine.
8	Imaging Sciences Familiarization and demonstration of techniques related to the imaging techniques. Video film demonstration of CT-Scan, MRI-scan and PET-scan.
9	Clinical protocol development

II. MEDICAL STATISTICS

Practical hours: 20

Statistical exercise of examples from Topic number 4, 5, 8-12, 14, 15.

Records to be prepared.

Distribution of marks (practical):

- | | |
|--|-----------|
| 1. Instrumental spotting test | -20 marks |
| 2. Clinical protocol writing exercise on a given problem | -20 marks |
| 3. Records: | |
| 4. Research methodology | -10 Mark |
| 5. Medical statistics | -10 marks |
| 6. Viva- Voce | -40 Marks |

REFERENCE BOOKS:-

Pharmacognosy:

1. Aushotosh Kar "Pharmacognosy & Pharmacobiotechnology" New Age International Publisher. Latest Edition. New Delhi.
2. Drug Survey by Mayaram Uniyal
3. Fahn A (1981). Plant Anatomy 3rd Edition Pergamon Press, Oxford
4. Kokate, CK., Purohit, AP, Gokhale, SB (2010). Pharmacognosy. Nirali Prakashan. Pune.
5. Kokate, CK., Khandelwal and Gokhale, SB (1996). Practical Pharmacognosy. Nirali Prakashan. Pune.
6. Trease G E and Evans W C, Pharmacognosy, Bailliere Tindall, Eastbourne, U K.
7. Tyler V C., Brady, L R., and Robers J E., Pharmacognosy, Lea and Febiger, Philadelphia.
8. Tyler VE Jr and Schwarting AE., Experimental Pharmacognosy, Burgess Pub. Co, Minneapolis, Minnesota.
9. Wallis- TE (2011)- reprint. Practical Pharmacognosy (Fourth Edition) Pharma Med Press, Hyderabad.
10. Wallis T E, Analytical Microscopy, J & A Churchill limited, London.
11. Wallis T E., Text Book of Pharmacognosy, J & A Churchill Limited, London.
12. WHO guidelines on good agricultural and collection practices- (GACP) for medicinal plants (2003).World Health Organization- Geneva.
13. WHO monographs on selected medicinal plants (1999)—Vol. 1. 1.Plants, Medicinal 2.Herbs 3.Traditional medicine. ISBN 92 4 154517 8. WHO Geneva.

Pharmaceutical chemistry, quality control and drug standardization:

1. Ayurvedic Pharmacopoeia of India. Part I- volume 1 to 8 and Part II- volume 1 to 3. Ministry of Health and Family Welfare. Controller of Publication. Govt of India. New Delhi.
2. Brain, KR and Turner, TD. (1975). The Practical Evaluation Phytopharmaceuticals. Wright Sciencetechnica, Bristol.
3. Galen Wood Ewing (1985). Instrumental Methods of Chemical Analysis. McGraw-Hill College ; Fifth edition
4. Harborne, JB (1973). Phytochemistry Methods. Chapman and Hall, International Edition, London.

5. HPTLC- Fingerprint atlas of Ayurvedic Single Plant Drugs mentioned in Ayurvedic Pharmacopoeia Vol- III and IV. CENTRAL COUNCIL FOR RESEARCH IN AYURVEDA AND SIDDHA. New Delhi.
6. Kapoor, RC (2010). Some observations on the metal based preparations in Indian System of Medicine. Indian Journal of Traditional Knowledge. 9(3): 562-575
7. Khopkar, S. M. Analytical Chemistry, New Age International Publishers , 3 rd edition
8. Laboratory Guide for- The Analysis of Ayurved and Siddha Formulations – CCRAS, New Delhi.
9. Mahadik KR, Bothara K G. Principles of Chromatography by, 1st edition, Nirali Prakashan.
10. Qadry JS and Qadry S Z., Text book of Inorganic Pharmaceutical and Medicinal Chemistry, B. S. Shah Prakashan, Ahmedabad.
11. Quality Control Methods for Medicinal Plant Material. Reprint (2002). WHO- Geneva.
12. Rangari V.D., Pharmacognosy & Phytochemistry, Vol I, II, Career Publication,
13. Sharma BK. Instrumental Methods of Chemical Analysis by, Goel Publishing House.
14. Srivastav VK and Shrivastav KK. Introduction to Chromatography (Theory and Practice)
15. Stahl E., Thin Layer Chromatography - A Laboratory Handbook, Springer Verlag, Berlin.
16. Sukhdev Swami Handa, Suman Preet Singh Khanuja, Gennaro Longo and Dev Dutt Rakesh (2008). Extraction Technologies for Medicinal and Aromatic Plants - INTERNATIONAL CENTRE FOR SCIENCE AND HIGH TECHNOLOGY- Trieste,

Biochemistry and Laboratory techniques:

1. Asokan P. (2003) Analytical Biochemistry, China publications,
2. Campbell, P.N and A.D .Smith, Biochemistry Illustrated, 4th ed, Churchill Livingstone.
3. David Frifelder. W. H. Freeman. (1982). Physical Biochemistry by; 2 edition
4. David Sultan (2003).Text book of Radiology and Imaging, Vol-1, 7th Edition.
5. Deb, A.C., Fundamentals of Biochemistry, Books and Allied (P) Ltd, 2002.
6. Harold Varley. Practical Clinical Bio-chemistry
7. Kanai L.Mukherjee. Clinical Pathology; Medical Laboratory Technology Vol. I.Tata McGrawHill 1996, New Delhi.
8. Gradwohl, Clinical Laboratory-methods and diagnosis, Vol-I
9. Clinical Biochemistry -Sabitri Sanyal, Clinical Pathology, B.I.Churchill Livingstone (P) Ltd, New Delhi.2000.
10. Satyanarayanan,U. Essentials of Biochemistry, Books and allied(P) Ltd.2002
11. Zubay, G.L. Biochemistry, W.M.C. Brown Publishers, New York 1998.
12. Text book of Radiology and Imaging, Vol-1, David Sultan, 7th Edition. 2003.

Research methodology:

1. Alley, Michael. The craft of scientific writing. Englewood Cliffs. N.N. Prentice 1987.
2. Ayurvediya Anusandhan Paddhati – P.V. Sharma
3. Altick and Fenstermaker. (2007). *The Art of Literary Research*. 4th ed. W. W. Norton. Castle, Gregory. *Blackwell Guide to Literary Theory*. Blackwells,
4. Bowling, A. (2002). Research Methods in Health (2nd ed). Buckingham: Open University Press.
5. Day R.A. How to write a scientific paper. Cambridge University Press.

6. Cooray P.G. Guide to scientific and technical writing.
7. Deepika Chawla and Neena Sondhi. (2011). Research Methods- Concepts and cases. New Delhi: Vikas Publishing House.
8. Greenhalgh, T. (2006) How to Read a Paper: The Basics of Evidence-Based Medicine. (3rd ed) Blackwell
9. Kothari- CR (2004). Research Methodology- Methods and Techniques (Second Revised Edition). New Age International Publishers- New Delhi.
10. Kumar, R. 2005. *Research Methodology: a Step-by-Step Guide for Beginners, 2nd ed.* Thousand Oaks, CA, London: Sage Publications.
11. Petter Laake, Haakon Breien Benestad and Bjørn Reino Olsen. (2007). Research Methodology in the Medical and Biological sciences. Academic Press is an imprint of Elsevier, 84 Theobald's Road, London WC1X 8RR, UK. ISBN: 978-0-12-373874-5
12. Relevant portions of Ayurvedic Samhitas and other texts

Drug research and development:

1. RICK NG, (2009). DRUGS- from discovery to approval. John Wiley & Sons, Inc., Hoboken, New Jersey
2. Research guidelines for evaluating the safety and efficacy of herbal medicines. (1993). . WHO- (Regional Office for the Western Pacific – Manila) ISBN 92 9061 110 3 (NLM Classification: WB 925).
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13. Kulkarni S.K.: Hand Book of Experimental Pharmacology, *Vallabh Prakashan, New Delhi*
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Biotechnology and Bio-informatics:

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2. Bergeron BP 2002 Bioinformatics Computing 1st Edition, Prentice Hall
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8. <http://www.zygogen.com>.
9. <http://www.dsr.nic.in/reports/tifp/database/metallo.pdf>.
10. www.consort-statement.org
11. www.strobe-statement.org
12. www.icmr.nic.in

Clinical Evaluation:

1. CDSCO, Good Clinical Practices For Clinical Research in India, Schedule Y (Amended Version – 2005), <http://cdsco.nic.in/html/GCP1.html>
2. Ethical Guidelines for Biomedical Research on Human subjects. (2000). Indian Council of Medical Research- New Delhi.
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Medical Statistics:

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15. Suhas Kumar Shetty- Medical statistics made easy

M.D.-AYURVEDA PRELIMINARY

1. AYURVED SAMHITA & SIDDHANTA (Ayurvedic Compendia & Basic Principles)

PAPER-II

THEORY- 100 marks
Practical- Viva-Voce-100
50 marks

PART-A

1. Learning and Teaching methodology available in Samhita- Tantrayukti, Tantraguna, Tantradosha, Tachchilya, Vadamarga, Kalpana, Arthashraya, Trividha Gyanopaya, teaching of Pada, Paada, Shloka, Vakya, Vakyartha, meaning and scope of different Sthana and Chatushka of Brihatrayee.
2. Manuscriptology - Collection, conservation, cataloguing, Critical editing through collation, receion (A critical revision of a text incorporating the most plausible elements found in varying sources), emendation (changes for improvement) and textual criticism (critical analysis) of manuscripts. Publication of edited manuscripts.
3. Concept of Bija chatustaya (Purush, Vyadhi, Kriyakaal, Aushadha according to Sushrut Samhita).
4. Introduction and Application of Nyaya (Maxims) - Like Shilaputrak Nyaya, Kapinjaladhikaran Nyaya, Ghunakshara Nyaya, Gobalivarda Nyaya, Naprishtah Guravo Vadanti Nyaya, Shringagrahika Nyaya, Chhatrino Gacchhanti Nyaya, Shatapatrabhedana Nyaya, Suchikatah Nyaya.
5. Importance and utility of Samhita in present era.
6. Importance of ethics and principles of ideal living as mentioned in Samhita in the present era in relation to life style disorders.
7. Interpretation and co-relation of basic principles with contemporary sciences.

PART-B

50 marks

1. Definition of Siddhanta, types and applied examples in Ayurveda.
2. Ayu and its components as described in Samhita.
3. Principles of Karana-Karyavada, its utility in advancement of research in Ayurveda.
4. Theory of Evolution of Universe (Srishti Utpatti), its process according to Ayurveda and Darshana.
5. Importance and utility of Triskandha (Hetu, Linga, Aushadh) and their need in teaching, research and clinical practice.
6. Applied aspects of various fundamental principles: Tridosha, Triguna, Purusha and Atmanirupana, Shatpadartha, Ahara-Vihara. Scope and importance of Pariksha (Pramana).
7. Importance of knowledge of Sharir Prakriti and Manas Prakriti.
8. Comparative study of Principles of Ayurveda and Shad Darshanas.

1. REFERENCE BOOKS:-

1	Charak Samhita	Chakrapani commentary
2	Sushrut Samhita	Dalhana Commentary
3	Ashtanga Samgraha	Indu commentary
4	Ashtanga Hridaya	Arundutta and Hemadri commentary
5	Vaisheshika Darshan	Prashastapada Bhasya
6	Nyaya Darshan	Vatsyayan Bhasya Patanjala
7	Yoga Darshan	Vyas Bhasya
8	Vedantsara	
9	Sarvadarshan Samgraha	
10	Bhartiya Darshan	Baldev Upadhyaya
11	Ayurved Darshanam	Acharya Rajkumar Jain

M.D.-AYURVEDA PRELIMINARY

2. RACHANA SHARIR **(Anatomy)**

PAPER-II

Theory 100 marks

PART-A

50 marks

1. Basic principles of Sharira, Purushavichaya, Rashi Purusha, Karma Purusha (Shad Dhatuj Purusha), Chaturvimshati Purusha, Ek Dhatu Purusha. Relevant principles described in the Sharirasthan of Sushrut Samhita, Charak Samhita, Ashtang Sangrah and Ashtang Hridaya.
2. Basic principles of Garbha Sharira in Ayurveda: Definitions of Garbha, Shukra Shonita Siddhanta, Dauhrida, Matrijadi Garbhotpattikar bhava.
3. Types of tissues, histological study of liver, spleen, uterus, kidney, endocrine glands, mammary gland, skin, tongue, lungs, bronchi, bones, muscles, cartilages and nervous tissue.

PART-B

50 marks

1. Paribhasha Sharira (Anatomical terminology)
2. Pramana Sharira – Anguli and Anjali Pramana, Sama pramana Sharira, Ayama – Vistara and their prognostic values.
3. Fundamental aspects of Asthi, Sandhi, Peshi Sharir.
4. Fundamental aspects of Sira, Dhamani, Srotas – Definitions, Siravedha, Avedhya Sira. Fundamental aspect of Srotomoola Sthana.
5. Fundamental aspects of Koshtha and Koshthag: Hridaya, Yakrit, Vrikka, phupphusa, Aantra, Pleea, Adhivrikkagranthi, Basti, Paurushagranthi, Amashaya, Agnyashaya and Vrishana.
6. Fundamental aspects of Uttamangiya Sharir – Introduction to Nervous system - development, divisions, neuron–structure, types, functional anatomy.
7. Mrita shodhan (as per Sushruta) and Mrita Samrakshana (preservation method of human cadaver).

PRACTICAL

100 marks

Contents:

1. Practical study of bones
2. Practical study of organs
3. Practical study of surface and radiological anatomy.
4. Shava Vichhedana – detailed dissection of the whole body.
5. Practical study of location of Marma
6. Demonstration of histology slides (10 slides)

Distribution of marks (Practical)

- | | |
|---|------------|
| 1. Spotting | - 20 Marks |
| 2. Surface Anatomy | - 20 Marks |
| 3. Dissection | - 30 Marks |
| 4. Imaging Anatomy – Basic Principles and Application | - 10 Marks |
| 5. Viva-Voce | - 20 Marks |

REFERENCE BOOKS:

- | | |
|---|--------------------------|
| 1. Relevant matters of Brihatrayee and Laghutrayee | |
| 2. PratyakshaShariram | - GananathSen |
| 3. AbhinavaShariram | - Damodar Sharma Gaur |
| 4. Parishadyam Sabdartha Shariram | - Damodara Sharma Gaur |
| 5. Brihat Shariram | - P S Varier |
| 6. Shiva Samhita | |
| 7. Gray's Anatomy | - Latest Edition |
| 8. Human Anatomy | - B D Chaurasia |
| 9. Cunnigham's Companion to Manual of Practical Anatomy.Vol I, II & III | |
| 10.Developing Human | - Keith L Moore &Persaud |
| 11.Clinically oriented Anatomy | - Keith L Moore |
| 12.Clinically oriented Neuro Anatomy | - Richard Snell |
| 13.Surface and Radiological Anatomy | - Halim |
| 14.Grant's Methods of Anatomy | - Grant |
| 15.Grant's dissector | - Grant |
| 16.Human Embryology | - I. B. Singh |
| 17.Ayuurvediya Human Anatomy | - G. M. Kanthi |

M.D.-AYURVEDA PRELIMINARY

**3.KRIYA SHARIR
(Physiology)**

**PAPER II
PART A**

**Theory 100 Marks
50 Marks**

1. Theory of Loka-Purusha Samya
2. Theory of Panchamahabhuta
3. Physiological aspects of Samanya – Vishesh siddhanta
4. Concepts of Tridosha and Triguna
5. Concept of Dhatu
6. Concept of Mala
7. Description of Ojas
8. Process of Ahara Parinama including Aharaparinamakara Bhava and Asta Ahara Vidhi Visesayatana
9. Physiological importance of Agni, its classification and functions
10. Dhatuposana theories
11. Concepts of Atma, Manas and Indriya.
12. Concepts of Prakriti and Ashtavidha Sara.
13. Concept of Srotas

PART B

50 Marks

Description of essential and relevant understandings related to contemporary physiology, both general physiology and systemic physiology.

1. Essentials of cell physiology – organization of cell.
2. Membrane physiology- transport across cell membrane, action potentials and resting membrane potentials.
3. Homeostasis- negative and positive feedback mechanisms.
4. Genetic code, its expression and regulation of gene expression.
5. Essentials of cardiovascular physiology- cardiac cycle, regulation of heart rate and blood pressure.
6. Essentials of respiratory physiology- regulation of respiration-chemical and neural, gaseous exchange, transportation of gases.
7. Gastrointestinal physiology- various digestive juices and their actions, gastrointestinal hormones, enteric nervous system.
8. Nervous system physiology- ANS, somatic nervous system, reflexes, general and special sensations, higher mental functions, functions of brain, brainstem and spinal cord.
9. Blood: Blood cells-RBCs, WBCs, platelets, plasma proteins and immunity.
10. Muscle physiology: properties and mechanisms of contraction of skeletal, cardiac and smooth muscles.
11. Physiology of excretion- mechanism of urine formation, micturition.
12. Endocrine physiology: Classification of hormones, hormones secreted by pituitary, thyroid, parathyroid, adrenal glands, pineal, pancreas and their functions.
13. Study of male and female reproductive system: functions of reproductive hormones.

PRACTICAL

100 Marks

Contents:

Ayurvedic practicals
Assessment of Prakriti
Assessment of Sara
Pramana Pariksha

Hematology

Hemoglobin estimation
Total RBC count
Total WBC count
Differential leukocyte count
Packed cell volume (PCV)
ESR
Bleeding time
Clotting time
Blood grouping and Rh typing

Urine examination -

Physical examination- Specific gravity and reaction of urine
Chemical examination
Albumin test
Sugar test
Ketone bodies
Bile salts and pigments

Distribution of marks (Practical)

1. Laboratory Practical	- 20
2. Human Experiment	- 15
3. Spotting	- 15
4. Prakriti Saradi pariksha	- 20
5. Practical Record	- 10
6. Viva-voce	- 20

REFERENCE BOOKS:

1. Ayurvediya Kriyasharir	- Ranjit Rai Desai
2. Kayachikitsa Parichaya	- C. Dwarkanath
3. Prakrit Agni Vigyan	- C. Dwarkanath
4. Sharir Kriya Vigyan	- Shiv Charan Dhyani
5. Abhinava Sharir Kriya Vigyana	- Acharya Priyavrata Sharma
6. Dosha Dhatu Mala Vigyana	- Shankar Gangadhar Vaidya
7. Prakrita Dosha Vigyana	- Acharya Niranjana Dev
8. Tridosha Vigyana	- Shri Upendranath Das
9. Sharira Tatva Darshana	- Hirlekar Shastri
10. Prakrita Agni Vigyana	- Niranjana Dev
11. Deha Dhatvagni Vigyana	- Vd. Pt. Haridatt Shastri
12. Sharir Kriya Vigyana (Part 1-2)	- Acharya Purnchandra Jain
13. Sharir Kriya Vigyana	- Shri Moreshwar Dutta Vd.
14. Sharira Kriya Vijnana (Part 1-2)	- Nandini Dhargalkar
15. Dosha Dhatu Mala Vigyana	- Basant Kumar Shrimall

- | | |
|---|---|
| 16. Abhinava Sharir Kriya Vigyana | - Dr. Shiv Kumar Gaur |
| 17. Pragyogik Kriya Sharir | - Acharya P.C. Jain |
| 18. Kaya Chikitsa Parichaya | - Dr. C. Dwarkanath |
| 19. Concept of Agni | - Vd. Bhagwan Das |
| 20. Purush Vichaya | - Acharya V.J. Thakar |
| 21. Kriya Sharir | - Prof. Yogesh Chandra Mishra |
| 22. Sharir Kriya Vigyana | - Prof. Jayaram Yadav & Dr. Sunil Verma |
| 23. Basic Principles of Kriya-Sharir (A treatise on Ayurvedic Physiology) by -Dr. Srikant Kumar Panda | |
| 24. Sharir Kriya – Part I & II | -Dr. Ranade, Dr. Deshpande & Dr. Chobhe |
| 25. Human Physiology in Ayurveda | -Dr Kishor Patwardhan |
| 26. Sharirkriya Vignyan Practical Hand Book | -Dr.Ranade, Dr.Chobhe, Dr. Deshpande |
| 27. Sharir Kriya Part 1&2 | -Dr.R.R.Deshapande, Dr.Wavhal |
| 28. Textbook of Physiology | -Gyton & Hall |
| 29. Review of medical physiology | -William Ganong |
| 30. Essentials Of Medical Physiology | -Sembulingam, K. |
| 31. Concise Medical Physiology | -Chaudhari, Sujit. K. |
| 32. Fundamental of Anatomy & Physiology | -Martini |
| 33. Principals of Anatomy & Physiology | -Tortora & Grabowski |
| 34. Human Physiology | -Richards, Pocock |
| 35. Samson Wrights Applied Physiology, Keele, Neil, joels | |
| 36. Brainstem Control of Wakefulness And Sleep | - Steriade, Mirce |
| 37. An Introduction to Human Physiology | - Green, J.h. |
| 38. Ancient Indian Medicine | - Kutumbiah P. |
| 39. Biographical History of Indian Medicine | - Srikanthamurthy KR |
| 40. Ayurveda Kriya Sharira | - Yogesh Chandra Mishra |
| 41. Textbook of Medical Physiology | - Indu Khurana |
| 42. Tridosha Theory | - Subrahmanya Shastri |
| 43. Statistics in Medicine | - K. Syamalan |

M.D.-AYURVEDA PRELIMINARY

4. DRAVYAGUNA VIGYAN **(Materia Medica & Pharmacology)**

PAPER-II

Theory 100 Marks

PART-A

50 marks

1. Panchamahabhuta siddhanta, Samanya Vishesha siddhanta, Tridosha siddhanta. Extensive study on classifications of Dravya as described in Brihatrayi.
2. Applied aspects of Rasa, Guna, Virya, Vipaka and Prabhava
3. Applied aspects of Aushdha karma with reference to Sharngadhara and Bhavaprakasha
4. Importance of Namarupa vigyan and concept of basonyms and synonyms of Dravyas
5. Applied knowledge of Bhaishajya Prayoga (marga, kalpana, matra, anupana, sevan, kala etc.)

PART-B

50 marks

1. Basic principles of Desha pravichara, Dravya sangrahana (collection), Samrakshana (preservation)
2. Evolution of Dravyaguna vigyan with special emphasis on Nighantus
3. Prashasta bhesaj lakshana
4. Profound knowledge on applied aspects of Agrya aushadha
5. Methodology of studying controversial, pratinidhi (substitute), apamishrana (adulterant) and unidentified dravya
6. Pharmacognosy and its relevance in Dravyaguna vigyan
7. An integrated study of Charakokta Bhesaj pariksha and scientific method of drug evaluation with special reference to quality, safety and efficacy
8. Brief knowledge and importance of clinical pharmacology
9. General principles of various good cultivation practices, collection practices, storage practices and manufacturing practices
10. Pharmacovigilance and ADR issues
11. Knowledge on the Ayurvedic Pharmacopoeia of India, The Formulary of India and international pharmacopoeias

PRACTICAL

100 marks

Contents:

1. Field visits for the Identification of important classical medicinal plants (Minimum two visits to neighboring forest areas)
2. Macroscopic and microscopic identification of minimum two plants of each of prayojyanga (useful parts of plants)
3. Preliminary study of pharmacopoeial standards (API) of minimum 5 plants
4. Minimum two experiments on Animals

Distribution of marks (Practical)

- | | |
|---|-----------|
| 1. Herbarium sheets | -10 Marks |
| 2. Practical of macroscopic and microscopic identification of prayojyanga (one part of the plant) | -30 Marks |
| 3. Practical record book of pharamcopoeial standards and animal experimentations | -10 Marks |
| 4. Spotting | -30 Marks |
| 5. Viva-voce | -20 Marks |

REFERENCE BOOKS:

1	Abhinav Buti Darpan (Vol.1-2)	-	Vd. Roop Lal Vaishya
2	Aushadna Vigyna Shastra	-	Acharya Pt. Vishvanatha Dwidevi
3	Ayurvediya Aushadnkarma vigyana	-	Acharya V.J. Thakur
4	Bedi Vanaspati Kosha	-	Prof. Ramesh Bedi
5	Bhaishajyaguna Vigyana	-	Dr. Alakhnarayan Singh
6	Bhav Prakash Nigantu (English)	-	Shreekanthamurti
7	Bhav Prakash Nighantu	-	With Vd. Krishna Chandra Chunekar commentary
8	Bhrinad dravyagunadarsha	-	Mahendra Kumar Shastri
9	Classical Uses of Medicinal Plants	-	Acharya Priyavrata Sharma
10	Controversial Medicinal Plants	-	Vd. G. Bapa Lal
11	Dalhana Ka Dravyaguna Shastra Ke Kshetra Me Yogadana	-	Vd. Shiv Kumar Vyas
12	Dravyaguna Kosha	-	Acharya Priyavrata Sharma
13	Dravyaguna Sutram	-	Acharya Priyavrata Sharma
14	Dravyaguna Vigyana	-	Dr. Gyanendra Pandey
15	Dravyaguna Vigyana(Vol. 1-2)	-	Acharya Yadavji Tikram Ji
16	Dravyaguna Vijyana	-	Dr. V.M. Gogate
17	Dravyaguna Vigyana (Vol. 1-5)	-	Acharya Priyavrata Sharma
18	Dravyaguna Shastrum	-	Vaidya G.A. Phadake
19	Dravyaguna Vijyana	-	Dr. A.P. Deshpande
20	Dravyagunavijnana basic Principles	-	Prof.D.S.Lucas
21	Forgotten Healers (Indian Medicinal Plants)	-	Dr. Prakash Pranjape
22	Glossry of Vegetable Drugs in Bhrittrayis	-	Thakur Balwant Singh & Vd. Krishna Chandra Chunekar
23	Introduction to Dravyaguna	-	Acharya Priyavrata Sharma
24	Kriyatamka Aushadi Parichaya	-	Acharya Pt. Vishvanath Dwidevi
25	Materia Medica	-	Acharya Ghosh
26	Nighantu Adarsh (Vol. 1-2)	-	Vd. Bapa Lal
27	Pharmacological basis of Medical Practice	-	Goodman & Gillman
28	Pharmacology and Pharmacotherapeutics	-	Satoskar Bhandarkar & Ainapure
29	Prayogatamaka Dravyaguna Vigyana	-	Dr. Maya Ram Uniyal
30	Priya nighantu	-	Acharya Priyavrata Sharma
31	Raspanchaka/Dravyaguna Siddhanta	-	Prof. Shivcharan Dhyani
32	System of Plant Nomenclature in Ayurveda	-	Dr. Gyanendra Panday
33	Text Book of Pharmaconogy	-	Trees & Valis
34	Textbook of Dravyaguna	-	Dr.K.Nishteswar
35	Unani Dravyaguna Vigyana	-	Hakim Daljeet Singh

36	Useful parts of Charaka, Sushrut, and Vagbhata.	-	
37	Uttarakand Ki Vanaspatiya	-	Dr. Gyanendra Pandey
38	Vanoaushadi Darshika	-	Thakur Balwant Singh
39	Vanoaushadi Nidarshika	-	Dr. Ram Sushil Singh
40	Vedic Vanaspatiyan	-	Dr. Dinesh Chandra Sharma
41	Pharmacopia of India –all the volumes		
42	Database on medicinal plants all the volums of CCRAS		
43	Aurveda formulary of india – all the volums		
44	All the nighantoos		
45	Laghutrayi		

M.D.-AYURVEDA PRELIMINARY
5. RASA SHASTRA AND BHAISHAJYA KALPANA
(Iatrochemistry & Pharmaceuticals Science)

PAPER-II
PART-A

Theory 100 marks
50 marks

1. Fundamental principles of Rasa Shastra and Bhaishajya Kalpana, introduction to Rasachikitsa, Ashuddha and Apakwa Bhasma- sevan Dosha and its management, introduction to Aushadha Sevan Kaal and Prayoga Marga (routes of administration).
2. Introduction to basic principles of Aushadha Yoga (formulations).
3. Classification of Rasa Dravya - concept and relevance.
4. Introduction to principles of Aushadha Nirmana, concept of Shodhan, Marana, Jarana, Murcchhana, Sattvapatan and Amritikarana.
5. Concept of Kashaya, Panchavidha Kashaya and other Kalpana.
6. Concept of Rasashala, Rasa Mandapa with introduction to pharmacy in accordance with the Good Manufacturing Practices (GMP).
7. Critical study of Rasa Ratnasamuchchaya, Rasendra Chintamani, Rasa Tarangini, Sharngadhara Samhita, Chakradutta and Bharat Bhaishajya Ratnakara with special reference to Aushadha-Nirmana.

PART-B

50 marks

1. Introduction to methods of analytical, toxicity, experimental and clinical validation of classical and proprietary Ayurvedic formulations.
2. Introduction to new dosage forms.
3. Introduction to advance instruments of analysis like XRD, XRF, SEM-E-Dax, ICP analysis, Chromatography: TLC, gas chromatography, HPTLC, concept of Nanotechnology and its relevance to Aushadha-Nirman.
4. Concept of Pharmacopoeia and Formulary with introduction of 'The Ayurvedic Pharmacopoeia of India' (API) and 'The Ayurvedic Formulary of India' (AFI).
5. Introduction to databases of medicinal plants published by CCRAS, ICMR and others.

PRACTICAL

100 marks

Contents:

- | | |
|---|-----------------|
| 1. Shodhan, Marana, Amritikarana of Rasa Dravya | (10 practicals) |
| 2. Preparation of different dosage forms | (10 forms) |
| 3. Pharmacopoeial standards of raw and prepared drugs | (20 practicals) |

Raw Materials

1. Minerals and Metals

Mineralogical Identification

1. Physical form - Crystal and Amorphous
2. Hardness on Moh's scale
3. Brittleness test
4. Fracture and Cleavage
5. Streak test
6. Luster

2. Plant Material

Macroscopic and Microscopic examination

1. Organoleptic testing
2. Estimation of Foreign materials
3. Microbial load
4. Moisture content
5. Determination of ash value - total, water soluble and acid Insoluble ash
6. Specific gravity
7. Solubility- water and alcohol
8. Extract values- water and alcohol
9. TLC
10. Determination of optical density
11. Refractive index
12. Aflatoxins
13. Limit tests for heavy metals
14. pH estimation

Prepared dosage forms:

1. Solid dosage forms

Rasaushadhi

- a) Bhasma and Pishti Pariksha
- b) Determination of Particle size
- c) Limit tests for heavy metals
- d) Determination of moisture content, specific gravity, pH and acid value.

Kasthaushadhi

a. Powders (Churna)

1. Particle size
2. Bulk density
3. Solubility
4. Estimation of Foreign material
5. Microbial load
6. Moisture content
7. Determination of ash value - total, water soluble and acid insoluble ash
8. Solubility - water and alcohol
9. Extract values - water and alcohol
10. TLC
11. Determination of Optical density
12. Refractive Index
13. Aflatoxins
14. Limit tests for Heavy metals
15. pH Value estimation

b. Tablets

1. Uniformity in weight and size
2. Tablet hardness
3. Tablet friability
4. Tablet disintegration
5. Tablet dissolution

c. Semisolid dosage forms

1. Moisture content
2. Sugar content
3. Microbial load

d. Liquids

1. pH value
2. Specific gravity
3. Determination of refractive index
4. Acid value
5. Viscosity
6. Saponification value
7. Iodine value

Note:

- All practicals should be performed in accordance with Authoritative Text Books of Schedule-I of D.C.Act-1940.
- All practicals related to Pharmacopoeial Standards should be performed in accordance with Methods Published in Protocol for testing of ASU Medicines and Laboratory Guidelines for the Analysis of Ayurveda & Siddha Formulations published by Deptt. of AYUSH, Government of India.

Distribution of marks (Practical)

- | | |
|--|------------|
| 1. Practical Record Book | - 10 Marks |
| 2. Practical related to Preparation of Drugs | |
| a. Major practical- one | - 20 Marks |
| b. Minor practical- one | - 10 Marks |
| 3. Drug analysis | |
| a. Major practical- one | - 20 Marks |
| b. Minor practical- one | - 10 Marks |
| 4. Spotting | - 10 Marks |
| 5. Viva-voce | - 20 Marks |

REFERENCE BOOKS:

1. Rasahridaya Tantra
2. Rasarnava
3. Rasaratna Samuccahaya
4. Ayurved Prakasha
5. Rasendrachudamani
6. Rasendra Chintamani
7. Rasatarangini
8. Rasapraksha Sudhakar
9. Rasamrita
10. Rasa Chandanshu : CCRAS Publication
11. Sharangadhara Samhita
12. Sharangadhara Darpan (BP Pandey)
13. Bhavaprakasha
14. Yoga Ratnakara
15. Bhaishajya Ratnavali
16. Siddha Bhaishajya Manimala
17. Bharat Bhaishajya Ratnakara

18. Rasayoga Sagara
19. Siddha Bhaishajya Manimala
20. Sahasrayoga
21. Siddha Yoga Sangraha – Yadavaji Trikamji Acharya
22. Vaidyaka Paribhasha Pradeepa
23. Ayurvediya Aushadhikarana – Puranik and Dhamanakar
24. Dravyaguna Vijnan Part - 1 and 2 - Yadavji Trikamji
25. Chakradatta - Ratnaprabha, Relevant Parts from Charaka Samhita, Sushruta Samhita, Kashyapa Samhita, Ashtanga Sangraha, Ashtanga Hridaya,
26. Remington: Science and Practice of Pharmacy
27. Theory and Practice of Industrial Pharmacy – Leon Lachman *et al*
28. Clinical Pharmacology, KD Tripathi
29. Clinical Pharmacology, Lawrence Benette
30. Drug Discovery and Evaluation (Pharmacological assays) HG Vogel
31. Pharmacological Basis of therapeutics – Goodman and Gilman
32. Data Base of Medicinal Plants of CCRAS
33. Quality and Standards of Medicinal Plants – ICMR publication
34. Quality Control of Ayurvedic Drugs – PLIM, Gaziabad
35. Ayurvedic Pharmacopeia of India
36. Ayurvedic Formulary of India
37. Indian Pharmacopeia
38. British Pharmacopeia
39. United States Pharmacopeia
40. Pharmacopeia Codex
41. Current Good Manufacturing Practices
42. Drugs and Cosmetic Act 1940 and Rules 1945 with latest amendments
43. Drugs and Magic remedies (Objectionable advertisement) Act-1954
44. Prevention of Food Adulteration (PFA) act
45. Laws pertaining to Narcotics
46. Factory and Pharmacy Acts
47. Consumer Protection Act -1986
48. Brief information on the peer reviewed journals, official websites and other official search engines along with their links (related with the subject)
49. Rutleys Elements of Mineralogy
50. Bhasma Vigyaniam
51. Kupipakva Vigyaniam
52. Anupana Manjari

M.D.-AYURVEDA PRELIMINARY
6. AGADTANTRA AVUM VIDHI VAIDYAKA
(Toxicology & Forensic Medicine)

PAPER-II
PART-A

Theory 100 marks
50 marks

1. Introduction to Agadatantra, its sequential development, traditional and contemporary toxicology.
2. Examination of poisons as per contemporary and Ayurvedic methods.
3. Ancient and contemporary classification of Visha.
4. Knowledge about Sthavara visha, Jangama visha and Kritrima visha, their clinical and pathological manifestations and management.
5. Garavisha and Dushi visha, signs, symptoms and management with contemporary relevance.
6. Vishajanya Janapadodhivamsaniya Roga (community health problems due to poisons) - environmental pollution, water pollution, soil pollution, air pollution etc, their features and management according to ancient and contemporary concepts.
7. Concept of Viruddhahara with contemporary views.
8. Definition of Vyavahara Ayurveda.
9. Fundamentals of Vyavahara Ayurveda. Courts of law in India and legal procedures.
10. Chathurvinshati upakrama (24 management procedures).

PART-B

50 marks

1. Introduction to Forensic medicine.
2. Techniques of pathology, pharmacology, pharmacognosy and microbiology used in toxicology.
3. Death and its medico-legal aspects (Medical Thanatology), Medico-legal autopsy, Legal procedures in clinical forensic medicine.
4. Forensic Science Laboratory:- Structure and functions
5. Introduction to Medical Jurisprudence.
6. Laws related to medical profession. Ancient practice of medical jurisprudence in india.
7. Ancient and contemporary fundamentals of medical ethics.
8. Madya visha (Alcoholism).
9. Diagnosis and Management of food poisoning.
10. General and Emergency medical management of poisoning including preparation, administration and complications of antidotes, antivenoms, antisera.
11. Management of the toxic manifestations caused by the contact poisons (paduka, vastra, abhushana, mukhalepa- vishabadha etc).
12. Diagnosis and management of dermatological manifestations of Visha.
13. Death due to poisoning, duty of physician in poisoning and cases of suspected poisoning.
14. Post mortem findings in poisoning.

PRACTICAL

50 marks

Contents:

Clinical Postings

Case records – 20 cases (Postmortem/ poisoning/dermatological/medico legal cases)

Distribution of marks (Practical)

- | | |
|---|------------|
| 1. Case records (20 Cases) | - 20 Marks |
| 2. Bedside clinical case taking | |
| 3. Identification of specimens, models and Equipments of jurisprudence importance | -15 Marks |
| 4. Spotting related to Visha, Upavisha and other poisonous drugs | -15 Marks |
| 5. Viva-voce | -20 marks |

REFERENCE BOOKS:

- | | |
|--|-----------------------------|
| 1. Useful Portion of Charak-Sushrut-Vagbhata | |
| 2. Dravyaguna Vigyan | - Acharya Yadavji |
| 3. Aushadhigunadharma Shastra | - Pt Visvanath Dvivedi |
| 4. Kriyatmat Aushada parichaya Vigyan | - Pt Visvanath Dvivedi |
| 5. Ayurvedic Vyadhi Vigyan | - Acharya Yadavji Trikamji |
| 6. Madhavanidan with Madhukosha commentary | |
| 7. Sharangadhara Samhita | |
| 8. Yogaratnakara | |
| 9. Aushadigunadharma Shastra | - PtGangadhara Shastri Gune |
| 10. Rasendracintamani | |
| 11. Rasaratna samuchhaya | |
| 12. Vishavigyan | - Dr. Krishna Kumar |
| 13. Related matter of Kautilya Artha Shastra | |
| 14. Harmekhlatantra | |
| 15. Anupana manjari | |
| 16. Ayurvedprakash | |
| 17. System of clinical Medicine | - Savil |
| 18. Forensic Pharmacy | - B.M. Mhithai |
| 19. Hand book of Forensic Medicine and toxicology | - Dr. P.V. Chadha |
| 20. Viva Forensic Medicine and toxicology | - L.C. Gupta |
| 21. Forensic Medicine and Ethics | - J.P. Narena |
| 22. Modi's Medical Jurisprudence and Toxicology | |
| 23. The essentials of forensic medicine and toxicology | -Dr.K.S. Narayan Reddy |
| 24. Medical Laws and Ethics | - Dr. H.S. Mehta |
| 25. M.R.K. Krishnan's Handbook of Forensic Medicine | |
| 26. Text book of Medical Jurisprudence and Toxicology | - Dr. C.K. Parikh |
| 27. Atlas of Forensic Medicine | - Dr. Tomio Watenbe |
| 28. Medico legal Post Mortems (Atlas) | - Dr. Parikh and Others |
| 29. Textbook of Forensic Medicine and Toxicology | - Dr.V.V. Pillay |
| 30. Textbook of Forensic Medicine and Toxicology | - Dr. Karmakar |
| 31. Textbook of Forensic Medicine and Toxicology | - Dr. Singhal |
| 32. Textbook of Forensic Medicine and Toxicology | - Dr. Krishnan Vij |
| 33. Forensic Pathology | - Dr. Bernard Knight |

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|---|---|
| 34. Textbook of Forensic Medicine and Toxicology | - Lyon's |
| 35. Pocket picture guide to Forensic Medicine | - Gower's Medical Publication |
| 36. Forensic Medicine | - Simpson Knight |
| 37. Taylor's Principles and Practical of Medical Jurisprudence | - J and A Churchis |
| 38. Doctor and Law | - Singhal |
| 39. Textbook of Toxicology | - Singhal |
| 40. Medicine Harrison's Principal of Internal Medicine | |
| 41. Agad Tantra | - Dr.Shekhar Namboodri |
| 42. Modern Medical Toxicology | - Dr. V.V.Pillay |
| 43. Critical care toxicology | - Bruent Wallace |
| 44. Diagnosis and Management of common poisoning | - Agarwal wali |
| 45. Colour Atlas of Forensic Medicine | - Govindaiah |
| 46. Guidelines of poisons | - W.H.O. |
| 47. Doctors patients relationships | - Dr.Lavekar |
| 48. Bhavaprakasha. | |
| 49. Vishavaidya Jyotsnika - English translation By VPSV Ayurveda college, | Kottakkal. |
| 50. Lakshnamritham. | |
| 51. Toxicology, Ayurvedic perspective | - VPSV Ayurveda college Kottakal |
| 52. Text book of Agadatantra | - Edited By Dr Huparikar, Dr.Joglekar |
| 53. Agadatantra ki Pathyapustaka | - Edited By Dr Huparikar, Dr. Joglekar |
| 54. Vyavahar Ayurveda Vigyanam | - Dr.Indramohan Jha (Sachchan) |
| 55. Forensic Medicine | - Dr. B. Umadathan |
| 56. Visha Chikitsa | - Dr. M. Balakrishnan Nair |
| 57. Park Text book of Preventive and Social Medicine. | - K. Park |
| 58. Environmental Science and Biotechnology | - Theory and Practice |
| | - A.G. Murukesan &C. Rajakumari |
| 59. Veterinary Toxicology | - Dr. Satish K. Gargi |
| 60. Guide to Drinking Water Quality (3 Volumes) | - WHO Publication |
| 61. A short Text Book of Medical Entomology | - H.S. Bhatti, R. Sehgal, R.C. Mahajan. |

M.D.-AYURVEDA PRELIMINARY
7. SWASTHAVRITTA & YOGA
(Preventive, Social Medicine & Yoga)

PAPER-II
PART A

Theory 100 marks
50 marks

1. Importance and relevance of Swasthavritta and Community Medicine. History of community medicine.
2. Concept of health and disease as per Ayurveda and Modern Medicine. Various definitions and dimensions of health as per Ayurveda and World Health Organization.
3. Relevance of Dinacharya, Ratricharya and Ritucharya in Health Promotion.
4. Basic concept of Vega. Concept of Adharaniya and Dharaniya Vega in health promotion and prevention of diseases with examples.
5. Concept of Trayopastambha in health promotion and prevention of diseases.
6. Concept of nutrition as per Ayurveda and modern science.
7. Concept of Vyadhikshamatva. Concept of Bala and Ojas in relation to health.
8. Role of Panchakarma in preventive medicine.
9. Role of Rasayana in promotion of health and prevention of diseases. Scope of Rasayana in Geriatrics and Reproductive & Child Health.
10. The concept of Ashtanga Yoga and its relation to health. Concept of Moksha.
11. Basic concepts of Nisargopachara including Panchabhautika Chikitsa.

PART B

50 marks

1. Concept of Janapadodhwamsa and tools of its prevention.
2. Principles of Epidemiology. Definitions in infectious disease epidemiology.
3. Concept of disease control and intervention strategies.
4. Levels of disease prevention
5. Basic principles of Samkramak Vikara- causes, modes of disease transmission, epidemiological triad
6. Principles of Health Education
7. Environmental Health- concept of water, soil and air purification as per Ayurveda and modern science.
8. Introduction to Meteorology
9. Role of Swasthavritta in maternal and child health care.
10. National Population Policy, National Health Policy as per Alma Ata Declaration and Role of Ayurveda therein.
11. Role of Swasthavritta in communicable and non-communicable diseases and life style disorders.
12. Biomedical waste management.
13. National health programmes.

PRACTICAL

100 marks

Contents:

1. Duty in OPD and IPD with regard to Pathyapathya, Yoga and Nisargopachar
2. Preparation of different Kritanna Kalpana
3. Practice of the following
 - A. Pratimarsha Nasya
 - B. Anjana
 - C. Kavala and Gandusha
 - D. Abhyanga
 - E. Udvartana
 - F. Prayogika Dhoomapana
 - G. Matra basti
4. Health awareness lectures to the community (minimum 5)
5. Participation in observance of National & International days related to health.
6. Proficiency in performing the following Asanas
 - A. Standing Postures-
Ardhakatichakrasana, Padahasthasana, Ardha chakrasana, Trikonasana.
 - B. Sitting postures –
Swasthika, Gomukha, Padmasana, Vajrasana, Bhadrasana, shashankasana, Ushtrasana, Pashchimottanasana, Suptavajrasana, Ardhamatsyendrasana, Siddhasana.
 - C. Supine Postures-
Pavanamuktasana, Sarvangasana, Matsyasana, Halasana, Chakrasana, Shavasana.
 - D. Prone postures-
Bhujangasana, Shalabhasana, Dhanurasana, Makarasana.

Distribution of marks (Practical)

- | | |
|---|------------|
| 1. Records | - 20 Marks |
| 2. Long Procedures | - 20 Marks |
| 3. Short Procedures | - 10 Marks |
| 4. Spotting - Aahardravayas, Family Planning
Devices, Vaccine/Serum and Models/Specimens,
Naturopathic and Yogic specimens etc. | - 10 Marks |
| 5. Yogasana | - 20 Marks |
| 6. Viva-voce | - 20 Marks |

REFERENCE BOOKS:

- | | |
|---|-------------------------------|
| 1. Relevant portions of Charak, Sushruta, Vagbhata (AshtangHrudaya), Ashtang Samgraha, Sarangadhara, Bhavaprakasha, Madhavanidan&Yogaratanakara, Bhela Samhita with the respective commentaries | |
| 2. Swasthavritta Samuchaya | -VaidyaPtRajesvarDuttaShastri |
| 3. Swasthya Vignyana | -Dr.B.G.Ghanekarshastri |
| 4. Prakritika Chikitsa | -Kedarnath Gupta |
| 5. Reddy's Comprehensive Guide to Swasthavritta | -Dr.P.Sudhakar Reddy |
| 6. Swastha Vigyan | -Dr.MukundswaroopVerma |
| 7. Ayurvediya Hitopdesh | -Vd.RanjitRai Desai |
| 8. Yoga and Ayurveda | -Dr.Rajkumar Jain |

- | | |
|---|--------------------------------------|
| 9. Swasthvritta Vigyan | -Dr.Ramharsha Singh. |
| 10. Swasthvrittam | - Dr.BramhanandTripathi |
| 11. Ayurvediya Swasthvrittam | - Vd.Jalukar |
| 12. Hathayog Pradipika | - SwatmaramYogendra (Kaivalyadhama) |
| 13. YogikYog Paddhati | - BharatiyaprakrutikChikitsaPadhat |
| 14. Yogik Chikitsa | - ShriKedarnath Gupta |
| 15. Prakrutik Chikitsa Vigyan | - Verma |
| 16. Janasankhyashikshasidhanta evam Upadesa | - S.C.Seel |
| 17. Swasthvritta | - Dr.Shivkumar Gaud |
| 18. Health and Family Welfare | - T.L.Devra |
| 19. SachitraYogasan Darshika | - Dr.IndramohanJha |
| 20. Preventive and Social medicine | - J.K.Park |
| 21. Yogadeepika | - Shri. B.K.S. Iyengar |
| 22. Swasthavritta | - Vd.Sakad |
| 23. Positive Health | - Dr.L.P.Gupta |
| 24. Biogenic Secretes of Food In Ayurveda | - Dr.L.P.Gupta |
| 25. Yoga and Yogikchikitsa | - Ramharsha Singh |
| 26. The Foundation of Contempary Yoga | - R.H.Singh |
| 27. Yogasidhanta evum Sadhna | - H.S.Datar |
| 28. Patanjali Yoga Sutra | - Maharshi Patanjali, Karambelkar |
| 29. Prakrutik Chikitsa Vidhi | - Sharan Prasad |
| 30. Text book of Swasthavritta | - Dr.Ranade, Dr.Bobade, Dr.Deshpande |
| 31. Gherand Samhita | |
| 32. Bio-Statistics | - B.K. Mahajan |
| 33. Swasthavritta Vidnyan | - Dr.Mangala Gauri |
| 34. Community Medicine | - Baride and Kulkarni. |
| 35. Light on Yoga | - Shri. B.K.S. Iyengar |
| 36. Light on Pranayama | - Shri. B.K.S. Iyengar |
| 37. Light on Patanjala Yogasutra | - Shri. B.K.S. Iyengar |
| 38. Shiva Samhita | - Kaivalyadhama |
| 39. Gheranda Samhita | - Kaivlyadhama |
| 40. Swasthavritta Vigyan | - Vd. Patrikar Vijay |
| 41. Swasthavritta | - Vd Yashwant Patil and Vd. Vhawal |
| 42. Food and Nutrition | - Swaminathan |
| 43. Preventive and Social Medicine | - Mahajan |
| 44. Preventive and Social Medicine | - B.N.Ghosh |
| 45. Preventive and Social Medicine | - Gupta |
| 46. Yoga and Nisargopachar | - Vd. Prama Joshi |

M.D.-AYURVEDA PRELIMINARY
8. ROGA NIDANA AVUM VIKRITI VIGYAN
(Pathology and Diagnostic Procedure)

PAPER-II
PART-A

Theory 100 marks
50 marks

1. Understanding of Samprapti of diseases in Charaka Nidana Sthana in contemporary context
2. Clinical aspects of Dosha, Dhatu, Upadhatu, Mala, Agni, Ama, Srotas and Indriya
3. Understanding of the role of Trividha Avasthapaka in the vitiation of Dosha
4. Concept of Nanatmaja and Samanyaja Vikara
5. Clinical application of Avarana in diagnosis of various diseases
6. Clinical application of Shatkriyakala in diagnosis of diseases.
7. Clinical and applied aspects of concept of Upadrava and Arista

PART-B

50 marks

1. Ayurvedic interpretation of various laboratory investigations to derive treatment principles.
2. Interpretation of various Rogi Bala and Roga Bala technique to plan Chikitsa Sutra
3. Clinical examination of Deha Bala, Roga Bala, Agnibala And Chetas Bala
4. Knowledge of current diagnostic tools like ECG, X-Ray, CT scan, MRI and USG

PRACTICAL

100 marks

Contents:

1. Duty in hospital OPD and IPD.
2. Duty in pathology laboratory.
3. Case taking – 25 cases
4. Performance of pathology and biochemistry practicals – 10 cases
5. Interpretation of ECG, EEG, X-ray, CT-Scan, MRI and USG

Distribution of marks (Practical)

- | | |
|--|------------|
| 1. Case record (25 Cases) | - 10 Marks |
| 2. Bed side clinical case taking | |
| a. Long case | - 20 Marks |
| b. Short case | - 10 Marks |
| 3. Laboratory Practicals | - 20 Marks |
| 4. Interpretation of ECG, EEG, X-ray, CT-Scan, MRI and USG | - 10 Marks |
| 5. laboratory experiment record | - 10 Marks |
| 6. Viva-voce | - 20 Marks |

REFERENCE BOOKS:

1. Madhav Nidan (Madhukosha Commentary)
2. Relevant portions of Charak Samhita, Sushrut Samhita and Vagbhata
3. Doshakaranatwa Mimamsa - Acharya P.V. Sharma
4. Nadi pariksha - Vb Athavale
5. Nadi Pariksha – GP Upadhyay
6. Rogi Pariksha vidhi - Acharya Priyavrata Sharma
7. Nidan Panchak - Shivcharan Dhyani
8. Vyadhipigyan I and II - Yadav Thrikamji
9. Ayurvediya Roga Vargikaran - Vd. Ramanat Vd. Gurdip Singh
10. Ayurvediya Nidan Evum Chikitsa Ke Siddhanta - Prof. Ram Harsh Singh
11. Clinical methods in Ayurveda - K. R . S. Murthy
12. Parameswarappa's Ayurvediya Vikriti Vigyan & Roga Vikriti Vigyan - Dr. P.S. Byadgi.
13. Oxford Handbook of Clinical Examination and Practical Skills
14. Symptoms & Signs in Clinical Medicine - Chamberlains
15. Hutchison's Clinical Methods
16. Bedside Clinics in Medicine Part- I & II - Kundu
17. Practical Pathology - Dr. K. Uma Chaturvedi
18. Medical Laboratory Technology - R. Sood
19. Clinical Diagnosis and Management by Laboratory methods -Todd, Sanford and Davidson

M.D.-AYURVEDA PRELIMINARY
9.CHHAYA AVUM VIKIRAN VIGYAN
(Imaging and Radio diagnosis)

PAPER-II
PART A

Theory- 100 marks
50 marks

1. Objectives of Chhaya avum Vikiran Vigyan.
2. History, development and concept of Chhaya avum Vikiran vigyan
3. Poorva karma (preparatory measures) related to Chhaya avum Vikiran Vigyan in relation to consultant, technical staff and patients (with their attendants) including counseling and consent.
4. Review of fundamental principles of Ayurveda.
5. Shishyopanayan regarding the Chhaya avum Vikiran Vigyan – introduction of Chhaya avum Vikiran department and hospital unit, guidelines for their use, do's and don'ts, discipline, duties and responsibilities.
6. Ethical and legal issues related to Chhaya avum Vikiran Vigyan.
7. Precautions and preventions in Chhaya avum Vikiran Vigyan unit.
8. Environmental issues related to Chhaya avum Vikiran Vigyan. Impact of used radiological energies on environment.
9. Disposing and recycling of radiological materials. Biomedical waste disposal management in Chhaya avum Vikiran Vigyan.
10. Management of Chhaya avum Vikiran Vigyan department. Relation between consultant, student, technical staff, patients (with their attendants).
11. Basic concept of research methodology related to Chhaya avum Vikiran Vigyan.

