

SYLLABUS FOR FIRST PROFESSIONAL B.S.M.S. (2013 SCHEME)

1. SIDDHA MARUTHUVA ADIPPADAI THATHUVANGALUM VARALAARUM (HISTORY & FUNDAMENTAL PRINCIPLES OF SIDDHA MEDICINE)

Total Hours : 150

I. Three primordial, eternal entities and their siddhaanthic theories (Pathi, Pasu, Paasam).

(1) Pathi (Almighty): (5 hours)

a) Definition and description of Pathi, existence of Pathi based on Epistemology (Alavai).

b) Nine divine manifestations of Pathi (Thirumenikal). i.e.

1) Sivam 2) Sakthi 3) Naatham 4) Vindhu 5) Sadaasivam 6) Maheswaran 7) Ayan 8) Ari 9) Aran.

c) Five divine powers of Pathi:-

1) Paraasakthi 2) Aadhisakthi 3) Gnaana Sakthi 4) Itchaa Sakthi 5) Kriyaasakthi. d) Study of cosmic play (Thirukoothu).

(2) Pasu (Soul): (5 hours)

Definition and description of Pasu,

i.e., distinction between pathi and pasu - three kinds of soul - seven kinds of creation - four kinds of birth - Tholkaappiyer's classification based on senses.

(3) Paasam (Bondages): (5 hours)

Definition, description and classification

i.e., Aanavam, Kanmam, Maayai and

Thriodaanam Classification of Maayai:-

1) Sutha Maayai: (Siva thathuvam) -5, Pure evolutes of Maayai: Sivam - Sakthi - Sadaasivam - Easwara - Sudhavidhai.

2) Asutha Maayai: (Vidyaa thathuvam) - 7 - Impure evolutes of Maayai: Kaalam - Niyathi - Kalai - Araagam - Vidhai - Puruden - Maayai.

3) Prakruthi Maayai: (Aanma Thathuvam) – 24, peculiar properties of soul: Thanmathirais -5, Bootham -5, Gnana indriyam -5, Kanmendriyam-5, Anthakaranam- 4.

II. Deekai (Initiation towards the highest goal of life). (5 hours)

a) Samaya Deekai b) Vishesha Deekai c) Niruvaana Deekai.

III. Epistemology (Alavai) - 10 types. Clinical Application – 5 Examples. (10 hours)

1) Perception (kaandal), 2) Inference (Karuthal), 3) Testimony (Urai), 4) Non-existence (Abaavam), 5) Deduction (Porul), 6) Analogy (Oppu), 7) Inference by exception (Ozhibu), 8) Co-existence (Unmai), 9) Tradition (Iytheekam), 10) Natural inference (Iyalbu).

IV. Different schools of thought regarding the creation of Universe - (5 hours)

Relation between macrocosm and microcosm (Andathil Ullathe Pindam).

V. Five element theory (Iymbootha Kolgai). (5 hours)

Creation of five elements - Properties of five elements - fivefold combination and its

description (Panchabootha Panchikaranam) - application of five element theory in Siddha treatment aspect.

VI. 96 Fundamental Principles (Thathuvams) and its different concepts (15 hours) Sivaprakaasa Kattalai - Thirualavai Kattalai - Siddhaanta Kattalai - Vedaantha Kattalai - Thathuva Deepikai - Yugimuni's concept.

Bootham - 5 (five elements) - Pori - 5 (Sense organs) - Pulan - 5 (Perception by the sense organs) - Kanmendriyam - 5 (Motor organs) - Gnana Indriyam - 5 (The inner mechanism responsible for the perception of five senses) - Karanam – 4 (four intellectual faculties) - Arivu - 1 (Self-realization) - Naadi - 10 (Vital channel) - Vaayu - 10 (Vital forces) - Aasayam - 5 (Visceral cavities) - Kosam - 5 (fivesheeths) - Aathaaram - 6 (Six stations of soul) - Mandalam - 3 (Three regions) - Malam 3 (Three principles of moral evil) - Thodam – 3 (Three humours) - Eadanai - 3 (Three physical bindings) - Gunam - 3 (Three cosmic qualities) - Vinai - 2 (Acts) - Raagam - 8 (Eight passions) - Avasthai - 5 (Five states of consciousness).

VII. Three humoral theory (Uyir Thaathukkal) : (15 hours)

Vali, Azhal and Iyam.

Predominant locations - Properties - Physiological functions - Abnormal functions - Increased and decreased features

VIII. Seven Physical constituents (Udal Kattukal) : (5 hours)

Saaram (Primary nourishing juice) - Chenneer (blood) - Oon (muscle) - Kozhuppu (fat) - Enbu (Bone) - Moolai (Bone marrow) - Suckilam / Suronitham (Sperm / Ovum).

Description about 7 physical constituents i.e., Normal function, increased and decreased features.

IX . Five basic properties of Drug: (5 hours)

Suvai (Taste) - Gunam (Characters) - Veeriyam (Potency) - Vibaavam (post absorptive tastes) - Prabaavam (Specific action).

Taste- relations with five elements- features of imbalanced intake of six tastes. Maruthugalin vagaipaadugal with examples

X. Definition and description of the following:- (15 hours)

1. Attamaa Sithigal
2. Thirukkural (Marunthu Athikaram)
3. Rasavaatham (Alchemy).
4. Muppu.
5. Kaayakalpam (Elixir Science).

XI. History of Tamil Nadu including three Tamil Academies & Ancient Religious Traditions of Tamils (Arusamaiyakolgai) (10 hours)

XII. Chuvadi Iyal.

A. MANUSCRIPTOLOGY (20 hours)

1. Introduction to Manuscriptology

2. History of Editing Palm leaf Manuscripts with special reference to Tamil
3. Palm leaf Manuscripts and Paper Manuscripts Editing
4. Application of Computer in Editing

B. EDITING

(15

hours)

1. Basics of Book Editing
2. History of Book publishing with special reference to Tamil
3. Proof Reading - Lay out
4. Book Production
5. Use of Computer in Editing

C. PROJECT WORK

Candidates shall have to undertake a field work regarding copying of Inscriptions or Editing a Palm leaf Manuscript or Editing a Paper Manuscript. The project work has to be submitted to the Head of the Department.

XIII. History of Siddhars:-

(5

hours)

Agasthiyar - Thirumoolar - Theraiyar - Yugimuni - Bohar - Sattamuni - Nandhidevar - Raamadevar - Dhanvanthri – Konganavar - Karuvloorar - Kaalanganadhar - Pulippaani - Paampaatti Siddhar - Macchamuni - Romarishi - Koorakkar - Idaikaadar - Sundaraanandhar - Thiruvalluvar - Agappei Siddhar - Kuthambai Siddhar – Sivavaakkhar - Azhuganni Siddhar - Pulathiar.

XIV. Attaanga Yogam:-

(5 hours)

Iyamam - Niyamam - Aasanam - Pranaayaamam - Prathiyaakaram - Dhaaranai - Dhiyaanam - Samaadhi.

XV. Encyclopaedia of Siddha Medicine

(5

hours)

Reference Books:

S.No.	Name of book, Language, publishers & year of publication	Author
1.	Thotrakirama Araichiyum Siddha Maruthuva Varalarum, (Tamil), The Directorate of Indian Medicine and Homoeopathy, Govt. of Tamilnadu, Chennai. (2005)	Dr.K.S.Uttamarayan, H.P.I.M,
2.	Siddha Maruthuvanga Churukkam (Tamil), The Directorate of Indian Medicine and Homoeopathy, Chennai (2005)	Dr.K.S.Uttamarayan, H.P.I.M,
3.	Siddha Maruthuva Varalaru, (Tamil), International Institute of Tamil Studies, Chennai (2008)	Anaivari Ananthan
4.	Thenindhiya Maruthuva Varalaru, (Tamil) International Institute of Tamil Studies, Chennai (2008)	Ra. Niranjana Devi
5.	Suvatiyiyal (Tamil) International Institute of Tamil Studies, Chennai (1991)	Dr. P. Subramanian
6.	Fundamentals of manuscriptology, (English), Thiruvananthapuram Dravidian linguistics association	Visalakshy, P.