PART B

50 marks

1. Preliminary knowledge of various modalities of Chhaya avum Vikiran Vigyan.
2. Efficiency and limitations of various radiological modalities.
3. Introduction of surface and applied anatomy, patho-physiology related to Chhaya avum Vikiran Vigyan.
4. Preliminary knowledge of equipments related to radiology.
5. Selection of appropriate radiological modalities- basis of selection, correct radiological investigation advice, further assessments and diagnostic advice.
6. Management of emergencies in radiology section, electrical and mechanical violent emergencies, radiation hazards and its preventive measures.
7. Pharmacology and application of emergency drugs, analgesics, muscle relaxants, fluids, plasma expanders, oxygen and various contrast media used in Radio-diagnosis and imaging.
8. Drug and contrast media reactions and shock - its management, cardio-cerebro-pulmonary resuscitation (CCPR), endo-tracheal intubation, tracheostomy.
9. Anesthesiology related to radiology.
10. Short review of common diseases, frequently investigated in the Chhaya avum Vikiran Vigyan department especially their clinical findings, anatomical and patho-physiological changes.
11. Skills of transfer of knowledge- Teaching methodology, audio-visuals preparation and presentations.
12. Knowledge of Information Technology – relevant to radiology.
13. Record keeping.
14. Documentation, books and journals, research paper writing.

PRACTICAL

100 marks

Contents:

- Evaluation of knowledge of functioning of equipments
- Evaluation of knowledge of Chhaya avum Vikiran Vigyan procedures
- Management of Chhaya avum Vikiran vigyan department
- Management of emergencies in Chhaya avum Vikiran Vigyan unit
- Personality development assessment.
- Basic knowledge of concepts of radiological interpretations

Distribution of Marks (practical):

1. Case Records of 25 patients	20
2. Chhaya avum Vikiran Vigyan procedures -	
1. Long procedure	20
2. Short procedure	10
3. Identification and functioning of instruments and equipments	15
4. Interpretation of Radiograph and images	15
5. Viva Voce	20

REFERENCE BOOKS:-

Shusruta Samhita	Relevant part
Charak Samhita	- do-
Astang Hridaya/Sangrah	- do-
Text Book of Radiographic Positioning and Related Anatomy	- By Kenneth L Bontrager, John P Lampignano
Radiographic interpretation to general practitioner	-W.H.O.
Procedures in diagnostic Radiology	- By T. Doyle, W. have, K. Thomson.
Radiographic positioning	- By Clark
Radiobiology for the Radiologist	- By Hall.Christensen's
Physics of Diagnostic Radiology	- By Curry T S , Dowdey J E ,Murry R C
Farr's Physics for Medical Imaging	- By Penelope Allisy-Roberts , jerry Williams
Fundamental of Diagnostic Radiology	- By Brant.
Diagnostic Imaging	- By Federle
Diagnostic Imaging	- By Peter Armstrong , Martin Wastie , Ansrea Rockall
Gastrointestinal radiology	- R.L. Eisenberg
Uro-radiology	- T.Sherwood, A.J.Davidson, .B.Talner
Grainger and Allison's Diagnostic Radiology	-Text book of medical imaging
Text Book in Radiology and Imaging	- By D. Sutton.
Introduction to Vascular Ultrasonography	- By Zwiebel , Pellerito
Text book in Ultrasonography	- By Roumack
Manual of Medical Diagnostic Ultrasonography	- By W.H.O. Scientific group

Computed Tomography & MRI of the whole body
Surface and Radiological Anatomy
X-Ray equipment for student Radiographers
Clinical Sonography , A Practical Guige

- By Hagga.
- By A. Halim
- By DN and MO Chesney
- By Roger C. Sanders ,
Tom Winter

Ultrasonography in obstretics and gynaecology
Standard Journals like Indian Journal of Radiology, Radiology,Radiological clinics of north
America,British Journal of Radiology etc.
Audio-visual aids

-Callen
-CDs & DVDs

M.D.-AYURVEDA PRELIMINARY

10.KAYACHIKITSA

(Genral Medicine)

PAPER-II

PART A

Theory- 100 marks

50 marks

1. Understanding of fundamental concepts of Kayachikitsa like Vriddhi and Kshaya of Dosha, Dushya, Mala with Amshaamsha Kalpana. Srotodushti, Khavaigunya, Agni, Ama (Saama and Nirama Dosha, Dhatu & Mala). Aavarana, Rogamarga, Ashayapakarsha, Dosha Gati, Kriyakala. Aushadha Sevana Kala, Anupana, Pathya-Apathya and their scientific relevance during health and disease.
2. Detailed knowledge of Rogi Roga Pariksha including detailed history taking and systemic examination of patient. Clinical implementation of Dwividha Pariksha, Trividha Pariksha, Chaturvidha Pariksha, Panchavidha Pariksha, Shadvidha Pariksha, Ashtavidha Pariksha, Dashvidha Pariksha Bhavas and Prakrityadi Dashvidha Pariksha.
3. Principles of Kayachikitsa in disease management including Shodhana, Shamana and Naimittika Rasayana.
4. Introduction of the basic principles of Modern medicine, Homeopathy, Unani, Siddha, Tibetan Medicine, Yoga and Naturopathy and their relevance in light of the basic principles of Ayurvedic medicine.

PART B

50 marks

1. Chikitsa Siddhanta of Pranavaha, Annavaha, Udakavaha, Rasadi Dhatuvaha, Malavaha & Manovaha Srotovikara.
2. Emergency medicine: Acute Severe Asthma, pulmonary oedema, myocardial infarction, cerebro-vascular accidents, water and electrolyte imbalance, haemorrhage, syncope, seizure, coma, hyperpyrexia, hypertensive encephalopathy.
3. Knowledge of conducting various medical procedures like infusions, tapping, lumbar puncture, Ryle's tube insertion, catheterization, tractions, water seal drainage, Cardio Pulmonary Ressucitation.
4. Basic knowledge of underlying principles of ECG, TMT, echo cardiography, vascular doppler studies, EEG, EMG, X-Ray, USG, CT scan, MRI, PET and their interpretation.
5. Knowledge of common Ayurvedic formulations and preparations used in treatment:
Churna- Triphala, Sitopaladi, Lavanbhaskara, Hingvashtaka, Avipattikara, Gangadhara, Shaddharana, Sudarshana, Panchasakara, Ajmodadi.
Kashaya- Dashamula, Rasnasaptaka, Asanadi, Pathyadi, Phalatrikadi, Punarnavashtaka, Gojivhadi, Mahamanjishthadi, Drakshadi Kashaya.
Asavas-Arista- Amritarishta, Kanakasava, Chitrakasava, Saraswatarishta, Ashwagandharishta, Chandanasava.
Vati- Sanjivani, Chandraprabha, Agnitundi, Chitrakadi, Khadiradi, Vyoshadi, Shankha Vati, ShivaGutika.
Guggula-Kalpana- Triphalaguggula, Kaishoraguggula, Trayodashangaguggula, Simhanadaguggula, Yogarajaguggula, Gokshuradi guggula, Kanchanaraguggula.
Rasaushadhi- Tribhuvanakirti Rasa, Arogyavardhini Rasa, Shwasakuthara Rasa,

Rasamanikya Rasa, Smritisagara Rasa, Lakshmivilasa Rasa, Sutshekhara Rasa, Pravala Panchamrita-Parpati, Hemagarbhapottali-Rasa.

Taila- Mahanarayana Taila, Pindataila, Prasariyadi Taila, Ksheerabala Taila, Brihat Saindhavadi Taila, Panchaguna Taila, Amritadi Taila, Marichyadi Taila, Mahamasha Taila.

Ghrita- Mahatriphaladi Ghrita, Brahmi Ghrita, Panchtikta Guggulu Ghrita, Sukumara Ghrita, Dadimadya Ghrita, Kantakari Ghrita, Kalyanaka Ghrita.

Lehya- Chyavanaprasha Avaleha, Kushmanda Avaleha, Ashwagandha Avaleha, Agastya Hareetaki Rasayana, Drakshavaleha, Vasavaleha, Amrita-Bhallataka Rasayana

PRACTICAL

100 marks

Content:-

Daily hospital duties in OPD, IPD and casualty
Bed-side case taking – 25 patients

Distribution of marks (practical):

1. Case records of 25 Patients in detail	20 marks
2. Bedside clinical case taking- Long case	20 marks
Short case	10 marks
3. Medical procedures/laboratory work	15 marks
4. Instruments and spotting	15 marks
5. Viva voce	20 marks

REFERENCE BOOKS-

Charak Samhita	-Cakrapanidutta commentry
Sushrut Samhita	-with all available commentaries.
Ashtang Samgraha	-Indu commentary
Ashtang Hridaya commentry	-Arundutta and Hemadri
Cikitsadarsha	- Pandit Rajesvardutta Shastri
Kayachikitsa	- Ramaraksha Pathak
Rog Pariksha Vidhi	- Priyavrat Sharma
Panchakarma Vigyan	- Haridas Sridhar Kasture
Ayurved Nidan Chikitsa Siddhanta	- Prof. R.H.Singh.
Kayachikitsa Vol. I-IV.	- Prof. Ajay Kumar
Davidson's Principles and Practice of Medicine.	
API Text Book of Medicine.	
Harrison's Text Bok of Medicine.	
Cecil Text Book of Medicine.	
Relevant texts of concerned subjects.	

M.D.-AYURVEDA PRELIMINARY
11. MANO VIGYAN AVAM MANAS ROGA
(Psychiatry)

PAPER-II
PART A

Theory- 100 marks
50 marks

1. Concept of Manas in Sankhya, Yoga, Nyaya, Vaisheshika, Purva Meemamsa, Vedanta, Bouddha, Tantra and Purana. Philosophical concepts in Ayurveda and its applications.
2. Basic principles of Ayurveda psychology - Srishti utpatti, Triguna, Loka purusha samya Siddhanta, determination of Purusha according to Dhatubheda, Chikitsadhikrita purusha in a psycho somatic axis, Perception and cognition in Ayurveda. Dosha, Dhatu, Agni, Mala Vigyanam and its psychosomatic importance, 'Shariramapi Sattvamanuvidhiyate Sattvam Cha Shariram'. Concept of Dharma, Artha, Kama and Moksha, concept of Apunarbhava in Ayurveda, Trividha Eshana.
3. Introduction to psychoanalytical concept – Id, Ego, Super ego. Concept of mind in Western psychology
4. Concept of Mana in Ayurveda, Mano Nirupana, Manaswarupa, Sthana, Vishaya, Karma, Guna and Dosha. Manovyapara, Gyanotpatti, Gyanotpattau Manaso Dayittwam. Manas as 'Cheshta Pratyayabhutam Indriyanam Indriyo-Pakramaniyam'. Atma nirupana, Atmaguna.
5. Psychological Processes – Attention and perception, intelligence, creativity, motivation, emotion, sex and other drives, states of consciousness, learning, memory, cognition and dream, knowledge of developmental psychology.
6. Understanding of Manasika bhava / Manovikara and their importance in Manasroga Nidana and Chikitsa – Iccha, Dwesha, Sukha, Dukha, Lobha, Moha, Krodha, Shoka, Vilapa, Preeti etc. Emotional aspects of human behaviour.
7. Manovaha Sroto Nirupana, basics of neurophysiology, neurotransmitters, psychoneuroimmunology, physiological basis in human behaviour, influence of nervous system on human behaviour, sensory systems, autonomic nervous system, study of Ojas, Gyanendriya and Buddhi.
8. Satvikadi Kayanam samanya gyanam, basic concepts of personality, Sattvabala and mental disorders.
9. Manasroga samanya nidana, Pragyaparadha- samkshipta vivarana. Vibhramsha of Dhee, Dhriti and Smriti, Mano Dosha and Sharir Dosha in psychopathogenesis, Sadvritta and its importance.
10. Relation of psychology with parapsychology.

PART B

50 marks

1. Basic understanding of Sattva Pariksha , utility of Trividha, Shadvidha, Ashta Sthana, Dashavidha and Srotopariksha in psychiatric practice, Vikriti pariksha- Vibhrama of Mano -Buddhi- Samgya Gyan-Smriti-Bhakti-Sheela-Cheshta and Achara.
2. Psychiatric examination- Mental status examination, mini mental status examination, cognitive assessment with higher mental functions, personality and self in psycho analysis, basic psychiatric assessment inventories- Hamiltons scale, Bech's inventory, GRISS questionnaire, Weschlers' scale for intelligence.
3. Clinical psychology – General psychology with schools of psychology, theories of personality development, social dimensions of behavior and current issues, doctor patient relationship, patient interviewing and study of therapeutic relationship. Basic knowledge about anxiety disorders, delusional disorders, phobic disorders, lying, stealing, juvenile delinquency. Mental hygiene and behaviorism.
4. Technical terms used in psychiatric practice, general symptoms of psychiatric disorders, classification of psychiatric disorders as per DSM and ICD classifications.

5. Basic knowledge about organic psychosis, psychoneurosis, Schizophrenia, mood disorders, personality disorders, sexual perversions, sleep disorders and mental retardation.
6. Basic understanding of Bhuta, Graha and Bhutavidya. Hetu, Lakshana and Samprapti of Unmada, Apasmara, Atattwabhinivesha, Grahavesha, Bhutonmada, Gadodvega, Yoshapasmara, Madatyaya.
7. Nidra and Swapna, its types and role in psychopathogenesis.
8. Basic understanding of Chikitsa bheda, descriptions of general and specific principles of Kayachikitsa, its practical application in Manasroga, Daivavyapashraya, Yuktivyapashraya, Satvavajaya chikitsa and Dravya-adravaya chikitsa, Manodosha Samanya chikitsa, basic treatment principles in Manasika vyadhi, Panchkarma and its application in Manasika roga, Importance of Rasayana and Vajikarana therapies in Psychiatric practice, Medhya rasayana.
9. General knowledge in the basic management principles of psychiatric disorders in modern medicine. Basic knowledge on psychopharmacology, forensic psychiatry, community psychiatry, liaison psychiatry, child psychiatry and geriatric psychiatry.
10. Application of psychiatric knowledge in other specialities viz. Kayachikitsa, Agadatantra, Shalya, Shalakya, Prasuti- Stri Roga and Kaumarabhritya.
11. Psychosomatic disorders, psychological understanding on essential hypertension, asthma and other allergic disorders, psoriasis, IBS, ulcerative colitis, CAD, tension /vascular headaches, pseudopsychosis, hyperemesis gravidarum, enuresis, diabetes mellitus, obesity, autoimmune disorders, neoplasm and psychosexual disorders.
12. Basic understanding of diagnostic applications- Haematological, biochemical, serological, histopathological, imaging - ECG, EEG, USG, MRI scan, CT scan, PET scan in psychosomatic, psychiatric and neuro- psychiatric practices.

PRACTICAL

100 marks

Contents:

1. Daily hospital duties in OPD, IPD and casualty
2. Practical Record Book
 1. Psychiatric – 5 cases
 2. Psychosomatic – 5 cases
 3. Paediatric / Geriatric Psychiatry – 5 cases
 4. Psychosexual / Substance abuse – 5 cases
3. Psychiatric Inventories- MMSE, Hamilton Anxiety Depression Rating Scale, Brief Psychiatric Rating Scale, Bech's Depressive Inventory, Weschlers' scale, GRISS questionnaire -2 Cases each
4. Manasa Bhava assessment scales- Sattvabala, Manasa Kaya, Smriti, Buddhi, Raja and Tama rating, Manas Bhava Pariksha –2 cases each

Distribution of marks (Practical)

- | | |
|--|------------|
| 1. Case records of Patients in Detail (25 Cases) | - 20 Marks |
| 2. Bedside clinical case taking | |
| Long case | - 20 Marks |
| Short case | - 10 Marks |
| 3. Procedure | - 15 Marks |
| 4. Instruments & Spotting | - 15 Marks |
| 5. Viva - voce | - |
| 6. 20 Marks | |

REFERENCE BOOKS:

1. Related matter of Charak, Sushrut and Vagbhata and other ancient texts with commentaries
2. Prachin Manovikara Vigyanm - Ayodhya Prasad Achal
3. Ayurvediya Padarth Vigyan - Ranjit Rai Deshai
4. Ayurved Darshan - Acharya Rajkumar Jain
5. Purusha Vichaya - Prof. V.J. Thakkar
6. Ayurvediya Manas Vigyan - Prof. Ram Harsh Singh
7. Yoga evum Ayurved - Acharya Rajkumar Jain
8. Basic principles of Ayurvediya Padartha Vigyan - Dr Yogesh Chandra Mishra
9. Synopsis of Psychiatry - Harold kaplon and Benjamin saddock
10. Oxford textbook of Psychiatry - Michael Gerlder, Paul Harrison
11. General psychology and Abnormal psychology - S.K. Mangal
12. A text book of Post Graduate Psychiatry - Neeraj Ahuja
13. Mind in Ayurveda and other Indian Traditions - A.R.V.Murthy
14. Psychopathology in Indian medicine - Satyapal Gupta
15. Body- Mind-Spirit Integrative Medicine - Prof. Ram Harsh Singh
16. Rationale of Ayurveda Psychiatry - Dr. A.R.V. Murthy
17. Foundations of contemporary **Yoga and Yoga Therapy** - Prof. Ram Harsh Singh
18. Stress and its Management - Dr. K.N. Udupa
19. Concept of Mind - Edited by Prof. C.R. Agnivesh, Kottakkal
20. Kayachikitsa - Part 3 - R. R. Pathak and Vidhyadhar Shukla
21. Panchakarma Illustrated - Prof. Shrinivasa Acharya
22. Unified Dimensions of Ayurvedic Medicine - Dr. J.S. Tripathi
23. Essential Psychiatry - Bhatia MS
24. Sahassrayoga - Nishteswar and Vaidyanath
25. Ayurveda and the Mind - David Frawley
26. Manasa Roga Vijnana - Balakrishna
27. Comprehensive Textbook of Psychiatry - Kaplan and Sadock's
28. Psychiatry for medical students - Robert J Waldinger
29. Introductions to Psychology - Morgan / King.

M.D.-AYURVEDA PRELIMINARY
12.RASAYAN & VAJIKARAN
(Rejuvenation & aphrodisiac)

PAPER-II
PART A

Theory- 100 marks
50 marks

1. Concept of Bhesaja, classification and understanding of Swasthasya Urjaskara and Artasya Roganut.
2. Etymology, derivation, definition, synonyms and scope of Rasayana, Vajikarana & Vrishya.
3. Historical aspects of Rasayana & Vajikarana
4. Rasayana-Vajikarana Arha & Anarha
5. Classification of Rasayana & Vajikarana.
6. Knowledge of Dosha, Dhatu & Mala.
7. Knowledge of Dhatu Parinama & Poshana Nyaya.
8. Detailed knowledge of Shukradhatu, Shukra, Retas, Veerya, Rupadravya, Prashastha Sukra Lakshana, Sukrasaara Purusha.
9. Knowledge of Sukravahasrotas, Sukradhara Kalaa.
10. Concept of Ojas.
11. Knowledge of Prakriti, Sara & Satwa.
12. Knowledge of concept of Agni: all components of Agni, levels of Agnimandya, Agnimandyajanya Vikara.
13. Principles of Panchakarma and application in Rasayana & Vajikarana.

PART B

50 marks

1. Applied anatomical & physiological aspects of male reproductive system.
2. Applied aspects of physiology of puberty.
3. Spermatogenesis.
4. Basics of genetics. Bija and its components.
5. Applied aspects of reproductive endocrinology.
6. Semen formation, knowledge of various components of semen.
7. Basics of applied pharmacology related to Rasayana & Vajikarana.
8. Knowledge of metabolism and metabolic disorders.
9. Basics of Geriatrics.

PRACTICAL

100 marks

Contents:-

1. Daily hospital duties in OPD, IPD and casualty.
2. Assessment of Saara – Shukrasaara and Shukra-Asaara – 10 patients.
3. Rasayana and Vajikarana in geriatric patients – 10 patients.
4. Semen analysis- Retopariksha – 10 cases.
5. Uttarbasti – 5 cases.
6. Technique of psychosexual counseling.
7. Applied knowledge of assessment scales pertaining to Vajikarana /sexual functions.
8. Practical aspects of Panchakarma pertaining to Rasayana & Vajikarana.

Distribution of Marks (practical):

1. Case records of patients- (15 case of Rasayana; 10 cases of Vajikarana)	20 marks
2. Bedside clinical case taking- Long case	20 marks
Short case	10 marks
3. Semen analysis and lab investigations	20 marks
4. Instruments and spotting	10 marks
5. Viva voce	20 marks

REFERENCE BOOKS:-

1. Relevant chapters from Brihatrayee and Laghutrayee and their commentaries
2. Panchakarma by Prof.H.S. Kasture
3. Kayachikitsa Vol I & II (Including Panchakarma, Rasayana & Vajikarana) by Prof. RH Singh
4. Illustrative Panchakarma by Dr Sreenivasa Acharya
5. Campbell-Walsh Urology by Alan J. Wein MD PhD (Hon), Louis R. Kavoussi MD, Andrew C. Novick MD, Alan W. Partin MD PhD
6. Clinical Endocrinology 2013 The (Clinical Medicine Series) by MD., CG Weber
7. Sex and Human Loving -Masters and Johnson
8. Diagnosis and treatment of functional Infertility by Lunenfeild B, Insler V, Glezerman M (eds) Black well scientific publications, Berlin.
9. Human reproduction conception and contraception, He fez ESE (ed) Harpar and Row publications, New York
10. Infertility- Practical guide for the physician, Hommond GM, Talbert LM (eds) Black well scientific publications, Oxford
11. Rasayana vajeekarana- Darpan by Om prakash Upadhyaya, Soi Balachandra yantralaya, Manavashram, Jaipur
12. Vatsayana kamasutra
13. Ananga ranga
14. Kelikutuhala
15. Infertility manual by kamini Rao
16. Advanced infertility management- Mehroo Hansotia
17. Endocrine and Reproductive systems – Sanders
18. Proceedings of WHO Symposium on advances in fertility regulation, Moscow: USSR
19. WHO Laboratory Manual for the examination of semen and sperm. Cambridge Uni. Press
20. WHO (1973) Reproductive function in the human male. World Health Organization, Geneva(Mannual)
21. WHO (1975): Scientific group on the epidemiology of infertility. The epidemiology of infertility, Geneva (Technical Report Series No. 5820 37 P)
22. Decision making in infertility; DeCherney AH, Polan ML, Lee RD, Boyers SP (Eds), JP Brothers, New Delhi
23. Handbook of sexual Dysfunction by Richard Balon, R. Taylor Segraves pub. By Taylor and Francis Group Florida
24. The Sperm Cell (Production, Maturation, Fertilization, Regeneration) by Christoper J. De Jonge, Christoper L.R. Barratt, Cambridge University Press
25. Kaplan and Saddocks Synopsis of Psychiatry, Lippincott Williams and Wilkins

M.D.-AYURVEDA PRELIMINARY

13.PANCHKARMA

(Five Therapeutic procedure)

PAPER-II

PART A

Theory- 100 marks

50 marks

1. Chikitsa and its classifications; Antah-Parimarjana and Bahir-Parimarjana Chikitsa
2. Principles of Chikitsa, Kriyakal, Shadvidha and Dvidha Upakrama and role of Panchakarma therein.
3. Applied aspects of Trividha, Shadvidha, Ashta Vidha and Dasha Vidha Pariksha.
4. Applied anatomy and physiology of cortex, cranial and peripheral nerves. Methods of physical examinations of central nervous system: sensory system, motor examination-muscle power and tone, superficial and deep reflexes, difference of upper and lower motor neuron lesions. Tremors and coordination.
5. Functions of various single muscles and groups of muscles, applied anatomy and physiology of joints. Methods of examination of locomotor system. Differential diagnosis of Amavata (rheumatoid arthritis), Vatarakta (gout) and Sandhivata (osteoarthritis). Examination of lumbar and cervical disorders
6. including Gridhrasi (sciatica) and Vishvachi (Brachial neuralgia).
7. Applied anatomy and physiology of cardiovascular and respiratory systems, functions of capillaries and its permeability. Methods of examination of respiratory and cardiovascular system. Interpretation of spirometry and ECG findings.
8. Knowledge and method of examination of various skin lesions.
9. Applied anatomy of stomach, small intestine and large intestine. Detailed examination of gastro-intestinal system.

PART B

50 marks

1. Definition of Karma. Trividha Karma for Shodhana.
2. Importance of Panchakarma in health and disease.
3. Indications and contraindications for Shodhana. Applied aspects of Koshtha and Agni.
4. Importance of Purva and Pashchata Karma in Shodhana. Parihara Vishaya for Panchakarma.
5. Samsarjana Krama. General knowledge of various Aushadha and Ahara Kalpana used for Panchakarma.
6. Areas of research in Panchkarma.
7. Knowledge of equipments and instruments used in Panchkarma in ancient times and the possible modifications therein now.
8. Knowledge of quality standards of NABH (National Accreditation Board of Hospitals) for Ayurveda, guidelines for establishment and management of eco-friendly Panchkarma theatre including management of biomedical waste.

PRACTICAL

100 marks

1. Duty in Panchakarma ward and theatre.
2. Performance of 5 Cases each of Snehana, Svedana, Vamana, Virechana, Basti and Nasya with maintaining of detailed record.
3. Record of detailed examination of 25 patients treated with Panchakarma and effects observed thereon.

Distribution of marks (practical):

1. Case records of 25 patients in detail	20 marks
2. Performance of long Karma	20 marks
3. Performance of short Karma	10 marks
4. Panchakarmal procedures	15 marks
5. Instruments and spotting	15 marks
6. Viva voce	20 marks

REFERENCE BOOKS:

1. Charak Samhita with commentary of Ayurved Dipika by Chakrapanidatta and Jalpakalpa taruby Gangadhara
2. Sushrutha Samhita with the Nibhandha Samgraha commentary of Dalhana and Nyayachandrika panjika of Gayadasa on nidansthana
3. Ashtang Hridaya with Sarvanga sundara and Ayurved rasayana commentaries
4. Ashtanga Sangraha with Shashilekha commentery
5. Bhela Samhita
6. Kashyapa Samhita
7. Bhavaprakasha of Bhavamishra
8. Sharangadhara Samhita
9. Vangasen
10. Gadanigraha
11. Ayurvediya Panchkarma chikitsa Dr Mukundilal Dwivedi
12. Panchkarma Vigyan Dr Haridas Shreedhar Kasture
13. Illustrated Panchkarma Dr.G Srinivasa Acharya
14. Ayurveda-Principles and Practice of Panchakarma Dr. Mandip and Dr Gurdip Singh
15. The Panchkarma Treatment of Ayurved With Kerala Specialities Dr. T.L. Devaraj
16. Panchkarma Therapy Dr. R.H. Singh
17. Principles and practice of vasti Dr. Vasudevan Nampoothiri and Dr. L. Mahadevan
18. Claiton's Physiotherapy
19. Teddy's Physiotherapy
20. Guyton's Physiology
21. Harrison's Principles of Internal Medicines

M.S.-AYURVEDA PRELIMINARY
14. PRASUTI AVUM STRI ROGA
(Gynecology & obstetrics)

PAPER-II
PART A

Theory- 100 marks
50 marks

1. Concept of Tridosha, Dhatu, Upadhatu, Agni, Pancha Mahabhuta in relation to Prasuti and Stri Roga.
2. Concept of Artava and Shukra.
3. Concept of Rasa, Guna, Veerya, Vipak and Karma of Dravya used in Prasuti and Stri Roga.
4. Action and adverse drug reaction related to commonly used plants and Rasa Aushadhi in Prasuti and Stri Roga.
5. Concept of Pathya- Apathya in relation to Prasuti and Stri Roga.
6. Concept of Garbhadhan and Garbha.
7. Concept of Vrana and Vrana dushti.
8. Concept of special therapies of Ayurved used in Prasuti and Stri Roga.
9. Concept of Ashtavidha Shastra Karma, Yantra & shastra used in Prasuti and Stri Roga

PRACTICAL

100 marks

1. Applied anatomy and physiology of genito-urinary system, abdomen, pelvis, pelvic floor, anterior abdominal wall, inguinal ligament, inguinal canal, vulva, rectum and anal canal.
2. Abnormal development, structure and function of female and male urogenital systems
3. Development, structure and function of placenta, umbilical cord and amniotic fluid.
4. Physiological and neuro-endocrinal changes during puberty, adolescence and menstruation.
5. Introduction of hormones related with gynaecology and obstetrics. Ovulation, fertilization, climacteric and menopause. Biophysical and biochemical changes in uterus and cervix during pregnancy and labour.
6. Pre-natal, Natal and Post natal counseling and examination.
7. Pharmacological study of drugs used in gynaecology and obstetrics.
8. Knowledge of diagnostic techniques used in gynaecology and obstetrics.
9. Basic Knowledge of pathological and biochemical investigation used in gynaecology and obstetrics.
10. Ethics, law and Acts Related to gynaecology and obstetrics – laws of abortion and adoption.
11. Knowledge of contraception and sterilization procedures.
12. Pre-operative and post operative care in gynaecology and obstetrics.

PRACTICAL

100 marks

Contents:

1. Hospital duties in OPD, IPD, labor room, OT and casualty
2. History taking and counseling - 25 cases.
3. Labor cases - observation/performing - 10 cases
4. Knowledge of instruments required in gynecology and obstetrics practices.
5. Ayurvedic diagnostic and therapeutic procedures.
6. Fluid therapy and blood transfusion.
7. Contraception and sterilizations.
8. Pre-operative, operative and post operative procedures.

Distribution of marks (Practical)

- | | |
|--|------------|
| 1. Case records of Patients in Detail (25 Cases) | - 20 Marks |
| 2. Bedside clinical case taking | |
| Long case | - 20 Marks |
| Short case | - 10 Marks |
| 3. Procedures | - 15 Marks |
| 4. Identification of instruments, X-ray etc & Spotting | - 15 Marks |
| 5. Viva - voce | - 20 Marks |

REFERENCE BOOKS:

- | | |
|---|---------------------|
| 1. Related matter from all tha samhitas and their commentaries. | |
| 2. Prasuti tantra evum stree roga by | prof Tewari P V |
| 3. Concepts of gynecology | Dr Nirmala G Joshi. |
| 4. Prasuti Tantra | Prof. M. Dwivedi |
| 5. Stree roga vigyan - | Dr VNK Usha |
| 6. Navya prasuti Vigyan | Dr Pooja Bharadwaja |
| 7. Text book of gynaecology- | Berek and Novak. |
| 8. Text book of obstetrics- | Williums |
| 9. Text book of obstetrics- | D C Dutta |
| 10. Text book of gynaecology - | D C Dutta |
| 11. Gabbe's normal and problem pregnancies. | |
| 12. Human embryology by | Saddler. |
| 13. Jeffcoat's principles of gynaecology | |
| 14. Te linde's gynaecological surgery. | |

M.D.-AYURVEDA PRELIMINARY
15. KAUMARBHRITYA - BALA ROGA
(Pediatrics)

PAPER-II
PART A

Theory- 100 marks
50 marks

1. Development of Kaumarbhritya tantra including ancient and modern literature. Strength of Ayurveda specific to child health care.
2. Vayobheda (Classification of age) according to different classics
3. Anatomical and physiological differences in child compared to adult.
4. Ayurvedic consideration of physiology and pathology of Dosha, Dhatu, Mala, Oja, Agni, Prakriti (sharirika-manasika), Kaya and Dhatuposhana in children.
5. Basic Concepts of growth and development, and its assessment.
6. Ayurvedic and modern clinical methods of examination of healthy and diseased newborn and children.
7. Knowledge of modern diagnostic tools like clinical and laboratory investigations, X-ray, USG, MRI etc.
8. Fundamentals of Ayurvedic treatment for childhood disorders.
9. Applied pharmacological considerations: Ayurvedic and modern concepts of drug doses, administration, distribution, metabolism, excretion, and other important factors of consideration.
10. National programs related to pediatrics.
11. Childhood Samskara
12. Principles of Child Psychology (Ayurvedic & modern concepts)

PART B

50 marks

1. Concept of Bala Rasayana and its application in physical and mental health of children.
2. Concept of Vyadhi-Kshamatva avam Vardhanopaya. Concept of immunity and immune enhancing measures including immunization.
3. Concept of Dhupana and Raksha karma and their clinical application in pediatric practice
4. Basic concepts of single drugs commonly used in pediatric practice with special reference to their karma like- Guduchi, Yastimadhu, Mandukaparni, Shankhapushpi, Ativisha, Pippali, Maricha, Shunti, Haritaki, Amalaki, Tulasi, Bhumyamalaki, Daruharidra, Haridra, Vidanga, Katuki, Dadima, Brahmi, Ashvagandha, Shatavari, Bala, Kampillaka, Trivrita, Jyotishmati, Vacha, Jeevanti, Rasna, Shatavari, Anantamula (Krishna Sariva), Durva, Khadir, Tankana, Tambula, Jatamansi, Sphatika.
5. Knowledge of their ingredients, indications, precautions and specific considerations including adverse drug reactions (ADR) of commonly used Ayurvedic formulations in pediatric practice e.g. Aravindasava, Baalachaturbhadra Churna, Kumarakalyana Rasa, Saraswatarista, Swarnaprashana (Kashyapa Samhita), Kumaryasava, Kushmanda Rasayana (Sharangdhar), Ashvagandha Rasayana (Ashtanga Hridaya), Brahmi Ghrita, Kalyanaka Ghrita, Talishadi Churna, Sitopaladi Churna, Haridra Khanda, Krimikuthara Rasa, Mugdha Rasa, Dantodbheda-Gadantaka Rasa, Rajanyadi Churna (Ashtanga Hridaya), Samvardhana Ghrita, Ashta Mangal Ghrita.
6. Methods of preparation of various specific Kalpana (e.g. Lehya, Syrup, drops etc.) according to needs of children.
7. Common instruments and their application in new born care and general pediatric practice.
8. Specific considerations in research methods related to Pediatrics.
9. Regulatory laws related to child health management

PRACTICAL

100 marks

Contents:

1. a) In-patient case history record - (25 Patient)
b) Child Health record - (50 Case)
2. Involvement in Outreach and National programs:
 - a. School Child health checkup
 - b. Adolescent education
 - c. Adolescent counseling etc
3. Pediatric ward/nursery management.

Distribution of marks (Practical)

- | | |
|---|------------|
| 1. a) Case History Record - (25 Patient) | - 10 Marks |
| b) Child Health record - (50 Case) | - 10 Marks |
| 2. Bed side clinical case taking | |
| a. Long Case | - 20 Marks |
| b. Short Case | - 10 Marks |
| 3. Procedures/ Kriya Kalpa | - 15 Marks |
| 4. Identification of instruments & Spotting | - 15 Marks |
| 5. Viva-voce | - 20 Marks |

REFERENCE BOOKS:

1. Kashyapa Samhita Complete Hindi translation by Satyapal Vidhyalankara English translation by Prof. Premvati Tiwari
2. Principles & practice of Pediatrics in Ayurveda: CHS Shastry
3. Child Health Care in Ayurveda: Abhimanyu Kumar
4. Ayurvedic Concepts of human Embryology: Abhimanyu Kumar
5. Kaumarbhritya by Prof. D.N. Mishra
6. Kaumarbhritya Ke Antargata Balgraho Ka Kramika Evam Vaigyanika Adhyana by Prof. Chanchal Sharma
7. Notes on Kaumarbhritya-by Dr. Dinesh K S
8. Pran - Pratyagamanam-by Dr. B.M. Singh
9. Ayurveda Dwara Matra Evam Shishu Paricharya by Dr. KS Patel, V.K. Kori & Rajgopal S.
10. Kaumarbhritya related references from Charaka Samhita, Sushruta Samhita Vagbhata etc.
11. Clinical Methods in Paediatrics by Meharban Singh
12. Pediatrics Emergencies by Meharban Singh
13. Essential Pediatrics O.P. Ghai
14. Text Book of Pediatrics Nelson
15. Care of New Born by Meharban Singh

M.S.-AYURVEDA PRELIMINARY
16.SHALYA TANTRA – SAMANYA
(General Surgery)

PAPER-II
PART A

Theory- 100 marks
50 marks

1. Etymology and definition of Shalya Tantra.
2. Scope and importance of Shalya Tantra.
3. Study of Sushruta Samhita Sutra Sthana.
4. Study of modern surgical clinical methodology.
5. Applied anatomy, physiology and surgical pathology of common surgical conditions including relevant Ayurvedic aspect.
6. Applicability of Shat Kriyakala in the pathogenesis of surgical diseases.
7. Applicability of Prakriti in understanding the causes and role of treatment in surgical diseases.
8. Applicability of basic principles of Ayurveda in Rogi Pariksha (Trividha, Shadvidha, Ashtavidha and Dashavidha Pariksha) and latest investigations.
9. Concept of Rakta according to Sushruta.
10. Introduction of clinical and diagnostic methods in Shalya Tantra - X-rays, U.S.G., Endoscopies (for diagnostic and treatment purposes), MRI, CAT scanning and other recent diagnostic tools.
11. Concept and applicability of Sadhya-Asadhy (Prognosis) - Arishtha lakshana.
12. Knowledge of life saving drugs.
13. Emergency conditions and its management.
14. Diagnosis and management of Pranashtha Shalya.

PART B

50 marks

- Yantra and Shastra – Surgical Instruments - Ancient and recent advances.
- Sterilization – methods and types.
- Basic knowledge of Sangyahan – Anaesthesia - Types, methods, indications, contraindications, complications and its management.
- Concept of Trividha Karma – Purva, Pradhana and Pashchat.
- Ashtavidha Shastra Karmas.
- Bandhana Karma – Ancient and recent advances.
- Kshara Karma – Introduction, types, method of various preparations like Kshara, Kshara Varti, Kshara Pichu and applications.
- Kshara Sutra – Method of preparation, standardization and applications.
- Agnikarma – Introduction, types and applications.
- Raktamokshana – Introduction, types and applications.
- Application of Panchakarma therapy in surgical practice.
- Scope of Pathya-Apathya in the management of surgical diseases.

PRACTICAL

100 marks

Content:-

1. Hospital duties in OPD, IPD, OT and casualty
2. Case record – 25 cases
3. Surgical cases - observation/performing- 10 cases
4. Knowledge of instruments required in surgical practices.
5. Ayurvedic diagnostic and therapeutic procedures.
6. Fluid therapy and blood transfusion.
7. Contraception and sterilizations.
8. Pre-operative, operative and post operative procedures.

Distribution of marks (practical):

1. Case records of 25 Patients in detail	20 marks
2. Bedside clinical case taking-	
Long case	20 marks
Short case	10 marks
3. Identification of instruments, X-ray etc	15 marks
4. Medical procedures	15 marks
5. Viva voce	20 marks

REFERENCE BOOKS:-

- | | |
|---|--|
| 1. Sushruta Samhita | |
| 2. Ashtanga Sangraha | |
| 3. Ashtanga Hridaya | |
| 4. Charaka Samhita | |
| 5. The Surgical instruments of the Hindus | - Girindranath Mukhopadhyaya |
| 6. Shalya Tantra Samuchchaya | - Pandit Ramadesh Sharma |
| 7. Shalya Vigyan (Part 1-2) | - Dr. Surendra Kumar Sharma |
| 8. Shalya Samanvaya (Part 1-2) | - Vd. Anantaram Sharma |
| 9. Shalya Pradeepika | - Dr. Mukund Swaroop Verma |
| 10. Sushruti | - Dr. Ram Nath Dwivedi |
| 11. Clinical Shalya Vigyan | - Dr. Akhilanand Sharma |
| 12. Bhagya Chikitsa | - Dr. Prabhakar Janardhan Deshpande |
| 13. Kshara sutra management in anorectal ailments | -Dr. S.K. Sharma, Dr. K.R.Sharma and Dr. Kulwant Singh. |
| 14. Anorectal diseases in Ayurveda | - Dr. Sizoria and Dr. Praveen Kumar Chowdary. |
| 15. Adhunik Shalya Chikitsa Siddhanta | - Dr. Katil Narshingham Udupa |
| 16. Agnikarma Technology Innovation | - Dr. P.D. Gupta |
| 17. Shalya Tantra Ke Siddhant | - Dr. K.K.Takral |
| 18. Recent advances in the management of Arshas /Haemorrhoids | - Dr. P. Hemantha Kumar |
| 19. Arsha Evum Bhagander Mein sutra Avacharan- | - Vd. Kanak Prasad Vyas |
| 20. Recent advances in Kshara Sutra | - Dr. M. Bhaskar Rao |
| 21. Leech application in Ayurveda | - Dr. M. Bhaskar Rao |
| 22. Kshara Sutra | - Dr. S.N.Pathak |
| 23. Shalya Shalakya Tantra | - Vd. S.G. Joshi |
| 24. Surgical ethics of Ayurveda | - Dr. D.N. Pande |
| 25. Text book of Surgery | - Sabistan |
| 26. Operative Surgery | - Rob and smith |
| 27. Bailey and Love's Short Practice of Surgery | - Norman.S. Williams, Charles.V. Mann and R.C.G. Russell |
| 28. Fractures and Joint Injuries | - Watson-Jones |
| 29. Text books of Operative Surgery | - Farquharsons' |
| 30. Principles of Surgery | - Schwartz |
| 31. Emergency Surgery | - Hamilton Bailey's |
| 32. Surgical pathology | - Willing Worth |
| 33. Clinical methods in surgery | - S. Das |
| 34. Textbook of Operative Surgery | - S. Das |
| 35. Shalya Vigyan (Sachitra) | - Anantram Sharma |

- | | |
|---|--|
| 36. Anushastra Karma | - Dr. D.N. Pande |
| 37. Concept of Vrana is Ayurveda | - Dr. Lakshman Singh |
| 38. Significance for Poorva Karma in Surgical Patient | - Dr. Lakshman Singh |
| 39. Sangyahan Prakash | - Dr. D.N. Pande |
| 40. A concise Text Book of Surgery | - S. Das |
| 41. A manual on Clinical Surgery | - S. Das |
| 42. A System of Surgical Diagnosis | -T.N. Patel |
| 43. A Practical Guide to Operative Surgery | - S. Das |
| 44. Drugs and Equipment for Anaesthesia | - Arun kumar |
| 45. Manual of Surgical Instruments | - M.M. Kapur |
| 46. Ward Procedures | - Patel Mansukh. B |
| 47. Recent trends in the management of
Arshas / Haemorrhoids | - Dr. P. Hemantha Kumar |
| 48. Primary Anaesthesia | - Maurice King |
| 49. Synopsis of Anaesthesia | - Lee |
| 50. Clinical Anatomy/ Surgical Anatomy | - John E.Skandalakis |
| 51. Surgical Instruments of the Hindus | - Girindharnath Mukopadyay |
| 52. Outline of Orthopedics | - John Crawford Adams and David
Hamblen. L |
| 53. Outline of Fracture | - John Crawford Adams |
| 54. Recent trends in the management of
Bhagandara / Fistula-in-ano | - Dr. P. Hemantha Kumar |
| 55. Principles and Practice of Agnikarma | - Dr. Anand Kumar and Dr. Kanchan
Shekokar. |
| 56. Manipal Manual of Surgery | - Dr. Rajgopal Shenoy |

M.S.-AYURVEDA PRELIMINARY
17.SHALYA - KSHARA KARMA AVUM ANUSHAstra KARMA
(Para Surgical Procedure including Minimal invasive Surgery)

PAPER-II

Theory- 100 marks

PART A

50 marks

1. Etymology and definition of Shalya Tantra.
2. Scope and Importance of Shalya Tantra.
3. Study of Sushrut Samhita Sutra Sthana 1- 46 chapters.
4. Study of modern surgical clinical methodology.
5. Applied anatomy, physiology and surgical pathology of common surgical conditions including relevant Ayurvedic aspect.
6. Applicability of Shat Kriyakala in the pathogenesis of surgical diseases.
7. Applicability of Prakriti in understanding the causes and role of treatment in surgical diseases.
8. Applicability of basic principles of Ayurveda in Rogi Pariksha (Trividha, Shadvidha, Ashtavidha and Dashavidha Pariksha) and latest investigations.
9. Concept of Rakta according to Sushruta.
10. Introduction of clinical and diagnostic methods in Shalya Tantra - X-rays, U.S.G., Endoscopies (for diagnostic and treatment purposes), MRI, CAT scanning and other recent diagnostic tools.
11. Concept and applicability of Sadhya-Asadhya- Prognosis – Arishtha Lakshana.
12. Knowledge of life saving drugs.
13. Emergency conditions and its management.
14. Diagnosis and management of Pranastha Shalya.

PART B

50 marks

1. Yantra and Shastra – Surgical Instruments - Ancient and recent advances.
2. Sterilization – methods and types.
3. Basic knowledge of Sangyahn – Anaesthesia - Types, methods, indications, contraindications, complications and its management.
4. Concept of Trividha Karma – Purva, Pradhana and Pashchat.
5. Ashtavidha Shastra Karmas.
6. Bandhana Karma – Ancient and recent advances.
7. Kshara Karma – Introduction, types, method of various preparations like Kshara, Kshara Varti, Kshara Pichu and applications.
8. Kshara Sutra – Method of preparation, standardization and applications.
9. Agnikarma – Introduction, types and applications.
10. Raktamokshana – Introduction, types and applications.
11. Application of Panchakarma therapy in surgical practice.
12. Scope of Pathya-Apathya in the management of surgical diseases.

PRACTICAL

100 marks

Content :-

1. Hospital duties in OPD, IPD, OT and casualty
2. Case record – 25 cases
3. Parasurgical cases - observation/performing- 10 cases
4. Knowledge of instruments required in parasurgical practices.
5. Ayurvedic diagnostic and therapeutic procedures.
6. Fluid therapy and blood transfusion.
7. Pre-operative, operative and post operative procedures.

Distribution of marks (practical):

1. Case records of 25 Patients in detail	20 marks
2. Bedside clinical case taking-	
Long case	20 marks
Short case	10 marks
3. Identification of instruments, X-ray etc.	15 marks
4. Medical procedures	15 marks
5. Viva voce	20 marks

REFERENCE BOOKS :-

- | | |
|---|--|
| 1. Sushruta Samhita | |
| 2. Ashtanga Sangraha | |
| 3. Ashtanga Hridaya | |
| 4. Charaka Samhita | |
| 5. The Surgical instruments of the Hindus | - Girindranath Mukhopadhyaya |
| 6. Shalya Tantra Samuchchaya | - Pandit Ramadesh Sharma |
| 7. Shalya Vigyan (Part 1-2) | - Dr. Surendra Kumar Sharma |
| 8. Shalya Samanvaya (Part 1-2) | - Vd. Anantaram Sharma |
| 9. Shalya Pradeepika | - Dr. Mukund Swaroop Verma |
| 10. Sushruti | - Dr. Ram Nath Dwivedi |
| 11. Clinical Shalya Vigyan | - Dr. Akhilanand Sharma |
| 12. Bhagya Chikitsa | - Dr. Prabhakar Janardhan Deshpande |
| 13. Kshara sutra management in anorectal ailments | - Dr. S.K. Sharma, Dr. K.R.Sharma and Dr. Kulwant Singh. |
| 14. Anorectal diseases in Ayurveda | - Dr. Sizoria and Dr. Praveen Kumar Chowdary. |
| 15. Adhunik Shalya Chikitsa Siddhanta | - Dr. Katil Narshingham Udupa |
| 16. Agnikarma Technology Innovation | - Dr. P.D. Gupta |
| 17. Shalya Tantra Ke Siddhant | -Dr. K.K.Takral |
| 18. Recent advances in the management of | - Dr. P. Hemantha Kumar |
| 19. Arshas / Haemorrhoids | |
| 20. Arsha Evum Bhagander Mein sutra Avacharan | -Vd. Kanak Prasad Vyas |
| 21. Recent advances in Kshara Sutra | - Dr. M. Bhaskar Rao |
| 22. Leech application in Ayurveda | - Dr. M. Bhaskar Rao |
| 23. Kshara Sutra | - Dr. S.N.Pathak |
| 24. Shalya Shalaky Tantra | -Vd. S.G. Joshi |
| 25. Surgical ethics of Ayurveda | -Dr. D.N. Pande |

- | | |
|---|--|
| 26. Text book of Surgery | - Sabistan |
| 27. Operative Surgery | - Rob and smith |
| 28. Bailey and Love's Short Practice of Surgery | - Norman.S. Williams, Charles.V. Mann and R.C.G. Russell |
| 29. Fractures and Joint Injuries | - Watson-Jones |
| 30. Text books of Operative Surgery | - Farquharsons' |
| 31. Principles of Surgery | - Schwartz |
| 32. Emergency Surgery | - Hamilton Bailey's |
| 33. Surgical pathology | - Willing Worth |
| 34. Clinical methods in surgery | - S. Das |
| 35. Textbook of Operative Surgery | - S. Das |
| 36. Shalya Vigyan (Sachitra) | - Anantram Sharma |
| 37. Anushastra Karma | - Dr. D.N. Pande |
| 38. Concept of Vrana is Ayurveda | - Dr. Lakshman Singh |
| 39. Significance for Poorva Karma in Surgical Patient | - Dr. Lakshman Singh |
| 40. Sangyahan Prakash | - Dr. D.N. Pande |
| 41. A concise Text Book of Surgery | - S. Das |
| 42. A manual on Clinical Surgery | - S. Das |
| 43. A System of Surgical Diagnosis | - T.N. Patel |
| 44. A Practical Guide to Operative Surgery | - S. Das |
| 45. Drugs and Equipment for Anaesthesia | - Arun kumar |
| 46. Manual of Surgical Instruments | - M.M. Kapur |
| 47. Ward Procedures | - Patel Mansukh. B |
| 48. Recent trends in the management of | - Dr. P. Hemantha Kumar |
| 49. Arshas / Haemorrhoids | |
| 50. Primary Anaesthesia | - Maurice King |
| 51. Synopsis of Anaesthesia | - Lee |
| 52. Clinical Anatomy/ Surgical Anatomy | - John E.Skandalakis |
| 53. Surgical Instruments of the Hindus | - Girindharnath Mukopadyay |
| 54. Outline of Orthopedics | - John Crawford Adams and David Hamblen. L |
| 55. Outline of Fracture | - John Crawford Adams |
| 56. Recent trends in the management of | - Dr. P. Hemantha Kumar |
| 57. Bhagandara / Fistula-in-ano | |
| 58. Principles and Practice of Agnikarma | - Dr. Anand Kumar and |
| 59. Dr. Kanchan Shekokar. | |
| 60. Manipal Manual of Surgery | - Dr. Rajgopal Shenoy |

M.S.-AYURVEDA PRELIMINARY
18.ASTHI SANDHI AND MARMAGAT ROGA
(Orthopedics and management of vital points)

PAPER II

PART A

Theory- 100 marks

50 marks

1. Etymology and definition of Shalya and Shalya Tantra. Scope and importance of Shalya Tantra.
2. Dosha, Dhatu, Mala and Sarotas vigyan.
3. Knowledge of ancient and recent Yantra and Shastra – Surgical instruments. Ashtavidha Shastra Karma and their application in surgical practice.
4. Trividha Karma – Purva, Pradhan and Pashchat Karma. Modern principles of pre-operative and post-operative care. Clinical application of Purva and Pashchat Karma in modern surgery.
5. Asepsis and Antisepsis. Sterilisation (Nirjantukikarana)-methods and types. O.T. Fumigation.
6. Surgical infections – Sepsis, Cellulitis, Erysipelas, Tetanus, Gas gangrene, Hepatitis, HIV-AIDS etc. Handling and care of HIV and Hepatitis positive patients. Knowledge of conditions like Bacteraemia, Septicaemia, Toxaemia and Pyaemia
7. Concept of Shock - Its varieties etiopathogenesis and management – Cardio-pulmonary resuscitation (CPR), Endo-tracheal intubation and Tracheostomy.
8. Drug reactions and Anaphylaxis – Management.
9. Sushruta's concept of Rakta and Raktasrava – Haemorrhage – Types, Patho-physiology, clinical features and management. Concept of Raktastambhana – Haemostasis. Blood transfusion – Indications, blood groups, components, compatibility and complications with management.
10. Shatkriyakaala and its applicability in the pathogenesis of surgical diseases.
11. Knowledge of Prakriti and its impact on pathogenesis, clinical features and treatment of orthopedic diseases.
12. Rogi and Rog Pariksha (Trividha, Shadvidha, Ashtavidha and Dashavidha Pariksha) and its application in the diagnosis of diseases.
13. Vranashopha and Inflammation, Nadvirana and Sinuses / Fistulae, Vidradhi and abscesses.
14. Swellings – Arbuda and Tumours, Granthi and Cysts.
15. Anu Shastra Karma like Ksharakarma, Agnikarma, Raktavasechana etc. and their application in orthopedic practice.
16. Pranashta Shalya Vigyan.
17. Fluid, Electrolyte, Acid Base Balance and Nutrition
 1. Introduction to physiology of fluids and electrolytes.
 2. Dehydration and over hydration.
 3. Specific electrolyte losses, symptomatology and management of Acidosis, Alkalosis and Acid-Base balance.
 4. Various replacement fluids in surgery, mode of administration and complications.
 5. Nutrition – pre-operative, peri-operative and post-operative.
 6. Intravenous fluid therapy.
18. Knowledge of imaging and diagnostic techniques – X-ray, Ultra Sonography, CT scan, MRI and recent advances.

PART B

50 marks

1. Scope of Asthi Sandhi evam Marmaghata Roga specialty and its importance. Historical aspect of Ayurvedic and modern orthopedics and Marma.
2. Marma Sharira – Etymological derivation, definition, basic concept of Marma, origin, classification, Pramana. Consequences of Marmaghata and their management.
3. Vrana Vigyan – Etiology, classification, symptomatology, prognosis and management principles of Nija and Sadyo Vrana. Concept of Shashti Upakrama. Seevana and Suturing, Vrana Bandhana and Bandaging. Modern concept of Wounds and Ulcers, their classification and management principles. Recent wound closure techniques, suture materials, dressing, bandaging materials and techniques. Mechanism of wound healing.
4. Bhagna - Etiology, classification, general management principles, complications and prognosis of the skeletal injuries according to Ayurved and Modern aspect. Mechanism of bone healing.
5. Itrathadagdha and Burns - Etiology, classification, symptomatology, prognosis and management principles. Knowledge of Burns Shock, its prevention and management principles.
6. Principles of initial care of injured person. Handling of poly trauma patient. ARDS (Acute Respiratory Distress Syndrome), Crush Syndrome, Thromboembolism, Fat Embolism syndrome and their management.
7. Systemic response to injury.
8. Pharmacology of emergency drugs, antibiotics, NSAIDs, Opiates, central muscle relaxants.
9. Anesthesiology related to Orthopedics. Pharmacology of local anesthetics and vasoconstrictors. Knowledge of local anesthesia techniques like local anesthetic infiltration, various blocks (e.g. ring block, nerve block, plexus block, field block, hematoma block, costal block etc.) Spinal and epidural blocks.
10. Medico-legal aspects in orthopedics. Knowledge of documentation and record keeping.

PRACTICAL

100 marks

Contents:

- Clinical history taking and examination of orthopedic patient.
- Knowledge of diagnostic and therapeutic principles of Shalya Tantra.
- Identification and functioning of surgical and orthopedic instruments.
- Practical knowledge of documentation and record keeping.
- Practical knowledge of Anu-Shastra Karma.
- Practical Knowledge of Seevan Karma and suturing and Vrana Bandhana and bandaging.
- Knowledge about the management of orthopedic emergencies.
- Knowledge of Purva Karma and Pashchat Karma.
- Practical knowledge of sterilization and OT fumigation.
- Knowledge of handling of medico legal cases and issuing MLCs and other certificates.

Distribution of Marks (practical):

- | | |
|---|----------|
| 1. Case Records (25 cases) | 20marks |
| 2. Bed Side examination- | |
| ▪ Patient History (Long case) | 20 marks |
| ▪ Patient History (Short case) | 10 marks |
| 3. Instruments / equipments / models identification | 15 marks |
| 4. Medical procedures | 15 marks |
| 5. Viva Voce | 20 marks |

REFERENCE BOOKS:-

Sushruta Samhita	Relevant parts
Sushruta Samhita (Dalhana commentary)	Relevant parts
Charak samhita	Relevant parts
Ashtang Hridaya	Relevant parts
Ashtang Sangraha	Relevant parts
Saushruti	Ramanath Dwivedi
Watson and Jones – Fracture and Joint Injuries	J.N. Wilson
Practical Fracture Treatment	R. McRae
Clinical Orthopedic Examination	R. McRae
Apley's System of Orthopedics	Apley Louis Solomon
A Concise Text Book of Surgery	S. Das
Pye's Surgical Handicraft	
Clinical Methods in Surgery	Sriram Bhatt
Clinical Methods in Surgery	S. Das
Operative Surgery	S. Das
Schwartz Principles of Surgery	
Bailey and Love's short practice of Surgery	

M.D.-AYURVEDA PRELIMINARY

19. SANGYAHARAN

(Anesthesiology)

PAPER-II

PART-A

Theory 100 marks

50 marks

1. Shisyopanayana, Vishikhanupravesha, Agropaharaniya and Shatkriyakala.
2. Etymology and definition of Sangyaharan and its scope, application and importance in surgical practice.
3. Fundamentals of Ayurveda in relation to Sangyaharan- Panchmahabhuta, Prakriti, Dosha, Dhatu and Mala.
4. Concept of Vedana (pain), pathophysiology and modalities of pain management in Ayurveda.
5. Agni Karma in pain management.
6. Introduction, fundamentals, importance, types, methods of application, duration, instruments, equipments and various materials used for Agni Karma. The indications, contraindications, complications of Agni karma and their management.
7. Raktamokshana (blood letting) in pain management.
8. Introduction, fundamentals, importance, types, methods of application, duration, instruments, equipments and various materials used for Raktamokshana. Indications, contraindications, complications of Raktamokshana and their management.
9. Causes of vitiation of Rakta Dosha and Rakta Dushtijanya Vikaras.
10. Types of Raktamokshana and determination of appropriate amount of blood loss during Raktamokshana according to diseases and patients.
11. Methods of Raktastambhana.
12. Leech Therapy in pain management. Varieties, importance, methods of applications, indications, contraindications, complications and their management and method of maintenance of leeches.
13. Trividha Karma – Purva karma (preanaesthetic management), Pradhana karma(induction and maintenance) and Pashchat Karma (post anesthetic care).
14. Concept of Marma, their importance and application in Sangyaharan.
15. Concept of palliative care and its role in terminally ill patient care in Ayurveda.

PART-B

50 marks

History of Anesthesia.

1. Molecular basis of anesthesia, cell physiology and body fluids.
2. Respiratory system: Anatomy of the upper airway – nose, pharynx, larynx, tracheobronchial segment, mechanics of respiration, physiology of respiration, ventilation, perfusion matching, lung volumes and capacities, pulmonary gas exchange and transport of gases, lung function tests – including laboratory tests for obstructive and restrictive lung diseases.
3. Cardiovascular system: Anatomy and physiology of heart and autonomic nervous system, maintenance of blood pressure, systemic circulation, pulmonary circulation, microcirculation and lymphatics.
4. Nervous system: Anatomy and physiology of central nervous system, cranial nerves, nerve plexuses, spinal column. Physiology of sleep, sleep disorders, physiology of pain, physiology of neuromuscular junction, autonomic nervous system – sympathetic and parasympathetic.
5. Endocrinology as related to anesthesia: Function of anterior and posterior pituitary and their dysfunction, hyper and hypothyroidism, hyper and hypoparathyroidism, diabetes mellitus – hypo and hyperglycemia, ketoacidosis. Adrenal cortex and medulla functions and disorders.

6. Pathophysiology of renal failure, renal function tests.
7. Pathophysiology of hepatic failure, liver function tests.
8. Shock and its management.
9. Fluid and electrolyte, acid base balance, ABG interpretation and water intoxication
10. Thermoregulation.
11. Pre anesthetic assessment and permedication.
12. Physics applied to anesthesia: Gas laws, ventilators & monitors, flow meters, vaporizers, breathing systems, carbon-dioxide absorbers, medical gas supply, suction machines, electrical fire & explosion hazards, pollution in O.T.
13. Sepsis, asepsis and sterilization- methods, types of sterilization of machine and equipments with special reference to tetanus, hepatitis, HIV-AIDS etc. O.T. fumigation.
14. Intravenous fluids, crystalloid & colloids, their indications, contra indications, complications and their management.
15. Blood transfusion-indication, contra indications, complications and their management, component therapy.
16. Medicolegal and ethical aspects in research and patient care. Medico legal issues, understanding the implications of acts of omission and profession, National Health policy - implications in a medico legal case like accidents, negligence, assaults etc.
17. Anaesthesia documentation and record keeping.

PRACTICAL

100 marks

Contents:

1. Anesthetic Drugs.
2. Demonstration of induction of Anesthesia.
3. Preanaesthetic assessment of patients.
4. Post anesthesia management.
5. Complications of anesthesia and their management.
6. Identification of instruments and knowledge of their use.

Distribution of marks (Practical)

- | | |
|--|------------|
| 1. Anesthesia documentation & record keeping | - 20 Marks |
| 2. Bedside clinical case taking | |
| 3. Long Case | - 20 Marks |
| 4. Short Case | - 10 Marks |
| 5. Procedure | - 15 Marks |
| 6. Identification of instruments & Spotting | - 15 Marks |
| 7. Viva-voce | - 20 Marks |

REFERENCE BOOKS

- | | |
|---|----------------------|
| 1. Sushruta Samhita | |
| 2. Charka samhita | |
| 3. Ashtang Hridaya | |
| 4. Practice of Anesthesia | - Churchill Davidson |
| 5. Miller's Anesthesia | - Ronald D Miller |
| 6. Synopsis of Anesthesia | - Alfred Lee |
| 7. Sangyahan Prakash | - Dr. D. N. Pande |
| 8. Agni karma-Technological Innovation | - Dr. P.D. Gupta |
| 9. Practice of Anesthesia and Resuscitation | - Dr. P.K. Guptaetal |
| 10. Essentials of Anesthesiology | - Prof. A.K. Paul |
| 11. Clinical Anesthesia | - Prof. A.K. Paul |
| 12. Anu Shastra karma | - Dr. D.N. Pande |
| 13. Textbook of Anesthesia | - Aitkenhead |
| 14. Anesthesia and co-existing disease | - Stoelting's |

M.S.-AYURVEDA PRELIMINARY
20. SHALAKYA - NETRA ROGA
(Ophthalmology)

PAPER-II
PART-A

Theory- 100 marks
50 marks

1. Shalakya Tantra Parichaya, Itihas and Pradhanyam.
2. Netra Sharir and related Marmas
3. Study of Dosha, Dhatu, Mala and Srotas in context to Netra chikitsa.
4. Updated knowledge of Agropaharaniya in Netra chikitsa- incorporating sterilization, Sangyahanana (Anaesthesia).
5. Basic pharmacology of common drugs required in ocular diagnostic and therapeutic procedures.
6. Vrana Siddhanta-Trividha Shopha, Shuddha-Ashuddha Vrana, Vrana Srava, Vrana Bandha, Vranitopasana in context to Netra chikitsa.
7. Swasthavritta related to Netra.
8. Chaturvidha Chikitsa Siddhanta and Raktamokshana in Netra chikitsa.
9. Applied knowledge of various Kriyakalpas and other therapeutic procedures related to Netra chikitsa.
10. Role of Panchkarma in Netra chikitsa.
11. Netra Chikitsa Upayogi Vishishta Yoganam, Guna, Karma prayog gyanam of most common classical Yogas.

PART-B

50 marks

- Applied anatomy and physiology of eye, its adnexa and visual pathway.
- Clinical methods of eye examination.
- Application of various aids and techniques in the examination of eye viz Tonometry, direct Ophthalmoscopy, Perimetry, Refraction and Slit Lamp examination with their interpretation.
- Fundamentals of optics and refraction.
- Applied aspects of Aetio-Pathogenesis, clinical features, prognostic and therapeutic principles in Netra Roga Chikitsa along with Pathya-Apathya and their contemporary knowledge.
- Common ocular emergencies and their management.
- Applied aspects of Yantra and Shastra in Netra Chikitsa along with modern ophthalmic surgical instruments and equipments.
- Knowledge of rules, regulations and medico legal aspects of ophthalmic practice including eye donation, eye banking and corneal grafting.
- Knowledge of handling of biomedical waste.

PRACTICAL

100 marks

Contents:

1. Clinical posting in OPD/IPD/Kriyakalpa Kaksha & OT
2. Clinical case presentation (10 cases)
3. Case record (20 cases)
4. Hands on training in Kriyakalpa

Distribution of marks (practical):

- | | |
|--|------------|
| 1. Case Record | - 20 Marks |
| 2. Bed side examination | |
| 3. Long case | - 20 Marks |
| 4. Short case | - 10 Marks |
| 5. Kriyakalpa procedure | -15 Marks |
| 6. Identification of specimens and Instruments | - 15 Marks |
| 7. Viva-voce | - 20 Marks |

REFERENCE BOOKS:-

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|--|--|
| 1. Charka Samhita with commentaries | |
| 2. Sushrut Samhita and vaghbhata with commentaries | |
| 3. Astanga hridaya and Astanga sangraha with commentaries | |
| 4. Madhava nidan with commentaries | |
| 5. Bhavaprakasha with commentaries | |
| 6. Sarangadhara Samhita with commentaries | |
| 7. Sahstrayoga Sangraha | |
| 8. Relevent part of Chakradhatta, Bhel Samhita, Harita Samhita | |
| 9. Shalakya Tantra | - Ramanath Dwivedi |
| 10. Shalakya Tantra | - R.C. Chaudhary |
| 11. The Actions and uses of Indigenous Ophthalmic Drugs | - N.Srikanth |
| 12. Clinical Examination of Ophthalmic Cases | - Agarwal and Gupta |
| 13. Alder's Physiology of the Eye and Clinical Applications | - Cotlier, St. Louis |
| 14. Disease of the Lens and Vitrous, Glaucoma and Hypotony | -Duke Elder, St.Louis |
| 15. A Text Book of Ophthalmology | - Ahmed E. |
| 16. A Text book of clinical ophthalmology | - Dhanda |
| 17. Modern Ophthalmology | - Dutta, L.C. Jaypee Brothers |
| 18. Manual of the Diseases of the Eye | - May,C.andWorth, C.Bailliere Tindal and Castell |
| 19. Ophthalmology – Principles and Concepts | - Newell, F.W., C.V.Mosby Co., St. Louis. |
| 20. Ocular Differential Diagnosis | - Roy Fedrick Hamptn Lea And Febiger |
| 21. Clinical Ophthalmology | - Smith,R.Vergheze Company |
| 22. Abrahm Manual of Refraction | - Duke and Elder |
| 23. Hand Book of ophthalmology | - B.M. Chaterjee |
| 24. Hand Book of ophthalmology | - Khurana |
| 25. Clinical ophthalmology | - Kanski |
| 26. Parsons Diseases of Eye | |
| 27. Stallard's Eye Surgery | |

M.S.-AYURVEDA PRELIMINARY
21. SHALAKYA- DANTA AVUM MUKHA ROGA
(Dentistry and Oral Disease)

PAPER-II

Theory- 100 marks

PART-A

Mark 50

1. Shalakya Tantra Parichaya, Itihas avum Pradhanyam.
2. Mukhasharir.
3. Study of Dosha, Dhatu, Mala and Srotas in context to Danta and Mukha Roga.
4. Agropaharaniya in Danta and Mukha Roga incorporating sterilization, Sangyahanana and diagnostic and therapeutic pharmacological agents.
5. Vrana Siddhanta-Trividha Shopha, Shuddha-Dushta Vrana, Vrana Bandha and Vranitopasana in relation to Danta and Mukha Roga.
6. Swasthavritta related to Danta and Mukha Roga.
7. Chaturvidha Chikitsopaya (Bheshaja-Shastra-Kshara-Agni) Siddhanta and Raktamokshana related to Danta and Mukha Roga.
8. Applied knowledge of various Kriyakalpa and other therapeutic procedures related to Danta and Mukha Roga.
9. Role of Panchkarma in Danta and Mukha Roga.
10. Mukha and Danta Chikitsopayogi Aushadha Kalpana Parijnanam e.g. Dashana Samskara Manjana, Shwetamanjana, Vajradanta Manjana, Khadiradi Vati, Irimedadi Taila, Peetaka Churna, Kalaka Churna, Nimbadi Churna and Bhadramustadi Vati.

PART-B

50 marks

1. Applied orodental anatomy and physiology.
2. Clinical methods adopted in orodental practices.
3. Knowledge of advanced diagnostic techniques, equipments and tests of importance in orodental practices with their interpretations.
4. Classification, aetiopathogenesis, clinical features and therapeutics of Oshtha, Danta, Dantamula, Jihva, Talu and Sarvasar Mukharogas in the light of modern knowledge.
5. Basics of Sandhana Vidhi in Mukha and Danta Roga.
6. Applied aspect of Dysphagia, Manyastambha, Hanumoksha, Apachi (Cervical Lymphadenopathy) and Herpes.
7. Handling of biomedical waste.

PRACTICAL

100 marks

Contents:

1. Clinical posting in OPD, IPD, Kriyakalpa Kaksha and OT.
2. Clinical case presentation (10 cases).
3. Case record (20 cases).
4. Hands on training in Kriyakalpa

Distribution of marks (practical):

- | | |
|--|------------|
| 1. Case Record | - 20 Marks |
| 2. Bed side examination | |
| a. Long case | - 20 Marks |
| b. Short case | - 10 Marks |
| c. Kriyakalpa procedure | - 15 Marks |
| 3. Identification of specimens, radiograph and instruments | - 15 Marks |
| 4. Viva-voce | - 20 Marks |

Reference Books

1. Sushrut Samhita
 2. Useful Portion of Charak Samhita-Ashtang Samgraha
 3. Useful portion of Laghutrayi related to Danta and Mukha Roga
 4. Shalakya Vijnanam
 5. Nimi Tantra
 6. Dental Anatomy Histology
 7. Essentials of Preventive and Community Dentistry
 8. Complete Denture Prosthodontics
 9. Orthodontics the Art and Science
 10. Text book of Pediatric Dentistry
 11. Text book of Oral and Maxillofacial surgery
 12. Clinical Periodontology
 13. Anatomy for Dental Students
 14. Clinical Periodontology
 15. Operative Dentistry
 16. Oral and maxilofacial surgery secrets
 17. Killey and Kay's Outline of Oral Surgery
 18. Clinical Dentistry
 19. Synopsis of Oral Pathology
 20. Oral Pathology
- Dalhana
 - Ashtang Hridaya
 - Ravindra Chandra Chaudhary
 - Ramanath Dwivedi
 - Dr. S.I. Bhalajhi
 - Dr. Soben Peter
 - Dr. J.J. Manappallil
 - Dr. S.I. Bhalajhi
 - Dr. S.G. Damle
 - Dr. Vinod Kapoor
 - Dr. B.R.R. Varma
 - Inderveer Singh
 - Carranza , Newman
 - M A Marzouk
 - A.Omar Abubaker
 - Girdon R Seward
 - Ivor G. Chestnut , John Gibson
 - S N Bhaskar
 - Stone

M.S.-AYURVEDA PRELIMINARY
22. SHALAKYA- SHIRO-NASA- KARNA- AVUM KANTHA ROGA
(ENT & HEAD & Neck Disease)

PRACTICAL
PART A

Theory- 100 marks
50 marks

1. Shalakya Tantra Parichaya, Itihas and 'Pradhanya'. Establishment of 'superiority of Shiras' among all the organs. Determination and importance of the verse 'Nasa hi Shirso Dvaram'.
2. Shiro-Nasa- Karna- Avum Kantha Shariram and knowledge of related Marmas.
3. Study of Dosha- Dhātu-Mala and Srotas in context of Shiro-Nasa- Karna- Avum Kantha Chikitsa.
4. Agropaharaniya in Shiro-Nasa- Karna- Avum Kantha Chikitsa including sterilization and anesthesia.
5. Basic pharmacology of common modern drugs used in diagnostic and therapeutic procedures related to Shiro-Nasa- Karna- Avum Kantha Chikitsa.
6. Vrana Siddhanta- Trividha Shopha, Shuddha- Dushta Vrana, Vrana Bandha and Vranitopasan in context of Shiro-Nasa- Karna- Avum Kantha Chikitsa.
7. Swasthavritta related to Shiro-Nasa- Karna- Avum Kantha.
8. Chaturvidha Chikitsopaya (Bheshaja- Shastra-Kshar -Agni) and Raktamokshan related to Shiro-Nasa- Karna- Avum Kantha Chikitsa.
9. Applied knowledge of various therapeutic modalities like Shirobasti, Shirodhara, Shirovirechana, Nasya, Karna Pooran, Karna Dhoopan, Kaval, Gandusha etc.
10. Role of Panchkarma in Shiro-Nasa- Karna- Avum Kantha Chikitsa.

PART B

50 marks

1. Shiras- Applied anatomy and physiology of skull and intracranial contents. Clinical methods and knowledge of common diagnostic equipments, procedures and their interpretation. Classification, etiopathogenesis, clinical features, prognostic considerations and therapeutics of Shiras and Kapaal Rogas in the light of modern knowledge.
2. Nasa - Applied anatomy and physiology of nose and paranasal sinuses. Clinical methods and knowledge of common nasal diagnostic equipments, procedures and their interpretation. Classification, etiopathogenesis, clinical features, prognostic considerations and therapeutics of Nasa Rogas in the light of modern knowledge.
3. Karna- Applied anatomy and Physiology of ear and related structures. Clinical methods and knowledge of common aural diagnostic equipments, procedures and their interpretation. Classification, etiopathogenesis, clinical features, prognostic considerations and therapeutics of Karna Rogas in the light of modern knowledge.
4. Kantha - Applied anatomy and physiology of throat. Clinical methods and knowledge of common pharyngeal and laryngeal diagnostic equipments, procedures and their interpretation. Classification, etiopathogenesis, clinical features, prognostic considerations and therapeutics of Kanthagata Rogas in the light of modern knowledge.

PRACTICAL

100 marks

Contents:

1. Clinical posting in OPD, IPD, Kriyakalpa Kaksha and OT.
2. Clinical case presentation (10 cases).
3. Case record (20 cases).
4. Hands on training in Kriyakalpa.

Distribution of marks (practical):

1. Case Record -20 Marks
2. Bed side examination
 - A. Long case - 20 Marks
 - B. Short case - 10 Marks
 - C. Kriyakalpa procedure - 15 Marks
3. Identification of specimens and Instruments - 15 Marks
4. Viva-voce - 20 Marks

REFERENCE BOOKS:-

1. Sushrut Samhita
2. Charak Samhita
3. Ashtang Hridaya
4. Ashtang Samgraha
5. Laghutrayi
6. Modern books related to ENT disorder
7. Diseases of Nose Throat and Ear - Bhargav Shah
8. Diseases of Nose Throat and Ear, Head and Neck EB Edr.
9. A Textbook of otorhinolaryngology - Scott Browns editions.
10. Text book of Ear Nose Throat diseases – Dhingra
11. Textbook on ENT – Mohd. Maqbool
12. Logan Turner's book on ENT
13. Ballengers text book of ENT
14. Kumin's text book of ENT
15. Rob Smith's book of ENT surgery
16. Paprella's book of ENT
17. Hazarika's text book on ENT
18. Books on examination of ENT
19. Audiology Anirwan Biswas
20. Kurt's Audiology
21. Books on Speech therapy

Final M.D. Ayurveda

Subject 1. AYURVED SAMHITA & SIDDHANT

Theory- 400 Marks (100 Each)

Practical and Viva-Voce-100 Marks

PAPER-I

100 Marks

CHARAKA

1. Charaka Samhita with Ayurved Dipika commentary by Chakrapani
2. Introduction to all available commentaries on Charak Samhita

PAPER –II

100 Marks

SUSHRUTA & VAGBHATA

1. Sushruta Samhita Sutra sthana and Sharir-Sthana 1st chapter with Nibandha Samgraha commentary by Acharya Dalhana.
2. Ashtang-Hridayam Sutra Sthananam with Sarvanga Sundara commentary by Arun Dutt.
3. Ashtang-Sangraha Sutra Sthananam with Induteeka
4. Introduction to all available commentaries on Sushrut Samhita, Ashtang Hridaya and Ashtang-Sangraha.

PAPER-III

100 Marks

DARSHANIKA SIDDHANTA

Understanding of Indian philosophical principles available in Charak Samhita, Sushrut Samhita, Ashtanga Hridya and Ashtang Samgraha.

1. Analysis of principles specially Chaturvidha Siddhanta, loka-purusha samya, Ayusho Siddhant, Shadpadartha, Praman, Srishti Utpatti, Karana- Karyavada, Tantrayukti, Nyayas (Maxims), Vadamarga, Atmatatva & Manastatva Siddhant.
2. Clinical importance of Satkaryavad, Asatkaryavada, Parmanuvada, Swabhavoparamvada.
3. Practical applicability of principles of Samkhya- Yoga, Nyaya-Vaisheshika, Vedanta and Mimansa Darshan.
4. Introduction to the principles of Charvak, Jain & Bauddha Darshana.

PRAYOGIKA SIDDHANT

1. Comparative study of the Samprapti & Chikitsa Sootra mentioned by Brihatrayee of following disises – Jvara, Raktpitta, Gulma, Prameha, Kushta, Shosha, Unmada, Apasmar, Atisara, Grahni, Vatrakta, Aamvata, Shwasa-Kasa, Pandu-Kamla, Urustambha, Vatavyadhi, Shotha, Udararoga, Yakshma,
2. Critical analysis and applied study of the following concepts – Triguna, Tridosha, Panchamahabhuta, Prakrtisamsaveta & Vikrativishamsamveta, Sharira & Manas Prakruti, Sama-Nirama, Agni, Ojus, Vyadhikshamatva, Vikarvighatbhavabhava, Kalakalmrtyu, Ahara-Vihara, Pathyapathya, Satmyaasatmya, Nidanarthakarroga, Shadavidhakriyakal, Ashtatrika, Shadaupakrama, Daiva-drishta, Punrjanma, Anubandha Chatushtya, (comparative study of above concepts from Brihatrayee, Laghuttaryee with available Sanskrit commentaries)
3. Introduction to Laghuttaryee with available Sanskrit commentaries.

Practical- Viva-voce**100 Marks**

(At list one paper should be published/accepted in journal ,Long Case , topic presentation, Thesis Viva, General Viva, =100)

Reference Books

1. Charak Samhita – Chakrapani commentary.
2. Sushruta Samhita – Dalhana Commentary.
3. Ashtanga Samgraha- Indu Teeka.
4. Ashtanga Hridaya – Sarvangasundara.
5. Vaisheshika Sutra – Prashastapada Bhasya
6. Nyaya Sutra – Vatsyayan Bhasya
7. Ayurvede nyayah
8. Nyayas in Brihattriye
9. Yoga Sutra – Vyas Bhasya
10. Vedantasara
11. Sarvadarshan Samgraha
12. Bhartiya Darshan – Baldev Upadhyaya
13. Ayurved Darshanam – Acharya Rajkumar Jain
14. Ayurved Darshan Vimarsha – Dr O P Upadhyay
15. Ayurvediy Jeevak Su – Dr O P Upadhyay
16. Padartha Vidnyan –Dr O P Upadhyay
17. Scientific Exploration of Ayurved – Dr Sudhir Kumar.
18. Charak Samhita – Prof. B L Gaur
19. Ashtang Hridaya – Dr T Shri Kumar

2. RACHANA SHAARIRA

Theory – 400 Marks (100 Each)

Practical and Viva-Voce-100 Marks

PAPER- I

100 Marks

GARBHA SHAARIRA

1. Etymology of Garbhavakranti Shaarira, features of Shuka and Shonita, description of Beeja, Beejbhaga, Beejbhagavayava and Garbhotpadaka bhava, Garbha Poshana Krama, Garbhavridhikar Bhavas, Masanumasika Garbhavridhi, Foetal circulation. Explanation of lakshanas occurring in Ritumati, Sadyaha grihita garbha. Yamal garbha, Anasthi garbha.
2. Explanation of Basic Embryology and Systemic Embryology.
3. Knowledge of basic facts of advancement in Anuvamshiki (Genetics) and Garbhaja vikaras (Teratology).

PAPER – II

100 Marks

KOSHTHANGA SIRA DHAMANI SROTAS SHAARIRA

- 1) **Koshthanga Shaarira:** - Detail etymological derivation of 'Koshtha' and Koshthanga, including detail study of structure of each Koshthanga. Male and Female genital organs.
- 2) **Ashaya:** - Definition & detail description.
- 3) **Kala Shaarira:** - Etymology, Definition, description of seven kalaas with their Modern component and applied aspects.
- 4) **Paribhashaa Shaarira:** - Snayu, Kandara, Rajju, Sanghata, Jala etc. and their general description.
- 5) **Sira, Dhamani and Srotas Shaarira:** - Etymological derivation, definitions, synonyms, number and types of Sira, Dhamani, and Srotas, Anatomical differences among Sira, Dhamani and Srotas, description of Vedhya and Avedhya Sira (Puncturable and Non puncturable Veins) and clinical importance of Sira, Dhamani and Srotas including Modern Anatomical counterparts.

PAPER – III

100 Marks

MARMA SHAARIRA EVUM ASTHI SANDHI PESHEE SHAARIRA

- 1) **Marma Shaarira:** - Derivation and definitions of the term Marma and their features , characteristics and number of Marma according to Sushruta. Divisions of Marma on morphological basis (Rachana Bheda), Shadangatvam (Regional), Abhigataja (Prognostic) classification, Trimarma according to Charaka. Knowledge of

‘Marmaabhighata’, MarmaViddha, Detail study of Individual Marma with their Clinical and Surgical importance. Importance of Marma in Shalyatantra.

- 2) **Asthi Shaarira** :- General introduction and description of Asthi, differences among number of Asthi. Types of Asthi. Detail study of each bone with its ossification & Applied anatomy.
- 3) **Sandhi Shaarira** :- Etymological derivation, description, features, number, types and Applied anatomy of all Sandhis (Joints).
- 4) **Peshee Shaarira** :- Etymological derivation, description, features, number, types and Applied anatomy of all Peshees (Muscles).

PAPER – IV

100 Marks

TANTRA SHAARIRA EVUM ANTAR AND BAHIR SRAVEE GRANTHI SHAARIRA

1. Description of Panchagyanendriya – Ayurved and Modern aspects. (Sensory organs – Eye, Ear, Nose, Tongue and Skin) with their Applied anatomy.
2. Shat Chakras – Location and significance in Yoga. Description of Ida, Pingala, Sushumna Nadi.
3. Anatomy of Brain and Spinal Cord, Peripheral nervous system (explanation of Nerve Plexuses and peripheral nerves, cranial nerves and Automatic nervous system), Cerebro-spinal fluid, dural venous sinuses, Ventricular system of Brain, Blood supply of Brain, Meninges – with Applied Anatomy.
4. Antarsravee Granthi and Bahihsravee Granthi:- Detail study of Endocrine & Exocrine glands – with Applied Anatomy.

PRACTICAL:-

100 Marks

- 1) Dissection of atleast one cadaver during the Final part of the course.
- 2) Training of preservation techniques & Embalming.
- 3) Preparation of Soft tissue specimens and models using conventional and current technology like Plastination, Luminal Casting etc. under the guidance of teaching staff and Experts of the relevant fields.
- 4) Preparation of Charts and Models of Rachana Shaarira subject to the individual capacity.
- 5) Observation of MRI, CT Scan, USG procedures, Colour Doppler etc.
- 6) Educational visits to various Museums of other colleges in the medical field.
- 7) Observation of Ward procedures like Lumbar puncture, Tracheostomy, Abdominal paracentesis, Liver biopsy, Venesection, etc. (subject to the availability and opportunities).
- 8) Submission for Publication of at least one Research Article as per M.S.R.

Pattern of Practical Examination

1. Practical record book & log book	-	10 Marks
2. Spotting (Dissected organs and Bones-Joints-Muscles)	-	10 Marks
3. Dissection	-	20 Marks
4. Surface & Radiological Anatomy	-	15 Marks
5. Dissertation Presentation	-	10 Marks
6. Teaching Skills	-	10 Marks
7. Viva- Voce	-	<u>25 Marks</u>

Total	-	<u>100 Marks</u>
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Reference Books-

1. Relevant matters of Brihatrayee and Laughtrayee
2. Pratyaksha Shariram - Gananath Sen
3. Abhinava Shariram - Damodar Sharma Gaur
4. Parishadyam Sabdartha Shariram - Damodar Sharma Gaur
5. Brihat Shariram - P S Varier
6. Shiva Samhita
7. Gray's Anatomy - Latest Edition
8. Human Anatomy Vol I,II,III - B D Chaurasia
9. Cunningham's Companion to Manual of Practical Anatomy.Vol I,II & III
10. Developing Human - Keith L Moore & Persaud
11. Clinically oriented Anatomy - Keith L Moore
12. Clinically oriented Neuro Anatomy - Richard Snell
13. Surface and Radiological Anatomy - Halim
14. Grant's Methods of Anatomy - Grant
15. Grant's dissector - Grant
16. Human Embryology - I. B. Singh

3. KRIYA SHARIR

Theory – 400 Marks (100 Each)
Practical and Viva-Voce-100 Marks

Paper- I

100 Marks

DOSA – DHATU – MALA VIJNANA

Contribution of different Ayurveda Samhita in Kriya Sharir

- Theory of Pancamahabhuta
- Principle of Loka-Purusa Samya
- Importance of Samanya – Visesa Principle
- Different views on the composition of Purusa and the importance of Cikitsya Purusa.
- Importance of Gurvadi Guna in Ayurveda
- General description of Tridosa theory
- Mutual relationship between Triguna- Tridosa-Pancamahabhuta-indriya
- Mutual relationship between Rtu-Dosa-Rasa-Guna
- Biological rhythms of Tridosa on the basis of Day-Night-Age-Season and Food intake.
- Role of Dosa in the formation of Prakrti of an individual.
- Role of Dosa in Health and Disease.
- **Vata Dosa:** General locations (Sthana), general attributes (guna) and general functions (Samanya Karma). Five subdivisions of Vata with their specific locations, specific properties, and specific functions (Prana, Udana, Samana, Vyana, Apana)
- **Pitta Dosa:** General locations (Sthana), general attributes (Guna) and general functions (Samanya Karma). Five subdivisions of Pitta with their specific locations, specific properties, and specific functions (Pacaka, Ranjaka, Alocaka, Bhrajaka, Sadhaka). Similarities and differences between Agni and Pitta.
- **Kapha Dosa:** General locations (Sthana), general attributes (Guna) and general functions (Karma) of Kapha.). Five subdivisions of Kapha with their specific locations, specific properties and specific functions (Bodhaka, Avalambaka, Kledaka, Tarpaka, Slesaka).
- Applied physiology of Tridosa Principle: Kriyakala, Dosa Vrddhi-Dosa Ksaya.
- **Dhatu Posana:** Process of nourishment of Dhatu. Description of various theories of Dhatu Posana (Ksira-Dadhi, Kedari-Kulya, Khale Kapota etc).
- **Dhatu:** General introduction and definition of Dhatu. Formation, Definition (Nirukti), Distribution , Attributes, quantity, classification, Pancabhautika composition and Functions of all seven Dhatus in detail: Rasa, Rakta, Mamsa, Meda, Asthi, Majja, Sukra.

- Applied physiology of Dhatu: Manifestations of Ksaya and Vriddhi of each Dhatu. Description of Dhatu Pradosaja Vikara.
- Description of Asraya and Asrayi kind of relationship between Dosa and Dhatu.
- Description of the characteristic features of Astavidha Sara. Description of Rasavaha, Raktavaha, Mamsavaha, Medovaha, Asthivaha, Majjavaha and Sukravaha Srotamsi.
- **Ojas**: Definition, locations, synonyms, Formation, Distribution, Properties, Quantity, Classification and Functions of Ojas. Description of Vyadhiksamitva. Bala Vrddhikara Bhava. Classification of Bala. Relation between Slesma, Bala and Ojas.
- Applied physiology of Ojas: Etiological factors and manifestations of Ojaksaya, Visramsa and Vyapat. Physiological and clinical significance of Ojas.
- **Upadhatu**: General introduction and Definition of the term 'Upadhatu'. Formation, Nourishment, Quantity, Properties, Distribution and functions of each Upadhatu.
- **Stanya**: Characteristic features and methods of assessing Suddha and Dusita Stanya, Manifestations of Vrddhi and Ksaya of Stanya.
- **Artava**: Characteristic features of Suddha and Dusita Artava. Differences between Raja and Artava, Physiology of Artavavaha Srotamsi.
- Study of Tvak
- **Physiology of Mala** – Definition of the term 'Mala'. Definition, Formation, Properties, Quantity and Functions of Purisa, Mutra. Manifestations of Vrddhi and Kshaya of Purisa and Mutra.
- **Sveda** – Definition, Formation, Properties, Quantity and Functions of svedavaha Srotamsi. Formation of Sveda. Manifestations of Vrddhi and Ksaya of Sveda.
- **Dhatumala** – Definition, Formation, Properties, Quantity, Classification and Functions of each Dhatumala.

Paper – II

100 Marks

PRAKRTI EVAM SATTVA VIJNANA

- **Deha-Prakrti**: Various definitions and synonyms of the term 'Prakrti'. Factors influencing the Prakrti. Classification of Deha-Prakrti. Characteristic features of the individuals belonging to each kind of Deha-Prakrti. Recent advances in understanding the Prakrti.
- **Manas Prakrti**: Types of Manas Prakrti with their characteristic features and its Practical implication, Properties of Satwa, Rajas, Tamas and their effect on mind.
- **Pancajnanendriya**: Physiological description of Pancajnanendriya and Physiology of perception of Sabda, Sparsa, Rupa, Rasa, Gandha. Indriya-panca-pancaka; Physiological description of Karmendriya.
- **Manas** – Definition, location (sthana), Properties, Functions and Objects of Manas.

- **Atma** - Definition, Properties of Atma. Difference between Paramatma and Jivatma; Characteristic features of Atma.
- **Buddhi** – Location, types, Functions of buddhi; Physiology of Dhl, Dhrti and Smrti.
- **Nidra** – Definition of Nidra, Classification of Nidra. Tandra, physiological and clinical significance of Nidra; Svapnotpatti and Svapnabheda.
- Physiology of special senses
- Physiology of Intelligence, Memory, Learning and Motivation.
- Physiology of sleep.
- Physiology of speech and articulation.
- Physiology of Pain and temperature.

Paper- III

100 Marks

KOSTHANGA KRIYA VIJNANA

- Ahara: Definition and significance of Ahara. Classification of Ahara. Ahara- Vidhi-vidhana. Asta aharavidhi visesayatana, Aharaparinamakara bhava.
- Aharpachana: Ahara Paka Prakriya, Description of Annavaha Srotas. Description of Avasthapaka and Nishthapaka. Role of dosha in Aharapaka. Sara and Kitta Vibhajana. Absorption of Sara. Utpatti and Udeeran of Vata-Pitta-Kapha.
- Definition of the term Kostha. Physiological classification of Kostha and the characteristics of each kind of kostha.
- Agni: Descripton of the importance of Agni. Classification of Agni. Locations, Properties and functions of Jātharāgni, Bhūtāgni, and Dhātvagni.
- Applied Physiology of Agni in Kriyā Śārīra and Cikitsā.
- Descripton of the aetiology and features of annavaha Srotodusti. Applied physiology of Annavaha Srotās: Arocaka, Ajīrna, Atīsāra, Grahanī, Chardi, Parināma Śūla Agnimāndya.
- Descripton of the process of digestion of fats, carbohydrates and proteins in human gastrointestinal tract. Different digestive juices, their enzymes and their mechanisms of action. Functions of Salivary glands, Stomach, Pancreas, Small intestine, Liver and large intestine in the process of digestion and absorption.
- Movements of the gut (deglutition, peristalsis, defecation etc.) and their control. Role of neuro-endocrine mechanisms in the process of digestion and absorption. Enteric nervous systems.
- Applied Physiology of gastrointestinal tract: Vomiting, Diarrhoea, Malabsorption etc.
- Recent advances related to the gut microbes and their role in health and disease.
- Introduction to biochemical structure, properties and classification of proteins, fats and carbohydrates.
- Description of the processes involved in the metabolism of proteins, fats and carbohydrates.

- Vitamins: Sources, daily requirement and functions. Physiological basis of signs and symptoms of hypo and hyper- vitaminosis.

Paper – IV

100 Marks

MODERN PHYSIOLOGY AND ITS APPLIED ASPECT

General Physiology:

- Definition and mechanisms of maintenance of Homeostasis. Cell as the living unit of the body. Membrane Physiology. Transportation of various substances across cell membrane. Resting membrane potentials and action potentials. The internal environment. Genetic code, its expression and regulation of gene expression.

Physiology of Neuro-Immune-Endocrine Mechanisms:

- Physiology of Nervous System. General introduction to nervous system: neurons, mechanism of propagation of nerve impulse.
- Study of CNS, PNS and ANS. Sensory and motor functions of nervous system. Functions of different parts of brain and spinal cord, Hypothalamus and limbic system
- Physiology of Endocrine system. Classification and characteristics of different hormones. Description of hormones secreted by Hypothalamus, Pituitary gland, Thyroid gland, Parathyroid glands, Pancreas, Adrenal glands and their physiological effects. Effects of hypo and hyper-secretion of various hormones.
- Male and Female reproductive physiology. Spermatogenesis and Oogenesis. Hormonal regulation of uterine and ovarian cycles. Physiology of Pregnancy, lactation and Parturition.
- Adipose tissue and its Function. Circulating lipids. Description of lipoproteins like VLDL, LDL and HDL and their composition.
- Physiology of immune system. Definition and classification of immunity: Innate, acquired and artificial. Mechanisms involved in humoral and cell mediated immunity.

Cardiovascular physiology, Respiratory physiology and Blood:

- Physiology of Cardio-vascular system: Functional anatomy of cardiovascular system. Cardiac cycle. Heart sounds. Regulation of cardiac output and venous return. Physiological basis of ECG. Heart-rate and its regulation. Arterial pulse. Systemic arterial blood pressure and its control. Regional circulations. Physiology of lymphatic circulation.
- Physiology of Respiratory system: Functional anatomy of respiratory system. Ventilation. Mechanism of respiration. Exchange and transportation of gases. Neural

and chemical control of respiration. Spirometry and lung function tests. Artificial respiration.

- Functions of Haemopoetic system: Composition and functions of blood and blood cells. Haemopoiesis- (Stages and development of RBCs, WBCs and Platelets); Introduction to bone marrow: composition and functions of bone marrow. Structure and functions of haemoglobin, mechanism of blood clotting, study of platelets. Physiological basis of blood groups. Principles of blood transfusion, plasma proteins- synthesis and functions. Applied physiology: Anaemia, Jaundice.

Musculoskeletal Physiology:

- Physiology of muscles. Classification of muscles. Electrical and mechanical properties of Cardiac, skeletal and smooth muscles.

Physiology of Excretion:

- Physiology of excretion. Functional anatomy of urinary tract. Functions of kidneys. Mechanism of formation of urine. Control of micturition. Renal function tests.
- Structure and functions of skin, sweat glands and sebaceous glands.

Physiology during special states:

- Space Physiology
- Exercise Physiology
- Physiology of high altitude and deep sea
- Physiology of Yoga
- Physiological response to environmental changes
- Physiological response to Vega Vidharana (Holding Natural urges)

Learners should be well versed with the following instruments-

- Physiograph, Computerised spirometry, Biochemical Analyzer, Pulse oxymeter, ELISA Reader, Hematology Analyzer, Tread mill etc.

Bridge areas including recent advances:

- Recent studies in biorhythms.
- Recent advances in Neuro- immune-Endocrine physiology.
- Recent advances in understanding the Prakrti. Brief description related to some of the recent studies exploring the genetic / biochemical / haematological / electrophysiological basis for prakrti. Introduction to the recent tools to assess prakrti (questionnaires and software.)
- Recent advances in tissue engineering and stem cell research.

PRACTICAL

100 Marks

Ayurvedic practicals

- Assessment of Prakrti
- Assessment of Sara
- Assessment of Dosa Vrddhi Ksaya Laksana
- Assessment of Dhatu Vrddhi – Ksaya Laksana
- Assessment of Agni
- Assessment of Kostha
- Assessment of Sarira Bala through Vyayama Sakti
- Mutra Pariksa
- Nadi Pariksa
- Anguli Pramana
- Assessment of Satmya

Hematology

- Use and care of Compound microscope
- Histological study of different organs
- Haemoglobin estimation
- Total RBC count
- Total WBC count
- Differential leukocyte count
- Packed cell volume (PCV)
- ESR
- Bleeding time
- Clotting time
- Blood grouping and Rh typing

URINE EXAMINATION

Physical, Chemical and microscopic examination

- Specific gravity and reaction of urine
- Detecting the presence of Albumin in urine
- Detecting the presence of Sugar in urine
- Detecting the presence of Ketone bodies in urine
- Detecting the presence of Bile salts and bile pigments in urine
- Detecting the presence of pus cell, casts etc. in urine.

Cardio-Vascular system

- Clinical methods of examining cardiovascular system

- Examination of Arterial Pulse
- Arterial blood pressure measurement: Effect of posture, exercise and cold pressor test on Blood Pressure
- ECG recording and its interpretation
- Heart Sounds

Respiratory system

- Clinical examination of Respiratory System
- Lung Function Tests including Spirometry

Nervous System

- Clinical examination of nervous system
- Examination of higher mental functions
- Examination of cranial nerves
- Examination of reflexes
- Examination of sensory functions
- Examination of motor functions
- Examination of Autonomic Nervous system
- EEG recording (Demonstration)

Requirements to be fulfilled before final examination

- Atleast 10 theory classes for First Prof. BAMS Students
- Participation and presentation of papers in atleast 2 National / International Seminars.
- Publication / acceptance of atleast 1 research paper / article in a scholarly journal.

Practical

100 Marks

Marks Distribution

• Practical Record Book	-	05
• Ayurvedic Practical	-	10
• Modern Practical	-	10
• Assesment of Teaching skill	-	10
• Project Work	-	10
• Presentation of Thesis	-	15
• Viva Voce	-	<u>40</u>
Total Marks	-	100

Reference Books

• Ayurvediya Kriyasharir	-	Ranjit rai Desai
• Kayachikitsa Parichaya	-	C. Dwarikanath
• Prakrit Agni Vigyan	-	C. Dwarikanath

- Sharir Kriya Vigyan - Shiv Charan Dhyani
- Abhinava Sharir Kriya Vigyana - Acharya Priyavrata Sharma
- Dosha Dhatu Mala Vigyana - Shankar Gangadhar Vaidya
- Prakrita Dosha Vigyana - Acharya Niranjana Dev
- Tridosha Vigyana - Shri Upendranath Das
- Sharira Tatva Darshana - Hirlekar Shastri
- Prakrita Agni Vigyana - Niranjana Dev
- Deha Dhatvagni Vigyana - Vd. Pt. Haridatt Shastri
- Sharir Kriya Vigyana (Part 1 – 2) - Acharya Purnachandra Jain
- Sharir Kriya Vigyana - Shri Moreshwar Dutt. Vd.
- Sharir Kriya Vijnana (Part 1 and 2) - Nandini Dhargalkar
- Dosha Dhatu Mala Vigyana - Basant Kumar Shrimal
- Abhinava Sharir Kriya Vigyana - Dr. Shiv Kumar Gaur
- Pragyogik Kriya Sharir - Acharya P. C. Jain
- Kaya Chikitsa Parichaya - Dr. C. Dwarkanath
- Concept of Agni - Vd. Bhagwan Das
- Purush Vichaya - Acharya V. J. Thakar
- Kriya Sharir - Prof. Yogesh Chandra Mishra
- Sharir Kriya Vigyana - Prof. Jayaram Yadav & Dr. Sunil Verma
- Basic Principles of Kriya- Sharir (A treatise on Ayurvedic Physiology) - Dr. Srikant Kumar Panda
- Sharir Kriya – Part I & Part II - Dr. Ranade, Dr. Deshpande & Dr. Chobhe
- Human Physiology in Ayurveda - Dr Kishor Patwardhan
- Sharirkriya Vignyan Practical Hand Book - Dr. Ranade, Dr. Chobhe, Dr. Deshpande
- Sharir Kriya Part 1 - Dr. R. R. Deshpande, Dr. Wavhal
- Sharir Kriya Part 2 - Dr. R. R. Deshpande, Dr. Wavhal
- Textbook of Physiology - Gyton & Hall
- Review of Medical Physiology - William Ganong
- Essentials of Medical Physiology - Sembulingam K.
- Concise Medical Physiology - Chaudhari, Sujit. K.
- Fundamental of Anatomy and Physiology - Martini
- Principals of Anatomy and Physiology - Tortora & Grabowski
- Human Physiology - Richards, Pocock
- Samson Wrights Applied Physiology, Keele, Neil, joels
- Brainstem Control of Wakefulness And Sleep - Steriade, Mirce
- An introduction to Human Physiology - Green, J. h.
- Ancient Indian Medicine - Kutumbiah P.
- Biographical History of Indian Medicine - Srikanthamurthy K R
- Ayurveda Kriya Sharira - Yogesh Chandra Mishra

- | | | |
|----------------------------------|---|---------------------------------------|
| • Textbook of Medical Physiology | - | Indu Khurana |
| • Tridosha Theory | - | Subrahmanya Shastri |
| • Statistics in Medicine | - | K. Syamalan |
| • Prayogika Sharir Kriya | - | Prof. M.S.Meena & Dr. Mahendra Prasad |

Important journals to refer:

1. Advances in Physiology Education
2. Academic Medicine
3. Indian journal of Physiology and Pharmacology
4. Journal of Ayurveda and Integrative Medicine
5. Evidence-based Complementary and Alternative Medicine
6. AYU
7. All journals of American Physiological Society
8. Journal of Physiology

Recent Research Papers in Kriya Sharir / Physiology to refer

4. DRAVYAGUNA VIGYAN

Theory- 400 Marks (100 Each)

Practical and Viva-Voce- 100 Marks

Paper-1

100 Marks

NAMARUPA VIGYANA (AYURVEDA & MODERN PHARMACOGNOSY)

Part – A:

50 Marks

1. Importance of Namagyana of Dravya, origin of Namarupagyana of Aushadhi in Veda, etymological derivation of various names and synonyms of Aushadhi.
2. Rupagyana in relation to Aushadhi.
3. Basonym and Synonyms of dravyas (Aushadha and Ahara) mentioned in Vedic compendia, Brihatrayee, Bhavaprakasha and Rajanighantu.
4. Distinguishing morphological characteristic features (Swaroop) of medicinal plants listed in Ayurvedic Pharmacopeia of India (API).
5. Knowledge of Anukta dravya (Extra-pharmacopoeial drugs) with regards to Namarupa.
6. Sandigdha dravya (Controversial drugs) vinischaya.