	(2003).	
7.	Introduction to Manuscriptology, (English), Sharada Publishing House, Delhi 1996.	R S Shiva Ganeshamurthy
8.	Siddha Medical Manuscripts in Tamil, (English), International Institute of Tamil Studies, Chennai (1984)	Madhavan. V.R
9.	Thamizhil maruthuva ilakiyangal – or aaivu (Tamil) Poonkodi Publications, Chennai	Dr. R. Vaasudevan
10.	Pandai thamizhaga varaivukalum kuriyeedukalum (Tamil) International Institute of Tamil Studies, Chennai (2004)	Raasu. Pavunthurai
11.	Aasivagam Ennum Tamizhar Anuviam (Tamil) Manitam Pathipagam, Trichy-21 (2013)	Neduncheliyan K
12.	Thamilar Varalaaru, (Tamil) Thamilmann Pathippagam, Chennai (2000)	Thevaneya Paavaanar
13.	Siddha Maruthuva Moola Thathuvam (Tamil) Sidha Maruthuvam Valarchi Kazhagam, Jaffna, Srilanka (2002)	S. Sivashanmuga raja
14.	Siddha Dossier, CCRS, Dept. of AYUSH, New Delhi (2013)	-

Online Material

1. Tamil Maruthuva Varalattu Thonmaikal, Munaivar R. Vasudevan
<http://ta.wikisource.org/s/bn>
2. Suvadi Iyal Arimukam
http://kovaimani-tamilmanuscriptology.blogspot.in/2012_04_01_archive.html
3. Oolai chuvadi Aaivukal- Prof. Dr. R. Madhavan
<http://www.tamilheritage.org/manulogy/madavan.html>
4. Religious Traditions of the Tamils (Prof. A. Velupillai)
<http://tamilelibrary.org/teli2/archives/19>

Other resources

DVD

Historical Atlas of South India : a joint effort of French Institute of Pondicherry and the Tamil University, Thanjavur Reference URL: <http://www.ifpindia.org/histatlas/>

Distribution of Marks (Mark Weightage) for University Theory Examination

Chapter – I	15 Marks
Chapter – II, III & IV	15 Marks
Chapter – V & VI	20 Marks
Chapter – VII & VIII	15 Marks
Chapter – IX & X	20 Marks

Chapter – XI, XIII & XIV

15 Marks

Total

100 Marks

Note: Questions should not be framed from the chapters XII & XV since they are practical training oriented topics.

SYLLABUS FOR FIRST PROFESSIONAL B.S.M.S. (NEW SCHEME 2013)

2. TAMIL LANGUAGE

Total Hours : 100

Objective:

To acquire knowledge to understand the contents that is available in classical Tamil Siddha literature.

COURSE CONTENT AND SYLLABUS

Unit : 1 Exercises and drills in the spoken and written variety **(4 hours)**

- Alphabets in Tamil
- An intensive course in Tamil, CIIL – MYSORE – by Dr.S. Rajaram
- Subhramanian V.I. & Veeraswamy T.V., 1973, "Intensive course in Tamil", Dravidian Linguistics Association, Thumba, Trivandrum.

Unit : 2 Exercise for Pronunciation **(10 hours)**

- Tamil alphabets – Classification – Special features – Maththirai (Syllabi)
- Tamil Words – Loan words – its written form – common words in Tamil and Regional language(viz. Malayalam)

Unit : 3 Formation of words and sentences and study of Basic grammar on the functional level **(15 hours)**

- Chol (word) – Peyar (Name), Vinai (Verb), Idai (clitics) etc.(Peyar (Name) – Gender, number & case; Vinai (Verb)- Kaalam (Tense) Orumai (Singular), Panmai (Plural)
- Thodar (syntax)/Vaakkiyam (Sentence), Kaalam (Tense), Orumai (Singular), Panmai (Plural), Ezhuvaai (Subject), Payanilai (Predicate), Cheyappaduporul (Object). (It is to understand the language structure).
- Selected Tamil Proverbs (10)

Unit : 4 Study of selected prose and poetry in Tamil and Siddha literature

POETRY

(24 hours)

(Poems selected only for reading meaningfully and for memorising)

- Name of the book : Malarum maalaiyum
Author : Kavimani
Title : Pasuvum kantrum
Lines : Thottathil meythu
.....kantrukkuty. (2 stanzas)
- Pieces from Folk songs (Tamil)
1) Padaku 2) Elelankadi Elelo
- Name of the book : Bhaarathiyaar kavithaikal
Author : Subramaniya Bhaarathiyaar
Title : Paappaa paattu
Lines : Odi vilayadu pappa

stanzas)	Vazhakkappaduthikkollu pappa (6
d) Title	: Kontrai venthan (15 Lines)
Author	: Auvaiyaar
e) Name of the book	: Thirukkural
Author	: Thiruvalluvar
Title	: “Marunthu” Athikaram (10 verses)
f) Name of the book	: Maruthuva vatha yoga gnana satthiram
Lines	: “ Aathikaalathilae thillayilaechernthaner emaikkaakavae”
g) Name of the book	: Yugi chintamani
Lines	: “
Uruthiyam poothathi	uraikkak kelaie”
h) Name of the book	: Chithar Padalkal
Author	: Kovinthan
Lines	: Thunaichiru..... (27) “Ettumalai.....” (28)
i) Name of the book	: Thirumanthiram
Author	: Thirumoolar
Title	: Marunthu
	: “ Maruppathu udal noi.....marunthenalamae”
j) Name of the book	: Siddha Maruthuva Chirappu
Author	: Dr. R. Thiagarajan
Title	: Ashtanka yokam
Lines	: “Eyamamaavathumaame”
k) Name of the book	: Siddha Maruthuvaanka Churukkam
Author	: Dr. C.S. Uthamarayan – H.P.I.M.
Title	: Udal Aimpoothakoorupaattaiyum Udaiyathu Enal.
Lines	: “Paarappa.....Lapamatha Mohamacham”
l) Name of the book	: Siddha maruthuvanka churukkam
Author	: Dr. C.S. Uthamarayan – H.P.I.M.
Title	: Iympootham – Arusuvai thodarpu
Lines	: “Mannudaneuraittha maraiye”
m) Name of the book	: Siddha maruthuvanka churukkam
Author	: Dr. C.S. Uthamarayan – H.P.I.M.
Title	: Pathinaanku Vekangal
Lines	: “Pathinaanku..... :swasamaame”

PROSE

- a) Name of the book : Siddharkal charithram

(21 hours)

- Author : Chollin selvan
Chapter : Brahmamuni, Korakkar
- b) Name of the book : “Lemuria allathu Kumari Kandam”
Chapter : Kumari nadu pattriya Tamil nool kurippukal
Author : Panmozhi pulavar K.Appathurai.
- c) Name of the book : Pattukkottai Kaliyana Sundaram Padalkal
Author : KunRakkudi Adikalaar
Chapter : Preface of Pattukkottai kaliyana Sundaram Padalkal
- d) Name of the book : Nalla Theerppu
(An eloquent speech of C.N. Anna Durai)

Unit : 5 Study of History of siddha medicine – Selected portion from the Siddha literature. **(20 hours)**

Siddharkal enpor yaar?- Pathinen Siddharkal – Navanaatha Siddharkal – Siddha Maruthuvathin Chirappukkal – Siddha Maruthuva Varalaru in brief – Iyankum Porudkalum Iyankaa Porudkalum.(who are Siddhars’; Eighteen Siddhars – Navanatha Siddhars – The importance of Siddha medical practices- Brief history of Siddha medical practices – movable and immovable things)

Unit : 6 Exercises in narration / description of a story or an event in a paragraph. **(3 hours)**

Unit : 7 Translation from Tamil to Regional language or English – and Vice versa. **(3 hours)**

References Books:

S.No.	Name of book, Language, publishers & year of publication	Author
1.	Thottakkirama aaraichiyum maruthuva varalaarum.	Dr. Uthamarayan
2.	Siddha maruthuvanga churukkam.	Dr. Uthamarayan
3.	Siddha vaidhya thirattu.	Dr. Uthamarayan
4.	Pathinen siddhargal varalarum Padaitha noolgalum.	Murugesan
5.	Siddhargal, Thamarai noolagam, Chennai – 26.	-

Distribution of Marks (Mark Weightage) for University Theory Examination

Unit – I, II & III	5 Marks
Unit – IV Poetry	30 Marks
Unit – IV Prose	25 Marks
Unit – V	30 Marks
Unit – VI	5 Marks
Unit – VII	5 Marks
Total	100 Marks

SYLLABUS FOR FIRST PROFESSIONAL B.S.M.S. (2013 SCHEME)

4. UYIR VEDHIYAL (BIOCHEMISTRY)

Total Hours : 150

1. Chemistry of Carbohydrates:

(9 hours)

Functions of Carbohydrates, Classification of Carbohydrates, Classification and biomedical importance of monosaccharides, Reactions of monosaccharides, Classification and biomedical importance of disaccharides, Polysaccharides- Classification, composition and function.

2. Chemistry of Lipids:

(8 hours)

Functions of Lipids, Classification of Lipids, Classification of fatty acids, Essential fatty acids, Free radicals and antioxidants, Types and functions of phospholipids, Glycolipids and lipo proteins, Steroids, Micelles , Names and functions of eicosanoids.

3. Chemistry of Proteins :

(11 hours)

Functions of proteins, Classification of proteins based on chemical nature and solubility, classification of amino acids based on structure, Structure of proteins primary, secondary , tertiary and quaternary. Biologically important peptides. Plasma proteins: Types and major functions, the complement system.

4. Nucleic acids and Biotechnology:

(8 hours)

Watson and cricks structure of DNA, Types and functions of RNA, structure of transfer RNA, Replication of DNA, Definition of transcription, Polymerase chain reaction (PCR), - Principle, technique, applications. Human genome project, Bioinformatics.

5. Purine nucleotides:

(4 hours)

Degradation of purine nucleotides, Gout.

6. Metabolism of carbohydrates:

(10 hours)

Glycolysis, TCA cycle, HMP shunt pathway, Glycogenesis, glycogenolysis, and Gluconeogenesis. Glucose homeostasis, Diabetes mellitus.

7. Metabolism of proteins:

(6 hours)

Transamination, deamination and urea cycle. Biosynthesis of proteins (Translation).

8. Metabolism of Lipids:

(9 hours)

Fatty acid oxidation, Ketone bodies, Ketosis. Biosynthesis of fatty acids, Biosynthesis of cholesterol, Degradation of cholesterol, Hypercholesterolemia, Metabolism of HDL, Fatty liver, Obesity.

9. Biological oxidation

(8 hours)

Classification of high energy compounds, ATP-ADP cycle, oxidative phosphorylation and electron transport chain, substrate level phosphorylation.

10. Enzymes:

(9 hours)

Classification, Factors affecting enzyme activity, Active site, Mechanism of enzyme action, Coenzymes, Diagnostic importance of enzymes, Enzyme pattern in diseases.

11. Digestion and absorption of carbohydrates, proteins and lipids.

(8 hours)

- 12. Haemoglobin:** (5 hours)
Structure of haemoglobin, Biosynthesis of heme, Degradation of heme. Clinical significance of Glycosylated Haemoglobin, Jaundice
- 13. Vitamins:** (9 hours)
Fat soluble Vitamins and Water soluble vitamins –food source, RDA, biochemical functions and deficiency manifestations.
- 14. Hormones: Biochemical functions and disorders.** (9 hours)
- 15. Minerals:** (9 hours)
Macro Elements and Micro Elements–food source, RDA, biochemical functions and deficiency manifestations.
- 16. Metabolism of Xenobiotics (Detoxification).** (3 hours)
- 17. Water and electrolytes:** (5 hours)
Functions of water, water turn over and balance, Composition of electrolytes in the body fluids.
- 18. Nutrition:** (7 hours)
Calorie value of food stuffs, Basal metabolic rate, Specific dynamic action, Fibre in nutrition, Balanced diet, protein – Energy malnutrition, Energy requirements.
- 19. Cancer and AIDS:** (5 hours)
Cancer – Etiology and tumour markers. AIDS – Transmission of HIV and Lab Diagnosis.
- 20. Organ function tests:** (8 hours)
Liver function tests, Renal function tests, Thyroid function tests.

PRACTICAL

Total Hours : 100

PART A. Qualitative Analysis:- (26 hours)

I. Reactions of carbohydrates -

1. Reactions of Glucose.
2. Reactions of Fructose.
3. Reactions of Maltose.
4. Reactions of Lactose.
5. Reactions of Sucrose.
6. Reactions of Starch.

II. Reactions of Protein -

1. Reactions of Albumin.
2. Reactions of Peptone.
3. Reactions of Gelatin.
4. Reactions of Casein.

III. Reactions of non protein nitrogenous substances – urea, uric acid, creatinine.

IV. Reactions of Normal Urine.

V. Analysis of abnormal urine.

PART B. QUANTITATIVE ANALYSIS

(48 hours)

1. Estimation of Blood Sugar.
2. Estimation of serum total proteins.
3. Estimation of serum cholesterol.
4. Estimation of serum triglycerides.
5. Estimation of serum urea.
6. Estimation of serum uric acid.
7. Estimation of serum creatinine.
8. Estimation of serum bilirubin.
9. Estimation of serum inorganic phosphate.
10. Estimation of serum amylase.
11. Estimation of SGOT.
12. Estimation of SGPT.

PART C: DEMONSTRATION

(6 hours)

1. Glucose Tolerance Test with graph (Normal and Abnormal).
2. Paper electrophoresis.
3. Paper chromatography.

PART D: SPOTTERS

(10 hours)

1. Calorimeter
2. PH meter
3. Haemoglobinometer
4. Rhyles tube.
5. Spectroscope
6. Centrifuge
7. Electrophoresis
8. Chromatography
9. Osazones
10. Semi auto analyzer

PART E: CASE REPORTS

(10 hours)

1. GTT Graph
2. Renal Glycosuria
3. Acute myocardial infraction
4. Jaundice
5. Gout
6. Hyperthyroidism
7. Vitamin D deficiency
8. Renal failure
9. Kwashiorkor
10. Hypercholesterolemia.

Reference Books:

S.No.	Name of book, Language, publishers & year of publication	Author
1.	Biochemistry	U.Satyanarayana, U.Chakrapani
2.	Text book of biochemistry	D.M. Vasudevan, Sreekumari. S
3.	Biochemistry	Pankaja Naik
4.	Harper's Illustrated Bio - Chemistry	
5.	Manual of practical medical biochemistry	Evangeline Jones. M.D.
6.	Practical text book of biochemistry	D.M. Vasudevan, Subir Kumar das

Distribution of Marks (Mark Weightage) for University Theory Examination

Chapter – 1, 2, 3, 5, 6, 7, 8	25 Marks
Chapter – 4	5 Marks
Chapter – 9	5 Marks
Chapter – 10, 14 & 20	20 Marks
Chapter – 11	5 Marks
Chapter – 12	5 Marks
Chapter – 13, 15, 17 & 18	25 Marks
Chapter – 16 & 19	10 Marks
Total	100 Marks

Distribution of Marks for University Practical Examination

Practical	70 Marks
Viva Voce	20 Marks
Record	10 Marks
Total	100 Marks

SYLLABUS FOR FIRST PROFESSIONAL B.S.M.S. (2013 SCHEME)
5. MARUTHUVA THAVARAIYAL (MEDICINAL BOTANY AND PHARMACOGNOSY)

THEORY:

Total Hours : 200

MEDICINAL BOTANY

Unit - I:

(25 hours)

Definition - History and importance of Medicinal plants in Siddha science.

Plant biology and Medicinal uses of the following groups: Thallophytes, Bryophytes, Pteridophytes and Gymnosperms.

Study of Life-cycle of the following: Gracilaria, Penicillium, Parmelia and Dryopteris.

Unit - II:

(35 hours)

Taxonomy of Angiosperms- Natural system of classification (Bentham and Hooker)

Herbarium Techniques

Diagnostic vegetative and Reproductive characters, Active principles and Pharmacological constituents of most used plants of the following families:

1. Ranunculaceae
2. Annonaceae
3. Menispermaceae
4. Capparaceae
5. Malvaceae
6. Zygophyllaceae
7. Rutaceae
8. Meliaceae
9. Fabaceae
10. Caesalpiniaceae
11. Mimosaceae
12. Combretaceae
13. Myrtaceae
14. Cucurbitaceae
15. Apiaceae
16. Rubiaceae
17. Asteraceae
18. Apocynaceae
19. Asclepiadaceae
20. Convolvulaceae
21. Solanaceae
22. Acanthaceae
23. Lamiaceae
24. Nyctaginaceae
25. Amaranthaceae
26. Aristolochiaceae
27. Euphorbiaceae
28. Zingiberaceae
29. Liliaceae
30. Poaceae

Unit – III:

(30 hours)

Plant Anatomy: Idealised plant cell structure, cell organelles and cell inclusion.

Study of following anatomical structures Dicot leaf, stem and root, Monocot leaf, stem and root.

Unit – IV: (25 hours)
 Plant Ecology - Plants in relation to environment - Hydrophytes, Mesophytes, Xerophytes and Halophytes.
 Conservation of extant and endangered medicinal plants.
 Plant tissue culture - culture methods - callus initiation - laboratory organization.
 Detailed study on phytochemical production in tissue culture methods.
 Maintenance of herbal gardens.

PHARMACOGNOSY

Unit-I: (30 hours)
 Study of organized raw drugs based on their morphology:
 Roots and Rhizomes
 Woods
 Barks and Galls
 Leaves
 Flowers
 Fruits
 Seeds
 Whole plant

Unit -II: (15 hours)
 Study of unorganized raw drugs:
 Gums
 Resins and types
 Fixed oils

Unit –III: (20 hours)
 Phytochemistry (pharmacological actions of the following)
 Glycosides-Anthroquinone, Cardiac and Saponins
 Alkaloids-Tropane, Quinoline and Indole
 Tannins-Hydrolysable and Condensed
 Volatile oils-Obtained from the various plant parts
 Pigmentation studies-Chlorophyll, Xanthophyll, A.nthocyanin

Unit-IV: (20 hours)
 Adulteration of rawdrugs & detection. Poisonous plants. Basics of Herbal drug standardization.

PRACTICALS: Total Hours : 100

1. Microscopic slides observation of the non-flowering plant genera mentioned in Unit-I. (10 hours)
2. Identification of Angiosperm families given in Unit II. (20 hours)
3. Field study of various medicinal plants in their original habitat and pigment studies. (15 hours)
4. Submission of Herbarium (20 sheets) & Raw drugs (30). (14 hours)
5. Pigment studies - By paper chromatography method. (3 hours)
6. Anatomical study of plant parts — by section method mentioned in Unit III. (12 hours)
7. Plant Ecology - adaptation - Macroscopic & Microscopic mentioned in Unit IV. (10 hours)
8. Raw Drugs - Identification. (16 hours)

References Books:

S.No.	Name of book, Language, publishers & year of publication	Author
1.	College botany vol. I, II, III, Ed. 2000, New Central Book Agency Pvt Ltd.	Gangulee et al.
2.	Outlines of Botany,. Ed. 2003, S. Viswanathan Publishers.	V. Narayanaswamy et. al.
3.	Plant Ecology, S. Chand & Co.	Sharma
4.	A Text Book of Botany - Angiosperms, Rastogi Publishers, Meerut.	V. Singh, Pande & Jain
5.	Medicinal Botany Vol-I&II (Tamil) - Elangovan Publishers.	Somasundaram
6.	Medical Taxonomy of Angiosperms. Recent trends in Medical used and Chemical constituents. Harishi Publication, Chennai.	S. Shankaranarayanan
7.	Taxonomy of Angiosperms (Tamil) V.K. Publishing House, Chennai	S. Pazhaniyappan
8.	Elements of Biotechnology, Rastogi & Company.	P.K. Gupta
9.	Text Book of Pharmacognosy, Nirali Prakashan, Pune.	Gokhale et. al.
10.	Practical Pharmacognosy, Vallabh Prakasham, Delhi – 34.	Dr. C.K. Koate.