Part – B:

50 Marks

1. Pharmacognostical study of different parts of the plant with reference to Macroscopic and Microscopic study and Qualitative and Quantitative analysis like foreign matter, extractive (Water and alcohol), ash value, acid insoluble ash and TLC separation).
2. Methods of drug Standardization and Quality control
3. Knowledge of biodiversity, endangered medicinal species.
4. Knowledge of TKDL, Introduction to relevant portions of following Acts-Drugs and Cosmetic Act, Drugs & Magic Remedies Act, FSSA, AFA, Wildlife & Biodiversity Acts & Intellectual Property Right (IPR) and Regulations pertaining to Import and Export of Ayurvedic drugs.
5. Knowledge of tissue culture techniques.
6. Knowledge of Genetically Modified Plants.
7. Knowledge of advances in cultivations of medicinal plants.

Paper –II

100 Marks

GUNA KARMA VIGYAN (AYURVEDIC & MODERN PHARMACOLOGY)

Part – A:

50 Marks

1. Fundamental principles of drug action in Ayurveda

2. Detailed study of rasa-guna- virya- vipaka-prabhava and karma with their applied aspects and views of commentators (Chakrapanidatta, Dalhana, Arunadatta, Hemadri and Indu) on them.
3. Comprehensive study of karma as defined in Brihatrayee & Laghutrayee.
4. Detailed study of Guna and Karma of dravyas listed in API and Bhavaprakasha Nighantu along with current research review.
5. Detailed study of aharadravya, ahara varga and kritanna varga described in Brihatrayee and various nighantus.
6. Knowledge of guna and karma of anukta dravya.

Part – B:

50 Marks

1. Fundamental principles of General pharmacology.
2. Modern pharmacological principles and knowledge of drugs acting on various systems.
3. Basic knowledge on experimental pharmacology for the evaluation of – analgesic, antipyretic, anti inflammatory, anti diabetic, anti hypertensive, hypo lipidemic, anti ulcer, cardio protective, hepatoprotective, diuretics, adaptogens, CNS activities, anti microbial and antimycotic activities.
4. Studies on changes occurring in purification of poisonous plants drugs.

PAPER –III

100 Marks

PRAYOGAVIGYANA (PHARMACOTHERAPEUTICS / CLINICAL PHARMACOLOGY)

Part – A:

75 Marks

1. Bhaishajya Prayoga Siddhant [Principles of drug administration] – Bhaishajya Marga (routes of drug administration), Vividha Kalpana (dosage forms), Principles of Yoga Vijnan (compounding), Matra (dosage), Anupana (vehicle), Aushadha Sevanakal, (schedules of drug administration), Sevankal avadhi (duration of drug administration), Pathyapathya (Dos' & Don'ts), Complete Prescription writing (Samagra Vyavastha patra).
2. Amayika prayoga (therapeutic uses) of important plants described in Brihatrayee, Chakradutta, Yoga ratnakara and Bhavaprakasha.
3. Samyoga- Viruddha Siddhanta and its importance with examples.

Part – B:

25 Marks

1. Knowledge of Pharmaco-vigilance in Ayurveda & modern medicine.
2. Adverse drug reactions & Drug interaction of medicinal plants.
3. Knowledge of clinical pharmacology and clinical drug research as per GCP guidelines.
4. Knowledge of Pharmacogenomics.

NIGHANTU & YOGA VIGYANA (MATERIA MEDICA & FORMULATIONS)**Part- A:****75 Marks**

1. Etymology of Nighantu, their relevance, utility and salient features.
2. Details of the following Nighantus with regards to author's name, period and content-Paryaya ratnamala, Dhanvantari nighantu, Hridayadipika nighantu, Ashtanga nighantu, Rajanighantu, Siddhamantra nighantu, Bhavaprakasha nighantu, Madanpala nighantu, Rajavallabha nighantu, Madhava Dravyaguna, Kaiyadeva nighantu, Shodhala nighantu, Saligram nighantu, Nighantu ratnakara, Nighantu adharsha and Priya nighantu.
3. Detailed study of Ekala Aushadha Kalpana (manufacturing of dosage forms of single drugs) mentioned in Sharangadhara samhita and Ayurvedic Formulary of India (AFI).

Part- B**25 Marks**

1. General awareness on Aharayogi (Nutraceuticals), Soundarya prasdana (cosmoceuticals), Food additives, Excipients etc.
2. Knowledge of plant extracts, coloring and flavoring agents and preservatives.
3. Knowledge of Pharmacopies of India different countries- e.g. API, BHP.
4. Knowledge of important scientific publications of various Departments & ministries of Govt. of India- Like department of AYUSH, CCRAS, RAV, ICMR, CSIR etc.

Syllabus of the Practical training of Part two M.D. (Ayu.) – Dravyaguna**1. Study tours:**

Field identification of medicinal plants through at least five local Dravyaguna study tours. Within the state and one study tour out of state and preparation of minimum 50 **herbarium sheets** along with prayojyanga (raw drug). Field visit should also include demonstration of Cultivation practices of important medicinal plants.

2. Evaluation of Crude drugs:

Macro- and micro-scopic methods of examining three drugs of each of different useful parts of plants, including their powders.

3. Phytochemical evaluation of raw material:

Qualitative and Quantitative analysis like foreign matter, extractive (water and alcohol), ash value, acid insoluble ash and TLC separation of various parts of minimum two plants of Ayurvedic Pharmacopoeia of India.

4. Pharmacology:

- Rasa nirdharana by Taste Threshold method of minimum one drug for each of rasas.

- Observation of animal experimentation models (both in vitro and in vivo) for any five pharmacological activities cited in paper II.

5. Practical training –

a) Posting for minimum one month in each of the following units –

- Quality control laboratory of nearest pharmacy/institution for crude drug identification, adulterants and substitutes & understanding standardization techniques.
- Experimental pharmacology laboratory for developing skills in animal experimentation.

b) Regular clinical training in the Teaching hospital for submission of record of Ekala Aushadhi Prayoga (Single drug trial/ Clinico-pharmacological studies.) & Adverse drug reactions (ADR).

6. Dissertation

A Dissertation, as per the approval of Departmental Research Committee/Competent Committee for the purpose, be prepared under the guidance of approved supervisor in Dravyaguna and submitted 6 months before the final examination. The approval of Dissertation shall be pre-requisite for appearing in the final examinations.

7. Post Graduate Scholar is expected to present minimum two scientific papers in National/international Seminars during the course of study.

8. Post Graduate Scholar is expected to publish / get accepted atleast one paper in journal as per PG regulations under the supervision of guide.

Pattern of Practical Examination-

100 Marks

1. Herbarium	- 5 Marks
2. Pharmacognosy practical record	- 5 Marks
3. Pharmacology practical record	- 5 Marks
4. Clinical records record	- 5 Marks
5. Practical examination (Identification of green and dry raw drugs, Microscopic examination, Ekala aushadha pariksha)	- 30 Marks
6. Thesis Presentation	- 10 Marks
7. Viva voce	- 40 Marks

Reference Books-

1. Rigvedasya Aushadhi Suktam - Sayana Bhashya Sahitam
2. Relevant portions of classical texts of Charak, Sushrut and Vagbhata
3. All available Nighantus
4. Dhanwantari Nighantu Rajnighantu Sahit
5. Sharngadhar Samhita
6. Yogaratnakar

7. Sharngadhar Samhita
8. Yogaratnakar
9. Dravyaguna Vigyanam - Yadavji Trikamji Acharya
10. Dravyaguna Vigyanam - Acharya Priyavrat Sharma
11. Aushadhiguna Vigyanam - Pt. vishwanath Dwivedi
12. Kriyatmak Aushadh Parichaya Vigyan - Pt. vishwanath Dwivedi
13. Abhinav Buti Darpana - Roopalal Vaishya
14. Aushadhagunadharma Shastra - Pt. Gangadhar Shastri Gune
15. Bhavprakash Nighantu - Dr.K.C.Chunekar
- Vedon Main DravyagunaShastra - Vishvanath Dvivedi
- Kriyatmak Aushadhi Parichay Vigyana - Vishvanath Dvivedi
- Kriyatmak Aushadhi Parichay Vigyana - Vishvanath Dvivedi
- Nighantu Adarsha Purvardha & Uttarardha - Bapalal Vaidya
- Unani Dravyaguna Adarsha - Hakim Dalijit Singh
- Ayurved ki Aushadhiyan Aur Unka Vargikaran - Vishvanath Dvivedi
- Aushadhi Vigyan Shastra - Vishvanath Dvivedi
- Glossary of vegetable drugs in Bruhatrayi - Thakar Balwant Sing & Chunekar
- Some contravertial drug in Indian Medicine - Dr.Bapalal Vaidya
16. Books on Dravyaguna by contemporary authors
17. Books on Pharmacognosy,
18. Books on General , Experimental & Clinical Pharmacology.
19. Ayurvedic Pharmacopia of India & other pharmacopias of the world
20. Indian Pharmacopia
21. All the classical texts related to medicinal plants.
22. All the scientific publications on medicinal plants
23. Journals on medicinal plants
24. Different Floras

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5. RASA SHASTRA AND BHAISHAJYA KALPANA

Theory – 400 Marks (100 Each)

Practical and Viva-Voce-100 Marks

Paper I

100 Marks

RASASHASTRA

Part A

1. History and Chronological evolution of Rasashastra, Concept of Raseshwara darshan. Fundamental Principles of Rasashastra, Technical terminologies (Paribhasha) used in Rasa shastra.
2. Detailed knowledge of ancient and contemporary Yantropakarana and their accessories used in aushadhikaran and their contemporary modification such as Yantras, mushas, putas, Koshtis, bhrashtis, muffle furnaces and other heating appliances, ovens, driers etc. used in manufacturing of Rasaushadhis in small scale and large scale, along with their applications.
3. Study of Samskara, Role of Agni (Heat), Jala (Water) and other dravas (Liquids), Kala (Season), Patra (Container) etc. and their significance in Aushadhikarana.
4. Concept of Bhavana, Study of Mardana and its significance and knowledge of ancient and contemporary grinding techniques.
5. Detailed knowledge of different procedures of Shodhana, Jarana, Murchana and Marana, Concept of Puta, definition, types and specifications of different Putas. Significance of different Putas in relation to Bhasmikarana and therapeutic efficacy of dravya under process. Bhasma pariksha vidhi and its significance in relation to contemporary testing procedures. Amritikaran and Lohitikarana.
6. Detailed knowledge of Satva and Druti, Satva shodhan, mrudukaran and Maran of Satva, its significance, in relation to therapeutic efficacy of dravya under process.
7. Concept of Pratinidhi (Substitute) dravya and discussion on controversial drugs.

PART – B

1. Detailed ancient and contemporary knowledge of Parada and its compounds with reference to source, occurrence, physico-chemical characterization, graahya-agraahyatva, Parada dosha, Parada gati, Parada shodhan, Study of Ashta sanskara, Ashtadasha sanskara etc., Hingulottha Parada. Concept of Parada jaran, moorcchana, bandhan, pakshaccheda and marana etc. Therapeutic properties and uses of Parada.
2. Detailed ancient and contemporary knowledge with Geochemical / mineralogical / biological identification, source, occurrence, physico-chemical characterization, graahya-agraahytva, shodhan, Maranadi vidhi and therapeutic properties and uses of dravyas etc. included in Maharasa, Uparasa, Sadharana rasa, Dhātu, Upadhatu, Ratna, Uparatna, Visha, Upavisha, Sudha varga, Lavana varga, Kshara varga, Sikata varga and other miscellaneous drugs used in Rasashastra.

3. Detailed knowledge of manufacturing, pharmacopeial standards, storage, shelf life, therapeutic efficacy, dose, anupana, vikarashanti upaya and development of technology with Standard Operating Procedures of processing, standardization, quality control of following Bhasmas and Pishtis

Bhasma – Abhraka Bhasma, Svarnamakshika Bhasma, Kasis Bhasma, Svarna Bhasma, Rajata Bhasma, Tamra Bhasma, Loha Bhasma, Mandur Bhasma, Naga Bhasma, Vanga Bhasma, Yashad Bhasma, Trivanga Bhasma, Pittala, Kamsya and Varthaloha Bhasma, Shankha Bhasma, Shukti Bhasma, Kapardika Bhasma, Godanti Bhasma, Praval Bhasma, Mrigashringa Bhasma, Mayurpiccha Bhasma, Kukkutand twak Bhasma, Hiraka Bhasma, Manikya Bhasma.

Dravaka – Shankha Dravaka

Pishti - Praval pishti, Manikya Pishti, Mukta pishti, Jahara mohara pishti, Trinakanta mani pishti etc.

4. Detailed knowledge of manufacturing, storage, shelf life, pharmacopeial standards, therapeutic efficacy, dose, anupana and development of technology with Standard Operating Procedures of processing, standardization and quality control of Kharaliya rasa, Parpati, Kupipakva rasa and Pottali rasa.
5. Study of classical texts with respective commentaries and special emphasis on Rasarnava, Rasahridaya tantra, Rasa Ratna Samucchaya, Rasendra Chintamani, Rasendra Chudamani, Rasa Ratnakara, Rasadhyaya, Rasa Kamdhenu, Rasa Chandanshu, Anandkanda, Siddha Bhesaja Manimala, Ayurveda Prakash, Rasatarangini, Bhaishajya Ratnavali, Rasamritam etc. and the books mentioned in the Schedule I of D & C Act – 1940. Relevant portions of Brihatrayi.

Paper II

100 Marks

BHAISHAJYA KALPANA

Part – A

1. History and chronological evolution of Bhaishajya Kalpana, Concept of Bhesaja and Aushadh, fundamental principles of Bhaishajya kalpana. Technical terminologies (Paribhasha) used in Bhaishajya Kalpana.
2. Classical and Contemporary concepts of collection, Storage, Savirya Avadhi and Preservation methods of different fresh and dry Aushadhi dravyas and their graahya-agraahyatva. Knowledge about Good collection and storage practices (GCP and GSP) as per WHO and NMPB guidelines.
3. Detailed knowledge of routes of drug administration, Aushadha matra, Posology, Anupana, Sahapana, Aushadha Sevana Kala, Sevan Avadhi, Pathya, Apathya.
4. Detailed knowledge of manufacturing, standardization, quality control, pharmacopeial standards, storage, shelf life and development of innovative technology with Standard Operating Procedures of following dosage forms.

- i) Panchavidha Kashaya, Churna, Rasakriya, Ghana, Avaleha, Pramathya, Mantha, Panaka, Sarkara, Kshirapaka, Ushnodaka, Aushadha Siddha Udaka, Arka, Satva, Kshara, Lavana, Masi, Gutika, Vatika, Modaka, Guggulu and Varti etc.
- ii) Sneha Kalpana: Concept of Accha sneha and Sneha pravicharana and Murchhana. Sneha paka, types of sneha paka and Sneha siddhi lakshana, Avartana. Sneha kalpa karmukata (Pharmacokinetics and dynamics of sneha kalpa). Role of sneha in relation to absorption of drug.
- iii) Kritanna and Bhesaja Siddha Anna Kalpana, Shuka and shmbi Dhanya Kalpana, Dugdha, Dadhi and Takra Vikar and Mansarasadi Krutanna Kalpana, Aharopayogi Varga, Concept of medicinal and functional food, dietary supplements and nutraceuticals etc.
- iv) Sandhana kalpana: Madya varga and Shukta varga. Asava yoni. Alcoholic and acidic fermentation. Sandhana kalpa karmukata (Pharmacokinetics and dynamics). Advances in fermentation technology. Knowledge of regulations in relation to alcoholic drug preparations.
- v) Bahya Prayogartha Kalpana: Lepa, Upanaha, Udvartan, Avachurnana / Avadhulana, Abhyanga, Dhupana, Malahara.
- vi) Mukha, karna, Nasa, Netropacharartha Kalpana:
- vii) Basti Kalpana: Basti Yantra Nirmana, Types of basti. Anuvasana and Asthapana basti. Karma, Kala and Yoga basti etc. Basti Kalpa (Madhutailika, Piccha basti etc.), Comparison of Asthapana and Anuvasana basti with evacuation and retention enema.

Part – B

All the following procedures are to be studied in relevance to Ayurvedic Bhaishajya Kalpas.

1. Methods of Expression and Extraction: Maceration, percolation, distillation, infusion and decoction. Knowledge about Filtration techniques.
2. Drying, open and closed air drying, freeze drying, vacuum drying and other drying methods pharmaceutical excipients.
3. **Liquids:** Clarified liquid, Syrup, Elixir.
4. **Solid dosage Forms: Powders:** Size reduction, Separation techniques, particle size determination, Principles of mixing.
Tablets: Methods of tableting, Suppositories, Pessaries and Capsules, Sustained release dosage forms.
5. **Semisolid dosage forms-** Emulsions, Suspensions, Creams and Ointments, Sterilization of Ophthalmic preparations.
6. An introduction to various cosmetic preparations such as Toiletries, Soap, Shaving creams, Hair oils, Face Powders (Talcum powders). Vanishing creams, lotions and Moisturisers, Face pack, Deodorants and Perfumes.
7. Study of classical texts with special emphasis on Chakradatta, Sharangadhara Samhita, Bhaishajya Ratnavali, Bhava Prakasha, Yogaraj Nighanta, relevant portions of Brihatrayi, Ayurvedic Pharmacopeia of India, Ayurvedic Formulary of India.

RASA CHIKITSA & AUSHADHA YOGA VIGYANA**PART – A**

1. Rasachikitsa, Kshetrikaran, Rasajirna, Lohajirna, Ashuddha, Apakva, Avidhi Rasadravya Sevanajanya Vikara evam Vikara shanti upaya (Management and knowledge of untoward effects of inappropriately processed and administered drugs).
2. Detailed knowledge of Aushadhi patha Nischiti and Sanyojan (Formulation design and composition), Dose, Anupana and Method of administration, therapeutic efficacy and uses (indications and contra- indications), probable mode of action etc. of the following Aushadhi Yogas
 - a. **Kharaliya Rasa:** Shwasa kuthara Rasa, Tribhuvana kirti Rasa, Higuleshwara Rasa, Ananda bhairava Rasa, Maha Lakshmivilasa Rasa, Vasnata kusumakara Rasa, Vasanta malti Rasa, Brihat vata chintamani Rasa, Laghu suta shekhar Rasa, Suta Shekhara Rasa, Ram ban Rasa, Chandra Kala Rasa, Yogendra Rasa, Hridyarnava rasa, Grahani kapata Rasa, Garbha pala Rasa, Jalodarari Rasa, Mrityunjaya Rasa, Madhumalini vasanta Rasa, Arsha kuthara Rasa, Krimi mudgara Rasa, Suchika bharana Rasa, Tri netra Rasa, Smruti sagara Rasa, Vata gajankusha Rasa, Agni kumar Rasa, Ekangavir Rasa, Kama dugha Rasa, Purna chandrodaya Rasa, Pratap lankeshwara Rasa, Maha vata vidhwansaka Rasa, Kasturi bhairava Rasa, Ashwa kanchuki Rasa, Gulma kuthara Rasa, Maha jwarankusha Rasa, Chandra mrita Rasa, Kapha ketu Rasa, Prabhakara Vati, Pravala Panchamrita, Gandhaka Rasayana, Chaturbhuj rasa, Navajivan rasa, Shonitargal rasa, Raktapitta kulakandan rasa, Amavatari Rasa, Kravyada Rasa, Garbha chintamani Rasa, Chintamani Rasa, Trilokya chintamani Rasa, Pradarantaka Rasa, Vangeshwara Rasa, Brihat Vangeshwara Rasa, Shwasakasa Chintamani Rasa, Arogya vardhini Vati, Chandra prabha Vati, Agni tundi vati, Shankha Vati.
 - b. **Kupipakva Rasa:** Rasa Sindura, Makaradhwaja, Sidha makaradhwaja, Samira pannaga Swarnarajvangeshvar, Malla sindura, Rasa karpura, Rasa pushpa, Manikya Rasa.
 - c. **Parpati Rasa:** Rasa Parpati, Loha Parpati, Tamra Parpati, Suwarna Parpati, Gagana Parpati, Vijay Parpati, Panchamrit Parpati, Shwet Parpati, Bola Parpati
 - d. **Pottali Rasa:** Rasagarbha pottali, Hemagarbha Pottali, Mallagarbha pottali, Hiranyagarbha pottali, Shankagarbha pottali, Lokanatha rasa, Mriganka Pottali
 - e. **Loha evam Mandura Kalpa:** Ayaskriti, Loha Rasayana, Amla pittantaka loha, Chandanadi loha, Dhatri loha, Navayasa loha, Putapakva vishama jwarantaka loha, Shilajatwadi loha, Tapyadi loha, Saptamrita loha, Pradarantaka loha,

Rohitaka loha. Punarnava Mandura, Shatavari Mandura, Triphala Mandura, Mandura Vataka etc.

- f. Knowledge of Essential Ayurvedic drug list as prescribed by Dep. Of AYUSH (Govt. Of India) and its significance.

Part B

Detailed knowledge of Aushadhi patha Nischiti and sanyojan (Formulation designing and composition), dose, anupana and method of administration, therapeutic efficacy and uses (indications and contra-indications), probable mode of action etc. of the following Aushadhi Yogas

- a. **Panchavidha Kashayas and their Upakalpa:** Ardraka swarasa, Tulasi swarasa, Vasa putapaka, Nimba kalka, Rasana kalka, Kulattha kwatha, Punarnavasthaka kwatha, Rasna saptaka kwatha, Dhanyak hima, Sarivadi hima, Panchakola phanta, Tandulodaka, Mustadi pramathya, Kharjuradi mantha, Shadanga paniya, Laksha rasa, Arjuna kshirapaka, Rasana kshirapaka, Chinchapaanaka, Candana panaka, Banapsha sharkara, Nimbu sharkara, Amrita satva, Ardraka satva, Ajamoda arka, Yavanyadi arka.
- b. **Kritanna and Bhesaj Siddha Ahara Kalpana:** Yavagu, (Krita and Akrita), Ashtaguna manda, Laja manda, Peya, Vilepi, Krishara, Yusha, Mudga yusha, Kulattha yusha, Saptamushtika yusha, Khada, Kambalika, Raga, Shadava, Mamsarasa, Veshavara, Dugdha Vikara – Piyush, Kilata, Kshirashka, Hyaiyangavina, Morata, Santanika, Dadhi and Dadhi Vikara, Katvar Dadhi, Dadhi Mastu, Takra, Ghola, Udasvita, Mathita, Chhacchika etc.
- c. **Churna:** Sitopaladi Churna, Talisadi Churna, Triphala Churna, Hingvashtaka Churna, Avipattikara Churna, Swadishta Virechana Churna, Bhaskar Lavana Churna, Sudarshana Churna, Maha Sudarshana Churna, Gandharva Haritaki Churna, Pushyanuga Churna, Ajamodadi Churna, Hingvadi Churna, Eladi Churna, Dadimashtaka Churna, Trikatu Churna, Vaishwanara Churna, Gangadhara Churna, Jati phaladi Churna, Narayana Churna etc.
- d. **Gutika:** Arogya vardhani vati, Chandra prabha vati, Chitrakadi Gutika, Sanjivani Vati, Lasunadi vati, Lavangadi Vati, Vyoshadi vati, Khadiradi Vati, Kankayana Vati, Abhayadi modaka, Marichyadi gutika, Amalakyadi gutika, Samshamini Vati, Kutaja Ghana vati, Shiva Gutika, Eladi Vati, Kasturyadi Gutika, Arshoghni Vati.
- e. **Guggulu:** Yogaraja Guggulu, Maha Yogaraja Guggulu, Trayodashanga Guggulu, Kanchanara Guggulu, Rasnadi Guggulu, Triphala Guggulu, Simhanada Guggulu, Gokshuradi Guggulu, Kaishora Guggulu, Panchatikta Guggulu, Amritadi Guggulu, Vatari Guggulu, Lakshadi Guggulu, Abha Guggulu, Navaka Guggulu, Nava Karshika Guggulu.
- f. **Sneha Kalpa**
- g. **Sneha Moorchhana** – Ghrita Murchana, Taila Murchana

- h. **Siddha Ghrita** - Shatavari Ghrita, Jatyadi Ghrita, Phala Ghrita, Dadimadi Ghrita, Kshirashatpala Ghrita, Mahatriphala Ghrita, Dhanvantari Ghrita, Amritaprasha Ghrita, Kalyanaka Ghrita, Brahmi Ghrita, Changeri Ghrita, Panchatikta Ghrita, Sukumara Ghrita, Panchagavya Ghrita.
- i. **Siddha Taila** - Maha Narayana Taila, Maha Masha Taila, Baja Taila, Nirgundi Taila, Shadbindu Taila, Vishagarbha Taila, Sahacharadi Taila, Jatyadi Taila, Apamarga Kshara Taila, Tuvaraka Taila, Kshirabala Taila (Avartita), Lakshadi Taila, Anu Taila, Kumkumadi Taila, Hingutriguna Taila, Kottumchukadi Taila, Prasarinnyadi Taila, Dhanwantari Taila, Balashwagandhadi Taila, Balaguduchyadi Taila, Nilibhringyadi Taila, BrihadSaindhavadi Taila, Irimedadi Taila, Chandanadi Taila, Panchaguna taila, Arka Taila, Pinda Taila, Kasisadya Taila.
- j. **Rasakriya, Avaleha, Khanda etc.:** Darvi Rasakriya, Vasa Avaleha, Brahma rasayana, Chyavanprasha Avaleha, Kushmanda Avaleha, Dadima Avaleha, Bilvadi avaleha, Kantakaryavaleha, Haridra Khanda, Narikela Khanda, Saubhagya shunthi paka, Amrita Bhallataka, Kamsa Haritaki, Chitraka Haritaki, Vyaghri Haritaki, Bahushala Guda, Kalyana Guda.
- k. **Sandhana Kalpa:** Lodhrasava, Kumaryasava, Ushirasava, Chandanasava, Kanakasava, Sarivadyasava, Pippalyasava, Lohasava, Vasakasava, Kutajarishta, Draksharishta, Raktamitrarka, Dashamularishta, Abhayarishta, Amritarishta, Ashokarishta, Sarasvatarishta, Arjunarishta, Khadirarishta, Ashwagandha Arishta, Vidangarishta, Takrarishta, Drakshasava, Mahadrakshasava, Mritasanjivani sura, Maireya, Varuni, Sidhu, Kanji, Dhanyamla, Madhu Shukta, Pindasava.
- l. **Any Kalpa:** Phala varti, Chandrodaya varti, Arka lavana, Narikela lavana, Triphala masi, Apamarga kshara, Snuhi kshara, Ksharasutra, Atasi upanaha, Sarjarasa malahara, Gandhaka malahara, Sindhuradi Malahara, Shatadhouta Ghrita, Sahasra Dhouta Ghrita, Siktha taila, Dashanga lepa, Doshaghna lepa, Bhallataka taila patina, Jyotishmati Taila, Bakuchi Taila, Dashanga dhupa, Arshoghna dhupa, Nishadi Netra bindu, Madhutailika Basti, Piccha Basti, Yapan Basti.

PAPER – IV

100 Marks

PHARMACOLOGY AND PHARMACY MANAGEMENT

PART – A

1. General Pharmacology:
 - a. Principles of Pharmacology, Pharmacodynamics & Pharmacokinetics: Absorption, distribution, Metabolism & excretion, mechanism of action, dose determination and dose response, structure activity relationship.
 - b. Routes of drug administration
 - c. Factors modifying drug effect, Bioavailability and Bioequivalence, drug interactions, Adverse drug reaction and Drug toxicity.

- d. Preclinical evaluation: Experimental pharmacology [Bioassay, In vitro, In vivo, Cell line studies], Animal ethics.
2. Clinical pharmacology: Evaluation of New Chemical Entity – Phases and methods of clinical research. Ethics involved in human research.
3. Elemental constituents of human body such as Iron, Copper, Zinc, calcium, Manganese etc. and its physiological importance. Deficiencies and excess of various elements.
4. Toxicity of heavy metals and chelation therapy.
5. Knowledge of toxicity and pharmacological activities of herbo-mineral compounds.
6. Detailed knowledge of Pharmacovigilance – National and International Scenario. Pharmacovigilance of Ayurvedic Drugs.

Part B

1. Scope and evolution of pharmacy. Information resources in pharmacy and pharmaceutical Science.
2. Pharmaceutical formulation designing and dosage form design (Pre-formulation).
3. Packaging materials and Labeling.
4. Management of pharmacy, Store and inventory management, Personnel management, Good Manufacturing Practices related to Ayurvedic drug industry.
5. Pharmaceutical Marketing, Product release and withdrawals.
6. Hospital, Dispensing and Community pharmacy.
7. Patenting and Intellectual Property Rights.
8. Laws Governing Ayurvedic drugs.
 - i. Relevant regulatory provisions of Ayurvedic drugs in Drug and Cosmetics Act – 1940 and Rules – 1945
 - ii. Laws pertaining to Drugs and Magic remedies (Objectionable Advertisement) Act – 1954.
 - iii. Prevention of Food Adulteration (PFA) act.
 - iv. Food Standards and Safety Act – 2006
 - v. Laws pertaining to Narcotics
 - vi. Factory and Pharmacy Acts
 - vii. Consumer Protection Act – 1986
 - viii. Knowledge of Good Clinical Practices and Inspection Manual prescribed by Dept. of AUYUSH, Govt. of India.
9. Regulatory Affairs related to International Trade and Practices of Ayurvedic Drugs.
10. Introduction to Ayurvedic Pharmacopoeia of India, Ayurvedic Formulary of India.
11. Introduction to Indian Pharmacopoeia, British and United States Pharmacopoeia, Pharmacopoeial Codex.
12. Introduction to Traditional Knowledge Digital Library

Practicals:-

- Minimum 150 Practicals are to be performed covering all the dosage forms.

- Educational Visits to minimum five (5) GMP approved Ayurvedic Pharmacies.
- Posting in R & D / Production unit in GMP certified Ayurvedic Pharmacy.
- Minimum attendance in three National Conferences within three academic years.
- Minimum 10 clinical cases using different dosage forms are to be studied and recorded for efficacy and ADRs (if any).
- Minimum one research paper on the core contributory work of dissertation published or accepted in peer reviewed, indexed journal.
- Examinee has to submit supporting documents in relation to above mentioned academic activities at the time of Practical examination.

Pattern of Practical Examination

100 Marks

Duration of the practical: 2 days

- | | |
|--|-------------------|
| 1. Identification of the specimen: | 10 Marks |
| 2. Drug Processing | 30 Marks |
| i. Major Practicals: 2 (1 Rasashastra and 1 Bhaishajya Kalpana). | 10x2=20 |
| ii. Minor Practicals: 2 (1 Rasashastra and 1 Bhaishajya Kalpana). | 5x2=10 |
| 3. Drug testing and Analysis | 10 Marks |
| i. Rasaushadhi - 1 | |
| ii. Kashthaushadhi – 1 | |
| 4. Power Point Presentation on dissertation work: 15 Minutes | - 10 Marks |
| 5. A Demo Lecture on any subject topic: 10 Minutes. | - 10 Marks |
| 6. Documentation | - 15 Marks |
| i. Journals (Practical Records) of minimum 150 practicals from Rasa Shastra, Bhaishajya Kalpana and Drug Analysis. | |
| ii. Reports of the Visits. | |
| iii. Case Records | |
| 7. Viva Voce examination | 15 Marks |

Reference Books:-

1. Rasahridaya Tantra
2. Rasarnava
3. Rasaratna Samuccahaya
4. Ayurved Prakasha
5. Rasendrachudamani
6. Rasendra Chintamani
7. Rasatarangini
8. Rasaprakasha Sudhakar
9. Rasamitra
10. Rasa Chananshu : CCRAS Publication
11. Sharangadhara Samhita

12. Sharangadhara Darpan (BP Pandey)
13. Bhavaprakasha
14. Yoga Ratnakara
15. Bhaishajya Ratnavali
16. Siddha Bhaishajya Manimala
17. Ayurvediya Aushadhikarana – Puranik and Dhamanakar
18. Bharat Bhaishajya Ratnakara
19. Rasayoga Sagara
20. Siddha Bhaishajya Manimala
21. Siddha Yoga Sangraha – Yadavji Trikamji Acharya
22. Sahasrayoga
23. Vaidyaka Paribhasha Pradeepa
24. Dravyaguna Vijnan Part- 1 and 2 - Yadavji Trikamji
25. Chakradatta – Ratnaprabha,
26. Relevant Parts from Charaka Samhita, Sushruta Samhita, Kashyapa Samhita, Ashtana Sangraha, Ashtanga Hridaya,
27. Remington: Science and Practice of Pharmacy
28. Theory and Practice of Industrial Pharmacy- Leon Lachman et al
29. Clinical Pharmacology, KD Tripathi
30. Clinical Pharmacology, Lawrence Benette
31. Drug Discovery and Evaluation (Pharmacological assays) HG Vogel
32. Pharmacological Basis of therapeutics – Goodman and Gilman
33. Data Base of Medicinal Plants of CCRAS
34. Quality and Standards of Medicinal Plants – ICMR publication
35. Quality control of Ayurvedic drugs – PLIM, Gaziabad
36. Ayurvedic Pharmacopeia of India
37. Ayurvedic Formulary of India
38. Indian Pharmacopeia
39. British Pharmacopeia
40. United States Pharmacopeia
41. Pharmacopeia Codex
42. Current Good Manufacturing Practices
43. Drugs and Cosmetic Act 1940 and Rules 1945 with latest amendments
44. Drugs and Magic remedies (Objectionable advertisement) Act – 1954
45. Prevention of Food Adulteration (PFA) act
46. Laws pertaining to Narcotics
47. Factory and Pharmacy Acts
48. Consumer Protection Act – 1986
49. Brief information on the peer reviewed journals, official websites and other official search engines along with their links (related with the subject)
50. Rutleys Elements of Mineralogy

51. Bhasma Vigyaniam
52. Kupipakva Vigyaniam
53. Anupana Manjari

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6.AGADA TANTRA EVUM VIDHIVADYAKA

Theory – 400 Marks (100 Each)

Practical and Viva-Voce-100 Mark

Paper-I

100 Marks

AGADA TANTRA (AYURVEDIC AND CONTEMPORARY TOXICOLOGY)

Part- A

1. Agada Tantra, its sequential development during Veda kala, Samhita kala, Samgraha kala and Adhunik kala.
2. Definition of Visha, properties of visha and its comparison with madya and oja, visha samprapti, visha prabhava, visha-vega, vegantara and visha karmukata (toxicodynamic and toxicokinetic study).
3. Descriptive and comparative study of Upavisha in unison with Contemporary Toxicology.
4. Examination of poisons as per Contemporary and Ayurvedic Methods.
5. Detailed study of the following:
Visha and Upavisha – Arka, Snuhi, Langali, Karaveera, Gunja, Ahiphena, Dhatura, Bhallataka, Vatsanabha, Kupeelu, Jayapala, Bang, Tobacco, Parthenium hysteriflorus, Chitraka Eranda, Digitalis, Cerebra Odollum etc.
Acids and Alkalis – Sulphuric acid, Hydrochloric acid, Nitric acid, Hydrocyanic acid, Oxalic acid, Carbolic acid, Formic acid and alkalis etc.
Asphyxiants – Carbon Monoxide, Carbon dioxide, Hydrogen sulphide etc.
Antihistamines, Cocaine Hallucinogens – LSD Sedatives and Hypnotics – Barbiturates
Petroleum – Kerosene Poisoning Organo phosphorous compounds- Aluminium phosphate, Zinc phosphide etc.
 - i. Nonmetallic poisons – Phosphorous, iodine etc.
 - ii. Metallic poisoning – Arsenic, Mercury, Lead, Copper, Zinc, Tin, Radiation meals etc.
6. Study of Jangama visha and their sources (Animal poisoning and Zoonotic Diseases). Descriptive study of snakes according to ancient and contemporary knowledge. Causes of Snake bite and its types. Composition of snake venom and its

pharmacological actions. Signs and symptoms of envenomation and its prognostic signs. Clinical features of Vrischika (scorpion), Luta (spider), Grihagadhika (Lizard), Mushaka (rats), Alarka (dogs), Makshika and Mashaka (mosquitoes) and their pathologic manifestations including their role in the manifestation of communicable diseases.

7. Shankaa visha and its management. Visha sankat.

Part – B

1. Garavisha and Dushi visha, their varieties, signs, symptoms and management with contemporary relevance. Detailed study of Allergies including allergic manifestations in the eyes, nose, lungs and skin.
2. Detailed study of Madya visha and substances acting on the nervous system; substance abuse. (Diagnosis, Management and De-addiction).
3. Detailed study of the contemporary knowledge about vishajanya Janpadodhvansaniya roga (community health problems due to poisons – Environmental pollution, water pollution, soil pollution, air pollution, Industrial pollutions etc. their features and management according to ancient and recent concepts.
4. Concept of Virudha aahara, Aahara visha and Satmyasatmyata in contemporary and Ayurvedic views.
5. Conceptual study:- Drug interactions and incompatibility, Pharmacovigilance.

PAPER – II

100 Marks

VISHA CHIKITSA VIGYAN (MANAGEMENT OF POISONING)

Part – A

1. Fundamental Principles for treatment of poisoning
2. General and specific treatment of different types of Sthavara visha.
3. General and specific treatment of different types of Jangama visha (animal poisons, insect poisons, snake bites and other zoonotic diseases).
4. Emergency medical management of poisoning including preparation, administration and complications of antivenoms/antisera.
5. Chaturvimsati upakarma (24 management procedures).
6. Management of Garavisha and Dushivisha. Treatment of Allergies including allergic Manifestations in the eyes, nose, lungs and skin.

Part – B

1. Diagnosis and Management of Drug induced Toxicity.

2. Management of the toxic manifestations caused by the contact poisons (paduka, vashtra, abharana, mukhalepa – vishabadha etc.)
3. Management of food poisoning.
4. Death due to poisoning, Duty of physician in poisoning, in cases of suspected poisoning. Post mortem findings in poisoning.
5. Extra- corporeal techniques (dialysis etc) for removal of poisons.

PAPER – III

100 Marks

VYAVAHARA AYURVEDA EVAM VIDHI VAIDYAKA

Part - A

1. Definition of Vyavahara Ayurveda , its evolution in ancient and Contemporary periods.
2. Personal identity and its medico – legal aspects.
3. Death and its medico-legal aspects (Medical Thanatology).
4. Asphyxial deaths and its medico-legal importance.
5. Death due to starvation, heat and cold , lightening and electricity.
6. Suspended Animation.
7. Medico-legal autopsy.
8. Injuries due to explosions, chemical and nuclear warfare.
9. Medico-legal aspects of injuries and wounds.
10. Impotence and sterility- Its medico-legal aspects. Regulations of Artificial Insemination. Medico-legal aspects of surrogate motherhood.
11. Sexual offences and perversions.
12. Medico-legal aspects of virginity, pregnancy, delivery, abortion, infanticide and legitimacy with related acts.

Part – B

1. Indian Penal Code, Criminal procedure code and study of related acts like Indian Evidence Act, Pre Natal Diagnostic Test Act, Nursing Home Act, Human Organ Transplantation Act, Drugs and Cosmetic Act 1940, Narcotic drugs and Psychotropic substances Act 1985, Pharmacy Act 1948, Drugs and Magical Remedies (Objectionable Advertisements) Act 1954, Medicinal and Toilet Preparations Act 1955 and Anatomy Act etc. Any related act enacted by the government from time to time.
2. Courts and Legal procedures.
3. Forensic Science Laboratory.

4. Medico legal aspects of mental illness.
5. Duties and privileges of physician.
6. Structure of Central Council of Indian Medicine, its jurisdiction and functions. Code and Conducts as per the CCIM, Rules and Regulations there under.
7. Respective State Council of Indian Medicine, its structure, power, voluntary duties.
8. Doctor- patient relationship.
9. Rights and privileges of patients; Euthanasia.
10. Professional secrecy and privileged communication.
11. Professional negligence and malpractice.
12. Indemnity Insurance Scheme.
13. Consumer Protection Act related to medical practice.
14. Ethics as in classics. Types of physicians and methods of identification, Pranabhisara and Rogabhisara Physicians, qualities of physician, responsibilities of Physicians, Chaturvidha vaidya vriti, duties of physicians towards patients, Vaidya sadvritam, Apujya Vaidya who is accepting fees, relationship with females.

PAPER – IV

100 Marks

AUSHADHA YOGA VIGYAN

Part – A

1. Pharmacodynamics of different formulations used in Agadatantra.
2. Study of pharmacology and usage of antidotes as per the Ayurvedic and Contemporary science.
3. Fundamentals of pharmaceuticals according to Ayurvedic and contemporary point of view.
4. Chemical, analytical, laboratory examination of poisons and suspicious substance.

Part-B

1. Introduction of different instruments /equipments used in the examination of poisons.
2. Introduction to Clinical toxicology.
3. Introduction to Experimental toxicology.
4. Introduction to Toxicogenomics.
5. Survey and study of the traditional and folklore vishachikitsa sampradaya.

Content of Practical/Demonstration

1. Identification of specimens models and equipments of toxicological and jurisprudence importance.
2. Practical training in postmortem examination (10 cases)
3. Medico-legal cases (20 cases)
4. Chemical Identification of various acids, alkalies, alcohols – Hydrochloric acid, Nitric acid, Sulphuric acid, Ascorbic acid, Sodium Hydroxide and Potassium Hydroxide
5. Detection of minerals Copper, Mercury, Lead, Arsenic and their compounds.
6. Physical and chemical analysis of Dattura, Karaveera, Vatsanabha, Jayapala, Arka and Bhallataka with Microscopy, powder microscopy, TLC, solvent extraction, detection of Phenol, tannins etc. (10 studies)
7. Detection of human blood, hair, semen and other biological secretions of Forensic importance
8. As per MSR, at least one paper to be published/accepted in a peer reviewed journal.
9. **Clinical Postings**
 - a. Regular clinical postings in the Agadatantra OPD / IPD.
 - b. Modern medical hospitals – 2 weeks
(For emergency management of poisoning).
10. **Other Postings**
 - a. Postmortem postings - 2 weeks
 - b. Court postings - 1 week

Visit to

1. Forensic Laboratory
2. Anti snake serum manufacturing Unit (Optional).

Pattern of practical examination

- | | |
|---|------------|
| 1. Postmortem /medico-legal case record and clinical record | - 10 Marks |
| 2. Clinical case presentation. | - 30 Marks |
| 3. Spotting related to Visha, Upavisha and others poisonous drugs | - 10 Marks |
| 4. Thesis presentation | - 25 Marks |
| 5. Viva-voce | - 25 Marks |

Total

100 Marks

Reference Books:-

- | | |
|--|----------------------------|
| 1. Useful Portion of Charak-Sushrut-Vagbhata | |
| 2. Dravyaguna Vigyan | - Acharya Yadavji |
| 3. Aushadhigunadharm Shastra | - Pt Visvanath Dvivedi |
| 4. Kriyatmat Aushada parichaya vigyan | - Pt Visvanath Dvivedi |
| 5. Ayurvedic Vyadhi Vigyan | - Acharya Yadavji Trikamji |

6. Madhavanidan with Madhukosha commentary
7. Sharangadhara Samhita
8. Yogaratnakara
9. Aushadigunadharm Shastra - Pt Gangadhara Shastri Gune
10. Rasendracintamani
11. Rasaratna samuchhaya
12. Vishavigyan - Dr. Krishna Kumar
13. Related matter of Kautilya Artha Shastra
14. Harmekhlatantra
15. Anupana manjari
16. Ayurvedprakash
17. System of clinical Medicine - Savil
18. Forensic Pharmacy - B.M. Mhithai
19. Hand book of Forensic Medicine and toxicology - Dr. P.V. Chadha
20. Viva Forensic Medicine and toxicology - L.C. Gupta
21. Forensic Medicine and Ethics - J.P. Narena
22. Modi's Medical Jurispudence and Toxicology
23. The essentials of forensic medicine and toxicology - Dr.K.S. Narayan Reddy
24. Medical Laws and Ethics - Dr. H.S. Mehta
25. M.R.K. Krishnan's Handbook of Forensic Medicine
26. Text book of Medical Jurisprudence and Toxicology - Dr.C.K. Parikh
27. Atlas of Forensic Medicine - Dr. Tomio Watenbe
28. Medico legal Post Mortems (Atlas) - Dr. Parikh and others
29. Text book of Forensic Medicine and Toxicology - Dr.V.V. Pillay
30. Text book of Forensic Medicine and Toxicology - Dr. Karmakar
31. Text book of Forensic Medicine and Toxicology - Dr. Singhal
32. Text book of Forensic Medicine and Toxicology - Dr. Krishnan Vij
33. Forensic Pathology - Dr. Bernard Knight
34. Text book of Forensic Medicine Toxicology - Lyon's
35. Pocket picture guide to Forensic Medicine - Gower's Medical Publication
36. Forensic Medicine - Simpson Knight
37. Taylor's Principles and Practical of Medical Jurisprudence - J and A Churchis
38. Doctor and law - Singhal
39. Forensic Medicine Under Indian System of Medicine (Ayurveda) - U.N. Prasad
40. Medicine Harrison's Principal of Internal Medicine
41. Agad Tantra - Dr. Shekhar Namboodri
42. Modern Medical Toxicology - Dr.V.V. Pillay
43. Critical Care toxicology - Bruent Wallace
44. Diagnosis and Management of common poisoning - Agarwal wali
45. Colour Atlas of Forensic Medicine - Govindaiah
46. Guidelines of poisons - W.H.O.

- | | |
|--|---|
| 47. Doctors patients relationships | - Dr. Lavekar |
| 48. Bhavaprakasha. | |
| 49. Vishavaidya Jyotsnika—English translation By VPSV Ayurveda college, Kottakkal. | |
| 50. Lakshnamritham | |
| 51. Toxicology, Ayurvedic perspective | - VPSV Ayurveda college,
Kottakkal |
| 52. Text book of Agadatantra | - Edited by Dr. Huparikar,
- Dr. Joglekar |
| 53. Agadatantra ki Pathyapustaka | - Edited by Dr. Huparikar
- Dr. Joglekar |
| 54. Vyavahar Ayurveda Vigyanam | - Dr. Indramohan Jha
(Sachchan) |
| 55. Forensic Medicine | - Dr. B. Umadathan |
| 56. Visha Chikitsa | - Dr. M. Balakrishnan Nair |
| 57. Park Text book of Preventive and Social Medicine. | - K. Park |
| 58. Environmental Science and Biotechnology | - Theory and Practice – A.G.
Murukesan & C. Rajakumari |
| 59. Veterinary Toxicology | - Dr. Satish K Gargi |
| 60. Guide to Drinking Water Quality (3 Volumes) | - WHO Publication |
| 61. A short Text Book of Medical Entomology | - H.S. Bhatti, R. Sehgal,
- R.C. Mahajan. |

7. SWASTHAVRITTA AND YOGA

Theory – 400 Marks (100 Each)

Practical and Viva-Voce- 100 Marks

PAPER I

100 Marks

VAIYAKTIKA SWAATHAVRITTAM SADVRITTAM CHA **(PERSONAL HYGIENE AND MORAL CONDUCT)**

PART A

50 Marks

1. Concept of holistic health according to Ayurveda. Parameters of Health.
2. Spectrum of health, Iceberg phenomenon of diseases, dimensions of health.
3. Dinacharya – Detailed accounts by Charaka, Sushruta, Vagbhata and Bhavamishra.
4. Probable Physiologic effect of Dinacharya procedures- Ayurved and Modern view.
5. Ratricharya – Bhavamishra and other classics.
6. Ritucharya – Classical description by Charaka, Sushruta, Vagbhata, BhelaSamhita and Bhavamishra.

7. Ritus prevalent in various Indian states.
8. Ritu, Day and night pattern in various countries.
9. Shodhana Schedule for Ritusandhis.
10. Concept of Vegas, types and the importance of vegadharana in swasthyarakshan.
11. Sadvritta – As per Charaka, Sushruta and Vagbhata.
12. Prajnaparadha – Causes, Effects and Solution.
13. AcharaRasayana, Nityarasayana.
14. Rasayana procedures for Swastha
15. Vajeekarana for Swastha.
16. Mental Health and the role of Ayurveda in it.
17. Principles of Health Education.
18. Genetics in Ayurveda and Modern Science.

PART B

50 Marks

1. Principles of Trayopasthambha.
2. Details of Ahara, Nidra, Brahmacharya
3. Ahara – Classical food items in Charaka, Sushruta, Vagbhata and Sharangadhara.
4. Aharavargas and comparison with today's food items.
5. Staple diet of various States of India.
6. Staple diet of various countries in correlation with their climate.
7. Principles of Ayurvedic Dietetics and Modern view of nutrition. Balanced diet for healthy adult, adolescent, elderly people, pregnant ladies and lactating mothers.
8. Food intervention in malnutrition, under nutrition, over nutrition and Life style related diseases viz.Sthoulya, Hridroga, Madhumeha, SandhigataVataVikara.
9. Rules of food intake according to Charaka, Sushruta and Vagbhata.
10. Pros and Cons of vegetarian and non vegetarian foods.
11. Viriddhahara – Classical and modern day examples.

PAPER II

100 Marks

SAMAJIKA SWASTHAVRITTAM (COMMUNITY HEALTH)

PART A

50 Marks

1. Concept of community health.
2. Concept of Prevention according to Ayurveda.
3. Concept of Prevention according to Modern medicine. Levels of prevention. Stages of intervention.
4. Web of causation of diseases, Multifactorial causation.
5. Natural History of diseases.

6. Medical Entomology- Arthropods of Medical importance and their control measures.
7. Primary knowledge of parasites in relation to communicable diseases.
8. Old age problems in community. Role of Ayurveda in Geriatrics.
9. Care of the disabled. Palliative Health Care.
10. Life Style disorders (Non Communicable diseases) in community and the role of Ayurveda in them.
11. Disinfection practices for the community – Modern and Ayurvedic.
12. Immunization programmes. Possible contribution of Ayurveda.

PART B

50 Marks

1. Ecology and community health.
2. Environment and community health (Bhumi, Jala, VayuShuddhikarana, Prakasha, Shabda). Natural & Man made Radiations.
3. Effect of Pollution and Global Warming on Health
4. Housing – W.H.O Standards. Design of Aaturalaya(hospital), Sutikagara, Kumaragara, Panchakarmagara and Mahanasa (Kitchen)
5. Methods of Disposal of Wastes- Refuse&Sewage. Methods of Sewage disposal in sewerred and unsewerred areas.
6. Occupational Health. Ergonomics. Role of Ayurveda in Occupational health.
7. School Health Services and possible contribution of Ayurveda.
8. Demography and Family Planning. National Population Policy.
9. Family welfare, RCH Programme and the role of Ayurveda in it.
10. Health tourism. Ayurvedic Resort and wellness Management- Panchakarma and allied procedures.
11. Medical Sociology.

PAPER III

100 Marks

SAMKRAMAKA ROGA PRATISHEDHAM EVAM SWASTHYAPRASHASANAM **(EPIDEMIOLOGY AND HEALTH ADMINISTRATION)**

PART A

50 Marks

1. Modern Concept of Epidemiology.
2. Disease Surveillance.
3. Critical evaluation of Janapadodhwamsa.
4. Epidemiology of different Communicable diseases in detail.
5. General investigations for Communicable diseases
6. Investigation and control of Epidemics
7. Sexually Transmitted Diseases and their control
8. Ayurvedic view of SamkramakaRogas.
9. Epidemiological studies in relation to Diet and Life Style.

10. Host Defenses.
11. Vyadhikshamatva – Modern and Ayurvedic concepts.

PART B

50 Marks

1. Health advice to travellers.
2. Isolation ward in Hospital.
3. Bio medical waste management
4. National Health Programmes. Contribution of Ayurveda in National Health Programmes.
5. AYUSH, NRHM, administration, functions and programmes. Role of Ayurved in Rural and Urban Health Mission.
6. Central, State and District Health administration including Panchayat Raj System.
7. National Health Policy and Role of Ayurved in it.
8. National and international Health Agencies and their current activities.
9. Disaster management and Preparedness
10. Statistics related with Infectious diseases at International, National and State levels
11. Vital Statistics

PAPER IV

100 Marks

YOGA

PART A

50 Marks

1. History and evolution of Yoga
2. Different Schools of Yoga
3. Concept of Rajayoga
4. Ashtanga yoga philosophy of Patanjali including the yogasutras.
5. Hathayoga – according to Hathayogapradeepika, GherandaSamhita and Shivsamhita.
6. Karmayoga – Philosophy according to Bhagavad Gita.
7. Mantrayoga, Layayoga, Jnanayoga and Bhaktiyoga.
8. Physiological effect of Yoga on Body and mind – Ancient and modern concepts.