Distribution of Marks (Mark Weightage) for University Theory

Examination

Medicinal Botany

Unit – I	25 Marks
Unit – II	15 Marks
Unit – III	5 Marks
Unit – IV	15 Marks

Pharmacognosy

Unit – I	10 Marks
Unit –II	10 Marks
Unit –III	10 Marks
Unit –IV	10 Marks

Total **100 Marks**

Distribution of Marks for University Practical Examination

Practical	70 Marks
Viva Voce	20 Marks
Record	10 Marks

Total **100 Marks**

SYLLABUS FOR FIRST PROFESSIONAL B.S.M.S. (2013 SCHEME)

6. NUNNUYIRIYAL (MICROBIOLOGY)

Total Hours : 100
(15 hours)

General Bacteriology

1. Introduction and History
2. Morphology of Bacteria
3. Growth and Nutrition of Bacteria
4. Classification and Identification of Bacteria
5. Culture media and cultivation methods
6. Sterilization and disinfection
7. Antimicrobial sensitivity

Systemic Bacteriology

(30 hours)

1. Gram Positive Cocci - Staphylococcus, Streptococcus, Pneumococcus & Enterococcus
2. Gram Negative Cocci - Meningococci and Gonococci
3. Enterobacteriaceae - Escherichia, Klebsiella, Proteus, Salmonella and Shigella
4. Vibrio cholerae, Pseudomonas, Haemophilus
5. Clostridium tetani, C.perfringens, C.botulinum
6. Bacillus anthracis
7. Corenebacterium diphtheriae
8. Mycobacterium - Tuberculosis and Leprosy
9. Spirochaetes - Treponema & Leptospira
10. Mycoplasma, Chlamydiae & Rickettsiae

Immunology

(20 hours)

1. Infection
2. Structure and function of immune system
3. Immunity
4. Antigens
5. Antibodies
6. Antigen - antibody reaction - Agglutination, Precipitation, Immunofluorescence, Coomb's Test, ELISA, Western blot
7. Complement system
8. Hypersensitivity
9. Auto-immunity

Mycology

(5 hours)

1. Opportunistic Mycosis
2. Dermatophytes
3. Cryptococcus, Rhinosporidium and Histoplasma
4. Mycotoxicosis and Mycetism

Virology

(20 hours)

1. General properties and cultivation of Virus
2. Bacteriophage
3. Pox virus
4. Herpes virus - HSV-I & II
5. Myxovirus - H1N1, Avian flu, Mumps and Measles
6. Corona virus — SARS

7. Polio virus
8. Rabies virus
9. Hepatitis virus (A, B & C)
10. Arbo virus - Chikungunya, Dengue & Rubella
11. Retro virus - HIV

Clinical Microbiology

(10 hours)

1. Nosocomial infection
2. UTI
3. Meningitis
4. Bacterial food poisoning
5. PUO
6. Biomedical waste management
7. Vaccines (Bacterial & Viral)

Practical

Total Hours : 100

- | | |
|---|-------------------|
| 1. Microscopy - Light, Dark Ground, Fluorescent, Electron | (6 hours) |
| 2. Staining - Gram's and AFB staining. | (15 hours) |
| 3. Culture methods - Streak plate, Anaerobic, RCM. | (11 hours) |
| 4. Bacterial identification - Esch.coli, Klebsiella, Pseudomonas, Vibrio cholerae, Corynebacterium, diphtheriae, Staphylococcus aureus. | (45 hours) |
| 5. Serology - WIDAL & VDRL with clinical significance. | (4 hours) |
| 6. Immunology — ELISA, Latex agglutination. | (6 hours) |
| 7. Mycology - LPCB mounting. | (6 hours) |
| 8. Viral model - Rabies, HIV, Orthomyxo & Adeno virus. | (7 hours) |

Reference Books:

S.No.	Name of book, Language, publishers & year of publication	Author
1.	Text Book of Microbiology	Ananthanarayan and C.K. Jayaram Paniker
2.	Text Book of Microbiology	D.R. Arora and B Arora
3.	Medical Microbiology	Robert Cruik Shank

Distribution of Marks (Mark Weightage) for University Theory

Examination

General Bacteriology	20 Marks
Systemic Bacteriology	25 Marks
Immunology	15 Marks
Mycology	10 Marks
Virology	20 Marks
Clinical Microbiology	10 Marks
Total	100 Marks

Distribution of Marks for University Practical Examination

Practical	70 Marks
Viva Voce	20 Marks
Record	10 Marks
Total	100 Marks

SYLLABUS FOR FIRST PROFESSIONAL B.S.M.S. (2013 SCHEME)

1. SIDDHA MARUTHUVA ADIPPADAI THATHUVANGALUM VARALAARUM (HISTORY & FUNDAMENTAL PRINCIPLES OF SIDDHA MEDICINE)

Total Hours : 150

I. Three primordial, eternal entities and their siddhaanthic theories (Pathi, Pasu, Paasam).

- (1) Pathi (Almighty): **(5 hours)**
a) Definition and description of Pathi, existence of Pathi based on Epistemology (Alavai).
b) Nine divine manifestations of Pathi (Thirumenikal). i.e.
1) Sivam 2) Sakthi 3) Naatham 4) Vindhu 5) Sadaasivam 6) Maheswaran 7) Ayan 8) Ari
9) Aran.
c) Five divine powers of Pathi:-
1) Paraasakthi 2) Aadhisakthi 3) Gnaana Sakthi 4) Itchaa Sakthi 5)
Kriyaasakthi. d) Study of cosmic play (Thirukoothu).

- (2) Pasu (Soul): **(5 hours)**
Definition and description of Pasu,
i.e., distinction between pathi and pasu - three kinds of soul - seven kinds of creation -
four kinds of birth - Tholkaappiyer's classification based on senses.

- (3) Paasam (Bondages): **(5 hours)**
Definition, description and classification
i.e., Aanavam, Kanmam, Maayai and
Thriodaanam Classification of Maayai:-
1) Sutha Maayai: (Siva thathuvam) -5, Pure evolutes of
Maayai: Sivam - Sakthi - Sadaasivam - Easwara -
Sudhavidhai.
2) Asutha Maayai: (Vidyaa thathuvam) - 7 - Impure evolutes of Maayai:
Kaalam - Niyathi - Kalai - Araagam - Vidhai -Puruden - Maayai.
3) Prakruthi Maayai: (Aanma Thathuvam) – 24, peculiar properties of soul:
Thanmathirais -5, Bootham -5, Gnana indriyam -5, Kanmendriyam-5,
Anthakaranam- 4.

II. Deekai (Initiation towards the highest goal of life). **(5 hours)**

a) Samaya Deekai b) Vishesha Deekai c) Niruvaana Deekai.

- III. Epistemology (Alavai) - 10 types. Clinical Application – 5 Examples. **(10 hours)****
1) Perception (kaandal), 2) Inference (Karuthal), 3) Testimony (Urai), 4) Non-existence
(Abaavam), 5) Deduction (Porul), 6) Analogy (Oppu), 7) Inference by exception (Ozhibu),
8) Co-existence (Unmai), 9) Tradition (Iytheekam), 10) Natural inference (Iyalbu).

IV. Different schools of thought regarding the creation of Universe - **(5 hours)**

Relation between macrocosm and microcosm (Andathil Ullathe Pindam).

V. Five element theory (Iymbootha Kolgai). **(5 hours)**

Creation of five elements - Properties of five elements - fivefold combination and its
description (Panchabootha Panchikaranam) - application of five element theory in

Siddha treatment aspect.

VI. 96 Fundamental Principles (Thathuvams) and its different concepts (15 hours)

Sivaprakaasa Kattalai - Thirualavai Kattalai - Siddhaanta Kattalai - Vedaantha Kattalai - Thathuva Deepikai - Yugimuni's concept.

Bootham - 5 (five elements) - Pori - 5 (Sense organs) - Pulan - 5 (Perception by the sense organs) - Kanmendriyam - 5 (Motor organs) - Gnana Indriyam - 5 (The inner mechanism responsible for the perception of five senses) - Karanam - 4 (four intellectual faculties) - Arivu - 1 (Self-realization) - Naadi - 10 (Vital channel) - Vaayu - 10 (Vital forces) - Aasayam - 5 (Visceral cavities) - Kosam - 5 (fivesheeths) - Aathaaram - 6 (Six stations of soul) - Mandalam - 3 (Three regions) - Malam 3 (Three principles of moral evil) - Thodam - 3 (Three humours) - Eadanai - 3 (Three physical bindings) - Gunam - 3 (Three cosmic qualities) - Vinai - 2 (Acts) - Raagam - 8 (Eight passions) - Avasthai - 5 (Five states of consciousness).

VII. Three humoral theory (Uyir Thaathukkal) : (15 hours)

Vali, Azhal and Iyam.

Predominant locations - Properties - Physiological functions - Abnormal functions - Increased and decreased features

VIII. Seven Physical constituents (Udal Kattukal) : (5 hours)

Saaram (Primary nourishing juice) - Chenneer (blood) - Oon (muscle) - Kozhuppu (fat) - Enbu (Bone) - Moolai (Bone marrow) - Suckilam / Suronitham (Sperm / Ovum).

Description about 7 physical constituents i.e., Normal function, increased and decreased features.

IX . Five basic properties of Drug: (5 hours)

Suvai (Taste) - Gunam (Characters) - Veeriyam (Potency) - Vibaavam (post absorptive tastes) - Prabaavam (Specific action).

Taste- relations with five elements- features of imbalanced intake of six tastes. Maruthugalin vagaipaadugal with examples

X. Definition and description of the following:- (15 hours)

1. Attamaa Sithigal
2. Thirukkural (Marunthu Athikaram)
3. Rasavaatham (Alchemy).
4. Muppu.
5. Kaayakalpam (Elixir Science).

XI. History of Tamil Nadu including three Tamil Academies & Ancient Religious Traditions of Tamils (Arusamaiyakolgai) (10 hours)

XII. Chuvadi Iyal.

A. MANUSCRIPTOLOGY (20 hours)

1. Introduction to Manuscriptology
2. History of Editing Palm leaf Manuscripts with special reference to Tamil
3. Palm leaf Manuscripts and Paper Manuscripts Editing
4. Application of Computer in Editing

B. EDITING (15 hours)

1. Basics of Book Editing
2. History of Book publishing with special reference to Tamil

3. Proof Reading - Lay out
4. Book Production
5. Use of Computer in Editing

C. PROJECT WORK

Candidates shall have to undertake a field work regarding copying of Inscriptions or Editing a Palm leaf Manuscript or Editing a Paper Manuscript. The project work has to be submitted to the Head of the Department.

XIII. History of Siddhars:-

(5 hours)

Agasthiyar - Thirumoolar - Theraiyar - Yugimuni - Bohar - Sattamuni - Nandhidevar - Raamadevar - Dhanvanthri – Konganavar - Karuvoorar - Kaalanganadhar - Pulippaani - Paampaatti Siddhar - Macchamuni - Romarishi - Koorakkar - Idaikaadar - Sundaraanandhar - Thiruvalluvar - Agappei Siddhar - Kuthambai Siddhar – Sivavaakkiaar - Azhuganni Siddhar - Pulathiar.

XIV. Attaanga Yogam:-

(5 hours)

Iyamam - Niyamam - Aasanam - Pranaayaamam - Prathiyaakaram - Dhaaranai - Dhiyaanam - Samaadhi.

XV. Encyclopaedia of Siddha Medicine

(5 hours)

Reference Books:

S.No.	Name of book, Language, publishers & year of publication	Author
1.	Thotrakirama Araichiyum Siddha Maruthuva Varalarum, (Tamil), The Directorate of Indian Medicine and Homoeopathy, Govt. of Tamilnadu, Chennai. (2005)	Dr.K.S.Uttamarayan, H.P.I.M,
2.	Siddha Maruthuvanga Churukkam (Tamil), The Directorate of Indian Medicine and Homoeopathy, Chennai (2005)	Dr.K.S.Uttamarayan, H.P.I.M,
3.	Siddha Maruthuva Varalaru, (Tamil), International Institute of Tamil Studies, Chennai (2008)	Anaivari Ananthan
4.	Thenindhiya Maruthuva Varalaru, (Tamil) International Institute of Tamil Studies, Chennai (2008)	Ra. Niranjana Devi
5.	Suvatiyyal (Tamil) International Institute of Tamil Studies, Chennai (1991)	Dr. P. Subramanian
6.	Fundamentals of manuscriptology, (English), Thiruvananthapuram Dravidian linguistics association (2003).	Visalakshy, P.
7.	Introduction to Manuscriptology, (English), Sharada Publishing House, Delhi 1996.	R S Shiva Ganeshamurthy
8.	Siddha Medical Manuscripts in Tamil, (English), International Institute of Tamil Studies, Chennai (1984)	Madhavan. V.R
9.	Thamizhil maruthuva ilakiyangal – or aaivu (Tamil) Poonkodi Publications, Chennai	Dr. R. Vaasudevan
10.	Pandai thamizhaga varaivukalum kuriyeedukalum (Tamil)	Raasu. Pavunthurai

	International Institute of Tamil Studies, Chennai (2004)	
11.	Aasivagam Ennum Tamizhar Anuviam (Tamil) Manitam Pathipagam, Trichy-21 (2013)	Neduncheliyan K
12.	Thamilar Varalaaru, (Tamil) Thamilmam Pathippagam, Chennai (2000)	Thevaneya Paavaanar
13.	Siddha Maruthuva Moola Thathuvam (Tamil) Sidha Maruthuvam Valarchi Kazhagam, Jaffna, Srilanka (2002)	S. Sivashanmuga raja
14.	Siddha Dossier, CCRS, Dept. of AYUSH, New Delhi (2013)	-

Online Material

1. Tamil Maruthuva Varalattu Thonmaikal, Munaivar R. Vasudevan
<http://ta.wikisource.org/s/bn>
2. Suvadi Iyal Arimukam
http://kovaimani-tamilmanuscriptology.blogspot.in/2012_04_01_archive.html
3. Oolai chuvadi Aaivukal- Prof. Dr. R. Madhavan
<http://www.tamilheritage.org/manulogy/madavan.html>
4. Religious Traditions of the Tamils (Prof. A. Velupillai)
<http://tamilelibrary.org/teli2/archives/19>

Other resources

DVD

Historical Atlas of South India : a joint effort of French Institute of Pondicherry and the Tamil University, Thanjavur Reference URL: <http://www.ifpindia.org/histatlas/>

SYLLABUS FOR FIRST PROFESSIONAL B.S.M.S. (2013 SCHEME)

2. TAMIL LANGUAGE

Total Hours : 100

Objective:

To acquire knowledge to understand the contents that is available in classical Tamil Siddha literature.

COURSE CONTENT AND SYLLABUS

Unit : 1 Exercises and drills in the spoken and written variety **(4 hours)**

- a) Alphabets in Tamil
- b) An intensive course in Tamil, CIIL – MYSORE – by Dr.S. Rajaram
- c) Subhramanian V.I. & Veeraswamy T.V., 1973, “Intensive course in Tamil”, Dravidian Linguistics Association, Thumba, Trivandrum.

Unit : 2 Exercise for Pronunciation **(10 hours)**

- a) Tamil alphabets – Classification – Special features – Maththirai (Syllabi)
- b) Tamil Words – Loan words – its written form – common words in Tamil and Regional language(viz. Malayalam)

Unit : 3 Formation of words and sentences and study of Basic grammar on the functional level **(15 hours)**

- a) Chol (word) – Peyar (Name), Vinai (Verb), Idai (clitics) etc.(Peyar (Name) – Gender, number & case; Vinai (Verb)- Kaalam (Tense) Orumai (Singular), Panmai (Plural)
- b) Thodar (syntax)/Vaakkiyam (Sentence), Kaalam (Tense), Orumai (Singular), Panmai (Plural), Ezhuvaai (Subject), Payanilai (Predicate), Cheyappaduporul (Object). (It is to understand the language structure).
- c) Selected Tamil Proverbs (10)

Unit : 4 Study of selected prose and poetry in Tamil and Siddha literature

POETRY

(24 hours)

(Poems selected only for reading meaningfully and for memorising)

- a) Name of the book : Malarum maalaiyum
Author : Kavimani
Title : Pasuvum kantrum
Lines : Thottathil meythu
.....kantrukkuty. (2 stanzas)
- b) Pieces from Folk songs (Tamil)
1) Padaku 2) Elelankadi Elelo
- c) Name of the book : Bhaarathiyaar kavithaikal
Author : Subramaniya Bhaarathiyaar
Title : Paappaa paattu
Lines : Odi vilayadu pappu

stanzas)	Vazhakkappaduthikkollu pappa (6
d) Title	: Kontrai venthan (15 Lines)
Author	: Auvaiyaar
e) Name of the book	: Thirukkural
Author	: Thiruvalluvar
Title	: “Marunthu” Athikaram (10 verses)
f) Name of the book	: Maruthuva vatha yoga gnana satthiram
Lines	: “ Aathikaalathilae thillayilaechernthaner emaikkaakavae”
g) Name of the book	: Yugi chinthaamani
Lines	: “
Uruthiyam poothathi	uraikkak kelaie”
h) Name of the book	: Chithar Padalkal
Author	: Kovinthan
Lines	: Thunaichiru..... (27) “Ettumalai.....” (28)
i) Name of the book	: Thirumanthiram
Author	: Thirumoolar
Title	: Marunthu
	: “ Maruppathu udal noi.....marunthenalamae”
j) Name of the book	: Siddha Maruthuva Chirappu
Author	: Dr. R. Thiagarajan
Title	: Ashtanka yokam
Lines	: “Eyamamaavathumaame”
k) Name of the book	: Siddha Maruthuvaanka Churukkam
Author	: Dr. C.S. Uthamarayan – H.P.I.M.
Title	: Udal Aimpoothakoorupaattaiyum Udaiyathu Enal.
Lines	: “Paarappa.....Lapamatha Mohamacham”
l) Name of the book	: Siddha maruthuvanka churukkam
Author	: Dr. C.S. Uthamarayan – H.P.I.M.
Title	: Iympootham – Arusuvai thodarpu
Lines	: “Mannudaneuraittha maraiye”
m) Name of the book	: Siddha maruthuvanka churukkam
Author	: Dr. C.S. Uthamarayan – H.P.I.M.
Title	: Pathinaanku Vekangal
Lines	: “Pathinaanku..... :swasamaame”