PART B

50 Marks

1. Concept of Sthula, Sukshma and Karana Shariras
2. Concept of Panchakoshas
3. Concept of Shad chakras and kundalini
4. Shad Kriyas- Classification, procedure and their effects.
5. Interventions of Yogic practices in the following diseases – Diabetes, Hypertension, Cardiovascular disorders, Obesity, Piles, Irritable Bowel Syndrome, Skin diseases viz.Eczema, Psoriasis, Stress Disorders, Eye disorders, Musculoskeletal disorders, Mental retardation, Depression, Neurosis, Sexual Dysfunction, Uterine Disorders, Cancer, Asthma and Upper respiratory diseases.

6. Yoga in Ayurveda – Concept of moksha, Tools for Moksha, Naishthikichikitsa, TatvaSmriti, Satyabudhhi, YoginamBalamAishwaram (Charaka Samhita Sharirasthana chapter 1 & 5)
7. Introduction to Nisargopachara, Basic Principles of Western School of Nature Cure and Indian School of Nature Cure – PanchabhutaUpasana and its therapeutic utility.
8. Different types of Massage and their therapeutic effects

Practical Exam

100 Marks

1. Health promotive and protective practices of Dinacharya procedures viz. Dantadhavana, Anjana, Nasya, Kavala, Gandusha, Dhumapana, Abhyanga, and Udvartana.

2. Practical Demonstration of Yoga

a. Aasanas (26)

1. Swastikasan
2. Gomukhasan,
3. Ushtrasan,
4. Kukuttasan,
5. Uttankurmasan,
6. Dhanurasan,
7. Matsyendrasan,
8. Mayurasan,
9. Bhadrasan,
10. Sinhasan,
11. Sarvangasan,
12. Shirshasan,
13. Pavanmuktasan,
14. Bhujangasan,
15. SuptaVajrasan,
16. Katichakrasan,
17. Siddhasan,
18. Padmasan,
19. Trikonasana,
20. Paschimatanasan,
21. Vajrasan,
22. Shavasana,
23. Makarasan,
24. Uttanpadasana
25. Setubandhasana
26. Tadasana

& Suryanamaskara

Knowledge of different props for yogasanas (if possible)

b. Pranayama

1. Nadishudhhi- Anulom, VilomPranayam,
2. Suryabhedini,
3. Ujjayi,
4. Sheetali,
5. Sitkari
6. Bhasrika,
7. Bhramari,

c. Mudra

1. Viparitakarani
2. Yoga Mudra
3. Maha Mudra
4. Brahma Mudra
5. Ashwini Mudra

d. Bandha

- 1) Jalandhara, Uddiyana, mulabandha

e. Meditational Practices

- f. **Shuddhikriya** – JalaNeti, Sutra Neti, JalaDhauti, Kapalbhathi, Tratak Basti, Nauli, vastradhauti (if possible), shankhaprakshalana (if possible)

3. Practical Demonstration of Naturopathy procedures.

1. Mruttika Patti
2. Pada and Hasta Snana
3. Bashpasnana (Steam bath)
4. Awagahana (Immersion bath)
5. Prishtasnana (Spinal bath)
6. Katisnana (Hip bath)
7. Alternate hot and cold bath
8. Observe Jacuzzi and whirlpool bath at available places.

4. Long case sheets for Pathya, Apathya, Aushadhi (if needed), and Yoga advice to:

1. Non communicable diseases 20 (Proforma attached as Annexure 'A' / 'E')
2. Communicable diseases 10 (Proforma attached as Annexure 'B')
3. GarbhiniParicharya05 (Proforma attached as Annexure 'C')
4. Mal Nutrition treatment cases 05 (Proforma attached as Annexure 'D')
5. Case studies of Immunization cases 10 (Proforma attached as Annexure 'F')

5. Departmental Practicals

1. Dantadhawana – 2
2. Anjana – 2
3. Nasya – 2
4. Gandusha – 2
5. Kavala – 2
6. Dhoompana – DhumavartiNirmana – 2

6. **Educational Visits-** The brief report of each visit (Minimum 10 compulsory) should be written by student in a journal (Duly signed by the Supervisor and HOD)

- 1) Water Purification Centre,
- 2) Milk Dairy,
- 3) Industry,
- 4) Leprosy centre,
- 5) T.B. Centre,
- 6) Yoga Centre,
- 7) Naturopathy Centre,
- 8) Primary Health Centre,
- 9) Disposal of Waste Unit,
- 10) Sewage Disposal Unit,
- 11) Hospital Disinfection – Fumigation,
- 12) Govt. Psychiatric Hospital,
- 13) Isolation Hospital,
- 14) Anti Retroviral Treatment Centre,
- 15) District / Civil Hospital

7. **Field Work**

1. Active Participation in various National Health Programmes
2. Community Health Survey
3. School Health Check-up (minimum 100 students)

8. **Departmental duties :** Regular attendance as- Duty in OPD and IPD with regard to Pathyapathya, Yoga and Nisargopachar.

1. Museum Development
2. Yoga training for self, Swastha and patients.
3. Departmental Seminars
4. Research Journal / Article Reviews
5. Submit minimum 1 paper in journal/magazine as per MSR.
6. Practical knowledge of AharaDravya&Adulteration of Food
7. Proper planning, beginning, completion of Dissertation work under the supervisor
8. Micro Teaching (Training to take Lectures and Practicals of UG). Minimum 10.
9. Weekly minimum 5 hours Library attendance
10. Daily diary- Log book

Format of Practical / Oral Examination

Heading of Practicals

1. Daily work book-Log book

-100 Marks

- **05**

2. Case Record Sheets	-	30
a. One Long Case (Pathya-Apathya advice)	-	10
b. Two Short Cases(10x2) (Yoga and naturopathy advice each)	-	20
3. Spots on nstrument/Equipment/Medicine/Solve a a Problem(10 Spots x1)-		10
4. Dissertation Presentation	-	25
5. Viva Voce	-	30

Reference Books:-

1. Relevant portions of Charak, Sushruta, Vagbhata (AshtangHrudaya), Ashtang
2. Samgraha, Sarangadhara, Bhavaprakasha, Madhavanidan&Yogaratanakara, Bhela
3. Samhita with the respective commentaries
4. SwasthavrittaSamuchaya –VaidyaPt.RajesvarDuttaShastri
5. SwasthavrittaSamuchaya – VaidyaPt.RajesvarDuttaShastri
6. SwasthyaVignyana – Dr.B.G.Ghanekarshastri
7. Swasthavritta – Dr. Shivkumar Gaud
8. Swasthavrittavigyan – Dr.Ramharsha Singh.
9. Swasthavrittam – Dr. Bramhanand Tripathi
10. SwasthaVigyan – Dr. MukundswaroopVerma
11. AyurvediyaHitopadesh – Vd.RanjitRai Desai
12. AyurvediyaSwasthvrittam – Vd.Jalukar
13. Swasthavritta – Vd.Sakad
14. Patanjalyogadarshan,
15. HathayogPradipika – Swatmaramyogendra (Kaivalyadhama)
16. GherandSamhita
17. Shiva samhita – Kaivalyadhama
18. Yoga and Ayurveda – Dr. Rajkumar Jain
19. Patanjalyogasutra – Karambelkar,
20. Patanjalyogadrashanarthatbharatiyamanasshastra – Kolhatkar
21. YogikChikitsa – ShriKedarnath Gupta
22. SachitraYogasanDarshika – Dr.indramohanJha
23. Yogadeepika – Shri B.K.S. Iyengar
24. Positive Health – Dr.L.P.Gupta
25. Yoga and Yogikchikitsa – Ramharsha Singh
26. The Foundation of Contempary Yoga – R.H.Singh
27. YogasidhantaevumSadhna – H.S.Datar
28. Light on Yoga - Shri B.K.S. Iyengar
29. Light on Pranayama - Shri B.K.S. Iyengar
30. Light on Patanjalyogasutra - Shri B.K.S. Iyengar
31. Biogenic Secretes of Food In Ayurveda – Dr.L.P.Gupta
32. Preventive and Social medicine – J.K.Park
33. Community Medicine – Baride and Kulkarni.

34. Preventive and Social medicine – Mahajan
35. Preventive and Social medicine – B.N.Ghosh
36. Preventive and Social medicine – Gupta
37. JanasankhyashikshasidhantaevamUpadeysa – S.C.Seel
38. Health and Family welfare – T.L.Devraj
39. Text book of Swasthavritta – Dr.Ranade, Dr. Bobade, Dr.Deshpande
40. Bio-Statistics – B.K. Mahajan
41. Reddy's comprehensive Guide to Swasthavritta – Dr.P.Sudhakar Reddy
42. Swasthavrittavidnyan – Dr.MangalaGauri
43. Swasthavrittavigyan – Vd. Patrikar Vijay
44. Swasthavritta – Vd Yashwant Patil and Vd. Vhawal
45. Food and nutrition – Swaminathan
46. Yoga and Nisargopachar- Vd. Prama Joshi
47. Yoga a Gem for Women (English and Hindi) – Geeta S Iyengar
48. Asana Pranayam Mudra Bandha – Swami SatyanandaSaraswati
49. The science of Yoga – Dharendra Brahmachari
50. Prakrutik Chikitsa Vigyan – Verma
51. Prakrutika Chikitsa – Kedarnath Gupta
52. Prakrutik Chikitsa Vidhi – Sharan Prasad

Annexure 'A'

PROFORMA

(Non – Communicable Disease case)

A. General Information :

1. Name of the Patient: 2. Age :Yrs.
3. Sex : Male/Female: 4.Religion : 5. Date of Admission:
6. Address :
7. Occupation : 8. Education :
9. Per Capita income :Rupees 10. Socio economic class (Modified.....)

B. Present illness :

1. Chief complaints (Chronological order) :

C. History of past illness :

1. Similar complaints in past:
2. Any other significant history :

D. History of illness in Family :

1. Type : 2. Composition :
3. Similar illness in family : Yes/no If yes, give details :

E. Life Style and personal history :

1. Occupation : Manual Work /Table Work/ Field work/ Administration / Any other (Specify).
2. Muscular exertion (occupational / domestic etc.) Minimum / Moderate / Heavy.
3. Exercise: Nil / Walking / Running / Jogging/ Cycling / Swimming/ Weight Lifting/
Anyother specify

4. Mental Stress & Strain : Occupational/ domestic/ any other specify
Hobby, Recreation :
5. **Diet :**
- Veg / Non Veg / Mixed
 - Total calorie intakecalorie /day adequate / inadequate/ excess.
 - Fat : adequate / inadequate/ excess Vegetable / Animal fats Predominantly saturated / unsaturated
 - Spice & Hot foods (Specify).
 - Regularity in taking meals
 - Type of diet : balanced /Non balanced (Give reason)
6. Sleep and rest : adequate / inadequate
7. **Habits & addictions :**
- Smoking: Yes /No / Past Smoker If Yes : Type /duration / quantity/ frequency.....
 - Alcohol : Yes / No / Past Alcoholic If Yes : Type /duration /quantity /frequency.....
 - Any Other : Specify, give details.
- F. General Examinations:**.....
- G. Systemic Examination :**RS/CVS/CNS/PA :
- H. Diagnosis :**i. Provisional :ii. Differential :.....
- I. Investigations :** Investigation done :
- Any further investigations required:
- J. Final Diagnosis :**
- K. Management :**Drug therapy (give details):Diet modification: Health Education / Life Style modification : Follow up :
- L. Prevention & Control Measures** Primary Prevention : Secondary Prevention : Tertiary Prevention : Sign.of Student : Sign.of Supervisor : Date:-

Annexure 'B'
PROFORMA
(Communicable Disease case)

A. General Information :

- Name of the Patient: 2. Age :Yrs.
- Sex : Male/Female: 4. Date of Admission :
- Address :
- Locality : Urban – Slum / Non – Slum / Rural / Other (Specify)
- Duration of Stay in the Locality ;(years/months)

8. Hospital Registration No..... 9. Date of Admission :
10. Religion/Caste:..... 11. Education:12. Occupation:
13. Type of Family : 14. Total No. of Family Members:
15. Total Family income:16. Per Capita income per month :.....Rs.
17. Socio-economic Status (As per classification) :

B. Chief Complaints (In Chronological Order)

1.....
2.....

C. H/O Present illness : **D. H/O Past illness:**

i. Similar complaints in past : ii. Any other significant history :

E. History of illness in the family:.....

F. Personal History a. Dietary : b. Immunization :

c. Habits :

G. Environmental history (Pertinent to the route of transmission)

i) Water Supply ii) Excreta Disposal iii) Drainage iv) Cattle v) Pet animals, Poultry vi) Housing condition vii) Over Crowding viii) insect nuisance ix) Courtyard of house etc.

H. Epidemiological information (Backward tracing of index case.)

i. Any similar case in the family / neighborhood / School / Place of recreation / any other

Specify ii. History of attending to similar case – if yes, when ?

iii. History of visiting any unaccustomed place if yes, When ?

iv. Total contacts V. High risk contacts.....

I) Provisional Diagnosis (with justification in brief)

J) Differential Diagnosis :

.....

.....

K) Investigation Done :

a. If yes, reports & your comments

b. Other investigations required (with reason) if any

L) Final Diagnosis :

M) Management of Patients : 1 Chemotherapy / Other drugs (Specify with name, dose schedule , route of administration, duration of treatments and precautions if any)

2. Diet modification 3. Personal Hygiene 4. Health Education

5. Any other (Specify) 6. Follow up :

N) Preventive & Control Measures at a). Family Level i. Chemoprophylaxis

ii. Immunization (Active / Passive) iii. Personal Hygiene (specify)

iv. Chemical disinfections of (Specify) Concentration, quantity, technique, contact period, way of disposal of disinfected material.

v. Follow upvi. Care of Contacts

b. Community Level i. General Intervention measures..... ii. Specific measures against the illness iii. Any other (Specify)

C. National Level

National Health Programme for control / Eradication of the disease or related health programmes.

Sign.of Student: Sign.of Supervisor: Date :-

Annexure 'C'
PROFORMA
(Ante-natal case)

A. General Information :

1) . Date of Examination : 2) Name: 3) Age :Yrs
4) ANC Registered : Yes/ No If yes, place/date/month of registration
5) Education of ptOccupation of pt6) Education of
Husband..... Occupation of Husband.....7) No of family members
Total family incomeRs/month. 8) Socio-economic class(as
per Modifiedclassification). 9) Address :

B) Complaints – if any :

C) Menstrual History : Menarche, cycles-day/month, regularity, flow etc. L.M.P
.....E.D.D.....

D) Obstetric History : GestationalAge (wks)Type of Delivery
Hosp./Home.....Conducted byBaby alive/stillborn/abortion.....
Live birthintervalUse of contraceptives(specify).....
1 2.....

E) Family History :.....

F) Past History : Hypertension/Diabetes/S.T.D./T.B./Leprosy etc.

G) Personal History : Bowel/Bladder/Sleep/Appetite/Habits/Addictions etc.
Immunization status : Tetanus toxoid / Any other (specify)a) For current
pregnancy..... b) For previous pregnancy.....Nutritional status
(based on calorie Intake, other nutrients, anthropometry etc.).....

H) General Examination :

- HeightCms./ Wt.kgs,/TPR / B.Pmm of Hg
- Pallor/Icterus/ Cyanosis/Oedema/ Lymphadenopathy. any other (specify)
- Cleanliness of: Skin/ Nails/Hair/Clothes/Eyes/Ears/Nose/Oral Cavity/breasts & Nipples etc.

I) P/A Examination:

- Ht. of uterus/presentation and lie of foetus / Head-floating or engaged /foetal movements/FHS/ Any other (specify)

J) Systemic Examination: RS/CVS/CNS

K) Investigations: - Urine:Albumin/sugar/microscopic/culture.

- Hb % Blood grouping & cross matching /VDRL/HIV/Blood Sugar

- Any other (specify)

L) Clinical impression :

- Whether high risk ? If yes, mention the risk factors.

M) Advice to the Patient and Management : Immunization/Diet/Supplementary nutrition/personal hygiene/preparation for motherhood/drugs given 9if any) / Warning signals/fallow up visits.

- Whether the patient/family members are availing services from Anganwadi /Other Community Health Centre/ Private Health Agency? If Yes – Give details
- Give details of referral in high risk cases

Follow up :

Findings & Re Marks (including advice)

During subsequent visits (mention the date of visits)

O) Comments :

Sign.of Student: Sign.of Supervisor : Date :

Annexure 'D'

PROFORMA

MALNUTRITION CASE (UNDER FIVE YEARS AGE)

A. General Information :

- Date of Examination :
- Name of the informer & his/her relationship with the child (case)
1. Name of the child : 2. Date of birth:..... 3. Age: 4. Sex:
5. Caste/ Religion : 6. Address :
7. Whether the child is attending Balwadi/ Nursery etc.
8. Father Mother
- I. Name : II. Age : III. Education :
- IV. Occupation : V. Income :
9. I. Total number of family members and family composition II. Total family income Rupees per month III. Per capita IncomeRupees per month
- IV. Socio economic Status as perclassification

B) Complaints (if any) :

C) History of Present illness :

D) History of Past illness (if any) :

E) Family history :

F) Birth history of the case :

- Place of delivery: Home/Hospital/Other (Specify)
- Delivery conducted by untrained or trained Dai /Nurse / Doctor etc.
- Type of delivery: FTND/ Pre mature/ SFD/Assisted delivery etc.

iv. Congenital anomaly: if any give details.

G) Anthropometry i. Weight:Kgs. ii. HeightCms. iii. Chest CircumferenceCms. iv. Head CircumferenceCms. V. Mid arm CircumferenceCms.

H) Immunization History

i. B.C.G./OPV/ DPT/Measles/Any other give details
ii. Immunization card available: yes/ No.

I) Dietary History

i. Breast feeding: Yes/ No a. If yes: Only breast feed or weaning started
b. If weaned : Age at weaning, type of weaning food etc.
c. If not breast feed: At what age breast feed stopped? (give reason if any).....
ii. a. Total calorie intake Calorie / day. b. Total Protein intakegram/day
iii. Calorie/ Protein deficient if any: Yes/No If yes mention percent of deficient
iv. Any other nutritional deficiency (Specify)

J) General Examination: 1) Built, nourishment & general appearance, 2) TPR, 3) Pallor, 4) Icterus, 5) Cyanosis 6) Lymphadenopathy, 7) Oedema, 8) Dehydration, 9) Eyes, 10) Ears, 11) Face, Nose, Lips & Tongue 12) Teeth gums oral cavity 13) Skin, nails hair, 14) Rachitic changes 15) Any other (specify)

K) Systemic Examination: RS/ CVS/PA/CNS/Gonads

L) Milestones of growth & development: Physical / Psychological/ Motor / intellectual/ behavioral/ Social Milestones: Normal/ Augmented / Delayed

M) Provisional diagnosis / Differential Diagnosis:

N) Investigations:

O) Diagnosis:

P) Management, Advise and comments:

Sign.of Student:Sign.of Supervisor: Date:

Annexure 'E'

PROFORMA

PATHYAAPATHYA, RUTUSHODHAN, YOGA ADVICE TO PATIENTS OF ATTACHED HOSPITAL.

A. General Information:-

1) Sr. No. 2) Name of the Patient:
3) Address :
4) OPD No. : IPD No. 5) Diagnosis:
6) Date of Advice:

B) Advice given

a) Pathya – Apathya i. Ahara: ii. Vihara:
b) RutuShodhanUpakarma : c) Yogopachar:

C) Date of follow up:

D) Remarks:

.....
.....

Sign.of Student:Sign.of Supervisor: Date:

Annexure 'F'

PROFORMA

CASE STUDIES – IMMUNIZATION CASE RECORD

1) Name of Child or Mother : 2) Age : 3) Sex :
4) Address :
5) Date of Birth 6) Name of Vaccine given : 6) Type of
Vaccine : 7) Dose : 8) Route of Administration :
9) Site of Administration : 10) Instructions to Mother :

Sign.of Student:Sign.of Supervisor: Date:

*

8. ROGA NIDANA

Theory- 400 Marks (100 Each)

Practical and Viva-Voce – 100 Marks

PAPER-I

100 Marks

FUNDAMENTAL PRINCIPLES OF ROGANIDANA

PART A

50 Marks

1. Paribhasha (Definitions): comprehensive definitions of Technical Terminologies such as: Roga, Nidana, Vikriti, Vijnana, Purvarupa, Rupa, Upashaya, Samprapti, Arishtha, Upadrava, Dosha, Dushya, Vyadhi, Vyadhi avastha, Ama, Kieda, Srotas, Srotodushti, Srotovaigunya, Avarana, Prajnyaparadha etc.
2. Concept and Pathological implications of Tridosha. 63 permutations and combination of Tridosha. Leena and Stambhita Dosha. Cause and importance of Tridosha in manifestation of Samprapti.
3. Concept of Rakta as a Chaturtha Dosha. Importance of Rakta in the manifestation of diseases.
4. Concept of Ashrayashrayi bhava and its applied utility.
5. Different types of Dosha Gati.

6. Causative factors and practical utility of movement of Doshas from Kostha to Shakha and Shakha to Kostha. Concept of Ashayapakarsha.
7. Trayo roga marga, their diseases and clinical importance of Roga Marga.
8. Concept and classification of Avarana, its role in pathogenesis, mode of diagnosis of Avarana and its importance in chikitsa sutra.
9. Applied aspect of Dhatu Poshana Krama and Dhatu Samvahana. Concept of Marga and Sthanastha Dhatus.
10. Concept and applied aspects of Doshapaka and Dhatupaka.
11. Fundamental and applied aspect of Dhatu, Upadhatu and Mala. Diseases developed due to their vitiation (pradoshajanya vikara).
12. Concept and applied aspects of Srotas, their importance in health and diseased conditions. Concepts and applied aspects of Sroto Dushti and Khavaigunya. Understanding the various srotas which are not included in classical list of srotas but enumerated while describing the samprapti of diseases.
13. Description of Dosha-Dushya-Sammurchhana, Concept of Prakriti Sama Samaveta and Vikriti Vishama Samaveta Sammurchhana. Importance of Dosha-Dushya-Sammurchhana in Diagnosis and treatment.
14. Concept of Vikara vighata bhavabhava prativisesha.

PART B

50 Marks

1. Concept of Agni and its role in manifestation of health and disease.
2. Concept and pathogenesis of Ama. Contemporary interpretation of Ama and its role in pathogenesis.
3. Sama, Nirama stages of Dosha, Dhatu and Mala.
4. Understanding Samprapti of Santarpanottha and Apatarpanottha Vyadhi.
5. Detailed classification of diseases as described in Ayurveda. Knowledge of ICD, DSM and other systems of classification of diseases.
6. Detailed understanding of Nidan Panchaka with their classification and clinical importance.
7. Nidanakaratra of contemporary food items and lifestyle.
8. Relation between 'Hetu & Lakshana' and 'Samprapti & Lakshana'.
9. Explanation and applied aspects of Kriyakala and its utility in diagnosis and treatment.
10. Importance of Upadrava, Arishta and Sadhyasadyata and Udarka.
11. Natural History of the Diseases, concept of vyadhisankara in Ayurveda.

PAPER – II

100 Marks

ROGA VIJNANA

PART A

50 Marks

- Comprehensive knowledge of diseases mentioned in Samhitas.

- Knowledge of classical Samprapti of following diseases with interpretation of Nidana Panchaka including Upadrava, Arishta and Sadhyasadyata and Chikitsa Sutra. Knowledge of commonly occurring diseases of the respective systems mentioned in contemporary medicine.
1. Diseases of Pranavaha srotas- Kasa – Shwasa – Hikka – Urahkshata – Shosha – Rajayakshma and common clinical entities like Pneumonia, Pleural effusion, Bronchitis, Bronchiectasis, Pulmonary Tuberculosis, Bronchial Asthma.
 2. Diseases of Annavaha- Pureeshavaha Srotas- Agnimandya – Ajirna – Aruchi- Chhardi, Amlapitta- Shoola, Grahani – Gulma- Udara Roga –Vibandha, Atisara – Pravahika along with Various clinical presentations. Common clinical entities like Peptic Ulcer, Irritable Bowel Syndrome, Diarrhoea, Dysentery, Constipation, ulcerative colitis. Nutritional disorders.
 3. Diseases of Udakavaha Srotas- Trishna, Daha and knowledge of water and electrolyte imbalance disorders.
 4. Diseases of Rasavaha Srotas – Jwara. Common clinical entities like various types of Fever- Malaria, Typhoid, viral fevers. Pandu, Amavata, Hridroga, Shotha and common clinical entities like Anaemia & its Classification, Rheumatic fever, Rheumatoid Arthritis, Angina, Ischaemic Heart Disease, Hypertension, Myocardial Infarction, Congestive cardiac failure. Endocrinal disorders.
 5. Diseases of Raktavaha Srotas- Kamala – Raktapitta – Vatarakta – Kroshtukaseersha – Shitapitta – Maha Kushta – Visarpa – Shwitra and Kshudra Kushta and common clinical entities like jaundice, hepatitis, bleeding disorders, Gout, Thrombo Angitis Obliterans (TAO), Deep Vein Thrombosis (DVT), Leukaemia, Thalessemia, Sick cell Anaemia. Introduction to Urticaria, Psoriasis, Eczema, Pemphigus, Herpes.
 6. Diseases of Mansavaha srotas- Introduction to Granthi, Arbuda, Galaganda and Arsha. All types neoplasia.

PART B

50 Marks

1. Diseases of Medovaha srotas- Sthoulya – Karshya – Prameha and common clinical entities like Obesity and Diabetes Mellitus.
2. Diseases of Asthi – Majjavaha srotas – Sandhigataavata, Introduction to Asthi- majjaparipaka, Asthigata Vidaradhi and common clinical entities like Osteo- Arthritis, Osteomyelitis, Osteoporosis.
3. Vatavyadhi-Akshepaka – Apatanaka – Ardita - Pakshaghata – Gridhrasi – Viswachi, Avabahuka, Manyasthambha – Katigraha- Pangutwa- Khanja-Khalwee and common clinical entities like Hemiplegia, Parkinson's disease, Lumbago- Sciatica syndrome, Bell's Palsy, Ankylosing Spondylitis, Motor Neuron Disease and other commonly occurring neurological diseases.
4. Diseases of Sukravaha srotas- Klaibya and Vandhyatva and understanding of male and female Infertility, Impotence.

5. Diseases of Mutravahasrotas – Mutrakrichha, Mutraghata, Ashmari, common clinical entities like Urinary Tract Infection, Urolithiasis, Nephropathies & Renal failure.
6. Diseases of Swedavaha srotas-knowledge of khalitya, Palitya and Cosmetology.
7. Diseases of Manovaha Srotas – Vishada, Udvega, Bhaya, Bhrama, Anidra, Mada, Murchha, Sanyasa, Apasmara, Unmada, Atatwabhinivesha and common clinical entities like Depression, Anxiety neurosis, Phobia, Personality disorders.
8. Indriya Pradoshaja Vikara.
9. Jara janya Vyadhi: Common Geriatric disorders.
10. Concept and tools for the study of Anukta Vyadhi- unexplained and newly emerging diseases such as AIDS, Dengue, Chickungunia, H1N1, Leptospirosis, Metabolic syndrome etc.
11. Understanding the concept of karmaja vyadhi.

PAPER – III

100 Marks

PARIKSHA VIJNANA [Clinical Examination And Laboratory Diagnostics]

Part A

50 Marks

1. Introductio to Clinical methods and technique for th study of clinical examination
2. Importance of medical history taking and its importance in clinical medicine.
3. Aims, Objectives and Methods, applied aspects and importance of various Rogi and Roga Pariksha as per classics.
4. Srotas Pariksha, Shadanga PARiksha vis-à-vis general & systemic examination of patient.
5. Interpretation of Charakokta trividha pramana pariksha and Sushrutokta shadvidha pariksha with clinical methods mentioned in modern medicine.
6. Interpretation and use of ashtasthana nirikshana along with use of current tools as per Ayurveda.
7. Charakokta dashavidha and Sushrutokta Dwadashavidha pariksha along with the use of modern supportive tools for understanding of rogibala and roga bala concept to derive chikitsa sutra.

Part B

50 Marks

1. Ayurvedic interpretation of all relevant findings of modern clinical examinations.
2. Understanding of diagnostic procedures in medical emergencies.
3. Concept of good clinical practice in Ayurveda and modern medicine.
4. Knowledge of standard clinical laboratory set up.
5. Knowledge of Ancillary common laboratory investigations for diagnosis of diseases, their methods, normal and abnormal values, factors influencing values & clinical significance as mentioned in practical syllabus.
6. Importance of Bio markers and their utility in clinical researches.
7. Update Knowledge of emerging diagnostic tools and technologies.
8. Knowledge of various Ayurvedic diagnostic softwares/programmes available.

9. Avayava Pariksha – Radio – imaging Techniques, Sonological Techniques, ECG, EEG etc and their clinical interpretation.

PAPER – IV

100 Marks

VIKRITI VIJNANA AND JIVANU VIJNANA

[GENERAL PATHOLOGY, PARASITOLOGY AND MICROBIOLOGY]

Part A

50 Marks

1. Introduction to general pathology .
2. Cell injury and cellular adaptations.
3. Immunopathology including amyloidosis. The concept of Ojas vis-à-vis Bala, Anurjata, Asatmya, Hypersensitivity.
4. concept of Shotha ; Inflammation, oedema and healing.
5. Derangement of Homeostasis and Hemodynamic disorders.
6. General character and classification of Neoplasia.
7. Concept of genetic diseases and Bija dosha.

Part B

50 Marks

1. Upasargajanya Vyadhi (Communicable diseases)- Romantika –Measles, Chickenpox Upadamsha – Phirang and introduction to Syphilis, AIDS, Leprosy, Tuberculosis
2. Detail study of Krimi Vigyanam with classification and diseases caused.
3. Concept of Snayuka, Shleepada and introduction to Filariasis and classification, mode of infection, life cycle and diseases caused by common parasites.
4. Concept and applied aspects of Janapadodhvasa and Environmental diseases.
5. Knowledge of common Bacteria, Virus, Fungi and their classification with their disease processes, Nutrition requirements, media and methods for culture and sensitivity.

PRACTICAL DEMONSTRATION AND HANDS ON EXPERIENCE:-

1. Regular posting in Roga Nidana / Hospital O.P.D.
2. Regular posting in Roga Nidana / Hospital I.P.D.
3. Regular posting in Laboratories
4. Regular posting in other departmental units and Educational Tour to update current medical knowledge.
5. Laboratory record – maintenance of observation diary and laboratory record book.
6. Experience in conducting following laboratory investigations for diagnosis of diseases and their methods
 - a) Hematological, Biochemical and Serological measures, Peripheral blood film examination.
 - b) Rapid diagnostic techniques.
 - c) Screening test for bleeding disorders- Platelet Count, bleeding time (BT), Clotting time (CT), Prothrombin time (PT).
 - d) Blood grouping – ABO system, Rh typing (Rhesus system)
7. Urine Examination

- a) Ayurveda anusara mutra pariksha.
 - b) Physical Examination, Chemical Examination, and Microscopic Examination.
 - c) Dipstic Examination.
8. Stool Examination
 - i. Ayurveda anusara purisha pariksha-Physical examination – Sama-Nirama Pariksha
 - ii. Microscopic and macroscopic examination of stool.
9. Sputum Examination
 - a. Ayurveda pariksha anusara sthivana.
 - b. Physical, Chemical and Microscopic Examination of the sputum.
10. Semen examination
 - a. Ayurvediya anusara Retas pariksha.
 - b. Semen examination & clinical interpretation
11. Biochemical tests related to various organ panels- Liver, Kidney, Heart, Thyroid, Pituitary and Bones.
12. Knowledge of different staining techniques in microbiology.
13. Knowledge of Sero-immunological Investigations: RA, Widal test, ASLO titer, ANA etc.
14. Physical, Chemical, microscopic, biochemical and bacteriological tests for various kinds of body aspirates.
15. Knowledge of histopathological techniques.

BEDSIDE PRACTICAL / CLINICAL METHODS

1. Expertise in clinical methods (General and Systemic Examination).
2. Practical knowledge of examination of Roga based on Pancha Nidan.
3. Practical knowledge of instruments used for clinical examinations.
4. Practical records of clinical examination of at least 30 long cases in I.P.D.
5. Practical records of clinical examination of at least 30 short cases.
6. Practical knowledge of ECG, USG and Imaging techniques and their clinical interpretation.
7. Understanding of various Ayurvedic diagnostic softwares/programmes available like Ayu soft, Rudra, Ayut Nidana etc.

PATTERN OF EXAMINATION

- As per MSR, at least one paper to be published / accepted in a peer reviewed Journal.

Practicals:	-	100 Marks
1. Observation Diary	-	05 Marks
2. Laboratory record	-	05 Marks
3. Short Case (including Case Record)	-	10 Marks
4. Long Case (including Case Record)	-	15 Marks
5. Laboratory Work	-	15 Marks
6. Thesis Presentation	-	20 Marks

7. Teaching aptitude (audio-visual presentation)	-	05 Marks
8. Viva Voce	-	25 Marks

REFERENCE BOOKS

1. Charaka Samhita with Various Commentaries	
2. Madhava Nidana with various commentaries	
3. Abhinava Vikriti Vigyana Dwivedi	- Acharya Raghuvir Prasad
4. Doshakaranatwa Mimamsa	- Acharya P.V. Sharma
5. Nadi Darshan	- Vd. Tara Shankar Mishra
6. Nadi Vigyanam	- Vidyotini Hindi Tika
7. Nadi Vigyan	- Shri Satya Dev Vashisht
8. Nadi Vigyan	- Gangadhar Tika
9. Nadi pariksha	- Vaidya VB Athavale
10. Nadi pariksha	- GP Upadhyay
11. Rogi Pariksha vidhi	- Acharya Priyavrata Sharma
12. Roga Vigyan	- Dr. Vinay Kumar
13. Siddanta Nidan	- Gananatha Sen
14. Ayurvediya Roga Vargikaran Singh	- Vd. Ramanath and Vd. Gurdip
15. Ayurvediya Nidan Evum Chikitsa Ke Siddhanta	- Prof. Ram Harsh Singh
16. Relevant portions of Charak Samhita, Sushrut Samhita and Vagbhata	
17. Clinical methods in Ayurveda	- K.R.S. Murthy
18. Parameswarappa's Ayurvediya Vikriti Vigyan and Roga Vikriti Vigyan	- Dr. P.S. Byadgi.
19. Nidan Panchaka	- Prof. SC Dhyani
20. Samprapti lakshana yoh sambhandah	- K.Sadashiva Sharma
21. Clinical Diagnosis in Ayurveda in Roga Nidana and Vikriti Vigyana	- Vaidya Vasant Patil
22. Oxford Handbook of Clinical Examination and Practical Skills	- Oxford Handbooks
23. Symptoms & signs in clinical Medicine	- Chamberlains
24. Clinical Methods	- Hutchinson's
25. Bedside Clinics in Medicine Part- I & II	- Kundu
26. Practical Pathology	- Dr. K. Uma Chaturvedi
27. Medical Laboratory Technology	- R. Sood
28. Clinical Diagnosis and Management by Laboratory methods	- Todd, Sanford and Davidson
29. Robbins Basic Pathology	- Kumar, Abbas, Fausto at
30. Text Book of Pathology	- William Boyds.
31. Text Book of Pathology	- Harsh Mohan
32. Text Book of Pathology	- Dey and Dey

33. Text Book of Parasitology	- Ramnik Sood
34. Clinical Pathology and Bacteriology	- S.P. Gupta
35. A Text Book of Microbiology	- Ananthanarayana, PANIKAR

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9. PRASUTI TANTRA – STREE ROGA

Theory- 400 Marks (100 Each)
Practical and Viva-Voce- 100 Marks

PAPER – I

100 Marks

GARBHAGARBHINI VIGYANA

1. Applied Anatomy of female Genito urinary system, Pelvis and Pelvic floor. Pelvic assessment and foetal skull.
2. Physiology, Neuro endocrinology and Pathology of puberty and Neuroendocrine control of menstrual cycle. Artava, Rituchakra, Streebija, Pumbija.
3. Garbha Sambhava samaagri, Garbhadharana, Pre-conceptional counseling and care , Pumsavana, Garbhasya shad dhatvatmakata, Garbhavakranti, Matrijadi bhava, Garbha vriddhi, role of Panchamahabhuta in the formation and development of foetus. Garbhasya avayavotpatti, Fundamentals of reproduction – gamatogenesis, Fertilization, Implantation and early development of human embryo.
4. Apra, Garbhodaka Jarayu, Nabhinadi. Placenta, amniotic fluid, membranes and umbilical cord – their formation, structure, Functions and abnormalities. Garbha – Poshana, Garbha shareekriya vaishishtyam, Garbha lingotpatti, Garbha varnotpatti, Garbhasya masanumasika vriddhi. Foetal physiology, circulation, Foetal growth and development.
5. Bija – Bijabhaga – Bijabhagavayava janya garbhanga vikrithi. Genetics, Birth defects and other teratologic abnormalities.
6. Garbhini nidana, sapekshanidana, Garbhakalina matrigata parivartana, lakshana, Dauhrida. Diagnosis and differential diagnosis of pregnancy, anatomical and physiological changes during pregnancy, Endocrinology related to pregnancy, Immunology of pregnancy.
7. Garbhiniparicharya, Masanumasika Pathya Apathya evum Garbha upaghatakara bhava. Ante Natal care, examination investigations and management.
8. Garbhasankhya nirnay, Bahu apatyata, Multiple pregnancy.
9. Garbhavyapada – causes, clinical features, complications, management and treatment of Garbhasrava and Garbhapada, Upavishtaka, Nagodara /

Upashushka, Lina Garbha, Goodagarbha, Jarayu Dosha, Antarmrita garbha, Garbha shosha, Garbha kshaya, Bhutahrta garbha, Raktagulma. Abortions, I.U.G.R, Intrauterine Foetal death, Ectopic pregnancy, gestational trophoblastic diseases.

10. Garbhini vyapada – nidana panchaka and chikitsa of garbhini vyapad. Early recognition, differential diagnosis and prompt management of pregnancy complications, Emesis and Hyperemesis gravidarum, Anaemia, Pregnancy Induced Hypertension, Pre-eclampsia, Eclampsia, Antepartum hemorrhage, Rh-incompatibility. Management of pregnancies complicated by medical, surgical or Gynecological disorders in consultation with the concerned specialties by team approach.
 - a. Pyrexia, Heart disease, Diabetes mellitus, Liver disorders, Respiratory diseases, Renal diseases, Epilepsy, Hypertensive disorders.
 - b. Fibroids, Ovarian tumors, Genital prolapse.Infections in pregnancy: Toxoplasmosis, Viral infections, Tuberculosis, UTI, Rubella, CMV, Hepatitis-B, Herpes, Syphilis and other Sexually Transmitted Infections including HIV etc., Prevention of mother to child transmission of HIV infection (PMTCT).
11. Jataharini relate to garbhini avastha
12. Evaluation of Foetal and Maternal health in complicated pregnancies by making use of diagnostic modalities.
13. Prenatal diagnosis of foetal abnormalities and appropriate care. PNDT Act and its Implications.

14. Panchakarma and Yoga in Prasuti tantra

Vishesh adhyayana of –

Ashtanga Hriday Sharira	-	Adhyaya 1 st (Garbhavkranti)
Sushruta Samhita Sharira	-	Adhyaya 3 rd (Garbhavkranti)
Charak Samhita Sharira	-	Adhyaya 8 th (Jatisutriya)

PAPER – II

100 Marks

PRASAVA – VIGYANA

Prakrit Prasava

1. Prasava paribhasha, Prasava kaal, Prasava prarambha karana, Prasava kalina garbha sthiti, Aavi, Sutikagara.
 - a) Initiation and onset of parturition.
 - b) Examination and evaluation of patient in labour.
 - c) Physiology of labour.
 - d) Mechanism of labour.
 - e) Selection of place of delivery and labour room.
2. Prasava avastha evum paricharya
 - a) Stages of normal labour
 - b) Intrapartum maternal and foetal monitoring
 - c) Management of normal labour

Prasava vyapad

1. Etiopathogenesis, clinical features, prevention and management of Garbhasanga, vilambita prasava, Mudhagarbha and Aparasanga.
 - a. Prolonged labour.
 - b. Cephalo pelvic disproportions
 - c. Malpresentations
 - d. Obstructed labour
 - e. Methods of Induction and Augmentation of labour.
2. Complications of different stages of labour
3. Obstetric management of high risk Pregnancies- Pre eclampsia, Eclampsia, Diabetes, cardiac diseases, Asthma, Epilepsy, Ante partum haemorrhage, Preterm & Premature rupture of membranes, Preterm and Post term delivery, Multiple pregnancy, IUGR & HIV –AIDS
4. Still birth- diagnosis, complications and management.
5. Foetal distress

Jatamatra / Navajata Shishu paricharya

1. Examination and management of neonate.
2. Management of birth asphyxia.
3. Detection of congenital malformation in newborn and timely referral for correction.

Sutika Vigyana

1. Sutika Paribhasha, kala maryada, paricharya.
2. Sutika vyadhi and their chikitsa.
3. Stana sampat, Stanya utpatti, Stanya sampat, Stanya pariksha, Stanya vriddhi, Kshaya and dusti karana, lakshan and its chikitsa, stana shotha, stana vidhradhi.
4. Lactation disorders
5. Normal and abnormal puerperium.

Obstetric Shock and management

1. Raktadhana: blood transfusion and replacement of blood constituents.
2. Management of fluid and electrolyte imbalance in obstetrics.

Drugs used in obstetric practice, indications/contraindications, doses and side effects. (Modern and Ayurvedic)

Recent studies and advancement in the field of Prasuti Tantra.

Vishesha Adhyayana of –

Ashtanga Hridaya Sharira Sthana 2nd Adhyaya – Garbha vyapad

Sushruta Samhita Nidana Sthana 8th Adhyaya – Mudhagarbha nidana

Sushruta Samhita Chikitsa Sthana 15th Adhyaya – Mudhagarbha Chikitsa

PAPER – III

100 Marks

STREE ROGA VIGYANA

1. Disorders of menstruation and female reproductive system.

- a. Congenital malformations of female genital tract.
 - b. Artava dushti, Artava vridhi, Artava kshaya, Asrigdara, Anartava, and Kashtartava.
 - c. Genital infections including sexually transmitted infections.
 - d. Abnormal vaginal discharges.
 - e. Arsha, Yonikanda, Granthi, Arbuda.
 - f. Abnormal uterine bleeding, Endometriosis, fibroid uterus, Adenomyosis, Polycystic ovarian syndrome and neoplasia of female genital organs.
 - g. Endocrinological disorders affecting female reproductive system.
 - h. Somaroga.
2. **Detailed Study of Yoni Vyapada mentioned by different Acharyas with their commentaries and all possible correlations with modern gynecological diseases.**
3. **Bandhyatva**
 - a. Hetu, Bheda, Pariksha, and Chikitsa.
 - b. Detailed study of causative factors, Investigations with recent advances in management of infertility, Adoption law.
4. **Stanaroga**
Detailed study of Stanashotha, Stanakilaka and Stanavidradhi, stana granthi, Stanarbuda.
Fibrodenoma, Fibroadenosis breast, Aberation in the normal development and Involution of breast (ANDI)
Examination of breast, diagnosis and differential diagnosis of breast lump.
5. **Measures of contraception**
 - a. Ayurvedic view of Garbha nirodha and Garbhapatkara yogas.
 - b. Temporary Contraception
 - c. National Health programme to improve maternal and child health, Social Obstetrics and Vital Statistics (maternal and perinatal and morbidity).
6. **Sthanik chikitsa**
Detailed study of Pichu, Varti, Dhupan, Dhavana, Parisheka, lepa, kalkadharana, Uttarabasti, Agnikarma and Kshara Karma.
7. **Rajo Nirvritti** - Climacteric and menopause.
- Geriatric health care
8. Study of modern diagnostic techniques and investigations.
9. Drugs used in obstetric practice, indications/contra indications, doses and side effects.
10. (Modern and Ayurvedic)
11. Panchakarma & Yoga in streeroga
12. Recent studies and advancement in the field of Stree Roga.
13. **Vishesha Adhyayana of –**

Charaka Samhita Chikitsa Sthana – 30th Adhyaya – Yonivyapad Chikitsa
Sushruta Samhita Uttara Tantra – 38th Adhyaya – Yonivyapad Pratishedha
Kashyapa Samhita Kalpa Sthana – Shatapushpa Shatavari, Lashuna kalpa Adhyaya

PAPER – IV

100 MARKS

PRASUTI TANTRA- STREE ROGA- SHALYA KARMA

General principles of Gynecological and Obstetrical Surgeries. Suturing, suture materials, sterilization, autoclaving etc, Analgesia and Anaesthesia in Obstetrical and Gynaecological operative procedures.

Operative Obstetrics

Decision making, techniques, diagnosis and management of surgical complications.

Dilation and evacuation, Hysterotomy, Provision of safe abortion services –selection of cases, techniques and management of complications, septic abortion, criminal abortion, MTP Act.

Cervical encirclage.

Instrumental delivery (Forceps, vacuum extraction), Episiotomy, perineal tear repair, Caesarean Section, Manual removal of Placenta, Caesarean Hysterectomy.

Operative Gynaecology

Selection of cases, technique and management of complications of minor and major gynaecological procedures.

Dilatation and Curettage, Cervical cauterization.

Polypectomy, Myomectomy, Cystectomy, Oophorectomy. Marsupialisation, punch biopsy, endometrial biopsy.

Surgical sterilization procedures.

Hysterectomy.

Surgical procedures for genital prolapse.

Surgical management of benign genital neoplasm.

Recent advances in Gynaecology and Obstetrics – Diagnostic and therapeutics

Shock and its management, Blood Transfusion, Fluid and electrolyte imbalance, Fluid therapy.

Record keeping, ethical and legal issues involved in Obstetrics and Gynaecology.

Medico-legal aspects – ethics, communication and counseling in Obstetrics and Gynaecology
Emergency care in Obstetrics and Gynaecology.

Content of Practical

1. Practical training to conduct.

- Normal and Complicated deliveries
- Assisted/ Instrumental deliveries
- Caesarean Section
- Neonatal resuscitation

2. Practical knowledge of garbhini paricharya, sutika pricharya and masaanumasik garbha Vriddhi.
3. Practical training to perform Obstetrical and Gynaecological Surgeries.
4. Practical training to provide Family Welfare/ Planning services, safe abortion methods along with surgical sterilization.
5. Practical knowledge and practice of all relevant equipment, Procdures, complications, Emergencies with their management.
6. Practical knowledge of Yogasanas and pranayam useful in Stree Roga and Prasuti Tantra.
7. Practical knowledge of Panchakarma and Sthanik Chikitsa used in Stree Roga and Prasuti Tantra.
8. Practical knowledge of recent advances in Gynaecology and Obstetrics.

Pattern of Practical Examination

100 Marks

- | | |
|---|------------|
| 1. Practical Recird Book | - 10 Marks |
| 2. Bed side examination | |
| Short Case | - 10 Marks |
| Long Case | - 20 Marks |
| 3. Identification of the Instruments/X-ray/ USG plate | - 10 Marks |
| 4. Thesis Presentation | - 25 Marks |
| 5. Viva Voce | - 25 Marks |

Reference Books-

1. Related matter from all the Samhitas and their commentaries.
2. Prasuti Tantra evum Stree Roga by - Prof Tewari P V
3. Concepts of Gynaecology - Dr Nirmala G Joshi
4. Prasuti Tantra - Prof. M. Dwivedi
5. Stree Roga Vigyan - Dr VNK Usha
6. Navya Prasuti Vigyan - Dr Pooja Bharadwaja
7. Text book of Gynaecology - Berek and Novak.
8. Text book of Obstetrics - Williams
9. Text book of Obstetrics - D C Dutta
10. Text book of Gynaecology - D C Dutta
11. Gabbe's normal and problem pregnancies.
12. Human Embryology by Saddler.
13. Jeffcoat's principles of Gynaecology
14. Te linde's Gynaecological surgery.

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10. KAUMARBHRITYA-BALA ROGA

Theory- 400 Marks (100 Each)

Practical and Viva-Voce – 100 Marks

PAPER – I

100 Marks

BIJA, GARBHA VIGYANIYA (HUMAN GENETICS, EMBRYOLOGY)

Part A

1. Ayurvedic genetics with modern interpretations: Shukra, Shonita, Shukra Shonita Doshas, Bija-Bijabhaga-Bijabhagavayava Vikriti, Matrija and Pitraja Bhavas, Yajjah Purushiya and Atulyagotriya; Measures for obtaining good progeny.

2. Human genetics

Basic concepts:

- Cell, cell division, nucleus, DNA, chromosomes, karyotype, molecular and cytogenetics, structure of gene, and molecular Screening.
- Human Chromosomes – Structure, number and classification, methods of chromosome preparation and banding patterns.
- Single gene pattern inheritance: Autosomal & Sex chromosomal pattern of inheritance, Intermediate pattern and multiple alleles, Mutations, Non Mendelian inheritance, mitochondrial inheritance, Genomic imprinting, parental disomy.
- Criteria for multi-factorial inheritance.

Pathogenesis

- Pathogenesis of chromosomal aberrations and their effects, recombinant DNA, genetic inheritance, inborn errors of metabolism
- Chromosomal abnormalities: Autosomal & Sex chromosomal abnormalities and syndromes
- Multifactorial pattern of inheritance: Teratology, Cancer Genetics – Haematological malignancies, Pharmacogenetics.
- Chromosomal disorders
- Chromosomal aberration (Klinefelter, Turner and Down's syndrome)
- Genetic Counseling, Ethics and Genetics.

Part B

1. Garbha, Garbhawastha, sperm, ovum, spermatogenesis, Oogenesis, structure of ovum.
2. Sperm in the male genital tract, sperm in the female genital tract, activation and capacitation of sperm.
3. Garbha Masanumasika Vriddhi evam Vikasa (Ayurvedic and modern concepts of Embryo and Fetal development)
 - First week of development

- Second week of development
 - Third week of development
 - Fourth to eighth week of development
 - Development from third month till birth.
4. Formation of Prakriti and their assessment in Bala, Kumara, Yauvana. Pathya-Apathya according to Prakruti.
 5. Apra (Placenta) Apra Nirmana (Formation of Placenta), Apra Karya (Functions of placenta); Apra Vikara (Placental abnormalities).
 6. Nabhinadi (Umbilical Cord).
 7. Formation and features of umbilical cord.
 8. Garbha Poshana (Nutrition) from conception to birth.
 9. Yamala Garbha (twins).
 10. Garbha Vriddhikara Bhavas.
 11. Garbhopaghatkara Bhavas, Effect of maternal illness, medication and diet over fetus.
 12. Perinatal Care and Perinatal complications
 13. Scientific study of Jataharini
 14. Prenatal diagnosis.
 15. Samanya Janmajata Vikara (Common congenital anomalies of different systems):
Causative Factors (Beeja, Atamakarma, Ashaya, Kala etc.) Sahaja Hridaya Vikara (Congenital Cardiac Disorders) Jalashirshaka (Hydrocephalus), Spina bifida, Meningocele, Meningomyelocele, Khandaoushtha (cleft lip), Khanda-Talu (cleft palate), Sanniruddha Guda (Anal stricture / imperforated anus), Pada-Vikriti (Talipes equinovarus and valgus), Tracheoesophageal Fistula (TOF), Pyloric Stenosis.

PAPER-II

100 Marks

NAVAJATA SHISHU VIGYANA EVAM POSHANA

PART –A

1. Navajata Shishu Paribhasha, Varghikarana.
2. Navajata Shishu Paricharya evam Prana-Pratyagamana.
3. Samanya Navajata Shishu Paricharya (General Neonatal Care-Labour room onwards).
4. Samanya purva evam Samanya pashchat Jata Shishu Paricharya (Management of preterm, post term and IUGR newborn).
5. Prasava Kalina Abhighataja Vyadhi (Birth injuries): Upashirshaka (Caput Succedaneum, cephalohematoma), Bhagna (Fractures), Mastishkantargata Raktasrava (ICH, IVH, Subdural hemorrhage).
6. Navajata Shishu Parikshana (Examination of new born): Ayu Parikshana (including Lakshanadhyaya) Modern approach of Neonatal Examination including assessment of gestational age.
7. Kumaragara.