PROSE

- a) Name of the book : Siddharkal charithram

(21 hours)

- Author : Chollin selvan
Chapter : Brahmamuni, Korakkar
- b) Name of the book : “Lemuria allathu Kumari Kandam”
Chapter : Kumari nadu pattriya Tamil nool kurippukal
Author : Panmozhi pulavar K.Appathurai.
- c) Name of the book : Pattukkottai Kaliyana Sundaram Padalkal
Author : KunRakkudi Adikalaar
Chapter : Preface of Pattukkottai kaliyana Sundaram Padalkal
- d) Name of the book : Nalla Theerppu
(An eloquent speech of C.N. Anna Durai)

Unit : 5 Study of History of siddha medicine – Selected portion from the Siddha literature.
(20 hours)

Siddharkal enpor yaar?- Pathinen Siddharkal – Navanaatha Siddharkal – Siddha Maruthuvathin Chirappukkal – Siddha Maruthuva Varalaru in brief – Iyankum Porudkalum Iyankaa Porudkalum.(who are Siddhars’; Eighteen Siddhars – Navanatha Siddhars – The importance of Siddha medical practices- Brief history of Siddha medical practices – movable and immovable things)

Unit : 6 Exercises in narration / description of a story or an event in a paragraph. **(3 hours)**

Unit : 7 Translation from Tamil to Regional language or English – and Vice versa. **(3 hours)**

References Books:

S.No.	Name of book, Language, publishers & year of publication	Author
1.	Thottakkirama aaraichiyum maruthuva varalaarum.	Dr. Uthamarayan
2.	Siddha maruthuvanga churukkam.	Dr. Uthamarayan
3.	Siddha vaidhya thirattu.	Dr. Uthamarayan
4.	Pathinen siddhargal varalarum Padaitha noolgalum.	Murugesan
5.	Siddhargal, Thamarai noolagam, Chennai – 26.	-

SYLLABUS FOR FIRST PROFESSIONAL B.S.M.S. (2013 SCHEME)

4. UYIR VEDHIYAL (BIOCHEMISTRY)

Total Hours : 150

1. Chemistry of Carbohydrates:

(9 hours)

Functions of Carbohydrates, Classification of Carbohydrates, Classification and biomedical importance of monosaccharides, Reactions of monosaccharides, Classification and biomedical importance of disaccharides, Polysaccharides- Classification, composition and function.

2. Chemistry of Lipids:

(8 hours)

Functions of Lipids, Classification of Lipids, Classification of fatty acids, Essential fatty acids, Free radicals and antioxidants, Types and functions of phospholipids, Glycolipids and lipo proteins, Steroids, Micelles , Names and functions of eicosanoids.

3. Chemistry of Proteins :

(11 hours)

Functions of proteins, Classification of proteins based on chemical nature and solubility, classification of amino acids based on structure, Structure of proteins primary, secondary , tertiary and quaternary. Biologically important peptides. Plasma proteins: Types and major functions, the complement system.

4. Nucleic acids and Biotechnology:

(8 hours)

Watson and cricks structure of DNA, Types and functions of RNA, structure of transfer RNA, Replication of DNA, Definition of transcription, Polymerase chain reaction (PCR), - Principle, technique, applications. Human genome project, Bioinformatics.

5. Purine nucleotides:

(4 hours)

Degradation of purine nucleotides, Gout.

6. Metabolism of carbohydrates:

(10 hours)

Glycolysis, TCA cycle, HMP shunt pathway, Glycogenesis, glycogenolysis, and Gluconeogenesis. Glucose homeostasis, Diabetes mellitus.

7. Metabolism of proteins:

(6 hours)

Transamination, deamination and urea cycle. Biosynthesis of proteins (Translation).

8. Metabolism of Lipids:

(9 hours)

Fatty acid oxidation, Ketone bodies, Ketosis. Biosynthesis of fatty acids, Biosynthesis of cholesterol, Degradation of cholesterol, Hypercholesterolemia, Metabolism of HDL, Fatty liver, Obesity.

9. Biological oxidation

(8 hours)

Classification of high energy compounds, ATP-ADP cycle, oxidative phosphorylation and electron transport chain, substrate level phosphorylation.

10. Enzymes:

(9 hours)

Classification, Factors affecting enzyme activity, Active site, Mechanism of enzyme action, Coenzymes, Diagnostic importance of enzymes, Enzyme pattern in diseases.

11. Digestion and absorption of carbohydrates, proteins and lipids.

(8 hours)

- 12. Haemoglobin:** (5 hours)
Structure of haemoglobin, Biosynthesis of heme, Degradation of heme. Clinical significance of Glycosylated Haemoglobin, Jaundice
- 13. Vitamins:** (9 hours)
Fat soluble Vitamins and Water soluble vitamins –food source, RDA, biochemical functions and deficiency manifestations.
- 14. Hormones: Biochemical functions and disorders.** (9 hours)
- 15. Minerals:** (9 hours)
Macro Elements and Micro Elements–food source, RDA, biochemical functions and deficiency manifestations.
- 16. Metabolism of Xenobiotics (Detoxification).** (3 hours)
- 17. Water and electrolytes:** (5 hours)
Functions of water, water turn over and balance, Composition of electrolytes in the body fluids.
- 18. Nutrition:** (7 hours)
Calorie value of food stuffs, Basal metabolic rate, Specific dynamic action, Fibre in nutrition, Balanced diet, protein – Energy malnutrition, Energy requirements.
- 19. Cancer and AIDS:** (5 hours)
Cancer – Etiology and tumour markers. AIDS – Transmission of HIV and Lab Diagnosis.
- 20. Organ function tests:** (8 hours)
Liver function tests, Renal function tests, Thyroid function tests.

PRACTICAL

Total Hours : 100

PART A. Qualitative Analysis:- (26 hours)

I. Reactions of carbohydrates -

1. Reactions of Glucose.
2. Reactions of Fructose.
3. Reactions of Maltose.
4. Reactions of Lactose.
5. Reactions of Sucrose.
6. Reactions of Starch.

II. Reactions of Protein -

1. Reactions of Albumin.
2. Reactions of Peptone.
3. Reactions of Gelatin.
4. Reactions of Casein.

III. Reactions of non protein nitrogenous substances – urea, uric acid, creatinine.

IV. Reactions of Normal Urine.

V. Analysis of abnormal urine.

PART B. QUANTITATIVE ANALYSIS

(48 hours)

1. Estimation of Blood Sugar.
2. Estimation of serum total proteins.
3. Estimation of serum cholesterol.
4. Estimation of serum triglycerides.
5. Estimation of serum urea.
6. Estimation of serum uric acid.
7. Estimation of serum creatinine.
8. Estimation of serum bilirubin.
9. Estimation of serum inorganic phosphate.
10. Estimation of serum amylase.
11. Estimation of SGOT.
12. Estimation of SGPT.

PART C: DEMONSTRATION

(6 hours)

1. Glucose Tolerance Test with graph (Normal and Abnormal).
2. Paper electrophoresis.
3. Paper chromatography.

PART D: SPOTTERS

(10 hours)

1. Calorimeter
2. PH meter
3. Haemoglobinometer
4. Rhyles tube.
5. Spectroscope
6. Centrifuge
7. Electrophoresis
8. Chromatography
9. Osazones
10. Semi auto analyzer

PART E: CASE REPORTS

(10 hours)

1. GTT Graph
2. Renal Glycosuria
3. Acute myocardial infraction
4. Jaundice
5. Gout
6. Hyperthyroidism
7. Vitamin D deficiency
8. Renal failure
9. Kwashiorkor
10. Hypercholesterolemia.

Reference Books:

S.No.	Name of book, Language, publishers & year of publication	Author
1.	Biochemistry	U.Satyanarayana, U.Chakrapani
2.	Text book of biochemistry	D.M. Vasudevan, Sreekumari. S
3.	Biochemistry	Pankaja Naik
4.	Harper's Illustrated Bio - Chemistry	
5.	Manual of practical medical biochemistry	Evangeline Jones. M.D.
6.	Practical text book of biochemistry	D.M. Vasudevan, Subir Kumar das

SYLLABUS FOR FIRST PROFESSIONAL B.S.M.S. (2013 SCHEME)
5. MARUTHUVA THAVARAIYAL (MEDICINAL BOTANY AND PHARMACOGNOSY)

THEORY:

Total Hours : 200

MEDICINAL BOTANY

Unit - I:

(25 hours)

Definition - History and importance of Medicinal plants in Siddha science.

Plant biology and Medicinal uses of the following groups: Thallophytes, Bryophytes, Pteridophytes and Gymnosperms.