PART- B

1. Navajata Shishu Vyadhi (Early neonatal disorders): Hypothermia, Shwasavarodha (Asphyxia Neonatorum/ Respiratory distress), Ulvaka (Aspiration pneumonia), Rakta vishamayata (Neonatal septicemia), Kamala (Neonatal Jaundice), Akshepaka (Neonatal convulsion), Pandu (Anemia), Atisara (Diarrhea), Asamya Nabhinala kartanajanya vyadhi.
2. Navajata Kshudra Vikara (Minor neonatal ailments): Chhardi (Vomiting), Vibandha(constipation), Udara shula (Infantile colic), Puya Sphota (Pyoderma), Shishu Netrabhishyanda (Ophthalmia neonatorum).
3. Sadyojatasya Atyayika Chikitsa (Management of neonatal emergencies): Shock, Fluid and electrolyte imbalance, convulsion, Hemorrhagic diseases of Newborn etc.
4. Procedures: Shiro-Pichu, Abhyanga, Parisheka, Pralepa, Garbhodaka Vamana(stomach wash), Ashchyotana, Neonatal resuscitation, Collection of Blood sample, Intravenous canalization, Umbilical vein catheterization, Bone marrow aspiration, Phototherapy, Naso-Gastric tube insertion, Urethral catheterization, Exchange blood transfusion, Thoracocentesis, Bone marrow infusion, Lumbar puncture.

PAPER – III**100 Marks****BALROGA (PEDIATRIC DISORDERS)****PART – A**

1. Disorders of Pranvaha Srotas (Respiratory disorders)- Kasa (Cough), Shwasa (Respiratory distress Syndrome), Tamaka Shwasa (Childhood Asthma), Bronchiolitis, Shvasanaka Jwara (Pneumonia- bacterial, viral etc) Rajyakshma (Tuberculosis), Vaksha-Puyata (Pyothorax), Vaksha Vata-Purnata (Pneumothorax).
2. Disorders of Annavaha Srotas (Gastrointestinal disorders): Jwara (Fever), Chhardi (Vomiting) Ajirna (Indigestion), Kshiralsaka, Atisara (Diarrhea), Pravahika, Vibandha (Constipation, Udarshula (Pain in abdomen), Guda bhamsha (Rectal prolapse).
3. Disorders of Rasa evam Raktavaha Srotas (Hematological and circulatory disorders): Pandu (Anemia) and Raktapitta (Bleeding disorders), Vishishta Hridroga (Specific Cardiac diseases), Hypertension, Leukemia.
4. Disorders of Mansavaha Srotas: Myopathies
5. Disorders of Mutravaha srotas (disorders of Urinary System): Vrikkshotha (Glomerulonephritis and nephrotic syndrome), Mutrakrichra (Dysuria), Mutraghata (Anuria).
6. Disorders of Vataavaha Sansthana (disorders of Nervous system) : Apasmara (Epilepsy), Mastulunga-Kshaya, Mastishka-Shotha (Encephalitis), Mastishkavrana-Shotha (Meningitis).

- Disorders of Manovaha Srotas: Breath holding spell, Shayya mutra (Bed wetting), Autism, ADHD (Attention Deficit and hyperactive disorders), Learning Disability, Mental retardation, Temper tantrum, Pica.

PART –B

- Antahsravi evam Chayapachayajanya Vyadhi (Endocrine and Metabolic disorders).
- Kuposhanjanya Vyadhi (Nutritional disorders): Karshya-Phakka-Balshosha-Parigarbhika (PEM and allied disorders), Deficiency disorders of Vitamins, minerals and trace elements, Hypervitaminosis.
- Krimi evam Aupsargika Vyadhi (Infestations and Infections): Krimi (Giardiasis and intestinal helminthiasis, Amoebiasis) Common bacterial, viral infections with special reference to vaccine-preventable diseases: Rohini (Diphtheria), Whooping cough, Aptanaka (Tetanus including neonatal tetanus), Romantika (Measles), Karnamula Shotha (Mumps), Rubella, Masurika (Chickenpox), Antrika Jwara (Typhoid and Paratyphoid), Viral Hepatitis, Vishama Jwara (Malaria), Kala-azar, Dengu fever, HIV (AIDS), Poliomyelitis, Chickengunia.
- Tvak Vikara (Skin disorders): Ahiputana (Napkin Rashes), Shakuni (Impetigo), Sidhma, Pama, Vicharchika, Charmadal (Infantile atopic dermatitis), Gudakutta.
- Any Vyadhi (Miscellaneous disorders): Jalodara (Ascites), Gandamala, Apachi (Cervical lymphadenitis), Kukunakadi Akshi Roga, Hodgkin & non-Hodgkin Lymphoma, Abnormal growth patterns, Short stature, Niruddha prakasha (Phimosis), Paridagdha Chhavi, Utpullika.
- Sanghata- Bala Pravrita Vyadhi (damstra): Dog bite, Snake bite, Scorpion bite etc.
- Atyayika Balarog Prabandhana (Pediatric emergency management): Shock and Anaphylaxis, Fluid and electrolyte management, Drowning, Foreign body aspiration, Status epilepticus, Acute hemorrhage, Acute renal failure, Febrile convulsion, Status asthmaticus, Burn, Acute Poisoning
- Balagraha: Scientific study of Bala Graha and its management.

PAPER-IV

100 Marks

BALAPOSHANA, SAMVARDHANA (NUTRITION, GROWTH AND DEVELOPMENT) AND RECENT ADVANCES IN KAUMARBHRITYA

Part A

50 Marks

- Growth and development – Mile stones of growth and development and its pathological consideration in children.
- Child psychology and its implication on personality development.
- Common adolescent health problems and its management.
- Management of pediatric disabilities and rehabilitation.
- Nutrition:
 - Navjata Shishu Ahara (Neonatal feeding):

Specific feeding methodology as per Ayurveda and recent advances. Fluid, milk and calory requirement for the newborn, feeding technique for the preterm baby.

Stanyotpatti and Prasruti (physiology of Lactation), Stanya Sanghatana (Composition of breast milk), Stana Sampat (Characteristics of normal breast), Stanya Sampat evam Mahatva (Properties & importance of breast milk), Stanya-Piyusha(Colostrum); Stanya-Pana-Vidhi (Method for breast milk feeding), Stanyakshaya / Stanyanasha (Inadequate/ absence of breast milk), Stanya parikshana (Examination of breast milk), Stanyabhava Pathya Vyavastha (Alternative feeding in absence of breast milk), Total Parenteral Nutrition.

Stanyadosha (Vitiation of Breast milk), Stanya Shodhana (Purification of breast milk), Stanya Janana and Vardhanopakrama)Methods to enhance breast milk).

Dhatri (Wet nurse): Dhatri Guna and Dosha (Characteristics of Wet nurse), Concept of Breast Milk Banking.

Lehana (Elucturies).

B. Bala-Poshana (Child Nutrition):

Daily requirements of nutrients for infant and children Common food sources Satmya and Asatmya Ahara (Compatible and incompatible diet) Pathya evam Apathya Ahara (Congenial and non-congenial diet) Stanyapanayana (Weaning).

6. Concept of immunity and immune enhancing measures with special reference to suvarna prashana.

Part B

1. Significant contributions of Kashyapa samhita, Arogya raksha Kalpadrum and other texts / treatises of Ayurveda such as Harita Samhita in the field of Kaumarbhritya including relevant parts from Brihatrai
2. Panchakarma: Principles of Panchakarma, and their application in pediatric practice.
3. Update knowledge of clinical pediatrics including recent researches in Kaumarbhritya.
4. Fundamentals of Hospital Management with special emphases on Pediatrics.
5. Navajata Shishu Kaksha Prabandhana (Nursery management; Nursery plan, Staff pattern, medical records.), Neonatal Intensive Care Unit, Visankramanikarana (sterilization), Knowledge of equipments used in nursery.
6. Drug and Doses in Pediatrics.
7. Scientific study of Bala Graha and its management.
8. Life Style disorders and its management – Obesity, computer vision syndrome etc.

Practical/ Clinical Exposure (Record of exposures to be produced at the practical examination)

1. Full term, preterm, post term new born baby care
2. Practical procedures like – phototherapy, premature baby care, venepuncture, cord blood sampling, stomach wash, suction, resuscitation etc.
3. Practical Skill of Pediatric Panchakarma procedures.
4. Child Health Check up.
5. IQ Assessment in children
6. Exposure to National Health Programmes related to children, including Immunization Program.
7. Patient case Records (50 Records)
8. Practical knowledge of modern diagnostic tools (invasive & non invasive) and techniques used in pediatrics.
9. Management of common pediatrics emergencies.
10. Participation in UG teaching/training.
11. Minimum 15 days compulsory reciprocal exposures in Kaumarbhritya department of other institution during the study period.
12. Participation in National/international seminars.
13. Publication/acceptance of two research papers in indexed/peer reviewed/ISSN journals.

Pattern of practical examination:

100 Marks

- | | |
|--|------------|
| 1. Case record | - 15 Marks |
| 2. Bed side examination | |
| a) Short Case | - 15 Marks |
| b) Long Case | - 25 Marks |
| 3. Identification of instruments/ spotting | - 10 Marks |
| 4. Lecture/ Dissertation Presentation | - 10 Marks |
| 5. Viva- voce | - 25 Marks |

Reference Books

1. Kashyapa Samhita Complete Hindi translation by Satyapal Vidhyalankara English translation by Prof. Premvati Tiwari
2. Principles & Practice of Pediatrics in Ayurveda: CHS Shastri.
3. Child Health Care in Ayurveda: Abhimanyu Kumar
4. Ayurvedic concepts of human Embryology: Abhimanyu Kumar
5. Kaumarbhritya by Prof. D.N. Mishra
6. Kaumarbhritya Ke Antargata Balgraho Ka Kramika Evam Vaigyanika Adhyana by Prof. Chanchal Sharma
7. Notes on Kaumarbhritya-by Dr. Dinesh K S
8. Pran – Pratyagamanam- by Dr.B.M Singh
9. Ayurveda Dwara Matra Evam Shishu Paricharya by Dr. K S Patel, V K Kori & Rajgopal S

10. Kaumarbhritya related references from Charaka Samhita, Sushruta Samhita, Harita Samhita, Ashtang Sangrah, Ashtang Hridayam etc.
11. Clinical Methods in Paediatrics by Meharban Singh
12. Pediatrics Emergencies by Meharban Singh
13. Essential Pediatrics O.P. Ghai
14. Text Book of Pediatrics Nelson
15. Care of New Born by Meharban Singh
16. Human Embryology by Inderbeer Singh
17. Human Genetics by Gangane.

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11. KAYACHIKITSA

Theory – 400 Marks (100 Each)

Practical and Viva-Voce – 100 Marks

PAPER – I

100 Marks

FUNDAMENTALS OF KAYACHIKITSA

1. Rogi-Roga Pariksha: Nidan Panchak, Trividha pariksha, Ashtavidhpariksha, Dashvidhpariksha in the light of recent advances. Clinical methods- Detailed history taking and patient examination, Shadang pariksha (Systemic examination) as per ayurveda and recent advances.
2. Interpretation of investigations: ECG, Echo cardiography, TMT, Spirometry, X-ray, USG, CT-Scan, MRI, EEG, EMG, etc in different pathological conditions.
3. Detailed knowledge of Principles of Chikitsa in Ayurveda. Classification of Rogas, Types of Chikitsa. Principles and practices of Rasayana and Vajikarna.
4. National Health Programmes/ NRHM and prospective role of Ayurveda services and therapeutics in them with special reference to Kayachikitsa.
5. Medical ethics, Common laws and regulations applicable to clinical practice.
6. Elaborate knowledge of undertaking common medical procedures like Ryle's tube feeding, tapping, transfusions, catheterization, tractions, nebulizations, lumbar puncture, etc.
7. Ayurveda Dietetics: Importance of Pathya, Apathya and Anupana.
8. Drug-drug interactions and adverse drug reactions, iatrogenic disorders.

PAPER – II

100 Marks

SAMANYA ROGA CHIKITSA

Nidana/ Chikitsa including Nidana Parivarjana, Pathya, Apathya, Chikitsa siddhanta, Shamana, Shodhana, Panchakarma, Rasayana and Atyayika Chikitsa (Anupana, Drug/Non-

drug) as per Ayurvedic and conventional therapeutics of following Srotogata vyadhi including Kshaya, Vriddhi srotodushti janya vyadis such as:

1. Pranavahasrotas: Shwasa, Hikka, Kasa, Rajayakshma, Hridroga, Parshwashoola, Urakhshata, Svarabheda.
Cardio-respiratory system: Bronchitis, Bronchiectasis, Bronchial asthma, COPD, Corpulmonale, Pneumonias, Occupational lung diseases, Pulmonary tuberculosis, Congenital Heart disorders, IHD, RHD- Valvular diseases, Cardiac failures, Cardiomyopathy, Pericarditis, Endocarditis, Hypertension.
2. Annavahasrotas: Agnimandya, Ajirna, Aruchi, Amadosha, Amlapitta, Chhardi, Shoola, Grahani. Gastrointestinal disorders: GERD, APD, Malabsorption Syndrome.
3. Udakavahasrotas: Trishna, Shotha, Udararoga, water and electrolyte imbalance.
4. Rasavaha Srotas: Jwara, Amavata, Pandu, Madatyaya, Anaemias, Rheumatoid arthritis.
5. Raktavaha Srotas: Raktapitta, Kamala, Vatarakta, Kushtha, Kshudraroga, Sheetpitta, Udarda, Kotha, Visarpa, Shvitra. Haemopoeitic disorders, Bleeding and Coagulation disorders, Leukaemias, Thrombocytopenia, Disorders of Bone Marrow, Hepatobiliary disorders, Hepatitis, Cirrhosis, Cholecystitis, Liver abscess, Jaundice, Dermatological disorders, Parasitic, Infective, Allergic, Autoimmune skin disorders such as Psoriasis, Eczemas.
6. Mamsa-Medovahasrotas: Medoroga, Sthaulya, Prameha, Galaganda, Gandamala, Urustambha, Diabetes mellitus, Obesity.
7. Asthi-Majja vahasrotas: Asthikshaya, Sandhigatavata, Osteoarthritis, Osteopenia, Osteoporesis.
8. Shukravahasrotas: Such as Klaivya, Dwajabhanga, Impotence.
9. Mutravahasrotas: Mutrakricchra, Mutraghata, Ashmari, Urinary disorders: UTI, Lithiasis, ARF, CRF, Uraemia, BPH.
10. Purishvaha srotas: Atisara, Pravahika, Anaha, Adhamana, Krimi, Udavarta, Diarrhoeas, Dysentery, Ulcerative colitis, IBS, Intestinal Worm infestation.

PAPER – III

100 Marks

VISHISHTA ROGA CHIKITSA

Comprehensive knowledge of Nidan Panchak- etiology, demography, Pathogenesis, symptomatology, complications, investigations, diagnosis and drug/non-drug management of following diseases as per Ayurveda/ Conventional therapeutics:

1. Vata-Vyadhi:- Pakshavadha, Ekangvata Ardhang Vata, Sarvanga Vata, Ananta Vata, Gata Vata, Gridhrasi, Ardita, Akshepaka, Apatantraka, Vishvachi, Avabahuka, Avarana, Urustambha.
Musculoskeletal disorders: Myopathies, Muscular dystrophies, Lumbago
Neurological disorders: Neurodegenerative disorders like Alzheimer's, Parkinsonism, CVA, Neuropathies, Facial palsy, G B Syndrome, Motor Neuron Diseases, Epilepsy, Sciatica.

2. Sankramakroga: Sheetala, Masoorika, Updansha, Phiranga, Gonorrhea, Chancroids, Syphilis.
3. Manasa vyadhi:- Unmada, Apasmara, Atatvabhinivesha, Mada, Moorcha, Sanyasa.
Common psychiatric disorders: Classification of psychiatric ailments. Disorders of thought like Schizophrenia. Disorders of Mood like Mania, Depression. Neurosis, personality disorders, psychosexual disorders.
4. Metabolic disorders: Gout, Dyslipidaemia, Atherosclerosis, Metabolic Syndrome.
5. Endocrinal disorders: Disorders of Pituitary, Thyroid, Adrenal Medulla, Reproductive hormones.
6. Parasitic/Infective/ Communicable disorders: Shlipada, Filariasis, Vishama Jvara, Malaria, Manthara Jwara, Enteric Fever, Dengue, Chickenpox, Measles, Influenza, Kalaazar, Mumps, Rabies, Poliomyelitis, Plague, Meningitis, Encephalitis, Chikungunya, HIV/AIDs, Common worm infestations.
7. Neoplastic disorders and their management strategies. Role of ayurvedic medicines in cancer care including palliative care.
8. Autoimmune diseases: Myopathies, Rheumatic fever, SLE.
9. Common poisonings and their management like Insecticide/ Pesticide poisoning, Snake poisoning, Vegetable and chemical poisoning, Substance abuse.
10. Janapadodhvasa Vikara:- Environmental diseases Causes, impact on human health and their management.
11. Ashtonindhataya Prusha and their clinical relevance.

PAPER – IV

100 Marks

ADVANCES IN KAYACHIKITSA

Critical care medicine, Management of medical emergencies, ICU services, Field medical services

1. Hospital management strategies, Infrastructure, use of IT technology, essential manpower, equipment, Patient care, management and coordination with contemporary health institutions and field institutions.
2. National Health Campaigns of AYUSH and components under NRHM.
3. Clinical Research in Kayachikitsa and its application in clinical medicines as per new evidence base in different systemic disorders.
4. New emerging health challenges and ayurvedic medicines: Chikungunya, HIV/AIDs, Swineflu, Chickenflu, Dengue, Restless leg syndrome, Sick building syndrome, Fibromyalgia.
5. Role of Ayurveda in immune-protection, immune-modulation and in management of other allergies and immunological disorders.
6. Indications and importance of Organ transplantation, Ethical and legal issues involved.
7. Knowledge of Geriatric care and terminal care medicine.

8. Basic knowledge of Gene therapy, Stem cell therapy, Genetic modeling and chromosomal disorders in different disease conditions.
9. Radio isotopes, disease and tumor markers in diagnosis and assessment of therapy.
10. Scope and methods of independent and collaborative research in kayachikitsa.
11. Disaster management strategies.
12. Application of advances in Rasayana and Vajikarana therapies.
13. Application of emerging trends in Panchakarma in medical management.
14. Physical medication and rehabilitation.

PRACTICALS -

100 Marks

Practicals shall be held to evaluate the patient care, diagnostic and treatment expertise of the student. It should also be taken as a chance to evaluate the clinical skills.

Publication of One Scientific paper based on Thesis Research preferably in indexed journal is essential. Should have taken minimum 20 Theory and Practical classes of BAMS in concerned subject.

Clinical Ability Evaluation -60 Marks based on

- | | | |
|--|---|-----------|
| 1. Case records of 40 IPD Patients in Detail | - | 10 Marks |
| 2. Long case History-1: | - | 20 Marks |
| 3. Short Case history-1: | - | 10 Marks |
| 4. Medical procedures demonstration | - | 20 Marks |
| 5. Academic Competence evaluation- 40 Marks based on: | | |
| a. Viva | - | 30 Marks |
| b. Teaching and communication skills/ Thesis presentation in PPT /: | | 10 Marks. |

Reference Books:

- | | |
|---|----------------------------------|
| 1. Relevant portions of Brihatrayi and Laghutrayi with commentaries | |
| 2. Cikitsadarsha | - Pandit Rajeshvar Dutta Shastri |
| 3. Kayachikitsa | - Ramaraksha Pathak |
| 4. Rog Pariksha Vidhi | - Priyavrat Sharma |
| 5. Panchakarma Vigyan | - Haridas Sridhar Kasture |
| 6. Ayurvediya Nidana – Chikitsa Siddhanta | - Prof. R.H.Singh |
| 7. Kayachikitsa Vol. 1 and 2 | - Prof. R.H. Singh |
| 8. The Holistic Principles of Ayurvedic Medicine | - Prof. R.H. Singh |
| 9. Essentials of Kayachikitsa – II, Vol. 1 | - Dr. Aruna |
| 10. Kayachikitsa Vol. I-IV | - Prof. Ajay Kumar |
| 11. Panchakarma Therapy | - Prof. R.H. Singh |
| 12. Panchakarma Illustrated | - Prof. G.Shrinivasa Acharya |
| 13. Practice of Ayurvedic Medicine (Kayachikitsa) | - Prof.A.K.Tripathi |
| 14. Nidanachikitsa Hastamalaka | - Prof.R.R.Desai |
| 15. Clinical Methods in Ayurveda | - Prof. K.R. Srikantamurthy |
| 16. Aushadhi Gunadharm Shastra | - Gangadhar Shastri Gune |
| 17. Introduction to Kayachikitsa | - Prof. C. Dwarakanath |

- | | |
|---|------------------------|
| 18. Samprapti lakshnanayoh Sambandhah | - Prof.Sadashiv Sharma |
| 19. Nidana Panchak | - Prof.S.C.Dhyani |
| 20. Kayachikitsa | - Prof.S.C.Dhyani |
| 21. Davidson's Principles and Practice of Medicine. | |
| 22. API Text book of Medicine | |
| 23. Harrison's Text Book of Medicine. | |
| 24. Cecil Text Book of Medicine. | |
| 25. Relevant texts of concerned subjects. | |

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12. MANOVIGYAN AVUM MANASAROGA

Theory- 400 Marks (100 Each)

Practical and Viva-Voce – 100 Marks

PAPER – I

100 Marks

MANOVYAPARA EVAM MANOVIGYANAM

1. Prachya – arvachya matanusara Mano vighyanasya Bhutavidyayah, Amnusha tatha Grahadinam parichaya, setihasa.
2. Prachya arvachya matanusara Manasah Nirupanam- Concept of Manas from Ayurved and modern perspective.
3. Vividha darshananusara Manasah varnanam:- Concept of mind in various philosophies.
4. Manasah Svarupam – Structure of mind, Manasah Sthanam- Location of mind, Manovishayah- Objects of mind, Manogunah (Anutva and Ekatva) – Attributes of mind Minuteness and oneness, Manasah Ubhayatmakatvam-Duality of Manas, Manasah Dravyatvam Karanatvam cha- mind as a substance and tool, Manasah Karanadravyatvam-mind as causative substance, Manodoshah- (Rajas and Tamas), Manasah Bhoutikatvam- Elemental nature of manas Introduction to concept of Buddhi and Ahamkara – intellect and ego, Manasah Ahamkarikatvam –origin of mind from ego (samkhya), Manasah Annamayatvam- Relationship between food and mind, Manasah trigunatmakatvam (Sattva, Rajas, Tamas)- mind and the three major attributes, Manasah jadatvam- inertia of mind, Manasah dhatutvam-mind as a component of living being, Manasah Karma- Actions of Manas.
5. Manovyapara Nirupanam
6. Manovyapare Pranodana sadhaka Bodhakadi Doshanam Sambandhah-Relation of humoral fractions such as Prana, Udana, Sadhaka- Bodhaka in the activity of Manas, Concept of Ojas and Manas

7. Katham prakopayanti ManoDoshah sharir Doshah?- How does manasika Doshas aggravate sharirika Doshas?
8. Indriya panchapanchakam- five factors in relation to the mental faculties.
9. Gyanendriyanam vishayah- the objects of sense faculties.
10. Gyanotpatti prakriyayam Manaso pradhanyam- Importance of Manas in cognitive process.
11. Indriyarthagrahananantaram Manasah vyapara avum gyanotpattou manaso dayitvam- Action of Manas in cognition after reception by respective Indriya.
12. Knowledge of Dirgha Shashkuli nyaya, Alata-chakra nyaya, Vichi-taranga nyaya, Kadamba-mukula nyaya.
13. Shabda-sparsha-rupa-rasa-gandhanam grahakam manah, tasya mahatvam cha – Manas as conductor of sense objects and its importance.
14. Vayuh indriyanam udyojakah tatha Manasah preranam –Vayu as stimulator of indriya and initiator of manas.
15. Vakpravrittou Manasah yogadanam- Role of Manas in production of speech.
16. Pratishaire Manasah bhinatvam – concept of individuality of mind.
17. Chikitsya purushah- treatable person (living being).
18. Atma nirupanam- description of Atma, Sukshma sharirasya varnanam- description of subtle body, Atma manasoh sambhandhah- relation between Manas and Atma.
19. Antah karana chatustaya (the four internal faculties).
20. Importance of Dhi, Dhriti and Smriti- importance of intellect, retention power and memory.
21. Role of manas in achieving Tri eshana and Chaturvidha Purushartha/chatur varga- role of manas in attaining the pursuits and four goals of life.
22. Concept of Satyabuddhi, Ritambhara Pragya and Upadha- concept of true and false knowledge.
23. Concept of Punarjanma, Purvajanmakrita karma, Karmaphala.
24. Manovaha Srotasam Parichaya- Introduction of Manovaha srotas(channels of mind)
25. Manovaha, Samgyavaha, Buddhivaha, Chetanavaha, Chetovaha, Vatavaha, Raktavaha adi upayukta Srotasam Manasroge varnanam- Description of Manovaha, Sangyavaha, Buddhivaha, Chetanavaha, Vatavaha, Raktavaha srotas etc in relation to Manasroga
26. Shatchakra nirupanam.
27. Sattvasara purusha-person with mental excellence.
28. Nidravichara- Concept of sleep, Swapna vichara- Concept of dream, Tandravichara- Concept of drowsiness.
29. Concept of manasprakriti – mental temperament, Concept of Manasa bhava in Shareerika prakriti.
30. Manasroge Manovigyane cha upayukta Paribhashika shabdanam vishleshanam technical terms used in psychology and psychiatry

31. Manas roge upayukta Samhitanam satika adhyayanam- study of portions of treatises useful in psychiatry along with their commentary.
32. Arvachina mano vigyanasya adhishthana siddhantah, mastishka karmanam sthapanam cha-Fundamentals of modern psychology and functions of brain.
33. Applied Neuro-anatomy and physiology, Neurotransmitters, Psychoneuro immune endocrinology.
34. Manasah swabhavika pratirodhah – Defence mechanism of mind.
35. Shishu manas-shastra, vikasatmaka Manas-shastra-Shishu, Bala, Kumarah, Proudah, Vriddhah cha- Essential elements of psychology, developmental psychology: child, adolescence, adult and aged.
36. Bhava, Sheela, Buddhi, Smriti, Prerakatva adinam gyanam- Concept of Mood, behaviour, attitude, emotions, intelligence, memory, motivation, perception etc.
37. Manas Swasthya Evam Manoroganam Paribhasha – Definition of mental Health and psychiatric disorders.
38. Manasrogyavigyasya mahatvam, phalam, prayojanam, prabhavashcha

PAPER – II

100 Marks

MANOVAIKARIKI EVAM BHUTAVIDYA

1. Manovega, Mano vikarah, Mano Dosha, Mana Sahrirayoh paraspara anuvaidhayitvam mutual symbiosis of sharir and manas, Manasah chanchalatvam, Manaso vyadhinam ashrayatvam, Manasrogeshu Doshanam paraspara anubandhah, Manasvyadhi utpattou sharir Doshanam vikarakarivitvam , Indriyadinam hinamithyatiyogah. Prajnaparadha, Purva janma krita karma tatha Papa karmasya rogkarakatvam, Adharmasya Achararasayana upekshanasya cha rogkarakatvam.

Bhutavidya – Definition and scope with applied aspects: Divergent views

1. Types and characteristic features of Bhuta and Graha, Amanushopasarga Vikara cause by Bhuta and Graha, Aeito-pathogenesis of Bhuta and Graha
2. Relationship of Bhuta with Jwara, Ojakshaya, Manovikara, Arishta Lakshana and Daivabala Pravritta diseases.
3. Grahavesha, affecting time of Graha, their specific features, prodromal features and prognosis.
4. Differential understanding of Balagraha and Grahabadha.
5. Sushrut's concept of invasion of Bhuta/Graha.
6. Manas Rognam Nidan, Sampraptischa
7. Manobuddhyadi Vibhramsha
8. Manas dharaniya vega.
9. Kayika-Vachika-Manasika karma hinamithyati yoga in Manasa roga samprapti.

Manovikriti- Psychopathology

1. Bijapradosha and Kulaja bhava in manas roga – Genetics and hereditary factors in Psychiatry.
2. Manas roganam prachya arvachina matanusarena vargikaranam

3. Classification of manas rogas yatha kevalamanas, manas sharir, shariramanasika, agantuja adayah
4. Understanding of Parapsychology and its role in overt psychiatric disorders.
5. Recent ICD and DSM classification.

Manas Rogi pariksha vidhi-Psychiatric examination

1. Prachya arvachina matanusarena rogi pariksha visheshena sattva pariksha – Examination of patient according to Ayurvedic and modern methods.
2. Trividha Sattva Pariksha
3. Charakokta Anumana Pariksha
4. Manasika avastha Pariksha – Mental Status Examination
5. Vividha pariksha manakah – Different psychiatric assessment assessment inventories like Hamilton's scale, Bech's Depression inventory etc.
6. Manorog chikitsiya manomapaka upakaranani cha – Psychiatric and Psychometric tools for diagnosis, Evidence based diagnostic methods.
7. Prayogashaliya pariksha –Investigations- Haematological, biochemical, neuro physiological, endocrinal, EEG, radio imaging-MRI etc.
8. Manasrognam sadhyasadyata – Prognosis of psychiatric diseases.
9. Manas Rog Sandharbhe Vidhi Vaidyakasya vistrita gyanam.
10. Forensic psychiatry- Knowledge about legal and ethical issues in psychiatry, Indian lunacy act, mental health act, Norms to setup a well equipped Mental Hospital (OPD, IPD)

PAPER – III

100 Marks

MANAS ROGA CHIKITSA

Comprehensive knowledge of etiology, demography, underlying psycho pathogenesis, symptomatology, complications, investigations, diagnosis, prognosis and drug-non drug management of following psychiatric disorders as per Ayurvedic-Modern therapeutics with their pharmacodynamics.

1. Unmada (Psychosis)- Nija, Agantuja Unmada, Bhutonmada, Vishaja Unmada, Sutikonmada, Smaronmada, Tattvonmada- Paronoia, Mano dukhaja Unmada –Stress related disorders.
2. Apasmara- seizure disorders
3. Apatantraka – hysterical convulsions
4. Tandavaroga – Chorea
5. Yoshapasmara – conversion disorders
6. Atatvabhinivesha- Obsessive compulsive disorders
7. Vishada- Depressive illness
8. Gadodvega – Hypochondriasis.
9. Mada, Murchha, Sanyasa- sensorial disorders
10. Madatyaya, Panatyaya (Panavibhrama, Paramada, Panajirna) – Substance abuse disorders.

11. Nidra vikara(Sleep disorders), Klama, Tandra, Glani.
12. Bhrama, Vibhrama – Delusional disorders.
13. Chittodvega – Generalized Anxiety disorders.
14. Smriti vikara (memory disorders)
15. Manasika klaibya, Sushrutokta Napumsakata
16. Manasa Dosha Vikara- Kama, Krodha, Lobha, Moha, Irshya, Bhaya, Mana, Mada, Dambha, Ahamkara, Harsha, Matsarya, Iccha, Dvesha.
17. Mood and affective disorders – major depressive disorders, mania and their possible Ayurveda co-relates.
18. Schizophrenia
19. Personality disorders
20. Behavioural disorders
21. Organic mental disorders
22. Post traumatic stress disorders
23. Psycho sexual disorders
24. Eating disorders
25. Somatoform and dissociative disorders
26. Senile psychiatric disorders – Dementia Alzheimer's disease, Parkinsonism, Menopause, Andropause and their possible Ayurveda co-relates.
27. Adhi- Vyadhi Roganam Manasika Prabhava Chikitsa Cha –Psychosomatic disorder Bhayaja and Shokaja Atisara, Kamaja and Shokaja Jwara, Tamakashwasa, Prameha, Amlapitta, Parinamashula, Grahani, Uchha Raktachapa(Hypertension), Shula (pain disorders), Twak Vikara.
28. Jirna- Asadhya Sopadrava Vyadhinam vivechanam – Mental problems in chronic incurable diseases like AIDS, Cancer etc.
29. Mano prakriti vikara – psychopathic personality.
30. Jivana Shaili Tatha mano sammarda janya rogah – Life style and stress related disorders.
31. Shishu tatha Kumara Manoroga – Child and adolescent psychiatry.
32. Jadata, Buddhimandya, Adhyayana Akshamata – Mental deficiency, mentally challenged and learning disabilities.
33. Achara vaikalya – Conduct disorders
34. Manobhava vikara – Emotional disorders
35. Cerebral palsy, infantile autism, Attention Deficit Hyperactive disorders, Tourette's disorder with their possible Ayurveda co-relates.
36. Preventive aspects in Manas Roga – Achara Rasayana, Sadvritta, Shodhana, Rasayana and Vajikarana
37. Manas Roganam Samanya Vishesha Chikitsa Siddhantanam Varnanam,- Daiva Vyapashraya, Yukti Vyapashraya, Sattvavajaya, Adravayabhuta Chikitsa Upayah.
38. Sattvavajaya Chikitsa: Its application and techniques viz. Dhi, Dhairya, Atma Janya, Kula Janya, Kala Janya, Desha Janya, Bala Janya, Samadhi, Santwana, Ashwasana,

- Ayurveda Psycho shock therapy viz. Trasana, Bhayadarshana, Adbhuta Darshana, Vismarana, Vismapana and Pratidvandwi Bhava with their scientific basis.
39. Role of Rasayana, Medhya Rasayana, Achara Rasayana and Vajikarana in Manasa Roga
40. Pathyapathya in Manasa Roga.
41. Manas Rogopayogi Vividha Aushadheenam Vivechanam: Ekamulika (Single drug), Panchavidha Kashaya Kalpana, Rasa Rasayana etc.
42. Brihatrayee, Yogaratnakara, Sharngadhara, Gadanigraha, Bhavaprakasha, Sahasrayogaukta vividha yoganam vivechanam: Brahmi, Mandukaparni, Vacha, Jatamansi, Yashtimadhu, Shankhapushpi, Kushmanda, Ashwagandha, Kushtha, Tagara, Guduchi, Jyotishmati, Srikhandadichurna, Saraswatachurna etc. Swarna, Swarnamakshika Bhasma, Rajata, Pravala, Mukta, Manahshila, Krishna Chaturmukha Rasa, Krishnachaturbhuj Rasa, Brihatvatachintamani Rasa, Vata kulantaka Rasa, Manasmitra vataka, Smritisagar Rasa, Unmada gajakesari Rasa, Apatantrakari vati, Kumarakalyana Rasa etc. Kalyanaka ghrita, Brahmi ghrita, Mahapanchagavya ghrita, Mahapaishachika ghrita, Mahabhutarava ghrita, Kushmanda ghrita, Purana ghrita, Panchagavya ghrita etc.
43. Saraswatarishta, Ashwagandharishta, Chittachandirasava etc.
44. Himasagara taila, Tungadrumadi taila, Gandharaja taila, Brahmi taila, Sidharthaka agada etc.
45. Dhupa, Nasya, Lepa, Anjana yogas useful in Manas Roga.
46. Folk Medicine in Manasa Roga.
47. Mano Bhesaja vinyasanam – Essentials of Psycho pharmacology, knowledge of Biological and Pharmacological Therapies in the Management of Various Psychiatric diseases such as hypnotics, sedatives, anxiolytics, mood stabilizer/elevators, antidepressants, antipsychotics, anticonvulsants, Electro-convulsive therapy(ECT) and its applied aspects.
48. Psychological aspects of Disaster Management- Apada evam Manovigyan.

PAPER –IV

100 Marks

MANASA ROGI ANYA CHIKITSA EVAM YOGA

Panchakarma

1. Importance of Panchakarma and other allied procedures in the management of Manasa Roga
2. Theoretical knowledge and application of the following karmas in Manasa Roga Snehana, Svedana, Vamana, Virechana, Basti, Nasya, Raktamokshana, Mastishkya-Shiro-Basti, Shiro-Dhara, Shiro- Pichu, Shiro- Abhayanga, Murdhni taila, Anjana Dhupa, Dhupana etc.

Yoga

Manovigyana sandharbhe yogasya vaishishtyam, Yogashastrasya upayogita mahatvam cha- Importance of Yoga in manovigyana. Importance of Yogashastra and its application in manovigyana.

1. Yogasya darshanika svarupagyanasahitam tasya astanganam samichinam Gyanam knowledge of Ashtangayoga and its applicability.
2. Ayurveda drishtya yoga adhyayanasya upayogita, Ayurveda shastre pratipaditah yogasya siddhantah.
3. Satvavajaye gyana-bhakti-karma yoganam manasa roge vivechanam-Hatha yogascha Description of Satyavijaya, Gyan, Karm and bhakti Yoga. Hathyoga and manasvigyan.
4. Role of Shatkarma – Kapalabhati, Trataka etc. in Manasa Roga.
5. Naishthiki chikitsa in Manasa Roga.
6. Therapeutic potential of Yoga, Psycho biological effects of Yoga, Spiritual therapy and Yoga.
7. Pranayama and contemporary yoga practice in Manas Roga.

Other allied therapeutic Procedures:

Various methods of psychotherapy and counselling techniques, transactional analysis, behavioural therapy, psycho analysis.

Swapna Samvahana chikitsa –Hypnotherapy-Past life Regression and Age Regression Therapy in Manasa Roga.

Knowledge of psychiatric emergency and their management.

Knowledge of surgical intervention in Manasa Roga

Recent advances and updates in concepts, drugs and therapeutic procedures in Manasa Roga.

Content of the Practicals

S.No.	Topic	No. of Cases
1.	Hypnotherapy techniques	10
2.	Case Study-	20
	Unmada	20
	Apasmara	20
	Atatvabhinivesh	10
	Chittodvega	25
	Vishada	25
	Madatyaya	10
	Psycho Sexual disorders	25
	Psychogenic headache	20
	Nidra vikara	20
	Stress related disorders	25
3.	Examination of Manasika Bhava in psychosomatic illness	25
4.	Yogasana, Pranayama and Meditation Techniques	25
5.	Panchakarma Procedures in Manasa Roga	25
6.	Anjana, Dhoopanadi Karma	25

7.	Instruments (GSR biofeedback, EST, EEG, etc.)	25
8.	Counselling on the pattern of Sattvavajaya	25
9.	Psychometric scales (Ayurveda and conventional)	30

Visit to Mental Hospitals

Pattern of Practical Examination	-	100 Marks
1. Practical Record Book	-	10 Marks
2. Bed side examination		
a. Short Case	-	10 Marks
b. Long Case	-	25 Marks
3. Assessment of Scales and inventories (Ayurveda and Conventional)	-	10 Marks
4. Thesis Presentation (PPT)	-	25 Marks
5. Viva-voce	-	20 Marks

Reference Books-

1. Related matter of Charaka, sushruta and Vagbhata and other ancient texts with commentaries
2. Prachin Manovikara Vigyanam - Ayodhya Prasad Achal
3. Ayurvediya Padarth Vigyan - Ranjit Rai Deshai
4. Ayurved Darshan - Acharya Rajkumar Jain
5. Purusha Vichaya - Prof. V.J. Thakkar
6. Ayurvediya Manas Vigyan - Prof. Ram Harsh Singh
7. Yoga evum Ayurved - Acharya Rajkumar Jain
8. Basic principles of Ayurvediya Padartha Vigyan - Dr Yogesh Chandra Mishra
9. Synopsis of Psychiatry - Harold kaplon and Benjamin saddock
10. Oxford textbook of Psychiatry - Michael Gerlder, Paul Harrison
11. General psychology and Abnormal psychology - S.K. Mangal
12. A text book of Post Graduate Psychiatry - Neeraj Ahuja
13. Mind in Ayurveda and other Indian Traditions - A.R.V.Murthy
14. Psychopathology in Indian Medicine - Satyapal Gupta
15. Body- Mind- Spirit Integrative Medicine - Prof. Ram Harsh Singh
16. Rationale of Ayurveda Psychiatry - Dr.A.R.V. Murthy
17. Foundations of contemporary Yoga and Yoga Therapy – Prof. Ram Harsh Singh
18. Stress and its Management - Dr. K.N. Udupa
19. Concept of Mind - Edited by Prof. C.R. Agnivesh, Kottakkal
20. Kayachikitsa - Part 3 by R.R. Pathak and Vidhyadhar Shukla
21. Panchakarma Illustrated - Prof. Shrinivasa Acharya
22. Unified Dimensions of Ayurvedic Medicine - Dr. J.S. Tripathi
23. Essential Psychiatry - Bhatia MS

- | | |
|--|-----------------------------|
| 24. Sahassrayoga | - Nishteswar and Vaidyanath |
| 25. Ayurveda and the Mind | - David Frawley |
| 26. Manasa Roga Vijnana | - Balakrishna |
| 27. Comprehensive Textbook of Psychiatry | - Kaplan and Sadock's |
| 28. Psychiatry for medical students | - Robert J Waldinger |
| 29. Introductions to Psychology | - Morgan / King. |

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13. RASAYANA & VAJIKARANA

Theory- 400 Marks (100 Each)

Practical and Viva-Voce- 100 Marks

PAPER – I

100 Marks

CONCEPT & PRACTICE OF RASAYANA

1. Basic fundamentals and concepts of Rasayana

- a) Derivation, definition and synonyms of Rasayana
- b) Classification of Rasayana
- c) Understanding rasayana in perspective of:
 - Neutraceutical action
 - Immunomodulation
 - Oxygen free radicals & Antioxidant activity.
 - Adaptogens.
 - Cell regenerative activity
 - Genoprotective activity
 - Micronutrients
 - Anabolic activity
- d) Interpretation of different types of Rasayana
- e) Prakriti-Guna /character wise Rasayana
- f) Sara wise rasayana
- g) Dhatu specific rasayana
- h) Indriyanusararasayana like netryya, hridya, tvacchya etc.
- i) Srotas wise rasayana
- j) Rasayana for specific occupation.
- k) Season wise rasayana
- l) Molecular biology in relation to rasayana
 - Human genome project
 - Genetics and Gene therapy
 - Stem cell theories

- m) Introduction to Bioinformatics
- n) Concept of Bala, types of bala, vridhikshaya hetu
- o) Knowledge of measures to improve bala
- p) Concept of ojas. Types of ojas. Ojo-vridhi-kshaya-karabhava.
- q) Ojodustiprakara, hetu, samprapti and their management
- r) Immunology
 - Immune system & components
 - Knowledge of immune mechanisms
 - Immune disorders
 - Rasayana as immunomodulator
 - Rasayana- immune specific/immunoglobulin specific
 - Rasayana in Immune compromised diseases like, HIV/AIDS, tuberculosis, Cancer, liver cirrhosis etc.
- 2. Concept of jara (geriatrics) and ageing (gerontology)
- 3. Concept of svabhavabalapravrittavyadhi with special reference to Jara; its classification (kalaja & akalaja), etiopathogenesis and management
- 4. Organ wise, system wise Common geriatric disorders and their management
- 5. Yogya, ayogya, vidhi and prayojana of:
 - Kutipravesika Rasayana
 - Dronipravesika Rasayana
 - Karapratichiya Rasayana
 - Indraprokta Rasayana
 - Vaatatapika Rasayana
- 6. Concept & Practice of Achararasayana/Moral and Social code of conduct.
- 7. Knowledge & application of svasthavritta measures.
- 8. Swasthyanuvartaka Rasayana.
- 9. Rasayana as nutritional supplements.
- 10. Panchakarma and its role in Rasayana.
- 11. Application of Kamya Rasayana to achieve – Smriti, Medha, Bala, Prabha, Varna, Svata.
- 12. Knowledge of Vayasthaapana/Ayushya Rasayana.
- 13. Naimittika Rasayana – Vyadhihara and vyadhiapunarbhava Rasayana.

PAPER – II

100 Marks

CONCEPTS AND PRACTICE OF SUPRAJA AND VANDHYATVA

1. Etymology, derivation, definition, synonyms of vandhya, apatya, santaankara, supraja.
2. Importance of fertility.
3. Essentials of fertility.
4. Garbhasambhava samagri.
5. Garbhaadana paricharya.

6. Garbhotpatti.
7. Shukra vridddhi-kshaya hetu, lakshana and chikitsa.
8. Shukrapradoshajavyadhi and its management.
9. Shukradustihetu, prakara, lakshana, diagnosis and management.
10. Retodustiprakara, hetu, lakshana and chikitsa.
11. Sukravahasrotodusti karana, lakshana, diagnosis and management.
12. Disorders of spermatogenesis (etio-pathogenesis, diagnosis and management)
 - a. Oligozoospermia, asthenozoospermia, teratozoospermia, azoospermia, aspermia, pyospermia, necrozoospermia, OAT syndrome, sertoli cell only syndrome, Klinefelters syndrome, Kallaman's syndrome, Dal-castele's syndrome etc.
13. Obstructive azoospermia-diagnosis, medical management and knowledge of surgical procedures.
14. Retrograde ejaculation and other ejaculatory disturbances in respect to fertility knowledge, diagnosis and management.
15. Reproductive endocrinal disorders and management.
16. Immunological infertility – knowledge of various components involved in immunological infertility, mechanism, diagnosis and management.
17. Sperm function tests, semen and cervical mucus interaction, post coital test.
18. Karyotyping and interpretation.
19. Chromosomal, genetic disorders pertaining to fertility and management.
20. Practice of Genetic counseling.
21. Normal and abnormal sexual differentiation.
22. Applied aspects of Panchakarma in rasayana and vajikarana.
23. Applied aspects of uttarbasti **in infertility**.
24. Supraja (eugenics): preconceptional measures for health progeny.
25. Pumsavana karma for healthy progeny.
26. Introduction to MART (Medically Assisted Reproductive Technologies) : IUI, IVF-ET, ICSI, etc.
27. Testicular biopsy – indications, surgical procedure, interpretation of HPE results.
28. Knowledge of cystoscopy – diagnostic, interventional.
29. Scrotal scan & Doppler.
30. Varicocele : diagnosis, medical and surgical management.
31. Disorders of accessory sex glands and their management.

PAPER – III

100 Marks

CONCEPTS AND PRACTICE OF VAJIKARANA

1. Etymology, derivation, definition, scope and understanding of word vajikarana and its application in present scenario.
2. Physiology of sexual act including mechanism of erection, ejaculation and orgasm.
3. Hypothalamo-pituitary-testicular axis.
4. Psycho-neuro-endocrino-vasculogenic mechanism of sexual activity.

5. Haemodynamics and different stages of erection.
6. Psychological aspects of sexual functions.
7. Sukrottejakabhava. Factors influencing sexual function.
8. Sukrasrutikarabhava.
9. Erogenous zones and lunar relationship.
10. Maithunavidhi –asthangamaithuan, rules and regulations to have intercourse as per ritu, kala, gotra, kula etc.
11. Concept of Brahmacharya & its application in the present context.
12. Sexual ethics.
13. Myths & misconcepts regarding sex & sexuality.
14. Sex education & counseling including pre-marital counseling.
15. Knowledge of contraception and contraceptives.
16. Knowledge of sukratavata /sukrasthavata, sukravrita vata.
17. Klaibya- definition, nidana, prakara, samprapti, and chikitsa.
18. Male Sexual dysfunctions (etio-pathogenesis, diagnosis & management)
 - a. Disorders of sexual desire (increased libido, decreased libido, no desire etc.)
 - b. Erectile dysfunction (Psychological, endocrinological, neurological & vasculogenic).
 - c. Ejaculatory disturbances (early, delayed, anejaculation, retrograde ejaculation).
 - d. Orgasmic disorders (anorgasmia).
19. Female sexual disorders, causes, diagnosis and management.
20. Knowledge of various sexual postures and advantages.
21. Napumsaka, Shanda, trinaputrika, vaarta, hermaphroditism – definition, classification, samprapti, clinical manifestation, diagnosis and management.
22. Knowledge of paraphilia, abnormal sexual behavior, perversions and management.
23. Knowledge of diagnostic aids pertaining to sexual disorders:
 - a. ICIVAD (Intra Cavernosal Injection of Vaso Active Drugs)
 - b. Vacuum erection devices.
 - c. Penile vibrators.
 - d. Rigi scan NPT (Nocturnal Penile Tumescence)/ snap gauge test.
 - e. Penile biothesiometer.
 - f. Penile Doppler.
24. Knowledge of Dhat syndrome, night emissions.
25. Mutrasukra, shukrashmari, sukrameha.
26. Aharsha & apraharshabhava.
27. Knowledge of Sexual performance assessment scales: MSP, GRISS, GRIMS, HARDS, Libido score, IIEF-5 scoring system for ED, Androgen deficiency score.
28. Priapism and its management.
29. Theories of andropause and management.

PHARMACO-THERAPEUTICS OF RASAYANA & VAJIKARANA

1. Definition, derivation, etymology, synonyms of vajikara, vrishya.
2. Pharmacology and pharmacodynamics of rasayana and vajikarana drugs.
3. Definition, scope and understanding of:
 - a. Rasayana
 - i. Vyadhibalavirodhi
 - ii. Vyadyutpadakapratibandhak
 - iii. Vayasthapan
 - b. Sukrajanaka/Sukrala
 - c. Sukrapravarthaka/rechaka
 - d. Shukrashodhana
 - e. Shukrastambhaka
 - f. Sukrashoshaka, vyavayi/vikashi
 - g. Kamoddeepana/kamottejaka etc.
4. Pharmacology of drugs belonging to:
 - a. Sukrajanaka/sukrala
 - b. Sukrapravarthaka/rechaka
 - c. Shukrashodhana
 - d. Shukrastabhaka
 - e. Sukrashoshaka, vyavayi/vikashi
 - f. Kamoddeepana/kamottejaka etc.
5. Pathya and apathy in relation to shukradhatu
6. Formulation, indications & uses of various Vasis in Vajikarna such as: Vrishyabasti, Vajikaranaabasti, Yapanabasti etc.
7. Pharmacology of:
 - a. Akarakarabha
 - b. Amalaki
 - c. Aswagandha
 - d. Bhallataka
 - e. Bhang
 - f. Bhrihati
 - g. Gokshura
 - h. Guduchi
 - i. Haritaki
 - j. Ikshu
 - k. Jatiphala
 - l. Jivanti
 - m. Kapikacchu
 - n. Kokilaksha
 - o. Ksheeravidari

- p. Mandukaparni
- q. Masha
- r. Punarnava
- s. Shatavari
- t. Svetamusalī
- u. Yastimadhu etc
- v. Indraprokta Rasayanaa

8. Pharmacology of following Rasaushadhis:

- a. Abhraka
- b. Naga
- c. Rajata
- d. Shilajit
- e. Svarna
- f. Svarnamakshika
- g. Vanga
- h. Yashada
- i. Loha, etc

9. Ingredients, properties, indications and phalasruti of:

- Agasthya Rasayanaa
- Ajamamsa Rasayanaa
- Akarakarabhadvati
- Amrita Prasha Gritha
- Aswagandha Gritha,
- Avalguja Rasayanaa
- Balaswagandha Taila
- Bhallathaka Rasayanaa
- Brahma Rasayanaa
- Brihatcchagalladyagritha
- Chandraprabhavati
- Chyavanaprasha
- Gokshuradi Guggulu
- Haritakyadi Rasayana
- Jatiphaladi Vati
- Kaminividravana Rasa
- Khadira Rasayana
- Kushmanda Rasayanaa
- Lasuna Rasayana
- Mahamasha Taila
- Makaradhwaja
- Nagabala Rasayana

- Narasimha Rasayanaa
 - Pippali Vardhamana Rasayanaa
 - Pippali Rasayana,
 - Purnachadrodaya Makaradhwaja
 - Shatavari Ghrita
 - Shilajatu Rasayana,
 - Siddha Makaradhwaja,
 - Srigopala Taila,
 - Vanari Gutika
 - Vasantakusumakara rasa,
 - Veeryastambha Vati,
 - Vidanga Rasayana,
 - Vidaryadi Ghrita,
 - Vrishya Ghrita
10. Pharmacology & Pharmacodynamics of various vajikara, vrishya and rasayana vasti.
 11. Neuro-psycho pharmacology of rasayana, vajikarna drugs.
 12. Endocrinological aspects of rasayana, vajikarana drugs, prajasthapak and Shukravardhak/shodhak drugs.
 13. Recent advances in rasayana and vajikarana drugs, formulations and therapeutic techniques.

PRACTICALS

1. Assessment of Prakriti.
2. Assessment of saara.
3. Assessment of manasaprakriti.
4. History taking & clinical examination of geriatric patients.
5. Examination of male genito-urinary system.
6. Semen analysis- Retopariksha.
7. Post coital test, semen & cervical mucus interaction test.
8. Technique of ICIVAD.
9. Uttarbasti.
10. Technique of psychosexual counseling.
11. Applicatory knowledge of assessment scales pertaining to vajikaranaa/sexual functions.
12. Technique of genetic counseling.
13. Practical aspects of Panchakarma pertaining to rasayana & vajikarana.
14. Technique of measuring penile BP.