Study of Life-cycle of the following: Gracilaria, Penicillium, Parmelia and Dryopteris.

Unit - II:

(35 hours)

Taxonomy of Angiosperms- Natural system of classification (Bentham and Hooker)

Herbarium Techniques

Diagnostic vegetative and Reproductive characters, Active principles and Pharmacological constituents of most used plants of the following families:

1. Ranunculaceae
2. Annonaceae
3. Menispermaceae
4. Capparaceae
5. Malvaceae
6. Zygophyllaceae
7. Rutaceae
8. Meliaceae
9. Fabaceae
10. Caesalpiniaceae
11. Mimosaceae
12. Combretaceae
13. Myrtaceae
14. Cucurbitaceae
15. Apiaceae
16. Rubiaceae
17. Asteraceae
18. Apocynaceae
19. Asclepiadaceae
20. Convolvulaceae
21. Solanaceae
22. Acanthaceae
23. Lamiaceae
24. Nyctaginaceae
25. Amaranthaceae
26. Aristolochiaceae
27. Euphorbiaceae
28. Zingiberaceae
29. Liliaceae
30. Poaceae

Unit – III:

(30 hours)

Plant Anatomy: Idealised plant cell structure, cell organelles and cell inclusion.

Study of following anatomical structures Dicot leaf, stem and root, Monocot leaf, stem and root.

Unit – IV: (25 hours)
 Plant Ecology - Plants in relation to environment - Hydrophytes, Mesophytes, Xerophytes and Halophytes.
 Conservation of extant and endangered medicinal plants.
 Plant tissue culture - culture methods - callus initiation - laboratory organization.
 Detailed study on phytochemical production in tissue culture methods.
 Maintenance of herbal gardens.

PHARMACOGNOSY

Unit-I: (30 hours)
 Study of organized raw drugs based on their morphology:
 Roots and Rhizomes
 Woods
 Barks and Galls
 Leaves
 Flowers
 Fruits
 Seeds
 Whole plant

Unit -II: (15 hours)
 Study of unorganized raw drugs:
 Gums
 Resins and types
 Fixed oils

Unit –III: (20 hours)
 Phytochemistry (pharmacological actions of the following)
 Glycosides-Anthroquinone, Cardiac and Saponins
 Alkaloids-Tropane, Quinoline and Indole
 Tannins-Hydrolysable and Condensed
 Volatile oils-Obtained from the various plant parts
 Pigmentation studies-Chlorophyll, Xanthophyll, A.nthocyanin

Unit-IV: (20 hours)
 Adulteration of rawdrugs & detection. Poisonous plants. Basics of Herbal drug standardization.

PRACTICALS: Total Hours : 100

1. Microscopic slides observation of the non-flowering plant genera mentioned in Unit-I. (10 hours)
2. Identification of Angiosperm families given in Unit II. (20 hours)
3. Field study of various medicinal plants in their original habitat and pigment studies. (15 hours)
4. Submission of Herbarium (20 sheets) & Raw drugs (30). (14 hours)
5. Pigment studies - By paper chromatography method. (3 hours)
6. Anatomical study of plant parts — by section method mentioned in Unit III. (12 hours)
7. Plant Ecology - adaptation - Macroscopic & Microscopic mentioned in Unit IV. (10 hours)
8. Raw Drugs - Identification. (16 hours)

References Books:

S.No.	Name of book, Language, publishers & year of publication	Author
1.	College botany vol. I, II, III, Ed. 2000, New Central Book Agency Pvt Ltd.	Gangulee et al.
2.	Outlines of Botany,. Ed. 2003, S. Viswanathan Publishers.	V. Narayanaswamy et. al.
3.	Plant Ecology, S. Chand & Co.	Sharma
4.	A Text Book of Botany - Angiosperms, Rastogi Publishers, Meerut.	V. Singh, Pande & Jain
5.	Medicinal Botany Vol-I&II (Tamil) - Elangovan Publishers.	Somasundaram
6.	Medical Taxonomy of Angiosperms. Recent trends in Medical used and Chemical constituents. Harishi Publication, Chennai.	S. Shankaranarayanan
7.	Taxonomy of Angiosperms (Tamil) V.K. Publishing House, Chennai	S. Pazhaniyappan
8.	Elements of Biotechnology, Rastogi & Company.	P.K. Gupta
9.	Text Book of Pharmacognosy, Nirali Prakashan, Pune.	Gokhale et. al.
10.	Practical Pharmacognosy, Vallabh Prakasham, Delhi – 34.	Dr. C.K. Koate.

SYLLABUS FOR FIRST PROFESSIONAL B.S.M.S. (2013 SCHEME)

6. NUNNUYIRIYAL (MICROBIOLOGY)

Total Hours : 100
(15 hours)

General Bacteriology

1. Introduction and History
2. Morphology of Bacteria
3. Growth and Nutrition of Bacteria
4. Classification and Identification of Bacteria
5. Culture media and cultivation methods
6. Sterilization and disinfection
7. Antimicrobial sensitivity

Systemic Bacteriology

(30 hours)

1. Gram Positive Cocci - Staphylococcus, Streptococcus, Pneumococcus & Enterococcus
2. Gram Negative Cocci - Meningococci and Gonococci
3. Enterobacteriaceae - Escherichia, Klebsiella, Proteus, Salmonella and Shigella
4. Vibrio cholerae, Pseudomonas, Haemophilus
5. Clostridium tetani, C.perfringens, C.botulinum
6. Bacillus anthracis
7. Corenebacterium diphtheriae
8. Mycobacterium - Tuberculosis and Leprosy
9. Spirochaetes - Treponema & Leptospira
10. Mycoplasma, Chlamydiae & Rickettsiae

Immunology

(20 hours)

1. Infection
2. Structure and function of immune system
3. Immunity
4. Antigens
5. Antibodies
6. Antigen - antibody reaction - Agglutination, Precipitation, Immunofluorescence, Coomb's Test, ELISA, Western blot
7. Complement system
8. Hypersensitivity
9. Auto-immunity

Mycology

(5 hours)

1. Opportunistic Mycosis
2. Dermatophytes
3. Cryptococcus, Rhinosporidium and Histoplasma
4. Mycotoxicosis and Mycetism

Virology

(20 hours)

1. General properties and cultivation of Virus
2. Bacteriophage
3. Pox virus
4. Herpes virus - HSV-I &II
5. Myxovirus - H1N1, Avian flu, Mumps and Measles
6. Corona virus — SARS

7. Polio virus
8. Rabies virus
9. Hepatitis virus (A, B & C)
10. Arbo virus - Chikungunya, Dengue & Rubella
11. Retro virus - HIV

Clinical Microbiology

(10 hours)

1. Nosocomial infection
2. UTI
3. Meningitis
4. Bacterial food poisoning
5. PUO
6. Biomedical waste management
7. Vaccines (Bacterial & Viral)

Practical

Total Hours : 100

1. Microscopy - Light, Dark Ground, Fluorescent, Electron **(6 hours)**
2. Staining - Gram's and AFB staining. **(15 hours)**
3. Culture methods - Streak plate, Anaerobic, RCM. **(11 hours)**
4. Bacterial identification - Esch.coli, Klebsiella, Pseudomonas, Vibrio cholerae, Corynebacterium, diphtheriae, Staphylococcus aureus. **(45 hours)**
5. Serology - WIDAL & VDRL with clinical significance. **(4 hours)**
6. Immunology — ELISA, Latex agglutination. **(6 hours)**
7. Mycology - LPCB mounting. **(6 hours)**
8. Viral model - Rabies, HIV, Orthomyxo & Adeno virus. **(7 hours)**

Reference Books:

S.No.	Name of book, Language, publishers & year of publication	Author
1.	Text Book of Microbiology	Ananthanarayan and C.K. Jayaram Paniker
2.	Text Book of Microbiology	D.R. Arora and B Arora
3.	Medical Microbiology	Robert Cruik Shank

**Syllabus for Siddha Maruthuva Arignar (BSMS) Course
(2013 SCHEME)**

Second Professional BSMS

UDAL KOORUGAL (ANATOMY) PAPER I

Total Hours : 100

I. OSTEOLOGY WITH APPLIED ANATOMY

(30 hours)

1. General structure of bone and Ossification
2. Types of bones
3. Skull – Norma frontalis, Norma verticalis, Norma basalis, Norma lateralis, Norma occipitalis, Cranial fossa
4. Paranasal sinuses
5. Mandible
6. Hyoid bone
7. Vertebral column – Cervical, Thoracic, Lumbar, Sacrum and Coccyx -
(Typical and atypical)
8. Ribs, Costal cartilages and Sternum
9. Bones of Upper limb – Clavicle, Scapula, Humerus, Radius, Ulna
10. Name and numbers of Carpal, Metacarpal and Phalanges
11. Bones of Lower limb – Hip bone, Comparison between male and female pelvis, Femur, Patella, Fibula, Tibia
12. Name and numbers of Tarsal, Metatarsal and Phalanges
13. Arches of foot

II. ARTHROLOGY WITH APPLIED ANATOMY

(10 hours)

1. Classification of joints
2. Temporomandibular joint
3. Intervertebral joints
4. Shoulder joint
5. Elbow joint
6. Wrist joint
7. Hip joint
8. Knee joint
9. Ankle joint