PRACTICALS-

100 Marks

Practicals shall be held to evaluate the patient care, diagnostic and treatment expertise of the student. It should also be taken as a chance to evaluate the clinical skills.

Publication or acceptance of one Scientific paper based on Thesis Research preferably in indexed/peer reviewed journal is essential. Should have taken minimum 20 Theory and Practical classes of BAMS in concerned subject.

Clinical Ability Evaluation- 60 Marks based on

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|--|-----------|
| 1. Case records of 40 IPD Patients in Detail | 10 Marks. |
| 2. Long case History -1: | 20 Marks. |
| 3. Short Case History-1: | 10 Marks. |
| 4. Medical procedures demonstration | 20 Marks. |
| 5. Academic Competence evaluation – 40 Marks based on: | |
| a. Viva | 30 Marks. |
| b. Teaching and communication skills/ Thesis presentation in PPT /: | 10 Marks. |

Reference Books:

- | | |
|---|-----------------------------|
| 1. Relevant portions of Brihatrayi and Laghutrayi with commentaries | |
| 2. Ayurvediya Nidana- Chikitsa Siddhanta | - Prof. R.H.Singh. |
| 3. Kayachikitsa Vol. 1 and 2 | - Prof. R.H.Singh. |
| 4. The Holistic Principles of Ayurvedic Medicine- | Prof. R.H.Singh. |
| 5. Kayachikitsa Vol. I-IV | - Prof. Ajay Kumar Sharma |
| 6. Panchakarma Therapy | - Prof. R.H.Singh. |
| 7. Panchakarma Illustrated | - Prof.G.Shrinivasa Acharya |
| 8. Practice of Ayurvedic Medicine (Kayachikitsa)- | Prof.A.K.Tripathi |
| 9. Nidanachikitsa Hastamalaka | - Prof. R.R.Desai |
| 10. Clinical Methods in Ayurveda | - Prof. K.R. Srikantamurthy |
| 11. Aushadhi Gunadharm Shastra | - Gangadhar Shastri Gune |
| 12. Davidson's Principles and Practice of Medicine. | |
| 13. Rasayan and vajikarana by Dr.O.P.Upadhaya. | |
| 14. Rasayan and vajikarana by Dr. Singla. | |
| 15. Harrison's Text Book of Medicine. | |
| 16. Cecil Text Book of Medicine. | |
| 17. Relevant texts of concerned subjects. | |

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14.SHALYA TANTRA – SAMANYA

Theory- 400 Marks (100 Each)

Practical and Viva-Voce -100 Marks

PAPER – I

100 Marks

SHALYA SIDDHANTA – FUDAMENTALS OF SURGERY

1. Sushruta's contributions in surgical concepts and practices.

2. Knowledge of Dosha, Dhatu and Mala Vigyan and their importance in surgical diseases.
3. Significance and importance of Rakta as the Chaturth Dosha.
4. Yantras and Shastras – Surgical Instruments – Ancient and recent advances.
5. Trividha Karma – Purva, Pradhana and Pashchat Karma and their Importance.
6. Asepsis and Antisepsis.
7. Nirjivikarana – Sterilization – Various methods for surgical equipments, endoscopies, linen and Operation theatre.
8. Surgical infections – Sepsis, Tetanus and Gas gangrene.
9. Care of patients suffering from Hepatitis, HIV-AIDS, STD and other associated infectious diseases.
10. Ashtavidha Shastra Karma – Critical knowledge and their application in surgical practice.
11. Suturing materials, appropriate use of sutures, drains, prosthetic, grafts and surgical implants.
12. Concept of Marma and their clinical application.
13. Shock – Its varieties and management.
14. Raktasrava / Haemorrhage – Types, Clinical features and Management.
15. Concept of Raktastambhana – Haemostasis.
16. Blood Transfusion – Blood groups, compatibility, indications, Contraindications and complications with management.
17. Fluid, electrolyte, Acid Base Balance and Nutrition.
 - a. Introduction of physiology of fluids and electrolytes.
 - b. Dehydration and over hydration.
 - c. Specific electrolyte loss, Acidosis, Alkalosis, Symptomatology and Management.
 - d. Electrolyte changes in specific surgical conditions and their management.
 - e. Plasma volume expanders and their use in surgical conditions.
 - f. Various replacement fluids in surgery, mode of administration and complications.
 - g. Nutrition – Indications, types, mode of administration and complications.
18. Vranasopha – Inflammation and Vidradhi – Abscess
19. Granthi- Cyst and Arbuda – Benign and malignant Neoplasm – Concept of Oncogenesis and genetics of cancer.
20. Gulma and Udara Roga.
21. Kshudra Roga.
22. Knowledge of antibiotics, analgesics, anti-inflammatory and emergency drugs in surgical practice.

VISHISHTA SHALYA VIGYANA – SHALYA TANTRA SPECIALITY

1. Yogya Vidhi – Practical and Experimental training.
 - a. Practice of surgical procedures on different models.
 - b. Training of Laproscopic and Endoscopic procedures.
2. Vrana – Wound management.
 - a. Management of Nija Vrana, Agantuja Vrana, Dushta Vrana and Nadi Vrana.
 - b. Vrana Chikitsa – Shasti upakramas, Pathya-apathya.
 - c. Types and management of Dagdha Vrana – Burns and scalds.
 - d. Infection of hands and foot, Diabetic wound, Prameha Pidaka – Diabetic carbuncle and its management.
 - e. Management of Pressure ulcers, Venous ulcers and other chronic non-healing ulcers.
 - f. Gangrene and its management.
3. Mutra Roga – Urological diseases.
 - a. Applied anatomy and physiology of urogenital system.
 - b. Investigations of Mutravaha Srotas – Urinary tract.
 - c. Aetiopathogenesis and surgical procedures of Ashmari – Urinary stone diseases.
 - d. Kidney and ureter – Clinical presentation, Investigations and Management of Congenital anomalies, Trauma, Infection, Neoplasm, Hydronephrosis and Hydroureter.
 - e. Urinary bladder - Clinical presentation, Investigations and Management of Congenital anomalies, Trauma, Infection, Neoplasm, Diverticulum, Vesico-vaginal fistula, Atony and Schistosomiasis.
 - f. Urethra - Clinical presentation, Investigations and Management of Congenital anomalies – Hypospadias, Epispadias, Posterior urethral valve, Trauma, Infection and Neoplasm.
 - g. Prostate and seminal vesicles – Benign and malignant enlargement of prostate, Prostatitis, Prostatic abscess and Calculi.
 - h. Penis – Clinical presentation , Investigations and Management of Congenital anomalies, Trauma, Infection, Phimosis, Paraphimosis, Peyronie's disease and Neoplasm.
 - i. Testis and scrotum - Clinical presentation , Investigations and Management of Congenital anomalies, Ectopic testis, Trauma, Infection, Neoplasm, Testicular torsion, Hydrocele, Varicocele, Spematocele, Chylocele, Pyocele, Haematocele, Epididymal cyst and Fournier's gangrene.
 - j. Urinary diversions- Indications, types and techniques.
 - k. Retention of urine – Mutraghata and Mutrakruccha- Etiology, diagnosis and management .
 - l. Saraktamutra, Haematuria – Etiology, Clinical features and Management.

- m. Renal failure – Causes, Diagnosis, Investigations and Management.
- 4. Asthi roga and Marma Chikitsa – Orthopaedics
 - i. Anatomy and physiology of bone.
 - ii. Diseases of Asthi / Bone and Sandhi /Joints – Congenital, Degenerative, Infective, Metabolic and Neoplastic Disorders of Bones and Joints.
 - iii. Aetiopathogenesis, treatment along with surgical procedures of Bhagna – Fracture, Sandimoksha – Dislocation and bone grafting.
 - iv. Diseases of Spine, vertebral column and spinal cord.

PAPER – III

100 Marks

ADHUNIK SHALYA KARMA – MODERN SURGERY

1. Fundamentals of modern surgery and treatment of surgical disorders including surgical anatomy, physiology and pathology.
2. Diagnosis and Surgical treatment of head and spine injury, thoracic and abdominal trauma. Blast injuries and management.
3. Diagnosis and Surgical Management of neck disorders e.g. salivary glands, thyroid, Thyroglossal cyst and Fistula, Branchial cyst and fistula, Cystic hygroma and Lymphadenopathies.
4. Diagnosis and Surgical management of breast diseases- Benign and Malignant breast tumours.
5. Diagnosis and Surgical measures of diseases of Gastrointestinal system –
 - a. Oral cavity – Oral ulcers, Oral cancer, Precancerous conditions, Submucosal fibrosis, Leukoplakia, Cleft lip and palate, Lip tumours, Mucosal cyst, Nasopharyngeal cancer, Tongue ulcer and cancer.
 - b. Oesophagus – Oesophageal varices, Dysphagia, Neoplasm, Strictures and Gastro oesophageal reflux.
 - c. Stomach and duodenum – Congenital anomalies, Injuries, Inflammation, Ulcer, Neoplasm, Pyloric stenosis, Acute dilatation, Hiatus hernia and Foreign bodies.
 - d. Pancreas – Congenital anomalies, Acute and Chronic pancreatitis, Calculi Neoplasm and Cysts of pancreas.
 - e. Peritoneum, Omentum, Mesentery, Retroperitoneal Space – Peritonitis, Abscess, Neoplasm, Mesenteric cyst, Torsion of mesentery, Vascular thrombosis, Retroperitoneal cyst and Fibrosis.
 - f. Abdominal mass – Diagnosis and Management.
 - g. Small intestine- Congenital anomalies, Inflammation, Ulcer, Neoplasm, Stenosis, Injuries, Foreign bodies, Diverticuli, Peutz-jeghers syndrome, Chron's disease, Carcinoid tumours, Enteric perforation and Intestinal fistula.
 - h. Large intestine - - Congenital anomalies, Inflammation, Ulcer, Neoplasm, Stenosis, Injuries, Foreign bodies, Diverticuli , Faecal fistula, Amoebic ulcer and Familial polyposis coli.

- i. Caecum and vermiform appendix – Appendicitis, Appendicular abscess, Appendicular mass, Perforation, Carcinoid Tumor and other Neoplasm.
 - j. Gastrointestinal bleeding – Haemetemesis, Malaena, Haemobilia, Bleeding per anum – Causes, Diagnosis and Management.
 - k. Rectum and anal canal – Diagnosis and Surgical management of Congenital Anomalies, Inflammation, Ulcer, Neoplasm, Stenosis, Prolapse, Haemorrhoids, Fistula-in-ano, Fissure-in-ano, Anorectal Abscess, Incontinence, Injuries, Foreign bodies, Sacrococcygeal Teratomas and Pilonidal sinus.
6. Umbilicus and abdominal wall – Congenital anomalies, Umbilical infections, Sinus, Neoplasm, Abdominal dehiscence, Divarication of recti, Desmoid tumor and Meleney's gangrene.
7. Diagnosis and Surgical measures of diseases of Hepatobiliary system-
 - a. Liver – Abscess, Cyst – Hydatid cyst, Primary and secondary malignant tumours, Portal Hypertension and Budd-Chiari Syndrome.
 - b. Gall bladder and Bile duct – Congenital anomalies, Acute and Chronic Cholecystitis, Cholelithiasis, Neoplasm, Cholangitis, Stenosis, Choledocholithiasis, Choledochal cyst and Cholangiocarcinoma.
 - c. Spleen – Splenomegaly and Splenic Injury.
8. Diagnosis and surgical measures for disorders of Artery, Vein, Ligaments, Muscles and Tendons.
9. Diagnosis and surgical management of Hernias – Inguinal, Femoral, Umbilical, Incisional, Abdominal wall and other hernias.
10. Endoscopic procedures – Oesophagogastroduodenoscopy, Sigmoidoscopy and Colonoscopy.
11. Diagnostic and therapeutic laparoscopy.
12. Anaesthesia – Definition, Types, Anesthetic agents, Indications, Contraindications, Procedures, Complications and management.

PAPER – IV

100 Marks

SHALYA VANGMAYA – SHALYA LITERATURE, RESEARCH AND DEVELOPMENT

1. Critical study of the Sushruta Samhita and relevant portions of Shalyatantra in Brihatrayee and Laghutrayee.
2. Knowledge and importance of Surgical Audit.
3. Medico legal issues – Understanding the implications of acts of omission and commission in practice. Issues regarding Consumer Protection Act in medical profession, National Health Policy, Implications in medico-legal cases like accidents, assaults etc.
4. Surgical ethics including Informed consent.
5. Knowledge of different type of experimental Surgical Model for Research in Surgery.
6. Sandhana Karma – Plastic reconstructive and cosmetic surgery. Fundamentals of Sandhana Karma –
 - a. Karna Sandhana – Auroplasty

- b. Nasa Sandhana – Rhinoplasty
 - c. Ostasandhana – Cheiloplasty
 - d. Grafts and Flaps – Techniques and applications.
 - e. Vascular anastomosis and grafts.
7. **Anushalya Karma** – Parasurgical procedures
- a. Kshara Karma, Kshara Sutra, Agnikarma and Raktamoskhana.

Pattern of Practical examination

100 Marks

- | | |
|--|------------|
| 1. Case record (25) | - 10 Marks |
| 2. Short case | - 10 Marks |
| 3. Long case | - 20 Marks |
| 4. Identification of specimen / radiograph and Instruments | - 20 Marks |
| 5. Thesis Presentation | - 20 Marks |
| 6. Viva- voce | - 20 Marks |

Reference Books

- | | |
|--|------------------------------------|
| 1. Sushruta Samhita | |
| 2. Ashtanga Sangraha | |
| 3. Ashtanga Hridaya | |
| 4. Charaka Samhita | |
| 5. The Surgical instruments of the Hindus | - Girindranath Mukhopadhyaya |
| 6. Shalya Tantra Samuchchaya | - Pandit Ramadesh Sharma |
| 7. Shalya Vigyan (Part 1-2) | - Dr. Surendra Kumar Sharma |
| 8. Shalya Samanvaya (Part 1-2) | - Vd. Anantaram Sharma |
| 9. Shalya Pradeepika | - Dr. Mukund Swaroop Verma |
| 10. Sushruti | - Dr. Ram Nath Dwivedi |
| 11. Clinical Shalya Vigyan | - Dr. Akhilanand Sharma |
| 12. Bhagna Chikitsa
Deshpande | - Dr. Prabhakar Janardhan |
| 13. Kshara sutra management in anorectal ailments
and Dr. Kulwant Singh | - Dr. S.K. Sharma, Dr. K.R. Sharma |
| 14. Anorectal diseases in Ayurveda
Kumar Chowdary. | - Dr. Sizoria and Dr. Praveen |
| 15. Adhunik Shalya Chikitsa Siddhanta | - Dr. Katil Narshingham Udupa |
| 16. Agnikarma Technology Innovatiion | - Dr. P.D. Gupta |
| 17. Shalya Tantra Ke Siddhanta | - Dr. K.K. Takral |
| 18. Recent advances in the management of Arshas / Haemorrhoids – Dr. P.Hemantha
Kumar | |
| 19. Arsha Evum Bhagander Mein sutra Avacharan | - Vd. Kanak Prasad Vyas |
| 20. Recent advances in Kshara Sutra | - Dr. M. Bhaskar Rao |
| 21. Leech application in Ayurveda | - Dr. M. Bhaskar Rao |
| 22. Kshara Sutra | - Dr. S.N. Pathak |
| 23. Shalya Shalakya Tantra | - Vd. S.G.Joshi |

24. Surgical ethics of Ayurveda	- Dr. D.N. Pande
25. Text book of Surgery	- Sabistan
26. Operative Surgery	- Rob and smith
27. Bailey and Love's Short Practice of Surgery Charles.V.Mann and R.C.G. Russell	- Norman.S. Williams,
28. Fractures and Joint Injuries	- Watson-Jones
29. Text books of Operative Surgery	- Farquharsons'
30. Principles of Surgery	- Schwartz
31. Emergency Surgery	- Hamilton Bailey's
32. Surgical Pathology	- Willing Worth
33. Clinical methods in surgery	- S. Das
34. Text book of Operative Surgery	- S. Das
35. Shalya Vigyan(Sachitra)	- Anantram Sharma
36. Anushastra Karma	- Dr. D.N. Pande
37. Concept of Vrana is Ayurveda	- Dr. Lakshman Singh
38. Significance for Poorva Karma in Surgical Patient	- Dr. Lakshman Singh
39. Sangyahan Prakash	- Dr. D.N. Pande
40. A concise Text Book of Surgery	- S. Das
41. A manual on Clinical Surgery	- S. Das
42. A System of Surgical Diagnosis	- T.N. Patel
43. A Practical Guide to Operative surgery	- S. Das
44. Drugs and Equipment for Anaesthesia	- Arun kumar
45. Manual of Surgical Instruments	- M.M. Kapur
46. Ward Procedures	- Patel Mansukh. B
47. Recent trends in the management of Arshas / Haemorrhoids – Dr. P Hemantha Kumar	
48. Primary Anaesthesia	- Maurice King
49. Synopsis of Anaesthesia	- Lee
50. Clinical Anatomy / Surgical Anatomy	- John E. Skandalakis
51. Surgical Instruments of the Hindus	- Girindharnath Mukopadyay
52. Outline of Orthopaedics David Hamblen .L	- John Crawford Adams and
53. Outline of Fracture	- John Crawford Adams
54. Recent trends in the management of Bhagandara / Fistula-in-ano – Dr. P. Hemantha Kumar	
55. Principles and Practice of Agnikarma Kanchan Shekokar	- Dr. Anand Kumar and Dr.
56. Manipal Manual of Surgery	- Dr. Rajgopal Shenoy

15. SHALYA – KSHARA EVUM ANUSHAstra KARMA

Theory – 400 Marks (100 Each)

Practical and Viva-Voce-100 Marks

PAPER -1

100 Marks

SHALYA SIDDHANTA – FUNDAMENTALS OF SURGERY

1. Sushruta's contributions in surgical concepts and practices.
2. Knowledge of Dosha, Dhatu and Mala Vigyan and their importance in surgical diseases.
3. Significance and importance of Rakta as the Chaturth Dosha.
4. Yantras and Shastras – Surgical Instruments – Ancient and recent advances.
5. Trividha Karma – Purva, Pradhana and Pashchat Karma and their Importance.
6. Asperis and Antisepsis.
7. Nirjivikarana –Sterilization – Various methods for surgical equipments, endoscopies, linen and Operation theatre.
8. Surgical infections – Sepsis, Tetanus and Gas gangrene.
9. Care of patients suffering from Hepatitis, HIV-AIDS, STD and other associated infectious diseases.
10. Ashtavidha Shastra Karma – Critical knowledge and their application in surgical practice.
11. Suturing materials, appropriate use of sutures, drains, prosthetic, grafts and surgical implants.
12. Concept of Marma and their clinical application.
13. Shock – Its varieties and management.
14. Raktasrava /Haemorrhage – Types, Clinical features and Management.
15. Concept of Raktastambhana – Haemostasis.
16. Blood Transfusion – Blood groups, compatibility, Indications, Contraindications and complications with management.
17. Fluid, electrolyte, Acid Base Balance and Nutrition
 - a. Introduction of physiology of fluids and electrolytes.
 - b. Dehydration and over hydration.
 - c. Specific electrolyte loss, Acidosis, Alkalosis, Symptomatology and Management.
 - d. Electrolyte changes in specific surgical conditions and their management.
 - e. Plasma volume expanders and their use in surgical condition.
 - f. Various replacement fluids in surgery, mode of administration and complications.
 - g. Nutrition – Indications, types, mode of administration and complications.
18. Vranasopha – Inflammation and Vidradhi – Abscess
19. Granthi – Cyst and Arbuda – Benign and malignant Neoplasm – Concept of Oncogenesis and genetics of cancer.

20. Gulma and Udara Roga.
21. Kshudra Roga.
22. Knowledge of antibiotics, analgesics, anti-inflammatory and emergency drugs in surgical practice.

PAPER – II

100 Marks

VISHISTA ANUSHAstra KARMA

1. Kshara Karma and Prayoga – Therapeutic Chemical Cauterization.

- a. Introduction of different types of Kshara, Method of preparation, Standardization, pH value, Application, Complications and its management.
- b. Preparation and standardization of Kshara sutra and Kshara Picchu – their application and complications.
- c. Surgical Anatomy and Physiology of Anus and Rectum.
- d. Arshas – Nidana, Purvaroop, Roopa, Samprapti, Prakara and Chikitsa.
- e. Haemorrhoids – Aetio-pathogenesis, types and its surgical management.
- f. Gudavidradhi – Nidana, Purvaroop, Roopa, Samprapti, Prakara and its Chikitsa.
- g. Anorectal abscesses – Aetio- pathogenesis, types, complications and its surgical management.
- h. Other methods of treatment of Haemorrhoids like Rubber band ligation, D.G.H.A.L, Radiofrequency, Ablation, Cryo-surgery, Cautery, Laser, Infrared coagulation and other advanced techniques.
- i. Bhagandara – Nidana, Samprapti, Prakara, Doshanusarachikitsa and application of Kshara Sutra.
- j. Fistula-in-ano – Definition, Aetio-Pathogenesis, Types, Diagnostic methods and its Surgical, Para Surgical Management including knowledge of fibrin Glue, Advanced Flap Therapies and other recent techniques.
- k. Parikartika – Nidana, Samprapti and its Chikitsa.
- l. Fissure-in-ano - Aetio-Pathogenesis, types and its surgical management.
- m. Sannirudhaguda and its Chikitsa.
- n. Anal Stenosis - Aetio-Pathogenesis and its surgical management.
- o. Anal Incontinence - Aetio-Pathogenesis and surgical management.
- p. Gudagatashalya – Diagnosis and its Management.
- q. Foreign body in rectum and anal canal – Method of diagnosis and its Management.
- r. Congenital Anorectal disorders and its surgical management.
- s. Gudaarbuda and Granthi and its Chikitsa.
- t. Anorectal tumour – Types and its surgical management.

2. Agnikarma – Therapeutic cauterization

- a. Introduction, definition and importance of Agnikarma.

- b. Agnikarma – Poorva, Pradhana and Paschat karma, various substances and Shalakas used for Agnikarma and their indications, contra-indications and complications.
- c. Diagnosis and management of burn, Dhumopaghata, Ushnavata, Sunburn, Frost bite and Electric burn.
- d. Knowledge of modern thermal equipment – Diathermy, Laser therapy, microwave, Ultrasonic technique, Cryo Technique and its uses.
- e. Effect of Agnikarma on skin, muscle tissue, nerves, metabolism, blood circulation and infective lesions.

3. Raktamokshana – Bloodletting Procedures

- a. Rakta- Importance, Formation, Panchabhoutikatva, RaktaSthana, Guna, Prakurta Karma and Rakta Sara Purashalakshanas. Suddha and Dushta Rakta Lakshanas. Rakta Pradoshaja Vyadhis.
- b. Introduction and importance of Raktamokshana.
- c. Indication and contraindication of Raktamokshana.
- d. Justification of usage of different types of Raktamokshana in various therapeutic applications.
- e. Different types of Raktamokshana – Shastrakritha – Siravyadhana, Prachana and Ashastrakritha – Shringa, Jaluka, Alabu and Ghati.
- f. Jalauka – Nirukti, Paryaya, Bhedha, Samgrahana, Samrakshana, Jalaukavacharana Vidhi – Poorva, Pradhana and Paschat karma.
- g. Knowledge of Leeches – Morphology, Anatomy, Physiology, Bio-chemical effects of its various constituents present in its saliva.

PAPER – III

100 Marks

ADHUNIKA SHASTRA KARMA – MODERN SURGERY

1. Fundamentals of modern surgery and treatment of surgical disorders including surgical anatomy, physiology and pathology.
2. Diagnosis and surgical measures for disorders of vein, artery, ligaments, joints and muscles.
3. Diagnosis and surgical management of neck disorders e.g. salivary glands, thyroid tumours, etc.
4. Diagnosis and surgical management of breast diseases.
5. Diagnosis and surgical management of traumatic disorders – Head injury, thoracic and abdominal trauma.
6. Diagnosis and surgical management of diseases of Gastrointestinal system- stomach, pancreas, peritoneum, omentum, mesentery, retroperitoneal space, small intestine, large intestine and vermiform appendix.
7. Diagnosis and surgical management of Proctological disorders.
8. Diagnosis and surgical measures of diseases of Hepatobiliary system – Liver, gall bladder, bile ducts.
9. Diagnosis and surgical management of diseases of the spleen.

10. Diagnosis and surgical management of diseases of the Urogenital system.
11. Diagnosis and surgical management of diseases of scrotum and testis – Hydrocele, Ectopic testis and undescended testis.
12. Diagnosis and surgical management of Hernias – Inguinal, femoral, umbilical, incisional, abdominal wall and other hernias.
13. Endoscopic procedures – Oesophagogastroduodenoscopy, Sigmoidoscopy and Colonoscopy.
14. Diagnostic and therapeutic laparoscopy.
15. Minimal Access Surgery- Nadi Yantra and their applications and minimal Access surgery, laparoscopic anatomy of abdomen, diagnostic laparoscopy, Principles of diathermy, pre and post operative management of laproscopic cases, Laproscopic instruments, clips, staplers and port types, Recognition and management of laproscopic complications, Use and dangers of diathermy, Endoscopic suturing devices. Use and dangers of laser and other energy sources. Advanced instrumentation in laproscopic surgery. Harmonic scalpel.
16. Anaesthesia – Definition, Types, Anaesthetic agents, Indications, Contraindications, Procedures, Complications and Management.

PAPER – IV

100 Marks

SHALYAVANGMAYA

1. Thorough study of the Sushruta Samhita including other relevant portions of Brihatrayee and Laghutrayee.
2. Knowledge and importance of Surgical Audit.
3. Value of research and teaching in surgery.
4. Medico legal issues – Understanding the implications of acts of omission and commission in practice. Issues regarding Consumer Protection Act in medical profession, National Health Policy – Implications in a medico-legal case like accidents, assaults etc.
5. Surgical ethics including Informed consent.
6. Knowledge of different type of experimental Surgical Model for Research in Surgery.

Pattern of Practical examination

100 Marks

- | | |
|--|------------|
| 1. Case record (25) | - 10 Marks |
| 2. Short case | - 10 Marks |
| 3. Long case | - 20 Marks |
| 4. Identification of specimen / radiograph and Instruments | - 20 Marks |
| 5. Thesis Presentation | - 20 Marks |
| 6. Viva-voce | - 20 Marks |

Reference Books

1. Sushruta Samhita
2. Ashtanga Sangraha

3. Ashtanga Hridaya
4. Charaka Samhita
5. The Surgical instruments of the Hindus - Girindranath Mukhopadhyaya
6. Shalya Tantra Samuchchaya - Pandit Ramadesh Sharma
7. Shalya Vigyan (Part 1-2) - Dr. Surendra Kumar Sharma
8. Shalya Samanvaya (Part 1-2) - Vd. Anantaram Sharma
9. Shalya Pradeepika - Dr. Mukund Swaroop Verma
10. Sushruti - Dr. Ram Nath Dwivedi
11. Clinical Shalya Vigyan - Dr. Akhilanand Sharma
12. Bhagya Chikitsa - Dr. Prabhakar Janardhan Deshpande
13. Kshara sutra management in anorectal ailments - Dr. S.K. Sharma, Dr. K.R.Sharma and Dr. Kulwant Singh.
14. Anorectal diseases in Ayurveda - Dr. Sizoria and Dr. Praveen Kumar Chowdary.
15. Adhunik Shalya Chikitsa Siddhanta - Dr. Katil Narshingham Udupa
16. Agnikarma Technology Innovation - Dr. P.D. Gupta
17. Shalya Tantra Ke Siddhant - Dr. K.K.Takral
18. Recent advances in the management of Arshas / Haemorrhoids - Dr. P. Hemantha Kumar
19. Arsha Evum Bhagander Mein sutra Avacharan - Vd. Kanak Prasad Vyas
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21. Leech application in Ayurveda - Dr. M. Bhaskar Rao
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38. Significance for Poorva Karma in Surgical Patient - Dr. Lakshman Singh
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42. A System of Surgical Diagnosis - T.N. Patel
43. A Practical Guide to Operative Surgery - S. Das
44. Drugs and Equipment for Anaesthesia - Arun kumar
45. Manual of Surgical Instruments - M.M. Kapur

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|--|---|
| 46. Ward Procedures | - Patel Mansukh. B |
| 47. Recent trends in the management of Arshas / Haemorrhoids | - Dr. P. Hemantha Kumar |
| 48. Primary Anaesthesia | - Maurice King |
| 49. Synopsis of Anaesthesia | - Lee |
| 50. Clinical Anatomy/ Surgical Anatomy | - John E. Skandalakis |
| 51. Surgical Instruments of the Hindus | - Girindharnath Mukopadyay |
| 52. Outline of Orthopedics | - John Crawford Adams and David Hamblen. L |
| 53. Outline of Fracture | - John Crawford Adams |
| 54. Recent trends in the management of Bhagandara / Fistula-in-ano | - Dr. P. Hemantha Kumar |
| 55. Principles and Practice of Agnikarma | - Dr. Anand Kumar and Dr. Kanchan Shekokar. |
| 56. Manipal Manual of Surgery | - Dr. Rajgopal Shenoy |
| 57. A manual of Kshara Sootra Karma | - Prof. Ramesh Chand arya |

16. AYURVED DHANVANTRI – ASTHI SANDHI AND MARMAGAT ROGA
(ORTHOPAEDICS AND TRAUMATOLOGY)

Theory – 400 Marks(100 each)

Practical – 100 Marks

Paper – 1

100 Marks

ASTHI SANDHI MARMA ABHIGHAT SIDDHANTA
(Basic of orthopaedics, Marma & Trauma)

Part -A

1. Asthi Sharira – Etymology, Embryology, Applied Anatomy and Physiology of Asthi. Its Panchbhautik constitution, Poshan (Nutrition), Asthivaha Srotas, Upadhatu and Mala. Total Number and classification of Asthi. Concept of Dhatwagni in Ayurveda. Asthi Dhatu Kshaya and Vriddhi lakshana. Knowledge about Tarunasthi. Embryology, Ossification, Histology, Metabolism, Blood supply, Types and Biomechanics of Bone and cartilage.
2. Healing mechanism of bone and factors influencing the bone healing according to Ayurvedic and Modern concept. Biological and Biophysical technologies for the Enhancement of Fracture Repair. Knowledge of Sandhaniya and Ropaniya drugs.
3. Sandhi Sharira – Classification, Applied anatomy and Physiology of Sandhi. Classification, Applied anatomy and Physiology of joints and Healing Mechanism of a joint.
4. Marma Sharira – Basic concept of Marma, etymological derivation, definition, classification, Pramana, importance & applied aspect of individual Marma. Interpretation of each Marma in present context (*Regional surgical anatomy*). Detailed discription of Tri-Marma and Rogamarga. Prognosis of Marmaghata.
5. Sira, Dhamni, Lasika, and Snayu Sharira – Applied Anatomy and Physiology of Vessels, Lymphatics, Ligaments, Tendons, Muscles, Peripheral Nerves and Plexuses.
6. Vrana Vigyan – Etiology, classification, symptomatology, Prognosis, complications and management principles of Nija and Sadyo Vrana. Knowledge of Shashti Upakrama, Seevana (Suturing) and Vrana Bandhana (Bandaging).

Wounds and Ulcers – Etiology, classification, symptomatology, complications. Prognosis and management principles. Advanced wound closure techniques, suture materials, dressing / bandaging materials and techniques. Wound Healing Mechanism and Factors influencing wound healing.

7. Vranitopasniya – Management of Vranita (Wounded Person).
Management Principles of wounded persons. Assessment and immediate management of poly-trauma patient, crush syndrome and Acute Respiratory Distress Syndrome.
8. Vranashotha and Vidradhi – Inflammation and Abscess – Etiology, Pathogenesis, classification, stages and management.

Part – B

1. Knowledge of Orthopedic implants (*e.g. wires, screws, plates, nails, pin etc.*) and Instruments, equipments (*e.g. C- arm image intensifier and drill machines etc*), Splints, Orthotics and Prosthetics.
2. Orthopedic Radiology – Knowledge of Radiological imaging techniques (X-ray, CT Scan, MRI, USG, Radioisotop scanning) in Orthopedics.
3. Disability calculation, Bio-mechanics of gait.
4. Medico-legal aspects in Orthopedics – Handling of Medico- legal cases and issuing of MLCs, Understanding the implications of relevant acts *e.g.* Consumer Protection Act, Motor Vehicle Act, Right to information act and other relevant acts in force time to time.
5. Concept of Pain according to Ayurved and Modern Medical science.
6. Principles of Reconstruction, Transplantation, Bone grafting, Bone Banking, Bone transportation and Amputation.

Paper – II

100 Marks

ASTHI SANDHI MARMA GATA VYADHI VISESHA **(General Orthopedics)**

Part –A

1. Diseases of Asthi & Asthi Dhatu – Asthigata Vata, Asthivaha srothodushti, Asthi Dhatu Kshaya & Vriddhi, Adhyasthi, Asthi Vidradhi.
 - a. Congenital, Degenerative, Infective, Metabolic, Neoplastic and Miscellaneous Disorders of Bones.
2. Diseases of Sandhi – Sandhigat Vata, Vatarakta, Amavata and Kroshtukashirshaka.
 - a. Different diseases of joints – Etiology, classification, and treatment principles.
3. Vata Vikara – Asthi, Sandhi and Marma related Vata Vikara like Gridhrasi, Bisvachi, Avabahuka, Manyastambha, Khalvi, Dhatugata vata, Snayugata vata, Katishoola, Katigraha.
4. Diseases pertaining to Muscles, Tendons, Ligaments, Fascia and Bursa.
5. Diseases and Congenital anomalies of Spine *e.g.* Ankylosing spondylitis, Infective conditions, Tuberculosis, Spondylolisthesis, Inter – vertebral Disc Prolapse, Spondylosis, Scoliosis, Kyphosis, spina bifida, Hemivertebra, Block vertebra, Sacralisation and Lumbrisation etc.
6. Diseases and Congenital anomalies of Cervical Spine.
7. Diseases and Congenital anomalies Sacroiliac Joint and Bony Pelvis.

Part –B

1. Diseases and Congenital anomalies of Hand.
2. Diseases and Congenital anomalies of Foot
3. Diseases and Congenital anomalies of Limbs
4. Orthopedic Neurological Disorders. Post Polio Paralysis & Cerebral Palsy.
5. Snehana, Swedana and Panchakarma in Marma, Asthi and Sandhi Vyadhi.
6. Yogic Practices in Orthopedics.
7. Principles of Arthroplasty – Joint Replacement.
8. Introduction of Peripheral Vascular Diseases.
9. Pediatric Orthopedics.
10. Orthopedic Oncology
11. Introduction of Radiotherapy, Chemotherapy, Hormone Therapy, Immunotherapy and gene therapy.

Paper – III**100 Marks****ABHIGHATA VIGYAN – TRAUMATOLOGY****Part – A**

1. Bhagha – Etiology, classification, General Management Principles and Prognosis.
2. Modern concept of Bone and Joint injuries – Etiology, Epidemiology, Classification and General Management Principles.
3. Individual Bone and Joint injuries – Etiology, Epidemiology, Classification and Management Principles.
4. External immobilization techniques – Classical and traditional Kusha – splints, Plaster of Paris Technique, Knowledge of different splints and Plasters
5. Pathological Fractures including Fragility fractures, Stress Fractures and Peri-prosthetic Fractures.
6. Fractures in Children - Etiology, Epidemiology, Diagnosis, management and complications.
7. Prognosis of skeletal injuries, Complications of Fractures and Joint Injuries e.g. Myositis ossificans, Volkman's ischemic contracture, Compartment syndrome, Crush Syndrome, DVT, Thromboembolism, Fat Embolism.
8. Rehabilitation of trauma patient and Principles of Sukhchestaprachara – Physiotherapy and its use in skeletal injuries.

Part – B

1. Treatment Principles of Asahanta Bhagha – Non-unions, Vishmolvana Sahanta – Malunions and Ignored or un-reduced dislocations.
2. Diagnosis and management principles of injuries of vessels, Nerves, Tendons and Ligaments.
3. Head, Chest and Abdominal Injuries and management principles.
4. Pelvis and Spine injuries and their management principles.
5. Sports Medicine- Sports medicine and sports related Shoulder injuries, Elbow injuries, Knee injuries, Ankle injuries, Recurrent Dislocations and other sports related injuries.

6. Knowledge of Marma Chikitsa like Kalari Marma – Martial Art, Adankal – Marmaghata Chikitsa in Siddha Marma in trauma and sports medicine.

Paper –IV

100 Marks

SHALYA KRIYATMAKA – OPERATIVE ORTHOPEDICS

Part A

1. Agropharniya Vigyan – Knowledge about Pre-operative preparation and post operative care, Operation Theatre and its requirements regarding Instruments /Equipments and Personnel.
2. Fumigation of Operation Theatre and sterilization of Instruments, Equipments, Linen and Implants by various techniques.
3. Anu Shalya Karma (Para surgical procedures) in orthopaedics – Role of Kshara Karma, Agni Karma, Raktavsechana in orthopaedic disorders.
4. Knowledge of various Implants regarding their material, types, mechanics and practical use.
5. Knowledge of Conventional and advanced procedures being done for Different Bone and Joint Injuries e.g. Open Reduction and Internal Fixation, Closed Reduction and Internal Fixation, External fixators and other operative techniques.

Part – B

1. Knowledge of Plastic Surgery in Orthopedics and Bone grafting techniques.
2. Knowledge of various surgical procedures being done for Different Bone and Joint Diseases.
3. Hand Surgery for Diseases, Deformities and Injuries.
4. Foot Surgery for Diseases, Deformities and Injuries.
5. Amputations and Arthrodesis – General Principles of Amputations / Arthrodesis and regional Amputations.
6. Knowledge of Diagnostic and Therapeutic Arthroscopy.

Pattern of Practical Examination

100 Marks

- Discipline and regularity - 10 Marks
- Bed side examination
 - Short case - 10 Marks
 - Long case - 20 Marks
- Identification of specimen / instruments/ Radiographs - 10 Marks
- Dissertation Presentation - 25 Marks
- Viva – Voce - 25 Marks

PRACTICAL TRAINING

- Training of History taking, bed side clinical examination and case presentations.
- Identification and demonstration of surgical instruments.
- Training of orthopaedic related Diagnostic imaging techniques.
- Training of Local anaesthetic techniques in orthopaedics.
- P.G. Scholar shall develop the skills by observing, assisting and performing independently the following procedures:
 - o Non-operative
 - Manipulative reductions and external immobilization techniques.
 - Application of POP cast, Splints and Braces.
 - Bandaging Techniques

- External medicaments and Procedures like Snehana, Swedana, Vasti, Kati Vasti, Janu Vasti, Greeva Vasti etc.
- Training in various massage techniques.
- Corrective POP casts for club foot & other congenital deformities
- o Operative
 - External fixation of compound fractures
 - Debridement of crush injuries
 - Amputations
 - Internal fixation of common simple fractures
 - Polio surgery such as TA lengthening.
 - Sequestrectomy in chronic osteomyelitis
 - Biopsy from a mass
 - Internal fixation of Fractures.
- Training in Vrana (Wound) Management techniques.
- Practical training of Physiotherapy in orthopaedic and trauma patients.
- Training of Anu Shalya Karma like Agni Karma, Kshara Karma and Rakta Mokshna in orthopaedic disorders.
- Orthopedic related Panchakarma Procedures.

Reference Books

Sushruta Samhita	Relevant parts
Sushruta Samhita Ghanekar commentary	
Sushruta Samhita (Dalhana commentary)	Relevant parts
Charak samhita	Relevant parts
Ashtang Hridaya	Relevant parts
Ashtang Sangraha	Relevant parts
Bhava Prakash	Relevant parts
Yog Ratnakar	Relevant parts
Bhaishajya Ratnavali	Relevant parts
Sharangdhar Samhita	Relevant parts
The Surgical instruments of the Hindus	Girindranath Mukhopadhyaya.

Bhagya Chikitsa (Dr. P.J. Deshpandey)	
Agni Karma – Technological Innovations	- Prof. P.D. Gupta
Shalya Tantra Samuchchaya	- Pandit Ramadesh Sharma
Shalya Vijyan (Part 1-2)	- Dr. Surendra Kumar Sharma
Shalya Samanvaya (Part 1-2)	- Vd. Anantaram Sharma
Shalya Pradipika	- Dr. Mukund Swarup Verma
Adhunik Shalya Chikitsa Siddhanta	- Dr. Katil Narshingham Udapa
Shalya Tantra Ke Sidhant	- Dr. K.K. Takral
Surgical Ethics in Ayurved	- Dr. G.D. Singhal
Sushruta's Contributions to Surgery	- Dr. S. Sankaran
Anushastra Karma	- Dr. D.N. Pande
Concept of Vrana in Ayurved	- Dr. Lakshman Singh
Marma Chikitsa	- Dr. C. Suresh Kumar
Joint Affections and their Ayurvedic Prospective	- Vaidya Vilas M. Nanal
Marma Vimarsha	- Vaidya Vilas M. Nanal
Significance for Purva Karma in Surgical Patient	- Dr. Lakshman Singh

Medical Varmalogy	-Dr. N. Shunmugom et.al.
Siddha Varmalogy	-T. Vasanthakumar
Watson and Jones	- Fracture and Joint Injuries(J.N. Wilson)
Practical Fracture Treatment(R. McRae)	
Clinical Orthopedic Examination(R. McRae)	
Apley's System of Orthopedics (Apley Louis Solomon)	
Orthopedics – Principles and Their Application Vol. I-II (Samuel L. Turek)	
Textbook of Orthopedics and Trauma Vol. I-IV (G.S. Kulkarni)	
Fractures in Adults Vol. I – II (Rockwood and Green's)	
Fractures in Children Vol. I (Rockwood and Wilkins)	
Campbell's Operative Orthopedics Vol. I - IV	
A Concise Text Book of Surgery (S. Das)	
Pye's Surgical Handicraft	
Clinical Methods in Surgery (Sriram Bhatt)	
Clinical Methods in Surgery (S. Das)	
Operative Surgery (S. Das)	
Schwartz Principles of Surgery	
Surgical Exposures in Orthopedics	- J.B. Lippincott Comp. Publication

17. SANGYAHARAN

Theory – 400 Marks (100 Each)

Practical and Viva-Voce – 100 Marks

100 Marks

Paper I

SANGYAHARAN SIDDHANT AVUM VANGMAYA **(LITERARY, RESEARCH AND DEVELOPMENT)**

Part –A

1. History of Sangyahan and its development in Ayurveda.
2. Importance of anesthesia in Ayurveda.
3. Contribution of AAIM and other pioneers in the development of Sangyahan.
4. Applied aspects of Ayurveda with respect to sangyahan Vrihatrayee and Laghutrayee.
5. Instruments for anesthesia in ancient era and their development.

Part –B

1. Rakta, its importance, Raktadhana and Raktstambhana.
2. Knowledge of disorders like Unmada, Apasmara, Mada, Murrcha, Sanyasa and Stabdhata etc.
3. Madataya, Stages of Madataya and its management.
4. Pharmacology of Medhya, Vednasthapak, Madkari, Sangyasthapak, Nidrajanan, Akshepjanan and shamana, Svedjanan, Hridyae, Hridyotejak, Raktbharshamak, Shoolprashaman, Vaman and hrillashar (Antiemetic) dravya as mentioned in Ayurvedic samhita & their application in Sangyahan.
5. Aroma therapy as complementary and alternative therapy in pain management and Palliative care.
6. Jallandhar Bundh.

SANGYAHARAN BHESHAJA VIGYAN
(PHARMACOLOGY RELATED TO ANESTHESIA)

Part A**Pharmacology of:**

1. Drugs acting on Autonomic nervous system:
 - a. Cholinergic system and drugs- Agonist and antagonist.
 - b. Adrenergic system and drugs- Agonist and antagonist.
2. Autocoids and related drugs:
 - a. Histamine and Antihistaminic
 - b. 5HT and antagonist
 - c. NSAID'S
 - d. Prostaglandins and leukotrienes
3. Drugs acting on Respiratory system
4. Drugs acting on Somatic nervous system
 - a. Skeletal muscle relaxants – Depolarizer and Non- Depolarizer.
 - b. Local anesthetics

Part – B

1. Drugs acting on central nervous system.
 - a. General Anesthetics – Fixed and Volatile anesthetic agents.
 - b. Sedative and hypnotics
 - c. Anti epileptics
 - d. Anti psychotic and anti-maniacs
 - e. Opioids Analgesics and antagonists
2. Drugs acting on cardiovascular system.
 - a. Cardiac glycosides
 - b. Anti arrhythmic drugs
 - c. Anti anginal and other anti ischemic drugs
 - d. Anti hypertensive drugs
3. Drugs acting on Kidneys.
 - a. Diuretics
 - b. Anti diuretics
4. Coagulants and anti coagulants.

Paper III**100 Marks**

VISHISHTA SANGYAHARAN – APPLIED ANESTHESIA

Part – A

1. Airway management- Intubation, failed intubation drill, LMA, Bag and mask ventilation.
2. Anesthesia For: General surgery, Obstetric and Gynecology, E.N.T. and Ophthalmic, Orthopedic, Dental, Pediatric, Urology, plastic and Outpatient / Day care surgery.
3. Anesthesia for patients with: Diabetes mellitus, Hypertension, Jaundice, Thyroid diseases, inherited metabolic diseases, Obesity, Respiratory diseases, Cardiac diseases, Renal diseases, Geriatric problems and neuromuscular diseases.

Part –B

1. Regional anesthesia:

2. Sub-arachnoid and epidural anesthesia, analgesia.
3. Plexus and nerve blocks for upper and lower limb.
4. Surface anesthesia, infiltration and field blocks.
5. Regional anesthesia for thorax and abdomen
6. Complications of Regional and general anesthesia, morbidity, mortality and medico-legal aspects.
7. Anesthesia for Endoscopic, laparoscopic and Laser surgery
8. Anesthesia for Trauma and mass casualty
9. Emergency anesthesia.

Paper IV

100 Marks

MONITORING ADVANCES AND RESEARCH IN SANGYAHARAN

Part –A

1. Monitoring in anesthesia:
 - Cardiovascular, Respiratory, Renal function, Neurologic and neuromuscular monitoring.
 - Peri-operative Thermo – regulation and monitoring
 - Peri-operative awareness and monitoring depth of anesthesia with BIS.
 - Peri-operative acid-base balance
 - Peri-operative Fluid management and Blood transfusion.
 - Pt's positioning in anesthesia, its hazards and management.
 - Risks and hazards of anesthesia
2. Anesthesia equipments –
 - Medical gas systems
 - Breathing systems
 - Ventilators
 - Anesthesia machine
3. Post operative management-
 - Post anesthesia care
 - Post operative nausea and vomiting
 - Post operative Intra-Venous fluid therapy
 - Post operative pain Management.

Part –B

1. Miscellaneous-
 - HDU, ICU, CCPR- BLS & ACLS.
 - Parenteral nutrition.
 - Environmental factor and electrical safety
2. Management of Acute / Chronic Pain:
 - Assessment of pain
 - Peri-operative pain,
 - Chronic pain syndrome-detection and prevention,
 - WHO regime for Cancer pain,
 - TENS, Behavioral therapy
3. Anesthesia in remote locations
4. Clinical care in extreme environments (At high and low pressure and space).
5. Relevance of Sammohana (Hypnosis), Acupressure and Acupuncture in Sangyahan.
6. Recent advances in research in Sangyahrana, Pain Management and Palliative Care.

Scope and Application of principles of Ayurveda in Sangyahrana Research.

METHODS OF TRAINING AND TEACHING FOR M.D (Ayu) ANAESTHESIOLOGY-

- | | |
|---------------------------------------|-----------------|
| 1. Case Presentation | - Once a Week |
| 2. Seminar / Symposia | - Once a Week |
| 3. Pre Anesthesia Care /Clinic | - Thrice a Week |
| 4. Critical Care unit / Recovery Room | - Once a Week |
| 5. Classroom Lectures | - Twice a Week |
| 6. Morbidity / Mortality | - Once a Week |
| 7. Audit | - Once a Month |
| 8. Journal Club | - Once a Month |
| 9. Record Keeping | - Once a Month |
| 10. Emergency Drills / Protocols | - Once a Week |
| 11. Interesting Cases | |

Practical Examination

- | | |
|--|------------|
| 1. Case Record (25) | - 25 Marks |
| 2. Presentation of different types of Anesthesia | - 25 Marks |
| 3. Thesis Presentation | - 25 Marks |
| 4. Viva-Voce | - 25 Marks |

Minimum pass Marks 50%

Result:- Pass/Fail

Staff required

Teaching- Professor-1

Reader/Asso.Prof -1

Lecturer/Assi Prof-2

Sen.Resident-2

- | | |
|---|---------------------------|
| - | Non Teaching staff |
| - | Anesthesia Technician – 1 |
| - | Anesthesia Attendent -2 |
| - | Ward boy-2 |
| - | Sweeper-2 |

Reference Books

- | | |
|---|------------------------|
| a. Sushruta Samhita | |
| b. Charka samhita | |
| c. Ashtang Hridaya | |
| d. Practice of Anesthesia | - Churchill Davidson |
| e. Miller's Anesthesia | - Ronald D Miller |
| f. Synopsis of Anesthesia | - Alfred Lee |
| g. Sangyahan Prakash | - Dr. D. N.Pande |
| h. Agni karma-Technological Innovation | - Dr. P.D. Gupta |
| i. Practice of Anesthesia and Resuscitation | - Dr. P.K. Gupta et al |
| j. Essentials of Anesthesiology | - Prof. A.K. Paul |
| k. Clinical Anesthesia | - Prof. A.K. Paul |
| l. Anu Shastra karma | - Dr. D.N. Pande |
| m. Textbook of Anesthesia | - Aitkenhead |
| n. Anesthesia and co-existing disease | - Stoelting's |
| o. Physiology and Pharmacology | - Stoelting's |
| p. Understanding Anesthesia Equipments | - Dorsch & Dorsch's |
| q. Clinical anaesthesiology | - G.Edward Morgan |

18. AYURVEDA DHANWANTRI-SHALAKYA-NETRA ROGA

Theory Four papers of – 100 Marks each

Practical and Viva-voce- 100 Marks

PAPER- I

100 Marks

NETRA ROG VANGMAYA

Part –A

1. Available literature of Netra roga vigyana in Brihatrayi, Laghutrayi, Yogaratnakar, Chakradutta, Bhel Samhita, Harita samhita and Kashyap samhita.
2. Critical analysis of the available literature of netra roga vigyana in the above given classics e.g. Puyalasa and Vatahata Vartma in Sushruta samhita and Vagabhat samhita.
3. Unique/ specific contribution of different classics, Acharyas and commentators in the development of Netra roga vigyana.

Part –B

1. Analytical determination of subjects related to eye disorders in ancient and modern literatures.
2. Update chronological development of Netra roga vigyana right from Vedic period.
3. Update chronological development of Ophthalmology.

PAPER –II

100 Marks

AYURVEDIYA NETRA ROG VIGYAN

Part –A

1. Enumeration and classification of Netra Rogas.
2. Descriptive knowledge of etiology, pathogenesis, prodromal symptoms, clinical features, complications and prognosis of pakshma –vartma- sandhi- - shukla- Krishna- dristi & sarvagata rogas along with exogenous eye diseases available in Ayurvedic classics. Medical and surgical Management of the above diseases with special skill development in Ashtavidha shastra & Trividha Anushastra chikitsa related to Netra roga.

Part –B

1. Netra kriya kalpa procedures like seka, ashchyotana, vidalaka, pindi, tarpan, putapaka & anjana and their practical application and analysis based on ocular pharmacology. Standard operative procedures for Kriyakalpas including Aushadha kalpanas.
2. Study of nayanabhighata and, its management and prevention.
3. Knowledge of preventive and community ophthalmology along with national programme for control of blindness and role of Ayurveda.
4. Ayurvedic Concept of Congenital, developmental and neoplastic diseases of netra.

PAPER –III

100 Marks

ADHUNIK NETRA ROG VIGYAN

Part –A

1. Knowledge and application of current diagnostic techniques and equipments and therapeutics in Ophthalmology.

2. Detailed study of refractive errors along with defects of accommodation and their management.
3. Detailed knowledge of classification, etiology, pathogenesis, signs and symptoms, differential diagnosis, prognosis and complications of diseases of eye orbit, lacrimal apparatus, lids, conjunctiva, cornea.

Part –B

1. Detailed knowledge of classification, etiology, pathogenesis, signs and symptoms, differential diagnosis, prognosis and complications of diseases of sclera, uveal tract, lens, vitreous, retina, optic nerve and visual pathway with comprehensive knowledge of their medical and surgical management.
2. Ocular trauma, its emergencies and management.
3. Ocular motility disorders and their medical and surgical management.
4. Neurological and systemic disorders affecting the eyes and their management.

PAPER –IV

100 Marks

RECENT ADVANCES IN NETRA CHIKITSA & OPHTHALMOLOGY

Part –A

1. Update advances in the development of Ayurvedic drug formulations, therapeutic procedures and treatments of Netra roga.
2. Advanced technologies in the diagnosis of eye diseases.
3. Advanced technologies & techniques in the medical & surgical management of Netra roga.

Part – B

1. Advanced management and technologies in Ophthalmology.
2. Detailed study of recent research works on chakshushya dravyas.
3. Comparative and critical study of modern advances in surgical techniques over the surgical methods described in Ayurvedic classics.

Pattern of practical/ Clinical training

1. Posting in OPD, IPD, OT & Kriya kalp Kaksha.
2. Case presentation, clinical discussion, Seminars & Work shops.
3. Skill development in Ashtavidha shastra karma, Trividha Anushastra Karma and Modern Ophthalmic Surgical procedures viz lid surgery, pterygium surgery, cataract surgery, squint surgery, glaucoma surgery, DCR & DCT etc.

Methods of Training

- Intensive integrative training would be imparted to scholars in understanding the classical Ayurvedic aspects with an emphasis of critical comparative interpretation.
- Mandatory participation of scholars in seminars, group discussions, clinical demonstrations, journal review meetings, case study, continuing education activities and research clinical projects.
- During the first year of the course, the emphasis would be laid to impart adequate knowledge on fundamental aspects and their applications, with a focus on latest

diagnostic tools, instrumentations and laboratory procedures. Practical orientation and hospital based clinical training is an integral part of the curriculum all through.

- In the second year, training would stress upon extending the knowledge on techniques and imparting skill for surgical performance, ophthalmic procedure based therapies, surgical/para surgical procedures so that the scholar is able to perform ophthalmic surgical procedures like Ashtavidha shastra karma, Trividha Anushastra Karma and Modern Ophthalmic Surgical procedures viz lid surgery, pterygium surgery, cataract surgery, squint surgery, glaucoma surgery, DCR & DCT etc independently.
- In the third year the scholar should concentrate on the clinical work and research work based on the dissertation.
- The participation of the scholars in all the aspects of educational process is mandatory.
- Hospital postings – The resident has to compulsarily work for 6 terms of posting. Each term shall be of 4 months.
- The student should also contribute in the academic work of the department.

Pattern of practical Examination

100 Marks

1. Bed side examination		
a. Short Case 2 of 10 Marks each	-	20 Marks
b. Long Case	-	20 Marks
2. Identification of specimen / Instrument /Radiograph	-	10 Marks
3. Thesis Presentation /Viva	-	10 Marks
4. Teaching skill	-	10 Marks
5. Viva Voce	-	30 Marks

Reference Books

1. Charka Samhita with commentaries
2. Sushrut Samhita and vaghbhata with commentaries
3. Astanga hridaya and Astanga sangraha with commentaries
4. Madhava nidan with commentaries
5. Bhavaprakasha with commentaries
6. Sarangadhara Samhita with commentaries
7. Sahstrayoga Sangraha
8. Relevent part of Chakradhatta, Bhel Samhita, Harita Samhita
9. Shalakya tantra Kriya kalpa vigyan - Prof.K.S.Dhiman
10. Shalakya Tantra - Dr. R.C. Chaudhary
11. The Actions and uses of Indigenous Ophthalmic Drugs - Dr. N.Srikanth
12. Clinical Examination of Ophthalmic Cases - Agarwal and Gupta
13. Alder's Physiology of the Eye and Clinical Applications - Cotlier, St. Louis
14. Disease of the Lens and Vitrous, Glaucoma and Hypotony - Duke Elder, St.Louis
15. A Text Book of Ophthalmology - Ahmed E
16. A Text book of clinical ophthalmology - Dhanda
17. Modern Ophthalmology - Dutta, L.C. Jaypee Brothers

18. Manual of the Diseases of the Eye Bailliere Tindal and Castell	-	May,C.and Worth,C.
19. Ophthalmology – Principles and Concepts Mosby Co., St. Louis.	-	Newell, F.W., C.V.
20. Ocular Differential Diagnosis Lea and Febiger	-	Roy Fedrick Hamptn
21. Clinical Ophthalmology Company	-	Smith, R.Verghese
22. Abrahm Manual of Refraction	-	Duke and Elder
23. Hand Book of ophthalmology	-	B.M. Chaterjee
24. Text Book of ophthalmology Dr.H.V.Nema	-	Dr. Nithin Nema,
25. Clinical ophthalmology	-	Kanski
26. Parsons Diseases of Eye		
27. Stallard's Eye Surgery		

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19. AYURVEDA DHANWANTRI- SHALAKYA – SHIRO- NASA-KARNA
EVUM KANTHA ROGA(M.S.Ayurved ENT & Head)

Theory – 400 Marks (100 Each)

Practical and Viva voce-100 Marks

PAPER – I

100 Marks

SHIRO- NASA – KARNA- KANTHA ROGA VIGYAN MAULIK SIDDHANTA AND VANGMAYA

Part –A

1. Detailed study of Shalakyatantra from Bruhat trayee, Laghutrayee, Kashyap samhita, Yoga ratnakar, Chakradutta, Bhel samhita, Harita samhita and other granthas with special reference to Shiro-Nasa- Karna- Kantha Roga Vigyan with comparative and critical study of rogas explained by these classics.
2. Syntactical derivation, definition and importance of the word “Shalakya”. Update chronological development and history of science of ear, nose, throat and Shiras disorders. Establishment of “ Superiority of shiras’ among the organs. Determination and importance of the verse ‘**Nasa Hi Shiraso Dvaram’**’.
3. Importance of shaman and sodhana therapy in ear, nose, throat and shira disorders with general introduction to local therapeutic procedures of ear nose and throat and shira e.g. kaval, gandusha etc.

Part –B

1. Detailed applied knowledge of recent advanced diagnostic and therapeutic techniques and equipments (Yantra and Shastra) used for Shiro – Nasa- Karna- Kantha (ENT) and Shira disorders.
2. General knowledge of ‘vrana bandhana’ (bandaging of wounds) and applied bandage in ear etc.
3. Study of essential modern drugs, anaesethic agents of diagnostic and surgical importance.

AYURVEDIYA SHIRO – NASA – KARNA – KANTHA ROGA VIGYAN**Part-A**

1. Examination of the ear, nose in patients.
2. Karna – Nasa - Kantha and Shira rogas samkhyā samprapti, descriptive knowledge of etiology, pathogenesis, prodromal symptoms, classification, clinical features, Upasaya Anupsaya (prognostic measures) sadhyasadyatwa and complications of ear disorders described in the classics of Ayurved. Detail description along with practical orientation of their management.
3. Nasa rogas samkhyā samprapti, descriptive knowledge, etiology, pathogenesis, prodromal symptoms, classification, clinical features, Upasaya-Anupsaya (Prognostic measures), sadhyasadyatwa and complications of nasal diseases described in the classics of Ayurved. Detail description along with practical orientation of their treatment.

Part –B

1. Examination of the throat and head in patients.
2. Kantha rogas samkhyā, samprapti, descriptive knowledge about etiology, pathogenesis, prodromal symptoms, classification, clinical features, Upasaya-Anupasaya (prognostic measures), sadhyasadyatwa and complications of kantha diseases described in the classics of Ayurved. Detail description along with practical knowledge of treatment.
3. Shira and Kapala (cranial vault) disorders samkhyā samprapti, descriptive knowledge, etiology, pathogenesis, prodromal symptoms, classification, clinical features, Upasaya Anupasaya (prognostic measures) and complications of shira and kapala diseases described in the classics of Ayurved. Detail description along with practical knowledge of treatment.

ADHUNIKA SHIRO-NASA-KARNA-KANTHA ROGA VIGYAN**Part –A**

1. Descriptive knowledge of instruments and recent equipments available for diagnosis of ear- nose – throat – head disorders along with their practical application.
2. Descriptive knowledge of etiology, pathogenesis, clinical features, differential diagnosis, classification along with complications of different ear – nose – throat and head disorders.
Detail knowledge of the treatment (including conservative and surgical) of the above mentioned disorders.

Part –B

1. Imaging in ENT and Head disorders, detailed knowledge of LASERS, radiotherapy, chemotherapy and other recently advanced treatment modalities like speech therapy, cochlear implant, rehabilitation of the deaf and mute, etc. Related to ear – nose – throat – and head disorders.
2. Management of emergencies in ENT and head disorders.

SHIRO- NASA-KARNA-KANTHA ROGA VIGYAN- SHALYA CHIKITSA**Part –A**

1. Knowledge of agropaaharniya and d trividha karma i.e. pre operative, operative and post operative measures. Knowledge of eight types of surgical procedures (Astavidha Sasthra Karma) and post operative care of the patient with respect to ENT disorders(Vranitopasaniya).
2. Karna-Sandhan Nasa-Sandhan, fundamental and applied aspects of Ayurveda with Practical knowledge of updated surgical procedures in ear – like constructive surgery of external and middle ear, excision of pre auricular sinus, Tympanoplasty, Mastoidectomy, Stapedectomy, Endolymphatic, sac surgery, Facial nerve decompression surgery, Cochlear implant, etc with their complications and their management.
3. Nose – Septo-rhinoplasty, SMR, Functional Endoscopic sinus surgery, Caldwell luc surgery, Antral puncture, Antral lavage, Turbinectomy, Polypectomy, Various surgical procedures done for malignancy of Nose and paranasal sinuses, Young's surgery, etc.

Part –B

1. Throat – Adenoidectomy, Tonsillectomy, Surgical procedures for pharyngeal abscesses, cauterization of pharyngeal wall granulations, tracheostomy, vocal cord surgery, surgery of vocal cord paralysis, management of laryngeal trauma, laryngectomy etc.
2. General introduction of four treatment procedures like Bheshaj- Kshar – Agni Shastra and Raktavsechana with their applied aspects in ear nose throat and shiro disorders. Chaturvidha upakrama in raktasandhan vidhi related to ear nose throat and head disorders. Haemostatic management in ENT.
3. Removal of foreign bodies in the ear nose throat and shira as per Ayurveda and modern science.

Methods of Training

- Intensive integrative training would be imparted to scholars in understanding the classical Ayurvedic aspects with an emphasis of critical comparative interpretation.
- Mandatory participation of scholars in seminars, group discussions, clinical demonstrations, journal review meetings, case study, continuing education activities and research clinical projects.
- During the first year course the emphasis would be laid to impart adequate knowledge on fundamental aspects and their applications, with a focus on latest diagnostic tools, instrumentations and laboratory procedures. Practical orientation and hospital based clinical training is an integral part of the curriculum all through.
- In the second year, training would stress upon extending the knowledge on techniques and imparting skill for surgical performance, ENT procedure based therapies, surgical/para surgical procedures so that the scholar is able to perform ENT surgical procedures independently.
- In the third year the scholar should concentrate on the clinical work and research work based on the dissertation.

- The participation of the scholars in all the aspects of educational process is mandatory.
- Hospital postings – The student has to work for 6 terms of resident posting is compulsory out of which first 2 postings will be as a junior resident and the next four postings will be as a senior resident.
- The student should also develop in the academic work of the department.

Pattern of Practical Examination:

100 Marks

- | | |
|--|------------|
| 1. Bed side examination | |
| a. Long case | - 20 Marks |
| b. Short case x2 @ 10 Marks each | - 20 Marks |
| 2. Identification of specimen /Instrument / Radiograph/Photo | -10 Marks |
| 3. Thesis Presentation | - 10 Marks |
| 4. Teaching skill | - 10 Marks |
| 5. Viva-voce | - 30 Marks |

Reference Books

1. Sushrut Samhita
2. Charak Samhita
3. Ashtang Hridaya
4. Ashtang Samgraha
5. Laghutrayi
6. Shalaky tantra – Dr. R.C. Choudhary
7. Shalaky Tantra - KRIYAKALP VIGYAN – Prof. K.S.Dhiman
8. Modern books related to ENT disorder
9. Diseases of Nose Throat and Ear - Bhargav Shah
10. Diseases of Nose Throat and Ear, Head and Neck- EB Edr.
11. A Textbook of otorhinololaryngology - Scott Browns editions.
12. Text book of Ear Nose Throat diseases – Dhingra
13. Textbook on ENT – Mohd. Maqbool
14. Logan Turner’s book on ENT
15. Ballengers text book of ENT
16. Kumin’s text book of ENT
17. Rob Smith’s book of ENT surgery
18. Paprella’s book of ENT
19. Hazarika’s text book on ENT
20. Books on examination of ENT
21. Audiology Anirwan Biswas
22. Kurt’s Audiology
23. Books on Speech therapy

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20. AYURVEDA DHANWANTRI-SHALAKYA-DANTA EVUM MUKHA ROGA

Theory- 400 Marks (100 each)

Practical and Viva Voce-100 Marks

PAPER – I

100 Marks

AYURVEDA SIDDHANTA AND VANGMAYA

Part –A

1. Etymology, definition and importance of the word 'Shalakya', History and development of the science of oral and dental diseases. Etymology and synonyms of the word 'Mukha' and 'Danta'. Ancient and recent knowledge of anatomy of oral cavity and teeth along with the knowledge of salivary glands.
2. Detailed study of Oral cavity and gustatory physiology.
3. Oral hygiene, Social aspect of oral hygiene, preventive measures in oral cavity diseases, general etiology, pathogenesis, prodromal symptoms, clinical features and general management of oral cavity diseases.
4. Agropaharaniya, knowledge of purva, pradhan and paschat karma. Study of Ashta Vidha Shastra Karmas in relation to Danta and Mukha Roga.

Part –B

1. Applied and detailed study of therapeutic measures for oral and dental disorders, like Kavala, Gandusha, Dhumapana, Nasya, Murdhtaila Mukhalepa and Pratisarana and their definition, types, indications, contraindications, procedure, features of proper, excess, deficient application and their management.
2. Importance of shodhan and shaman treatment in oral and dental diseases and knowledge of common recipes useful in oral and dental diseases.
3. General introduction of four types of treatment (Bheshja, Shastra, Kshara, Agni). Detail description of Anushastra karma; their practical knowledge in oral and dental diseases.
4. Analytical determination of related subjects of danta-mukha disorders available in Modern and ancient and modern commentaries of different Samhita.

PAPER – II

100 Marks

AYURVEDIYA DANTA EVUM MUKHA ROG VIJNANA

Part – A

1. Examination of oral cavity, periodontia and teeth. Teeth eruption and its systemic disturbances in a child, Classification, Number of teeth along with detail knowledge of abnormal tooth eruption. Dental disorders in paediatric age group, their prevention and treatment.
2. Danta gata rogas – Danta Rogas detailed in the classics of Ayurved; their etiology, pathogenesis, prodromal symptoms, clinical features, complication and management along with applied approach in the treatment of dental diseases.
3. Detailed study of etiology, pathogenesis, prodromal-symptoms, clinical features, complications and prognosis of diseases of the Oushta, Danta-Mula Gata Roga (gum-periodontia) and Jihwa as detailed in the classics of Ayurved. Practical approach/orientation in Treatment of Ousta, Dantamula and Jihwa Rogas.

Part –B

1. Talu (palate) and Kantha Rogas, detailed study of etiology, pathogenesis, prodromal-symptoms, clinical features, complications and prognosis. Detailed description of their treatment along with Applied Views.
2. Sarvasara Mukharogas (Generalized oral diseases) available in ayurvedic classics. Detailed study of etiology, pathogenesis, prodromal-symptoms, clinical features, complications, prognosis and management of Sarvasara mukha rogas along with practical orientation.
3. Knowledge of Dantabhighata (dental trauma) and Mukhabhighata (oral injury) along with diagnostic and referral skills.

PAPER –III**100 Marks****ADHUNIK DANTA EVUM MUKHA ROG VIJNANA****Part –A**

1. Detail study of etiology, pathogenesis, clinical features, classification and complication of various oral and dental diseases available in literature of Modern sciences. Detail study of their Management along with advanced technics.
2. Detail description of diagnostic technology in the establishment of oral and dental disease.
3. Study of essential modern drugs, anaesthetic agents of diagnostic and surgical importance.

Part –B

1. Descriptive knowledge of up-to-date available modern instruments and their application in management of oral, periodontal and dental diseases.
2. Up-to-date knowledge of applied and available surgical procedures indicated in various dental diseases like tooth extraction, RCT, Dental filling, filling materials, tooth fixation and tooth implants etc.
3. Systemic Effects of oral, periodontal and dental diseases.

PAPER – IV**100 Marks****RECENT ADVANCES IN MUKHA ROG VIJNANA & DENTISTRY****Part –A**

1. Jaalandhara Bandha, its importance and application in Tooth extraction without anaesthesia.
2. Vishishta Upadanta parikalpana(Dental Material and Prosthesis).
3. Recent Research studies and advanced clinical applications of Kriya Kalpas in Danta and Mukha Rogas.
4. Detailed study of recent available medical therapeutics and Research studies in Dental and oral cavity disorders.

Part – B

1. Recent Advances in Rasoushadhis, Kashtoushadhi & Anushastraprayoga in Danta & Mukha rogas & also in Sandhana Karma.
2. Benign and malignant tumors of Oral Cavity, their management and role of Ayurveda in such conditions.
3. Useful conducts for treatment of oral and dental diseases with study of related medico-legal aspects.

Methods of Training

- Intensive integrative training would be imparted to scholars in understanding the classical Ayurvedic aspects with an emphasis of critical comparative interpretation.
- Mandatory participation of scholars in seminars, group discussions, clinical demonstrations, journal review meetings, case study, continuing education activities and research clinical projects.
- During the first year course the emphasis would be laid to impart adequate knowledge on fundamental aspects and their applications, with a focus on latest diagnostic tools, instrumentations and laboratory procedures. Practical orientation and hospital based clinical training is an integral part of the curriculum all through.
- In the second year, training would stress upon extending the knowledge on techniques and imparting skill for surgical performance, Dental procedure based therapies, surgical / para surgical procedures so that the scholar is able to perform Dental surgical procedures independently.
- In the third year the scholar should concentrate on the clinical work and research work based on the dissertation.
- The participation of the scholars in all the aspects of educational process is mandatory.
- Hospital postings – The scholar has to work for 6 terms as resident & Hospital posting is compulsory, out of which first 2 terms will be as a junior resident and the next four terms will be as a senior resident.
- The Scholar should actively participate in all the academic work of the department.
- The Scholar shall have to publish atleast one research on the basis of research work in Journal, based on his dissertation and one paper presentation in regional level Seminar.

Pattern of Practical Examination:

100 Marks

- | | |
|--|------------|
| 1. Bed side examination | |
| a. Short case 2 of 10 Marks each | - 20 Marks |
| b. Long Case | - 20 Marks |
| 2. Identification of specimen /Instrument / Radiograph | -10 Marks |
| 3. Thesis Presentation / Viva | - 10 Marks |
| 4. Teaching skill | - 10 Marks |
| 5. Viva-voce | - 30 Marks |

Reference Books

- | | |
|---|------------------------|
| 1. Sushrut Samhita | - Dalhana |
| 2. Useful Portion of Charak Samhita-Ashtang Samgraha | -Ashtang Hridaya |
| 3. Useful portion of Laghutrayi related to Danta and Mukha Roga | |
| 4. Shalakya Vijnanam
Chaudhary | - Ravindra Chandra |
| 5. Nimi Tantra | - Ramanath Dwivedi |
| 6. Dental Anatomy Histology | - Dr. S.I. Bhalajhi |
| 7. Essentials of Preventive and Community Dentistry | -Dr. Soben Peter |
| 8. Complete Denture Prosthodontics | - Dr. J.J. Manappallil |
| 9. Orthodontics the Art and Science | - Dr. S.I. Bhalajhi |
| 10. Text book of Pediatric Dentistry | - Dr. S.G. Damle |

11. Text book of Oral and Maxillofacial surgery	-Dr. Vinod Kapoor
12. Clinical Periodontology	- Dr. B.R.R. Varma
13. Anatomy for Dental Students	- Inderveer Singh
14. Clinical Periodontology	- Carranza , Newman
15. Operative Dentistry	- M A Marzouk
16. Oral and maxillofacial surgery secrets	- A.Omar Abubaker
17. Killey and Kay's Outline of Oral Surgery	- Girdon R Seward
18. Clinical Dentistry Gibson	- Ivor G. Chestnut , John
19. Synopsis of Oral Pathology	- S N Bhaskar
20. Oral Pathology	- Stone

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21. PANCHKARMA

Theory – 400 Marks (100 each)

**Practical and Viva Voce- 100 Marks
100 Marks**

PAPER –I

PURVA KARMA-SNEHANA AND SVEDANA

Part -A

INTRODUCTION:

1. Detail knowledge of Shadupakram and relation of Shodhan with it
2. Panchkarma in Ashtanga Ayurved and Significance of Shodhana
3. Ama and Shodhana, benefits of shodhana, Samikshya Bhavas in Shodhana,
4. Importance of Pachana prior to Snehana, methods, drugs, duration and dose for Pachana, samyak Lakshana of Pachana

SNEHANA:

1. Etymology and definition of Sneha and Snehana
2. General considerations about Snehana
3. Classifications of Sneha, Sneha-Yoni, detailed knowledge of four types main Sneha- Ghrita, Taila, Vasa and Majja with their characteristics, importance and utility, various aspects of Uttama Sneha
4. Properties of Snehana Dravya and their interpretation.
5. Effects of Snehana
6. Sneha Kalpana, various types of Sneha Paka with their utility
7. Indications and contraindications of Snehana
8. Classification of Snehana: Bahya and Abhyantara Snehana
9. Bahya Snehana and Bahir-Parimarjana, utility and importance of Bahya Snehana
10. Classification of Bahya Snehana Methods, indications, contraindications, specific utility of the followings Abhyanga, Mardana, unmardana, Padaghata, Samvahana, Udvartana/Utsadana, Udgharshana, Avagaha, Pariseka, Lepa, Pralepa, upadeha etc. Various types of lepa having cosmetic values along with the drugs and methods; Ayurveda face pack; lepa for cosmetic problems such as tilakalak, neelika, nyaccha, mukha dushika etc with drugs and methods. Gandusha, Kavala; Karna and Nasa Purna, Akshi Tarpana; Murdhni Taila: Shiro-abhyanga, Shirodhara, Siro Pichu and Siro Basti, Shiro Lepa (Talapotichil), Talam and Takradhara etc.

11. Knowledge of digestion and metabolism of fat: absorption of fatty substances through skin; types of skin like dry, moist etc and their Ayurvedic management.
12. Karmukata of Abhyantara and Bahya Snehan
13. Knowledge of different contemporary massage techniques
14. Abhyantara Snehana: Definition of Brimhnartha, Shamanartha and Shodhanartha, method and utility of Brimhanartha and Shamanartha Snehana; difference between Shamanartha and Shodhanartha Snehana
15. Methods of Abhyantara Snehana
16. Shodhanartha Snehana: Acchapana and Vicharana, Utility and various methods of Sadyasnehana, Avapidaka Sneha
17. Matra of Sneha : Hrasiyasi, Hrasva, Madhyama and Uttama Matra with their indications, specific utility of Ghrita, taila, vasa and majja; Anupana of Sneha along with justification and their role in the drug action.
18. Need and method of Rukshana before performing Snehana in specific conditions and Samyak Rukshana Lakshana
19. Shodhananga Snehana Vidhi and methods of fixation of dose
20. Diet and Pathya during Snehana
21. Observation of sneha Jiryamana, Jirna and Ajirna Lakshana
22. Samyak, Asnigdha and Atisnigdha Lakshana of Snehana
23. Sneha vyapat and their management
24. Pariharya vishaya and Parihara Kala

Part –B

SVEDANA

1. Etymology and definition of Svedana
2. General considerations about Svedana
3. Properties of Svedana and Svedopaga Dravya
4. Indications and contraindications of Svedana
5. Various classifications of Sveda and Svedana
6. Detailed knowledge of four types of Sveda of Sushruta with their utility.
7. Hina, Mridu, Madhya and Mahana Sveda; Ekanga and Sarvanga sveda with their utility.
8. Utility and method of each of 13 types of Saagni and 10 types of Niragni Sveda
9. Shodhananga and Samshamaniya Sveda
10. Methods to protect the vital organs (varjya anga) during Svedan Procedures.
11. Detailed knowledge about Utility of below mentioned Svedan procedures:-
Patrapinda Sveda, Shashtika Shalipinda Sveda, Churna Pinda Sveda, Jambira Pinda Sveda, Dhanya Pinda Sveda, Kukkutanda Sveda, Anna lepa, Valuka Sveda, Ishtika Sveda, Nadi Sveda, Bashpa Sveda, Kshira bashpa Sveda, Avagaha Sveda, Parisheka Sveda, Pizichil, Dhanyamla Dhara, Kashaya Dhara, Kshira Dhara and Upanaha Sveda etc.
12. Avasthanusari Svedana in various disorders
13. Samyak, Ayoga and Atiyoga Lakshana, Sveda Vyapat and their management.
14. Diet and regimens during and after Svedana
15. Karmukata of Svedana; kleda and sveda; pathophysiology of sweat and sebum; fat metabolism and skin and its appendages; secretory and excretory function of skin; skin as sparshanendriya; various types of nerve endings in skin; effects of stimulation by touch, friction pressure and temperature etc.

16. Current sudation modalities like Sauna bath, Steam Bath, Infrared etc. along with their effects and mode of action, role of snehana and svedana in promotion of skin health.
17. Svedana with Kati Basti, Janu Basti and Griva Basti etc along with karmukata.
18. Study of Snehana and Svedana related portions in classics with commentaries

PAPER –II

100 Marks

VAMANA AND VIRECHANA KARMA

Part - A

VAMANA KARMA:

50 Marks

1. Etymology, definition and general considerations of vamana
2. Properties of Vamaka and Vamanopaga drugs
3. Knowledge and utility of important Vamaka drugs and their preparations (Vamana Yoga)
4. Avasthanusara Vamana and its utility.
5. Indications of Vamana
6. Contraindications of Vamana with reasons
7. Pachana prior to Snehana
8. Detailed knowledge and method of preparation of patient with Snehana
9. Abhyanga and Svedana as Purvakarma of Vamana
10. Diet and management of gap day
11. Need of increasing of Kapha for proper Vamana, Kapha increasing diet
12. Preparation and management of Patients on the morning of Vamana
13. Administration of food articles prior to Vamana
14. Selection of Drug and time of administration; Anupana, Sahapana, dose and method of administration of Vamana and Vamanopaga preparations
15. Method of Vamana Karma, waiting period for Sva-Vamana Vega and manipulation in its absence
16. Observations prior to beginning of Vamana such as sweat on forehead, horripilation, fullness of stomach and nausea along with its pharmaco-dynamics.
17. Observation; and assistance to the patient during Vamana
18. Vega and Upavega of Vamana and its counting, observations and preservation of vomitus matter and its weighing
19. Samyak, Ayoga and Atiyoga of Vamana
20. Laingiki, Vaigiki, Manaki and Antiki Shuddhi,
21. Hina, Madhya and Pravara Shuddhi and Samsajana Krama accordingly
22. Detail knowledge of methods of Samsajana Krama and its importance
23. Kavala and Dhumapana after vamana
24. Management of Ayoga, Atiyoga and Vyapat of Vamana with Ayurveda and modern drugs
25. Parihara Vishaya and Kala for Vamana
26. Vamana Karmukata with Pharmaco-dynamics of Vamana
27. Study of Vamana related portions in classics with commentaries
28. Recent advances of researches on the effect of Vamana
29. Scope of research in Vamana.
30. Role of Vamana in promotion of health, prevention and treatment of diseases

Part –B

VIRECHANA KARMA:

1. Etymology, definition and general considerations of Virechana.
2. Importance of Vamana and Virechana as shodhana, virechana better than Vamana.
3. Necessity of Vamana prior to Virechana.
4. Preparation of patients for Virechana after Vamana.
5. Preparation of patients directly for Virechana.
6. Properties of main Virechaka and Virechanopaga drugs, Classifications of Virechana drugs with definition, example and utility of each type.
7. Indications of virechana Karma.
8. Contraindications of Virechana with reasons
9. Utility of Virechana for the specific conditions and stages of the diseases.
10. Internal Snehana for Virechana with diet.
11. Management of 3 gap days and importance of low Kapha for proper Virechana.
12. Abhyanga and Svedana as Purvakarma of Virechana.
13. Preparation and Management of Patients on the morning of Virechana.
14. Reason for performing Virechana on empty stomach.
15. Selection of virechana Drug and time of administration; Anupana, sahapana and method of administration of Virechana and Virechanopaga preparations.
16. Method of performing of Virechana Karma.
17. Observations during Virechana, Vega and Upavega of Virechana and its counting, observations and preservation of faeces and its weighing.
18. Samyak, Ayoga and Atiyoga of Virechana.
19. Laingiki, Vaigiki, Manaki and Antiki Shuddhi of Virechana.
20. Hina, Madhya and Pravara Shuddhi and Samsarjana Krama accordingly.
21. Detail knowledge of methods of Samsarjana Krama and its importance, and Tarpana krama and its importance.
22. Management of Ayoga, Atiyoga and Vyapat of Virechana with Ayurveda and modern drugs.
23. Parihara Vishaya and Kala for Virechana.
24. Virechana Karmukata along with its Pharmacodynamics.
25. Applied anatomy and physiology of Gastrointestinal system related with Vamana and Virechana.
26. Study of Virechana related portions in classics with commentaries.
27. Recent advances of researches on the effect of Virechana.
28. Scope of research in Virechana.
29. Role of virechana in promotion of health, prevention and treatment of diseases.

PAPER –III

100 Marks

BASTI KARMA AND NASYA KARMA

Part –A

BASTI KARMA:

1. Etymology, definition and general considerations of Basti
2. Importance of Basti in Kayachikitsa and other branches of Ayurveda
3. Classifications of Basti and Basti drugs
4. Drugs useful in Basti

5. Indications of Basti, its role at the various stages of diseases
6. Contraindications of Basti with reasons
7. Description of Basti yantras, Basti netra and Basti putaka and their Doshas. Modified Basti Yantra, their merits and demerits.
8. Dose schedules of Niruha and Anuvasana basti

9. **NIRUHA BASTI**

- Etymology, synonyms, definition and classifications and subclassifications of Niruha Basti and detailed knowledge of each type of Niruha Basti along with indications and contraindications and benefits.
- Contents of various types of Niruha Basti, their proportions, methods of mixing basti Dravya, Niruha vasti and its relation with other shodan therapies: Relation of niruha vasti with anuvasana vasti.
- Purvakarma for Niruha Basti; Pathya before, during and after Niruha Basti; all the aspects of administration of various Niruha Basti. Method of preparation of various Niruha vasti dravya; rationale behind use of various ingredients, sequential mixing and position of patient.
- Observations during and after Niruha Basti.
- Basti Pratyagamana, Samyakyoga, Ayoga and Atiyoga Lakshana and Various Vyapat of Niruha Basti and their management according to Ayurved and Modern Systems Medicines. Management during and after Niruha Basti.
- Pariharya vishaya and pariharakala.

10. **Anuvasana Basti**

- Etymology, synonyms, definition and classifications of Anuvasana Basti and detailed knowledge of each type of Anuvasana Basti along with indications and contraindications and benefits Various types of Ghrita and Taila useful in Anuvasana Basti; Anuvasana Basti with Vasa and Majja along with their merits and demerits.
- Relation of Virechana, Shodhana, Niruha Basti, Snehana with Anuvasana Basti
- Purvakarma for Anuvasana Basti; Pathya before, during and after Anuvasana Basti; all the aspects of administration of Anuvasana Basti including Kala.
- Observations during and after Anuvasana Basti
- Anuvasana Basti Pratyagamana, Samyakyoga, Ayoga and Atiyoga Lakshana and Various Vyapat of Anuvasana Basti and their management.
- Management during and after Anuvasana Basti.
- Pariharya vishaya, Pathya and pariharakala for Anuvasana.

11. Various combined basti schedules such as Karma, Kala, Yoga Basti etc.
12. Detailed knowledge of sneha basti and Matra Basti.
13. Detailed knowledge of different basti formulations like Piccha Basti, Kshira Basti, Yapana Basti, Madhutailika Basti, Erandamuladi Niruha Basti, Panchaprasrutika Basti, Kshara Basti, Vaitarana Basti, Krimighna Basti, Lekhana Basti, Vrishya Basti, Manjishtadi Niruha Basti, Dashamula Basti, Ardhamatrika Basti, Sarva rogahara Niruha Basti, Brimhana Basti, Vataghna Basti, Pittaghna Basti and Kaphaghna Basti etc, and their practical utility.
14. Karmukata of Basti. Applied anatomy and physiology of colon, Pharmacodynamics of Basti.
15. Concept of 'Gut Brain' and its relevance to Basti Therapy.
16. Study of relevant portions of Basti in classics with commentaries.

17. Recent advances of researches on the effect of Basti.
18. Scope of research in Basti.
19. Role of Basti in promotion of health, prevention and treatment of diseases.

Part –B

UTTARA BASTI:

1. Definition and classification of Uttara Basti, its Netra and Putaka. Dose of Uttara Basti Sneha and Kashaya Basti. Different Uttara Basti Kalpanas in various diseases.
2. Detailed knowledge of Purvakarma and Administration of Uttara Basti in male and female; precautions, aseptic measures, complications and their management.
3. Karmukata of Uttara Basti. Applied anatomy and physiology of urethra and related female genitalia, Pharmacodynamics of Uttara Basti.

NASYA KARMA:

1. Etymology, synonyms, importance and definition of Nasya.
2. Nasya drugs according to various Samhita.
3. Classifications and sub-classifications of Nasya with detailed knowledge of each type.
4. Indications and contraindications of each type of Nasya with reasons.
5. Drugs useful for Nasya with Dose and methods of preparations and their doses.
6. Nasya Kala and Pathya before, during and after Nasya; Duration of different Nasyas
7. Purvakarma of each type of Nasya.
8. Detailed knowledge of administration of each type of Nasya with management during and after Nasya.
9. Detailed knowledge of Common Nasya formulations such as Shadbindu Taila, Anu taila, Kshirabala Taila, Karpasastyadi Taila, Bramhi Ghrita etc.
10. Samyak Yoga, Ayoga and Atiyoga of each types of Nasya , its Vyapat and their management.
11. Pashchat Karma; Role of Dhumapana, Kavala after Nasya,
12. Diet and Pathya before, during and after Nasya Karma.
13. Pariharya vishaya, Parihara Kala,
14. Nasya Karmukata, Applied anatomy and physiology related to Nasa hi Siraso Dvaram, blood and nerve supply to nose, Shringataka marma, olfactory nerve and centres, aroma therapy, trans nasal administration of drug, recent advances in nasal drug delivery
15. Study of relevant portion in classics with commentaries
16. Recent advances of researches on the effect of Nasya
17. Scope of research in Nasya.
18. Role of Nasya in promotion of health, prevention and treatment of diseases.

PAPER – IV

100 Marks

RAKTAMOKSHANA, PHYSIOTHERAPY AND DISEASE WISE PANCHAKARMA

Part –A

RAKTAMOKSHANA:

1. Definition, importance, classifications and detailed knowledge of each type of Raktamokshana with their methods of performance.
2. General principles, indications, contraindications of Raktamokshana

3. Detailed knowledge of Jalaukavacharana: Indications and contraindications of Jalaukavacharana, various types of Jalauka with their beneficial and harmful effects.
4. Purvakarma and method of Jalaukavacharana, observations and Pathya before, during and after Jalaukavacharana.
5. Management during and after Jalaukavacharana
6. Symptoms of Samyak, Ayoga, Atiyoga and Vyapat of Raktamokshana and their management with Ayurveda and Modern medicines.
7. Pariharya vishaya and Parihara kala.
8. Karmukata of different types of Raktamokshana

Clinical Physical Medicine

1. Definition and terminology of clinical physical medicine.
2. Biomechanics of human movements; Physiology of exercise
3. Treatment modalities used in Physical Medicine- general properties and detailed clinical use of each
 - a. Heat – general physiological properties and mode of action as a treatment agent, Forms of heat therapy – Superficial and deep heating. General knowledge of Infrared, Paraffin Wax bath, short wave diathermy, electro magnetic therapy, ultra sound therapy, convection heating devices,
 - b. Cold as a therapeutic agent
 - c. Prescription of physical modalities and their applications in medicine.
4. Clinical use of massage, manipulation, stretching
5. Principles of occupational therapy, training in activities of daily living for rehabilitation, self-help devices (walking aids, wheelchairs, tricycles & modified vehicles), instrumental activities of daily living,
6. Physiotherapy exercises for Paralytical disorders, cervical spondylosis, frozen shoulder and slip disc.

Part – B

DISEASE-WISE PANCHAKARMA

1. Role of Panchakarma in different Stages of the diseases mentioned in Ayurveda particularly in followings:
 “Jvara, Raktapitta, Madhumeha, Kushtha, Shvitra, Unmada, Apasmara, Shotha, Plihodara, Yakridaluodara, jalodara, Arsha, Grahani, Kasa, Tamaka Shwasa, Vatarakta, Vatavyadhi, Amlapitta, Parinama Shula, Ardhavabhedaka, Ananta Vata, Amavata, Sheetapitta, Shleepada, Mutrakruchchra, Mutrashmari, Mutraghata, Hrudroga, Pinasa, Drushtimandya, Pandu, Kamala, Sthaulya, Krimi, Madatyaya, Moorcha, Padadari, Mukhadushika, Khalitya, Palitya etc.
2. Use of various Panchakarma procedures in the following disorders –
 Migraine, Parkinson’s Disease, trigeminal neuralgia, Bell’s palsy, cerebral palsy, Muscular dystrophy, hemiplegia, paraplegia, Lumbar Disc disorders, Spondylolisthesis, Ankylosing spondylosis, Carpel Tunnel Syndrome, Calcaneal Spur, Plantar fasciitis, GB syndrome, Alzheimer’s disease, Irritable Bowel Syndrome, ulcerative colitis, psoriasis, hypothyroidism, hyperthyroidism, hypertension, allergic rhinitis, Eczeme, diabetes mellitus, Chronic obstructive pulmonary Disease,

Insomnia, Rheumatoid Arthritis, Gout, Osteoarthritis, multiple sclerosis, SLE, male & female infertility, cirrhosis of liver, Jaundice, General Anxiety Disorders.

Practical and viva-voce:

100 Marks

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|--|-----------|
| 1. Case presentation along with justification of Shodhana intervention | -30 Marks |
| 2. Preparation and execution of shodhana therapy | -30 Marks |
| 3. Viva | -30 Marks |
| 4. Lecture/Presentation on a given topic | -10 Marks |

Reference Books:

- | | |
|---|--|
| 1. Charak Samhita with commentary of Ayurved Dipika by Chakrapanidatta and Jalpakalpa taruby Gangadhara | Agnivesha |
| 2. Sushruta Samhita with the Nibhandha Samgraha commentary of Dalhana and Nyayachandrika panjika of Gayadasa on nidansthana | Sushruta |
| 3. Ashtang Hridaya with Sarvanga sundara and Ayurved rasayana commentaries | Vagbhata |
| Ashtanga Sangraha with Shashilekha commentery | Vagbhata |
| Bhela Samhita | |
| Kashyapa Samhita | |
| Bhavaprakasha of Bhavamishra | |
| Sharangadhara Samhita | |
| Vangasen | |
| Gadanigraha | |
| 4. Ayurvediya Panchkarma chikitsa | Dr Mukundilal Dwivedi |
| 5. Panchkarma Vigyan | Dr Haridas Shreedhar Kasture |
| 6. Illustrated Panchkarma | Dr.G Srinivasa Acharya |
| 7. Ayurveda-Principles and Practice of Panchakarma | Dr. Mandip and Dr Gurdip Singh |
| 8. The Panchkarma Treatment of Ayurved with Kerala Specialities | Dr. T.L. Devaraj |
| 9. Panchkarma Therapy | Dr. R.H. Singh |
| 10. Principles and practice of vasti | Dr. Vasudevan Nampoothiri and Dr. L. Mahadevan |
| 11. Claiton's Physiotherapy | |
| 12. Teddy's Physiotherapy | |
| 13. Harrison's Principles of Internal Medicines | |
| 14. Guyton's Physiology | |

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22. M.D. (Ay.)- Chhaya Avum Vikiran Vigyan
(Imaging and Radio-diagnosis)

Theory -400 Marks (100 each)

Practical and Viva Voce- 100 Marks

Paper –I

100 Marks

Fundamentals of Chhaya Avum Vikiran Vigyan (Imaging and radio-diagnosis)

Part-A

1. Detail knowledge of principles of Ayurveda and their applied aspects, specially Panch Mahabhuta, Dosh, Dhatu, Mala, Panch Nidan, Prakriti, Shatkriyakaal, Praman, Chhya-Pratichchhaya, Prabha, Rogi pariksha (Trividha, Shatvidha especially Darshan pariksha), their relevance with Chhaya avum Vikiran Vigyan.
2. Study of Ayurvedic classics and modern Medical Science texts related to Chhaya avum vikiran vigyan.
3. Chhaya avum Vikiran vigyan as a means of Darshan priksa.

Part-B

1. Infrastructure of an ideal Chhaya avum vikiran unit.
2. Fundamental principles of Chhaya avum vikiran vigyan.
3. Detail knowledge of equipments (Yantra) used in Chhaya avum Vikiran Vigyan.
4. Dark room techniques.
5. Ionizing and non ionizing energies related to Chhaya avum Vikiran Vigyan – relevant hazards, prevention and precautions, their management by Ayurvedic and modern measurements.
6. Trividh Karma- Poorva, Pradhan avum Paschat Karma in Chhaya avum Vikiran Vigyan.
7. Occupational disorders of consultants related to imaging and Radio-diagnosis.

Paper –II

100 Marks

APPLIED ANATOMY, PHYSIO-PATHOLOGY AND PROCEDURES IN CHHAYA AVUM VIKIRAN VIGYAN
(IMAGING & RADIO-DIAGNOSIS)

Part-A

Applied Anatomy, Physiology & Pathology in Chhaya avum vikiran Vigyan
(Imaging & Radio-diagnosis)

1. Detail knowledge of Ayurvedic and Modern applied radiological Anatomy (including sectional), Physiology and Pathology of the human body;
 - i. Sira(Vessels), Gaurya Sira, (Lymphatic channels), Mansa (Muscles), Snayu (Ligaments), Kandara (Tendons), Sandhi (Joints), Nadi(Nerve), Asthi (Bones), Strotas, Marma, Antahsravi granthi (Endocrine glands) etc.
 - ii. Urdhwajatrugata (Supraclavicular) parts-kapaal (Skull), Karna(Ears), Chakshu (Eyes), Nasa(Nose), Paranasal sinuses, Lalagranthi (Salivary glands), Face, Greeva (Neck), Sushumna (Spinal cord) and Kaseruka (Vertebrae), Mukha

- (Mouth), Danta (Teeth), Mastulunga (Brain), Lasika granthi (Lymph glands) etc.
- iii. Koshtha (Trunk) parts-Sushumna (spinal cord) and Kaseruka (Vertebrae).
 - Vaksha(Thoracic) parts-Phuphphus(Lungs), Hridaya(Heart) & Sira (Vessels), Shwashnalika (Trachea, Bronchi), Annamarg (Esophagus), Lymph nodes, Baksha (Breast), Hridayabandhan (Diaphragm) etc.
 - Udar (Abdominal) parts- Audaryyakalaa (Peritoneum) Aamashaya (Stomach), Kshudrant (Small-intestine), Vrihadantra (Large- intestine), Guda (Rectum and Anal canal), Aantrapuchchha (Appendix), yakrit(Liver), Pitashaya (Gall bladder), Billiary channels, Pleeha (Spleen), Agnyashaya (Pancreas), Vrikka (Kidney), Gavini (ureter), Basti (urinary bladder), Shishna (penis), Paurushgranthi (prostate), Vrishan (testes), Shukrashaya (seminalvesicles), Dimbashaya (Ovaries), Perineum Garbhashaya (uterus), Yoni, Dimbvahini (fallopian tubes), Lasika granthi (lymph nodes) etc.
 - iv. Shakha-parts of upper and lower extremities.

Part -B

Procedures in Chhaya avum Vikiran vigyan (Imaging & Radio-diagnosis)

- a. Various routine and special, non-contrast and contrast radiography, Digital radiography, Radiographic positions and views.
- b. Various Ultra Sonographic procedures –Various diagnostic and therapeutic Ultrasonography [routine, joint study, various Endo-USG, Obstetrics –Garbha vinishchaya (confirmation of pregnancy), Masanumas Garbh vridhhi (fetal development), Garbha swastha (fetal well being) and Vyadhi (fetal diseases), Vikrita garbha (congenital anomalies), Apari (Placenta), Nabhinadi darshan (umbilical cord), Garbhapatta (abortion), , Apari / Garbhaavayav Apaatan (Retained conceptual products), Gynaecology – Yonivyapat (gynaecological disorders), Bandhyatva (infertility), Garbhashayabhransha (uterine prolapsed) etc. Dopplers USG guided techniques and other advances.
- c. CT, MRI, Radionuclide Scanning, PET and other recent advanced procedures in Imaging & Radio-diagnosis.
- d. Mammography
- e. Bone Densitometry
- f. Interventional radiology

Paper – III

100 Marks

PHYSICS AND BIOLOGY RELATED TO CHHAYA AVUM VIKIRAN VIGYAN (RADIO DIAGNOSIS & IMAGING)

Part-A

- a. Physics of radiography, Digital radiography, Fluoroscopy, their application.
- b. Physics of ultrasonography, its applied aspect related to various U.S.G, Doppler procedures.
- c. Study of contrast materials used in Radio-diagnosis and imaging.

Part-B

- a. Physics of CT scan, its applied aspect, efficiency and limitations.
- b. Physics of MRI, its applied aspect, efficiency and limitations.
- c. Physics and its applied aspect related to other imaging procedures e.g. PET, Radio-Nuclides imaging etc.
- d. Biology related to Chhaya avum Vikiran Vigyan

Paper –IV**100 Marks****APPLIED CHHAYA AVUM VIKIRAN VIGYAN (IMAGING & RADIO-DIAGNOSIS)****Part –A**

- a. Applied aspects of radiographic interpretation and reporting of various diseases related to systems, organs (as mentioned in paper-2nd, part-A) and metabolism.

Part –B

- a. Applied aspects of Ultrasonography, interpretation and reporting of various diseases related to system, organ (as mentioned in paper-2nd, part-A), and metabolism, routine joint study, various Endo-USG., Obstetrics –Garbha vinishchaya (confirmation of pregnancy), Masanumas Garbh vridhhi (fetal development), Garbha swastha (fetal well being, bio-physical profile) and Vyadhi (fetal diseases), Vikrita garbha (congenital anomalies, 2nd level obstetric USG), Apra (Placenta), Nabhinadi darshan (umbilical cord), Garbhapatta (abortion), Apra / Garbhaavayav Apaatan (Retained conceptual products), Gynaecology _Yonivyapat (gynaecological disorders), Bandhyatva (infertility), Garbhashayabhransha (uterine prolapse) etc. Dopplers, USG guided techniques and other advances.
- b. Applied aspect, interpretation and reporting of CT scan, MRI scan and other advanced Radiological techniques.
- c. Application of Chhaya avum vikiran vigyan in context to Ayurvedic fundamentals, diagnosis, management and research.

Practical examination**100 Marks****Contents:****(A) Adhitya cha karma parichaya (Preliminary knowledge of Chhaya avum Vikiran vigyan)**

1. Spotting / Short cases for radiological diagnosis
2. Equipments
3. Selection of appropriate diagnostic radiological modalities for the patients, correct advice / instructions to the patient.
4. Purva karma, pradhan karma, Pashchat karma.

(B) Krita vogyata (Practical skills)

1. Quality control of X-rays and imaging equipments.

2. X-ray-plain/contrast, spot films, fluoroscopy, digital x-rays-procedures, performance of dark room technique, their principles, pathological changes and applied interpretation and reporting.
3. Various USG procedures performance, their principles, pathological changes and applied interpretations and reporting. Various diagnostic Ultrasonography [routine, various Endo-USG, Obstetrics –Garbha vinishchaya (confirmation of pregnancy), Masanumas Garbh vridhhi (fetal development), Garbha swastha (fetal well being bio-physical profile) and Vyadhi (fetal diseases), Vikrita garbha (congenital anomalies, 2nd level obstetric USG). Aparā (Placenta), Nabhinadi darshan (umbilical cord), Garbhapatā (abortion), Aparā / Garbhaavayav Apaatan (Retained conceptual products), Gynaecology –Yonivyapat (gynaecological disorders), Bandhyatva (infertility), Garbhashayabhransha (uterine prolapse) etc. Dopplers, USG guided techniques and other advances.
4. CT scan, MRI, Radionuclide scan, PET, Mammography, Bone densitometry, Interventional radiological performance / reading, their principles, pathological changes and applied interpretations and reporting.

(C) Shastram nigadata (Teaching and Research ability)

1. Role of radiology in the field of Ayurvedic research, dissertation, research methodology, paper and project writing.
2. Teaching and audio-visual presentation performance.
3. Dissertation

(D) Adhigata tantrenopasita tantrartha, Shasatra vijaniyata (Comprehensive assessment of acquired knowledge).

1. Role of radiology in the field of Ayurvedic diagnosis, management and research.
2. Ethics, environmental and legal issues related to radiology.
3. Management of department of radiology.
4. Safety measurements in Radio-diagnosis and imaging.
5. Management of emergencies in the department of radiology.
6. Further assessments and advice etc.

Pattern:

a. Viva voce	-	40 Marks
b. Practical ability assessment	-	60 Marks
• Adhitya cha karma parichaya (Preliminary knowledge of Chhaya avum Vikiran Vigyan)	-	15 Marks
• Krita योग्यता (Practical skills)	-	25 Marks
➤ Procedures	-	15 Marks
➤ Viva on procedures	-	10 Marks
• Shastram nigadata(Teaching and Research ability)	-	20 Marks
➤ Dissertation work	-	10 Marks
➤ Teaching ability	-	10 Marks

Reference Books;

- Shusruta Samhita Relevant part
- Charak Samhita -do-
- Astang Hridaya/Sangrah -do-
- Text Book of Radiographic Positioning and Related Anatomy – By Kenneth L Bontrager, John P Lampignano
- Radiographic interpretation to general practitioner -W.H.O.
- Procedures in diagnostic Radiology - By T. Doyle, W. have, K. Thomson.
- Radiographic Positioning - By Clark
- Radiobiology for the Radiologist - By Hall.Christensen's Physics of Diagnostic Radiology - By Curry T S, Dowdey J E, Murry R C
- Farr's Physics for Medical Imaging - By Penelope Allisy-Roberts, jerry Williams
- Fundamental of Diagnostic Radiology - By Brant
- Diagnostic Imaging - By Federle
- Diagnostic Imaging - By Peter Armstrong, Martin Wastie, Ansrea Rockall
- Gastrointestinal radiology - R.L. Eisenberg
- Uro-radiology – T.Sherwood, A.J.Davidson, L.B.Talner
- Grainger and Allison's Diagnostic Radiology - Text book of medical imaging
- Text Book in Radiology and Imaging - By D.Sutton
- Introduction to Vascular Ultrasonography - By Zwiebel, Pellerito
- Text book in Ultrasonography - By Roumack
- Manual of Medical Diagnostic Ultrasonography – By W.H.O. Scientific group
- Computed Tomography & MRI of the whole body – By Hagga.
- Surface and Radiological Anatomy - By A. Halim
- X-Ray equipment for student Radiographers - By DN and MO Chesney
- Clinical Sonography, A Practical Guige - By Roger C. Sanders, Tom Winter
- Ultrasonography in obstetrics and gynaecology – Callen
- **Standard Journals** like Indian Journal of Radiology, Radiology, Radiological clinics of north America, British Journal of Radiology etc.
- **Audio-visual aids-** CDs & DVDs

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