III. MYOLOGY WITH APPLIED ANATOMY

(20 hours)

1. Scalp
2. Muscles of facial expression
3. Muscles of mastication
4. Muscles of eye ball
5. Suprahyoid muscles
6. Infrahyoid muscles
7. Name of the Pre and Para vertebral muscles
8. Lattismus dorsi, Erector spinae, Trapezius, Rhomboideus major and minor, Name of other muscles of back
9. Pectoral region muscles

10. Scapular region muscles
11. Muscles of Arm
12. Muscles of Forearm
13. Name of muscles of hand
14. Intercostal muscles and diaphragm
15. Anterior and Posterior Abdominal wall muscles
16. Names of Pelvic floor and Perineal muscles
17. Gluteal muscles
18. Muscles of thigh
19. Muscles of leg
20. Name of the muscles involved in the formation of sole of foot

FOSSAE AND TRIANGLES*

(5 hours)

1. Triangles of neck
2. Axilla
3. Cubital fossa
4. Ischiorectal fossa
5. Inguinal Canal
6. Adductor Canal
7. Femoral triangle
8. Popliteal fossa

IV. ANGIOLOGY

(Origin, termination, course and branches/tributaries have to be studied)

ARTERIAL SYSTEM

(20 hours)

1. Aorta – Ascending aorta – Coronary arteries – Arch of aorta – Brachiocephalic trunk – Left and Right Common Carotid – Left and Right Subclavian arteries
2. External and Internal carotid arteries, Vertebral and Basilar arteries – Formation of Circle of Willis
3. Major Arteries in Upper limb – Axillary – Brachial – Radial – Ulnar arteries – Superficial and deep palmar arches
4. Thoracic aorta – Abdominal aorta
5. Common iliac – External and Internal iliac artery
6. Major arteries in Lower limb – Femoral – Popliteal – Anterior and Posterior Tibial Arteries – Dorsalis Pedis artery – Plantar arch

VENOUS SYSTEM

(10 hours)

1. Dural Venous Sinuses
2. External and Internal Jugular Vein
3. Veins of Upper limb – Dorsal Venous arch – Cephalic – Basilic – Median Cubital Vein
4. Coronary sinus
5. Veins of thorax – Brachiocephalic – Azygos – Hemi azygos – Accessory azygos

6. Superior and Inferior vena cava
7. Portal vein and Portacaval anastomosis
8. Veins of lower limb –Dorsal Venous arch – Great and small Saphenous – Anterior and Posterior Tibial Vein

V. LYMPHATICS

(5 hours)

1. Cisterna Chyli – Thoracic duct – Right lymphatic duct (2 hrs.)
2. Axillary, Cervical, Inguinal lymph nodes and its drainage (3 hrs.)

PRACTICALS FOR UDAL KOORUGAL – I

Total Hours : 75

- | | |
|----------------------------|-------------------|
| 1. Whole body dissection. | (25 hours) |
| 2. Specimen demonstration. | (50 hours) |

REFERENCE BOOKS

1. Gray's Anatomy – 40th Edition
2. Text book of Anatomy – T.S. Ranganathan - 5th revised edition
3. Human Anatomy – B.D. Chaurasia - 4th Edition –
4. Text book of Anatomy – Inderbir Sing – Edition 5/e
5. Fundamentals of Human Anatomy – A.S. Moni
6. Atlas of Anatomy – Inderbir Sing

Distribution of Marks (Mark Weightage) for University Theory Examination

OSTEOLOGY WITH APPLIED ANATOMY	30 Marks
ARTHROLOGY WITH APPLIED ANATOMY	10 Marks
MYOLOGY WITH APPLIED ANATOMY	30 Marks
FOSSAE AND TRIANGLES	5 Marks
ANGIOLOGY - ARTERIAL SYSTEM	10 Marks
ANGIOLOGY - VENOUS SYSTEM	10 Marks
LYMPHATICS	5 Marks
Total	100 Marks

Distribution of Marks for University Practical Examination

Practical	70 Marks
Viva Voce	20 Marks
Record	10 Marks
Total	100 Marks

UDAL KOORUGAL (ANATOMY) PAPER II **Total Hours : 100**

I. NERVOUS SYSTEM **(40 hours)**

1. Meninges of brain and spinal cord
2. Cerebrum – Lobes, Surfaces, Poles, Fissures, Sulci and Gyri, Areas, Types of fibres, Corpus callosum and Internal capsule
3. Basal nuclei
4. Names of nuclei of Diencephalon
5. Thalamus, Hypothalamus – Parts, Nuclei and Connections
6. Location and boundaries of Ventricles
7. Formation and circulation of CSF
8. External and internal features of Brain stem
9. External and internal features of Cerebellum
10. External and internal features of Spinal cord including tracts
11. Cranial nerves
12. Formation of typical spinal nerves and intercostal nerves
13. Formation of Cervical, Brachial, Lumbar and Sacral plexus including branches
14. Name and location of Sympathetic and Parasympathetic ganglion

II. SPECIAL SENSES **(10 hours)**

1. Eye
2. Ear
3. Nose
4. Tongue
5. Skin

III. RESPIRATORY SYSTEM **(5 hours)**

1. Larynx
2. Trachea
3. Mediastinum
4. Pleura, Lungs and Bronchopulmonary segments

IV. CARDIOVASCULAR SYSTEM **(2 hours)**

1. Heart
2. Pericardium

V. DIGESTIVE SYSTEM **(20 hours)**

1. Oral cavity, Palate, Salivary glands
2. Structure and types of teeth
3. Pharynx
4. Oesophagus
5. Stomach
6. Small intestine
7. Large intestine
8. Peritoneum and its folds
9. Liver
10. Extra biliary apparatus
11. Pancreas

LYMPHOID ORGANS***(3 hours)**

1. Spleen
2. Thymus glands
3. Tonsils

VI. UROGENITAL SYSTEM**(15 hours)**

1. Kidney
2. Ureter
3. Urinary bladder
4. Male and female urethra
5. Male reproductive organs - Scrotum, Testies, Epididymis, Seminal vesicles, Vasdeferens, Spermatic cord, Prostate gland, Penis
6. Female reproductive organs – Uterus, Uterine tubes, Ovaries, External genitalia, Mammary glands

VII. ENDOCRINOLOGY**(5 hours)**

1. Pituitary gland
2. Pineal gland
3. Thyroid and Parathyroid
4. Adrenal gland

PRACTICALS FOR UDAL KOORUGAL – II**Total Hours : 100**

- | | |
|---------------------------|-------------------|
| 1. Whole body dissection | (25 hours) |
| 2. Specimen demonstration | (50 hours) |

REFERENCE BOOKS

1. Gray's Anatomy – 40th Edition
2. Text book of Anatomy – T.S. Ranganathan - 5th revised edition edition
3. Human Anatomy – B.D. Chaurasia - 4th Edition –
4. Text book of Anatomy – Inderbir Sing – Edition 5/e
5. Fundamentals of Human Anatomy – A.S. Moni
6. Atlas of Anatomy – Inderbir Sing

Distribution of Marks (Mark Weightage) for University Theory

Examination

NERVOUS SYSTEM	30 Marks
SPECIAL SENSES	10 Marks
RESPIRATORY SYSTEM	10 Marks
CARDIOVASCULAR SYSTEM	10 Marks
DIGESTIVE SYSTEM	20 Marks
LYMPHOID ORGANS	5 Marks
UROGENITAL SYSTEM	10 Marks
ENDOCRINOLOGY	5 Marks
Total	100 Marks

Distribution of Marks for University Practical Examination

Practical	70 Marks
Viva Voce	20 Marks
Record	10 Marks
Total	100 Marks

UDAL THATHUVAM (PHYSIOLOGY) PAPER I

Total Hours : 50

1. Ninety six fundamental principles (Thathuvas) and its details. Five elements (lymbootham) – five sense organs (pori) – five senses (pulan) – Motor organs (Kanmendriyam) – Discriminative power of five senses (Gnanandriyam) – Four intellectual faculties (Karanam) – Wisdom of Self realization (Arivu) – Ten Vital channels (Dhasa nadi) – Ten vital Air (Dhasavayu) – five visceral cavities (Asayam) – five sheaths (Kosam) – Six vital centres of the Soul (Aatharas) - Three regions (Mandalam) – Three impurities of soul (malam), Three humours (Thodam) - Three physical bindings (Edanai) – Three cosmic qualities (gunam) - Two acts (Vinai) – Eight passions (Ragam) – Five states of consciousness (Avathai). **(5 hours)**
2. Five elements and its medical aspects. Creation of five elements – properties – five fold combination (panchikaranam) – Manifestation of five elements in our body (panchabootha koorugal (or) Purakaruvikal) – Relation between five elements & six tastes – Five elements and three humours – five elements and seven physical constituents. **(5 hours)**
3. Development of Embryo according to Siddhars' concepts. Role of five elements during fertilization, and intrauterine life – Different stages of foetal growth – sex determination & Determination of life span according to Siddhar's concept. **(5 hours)**
4. Three humoral theory Vatham:- Predominant locations – properties – physiological role. Functional varieties of vatham – Pranan – Udhanan – Samanan – Abanan – Viyanan – Nagan – Koorman – Kirukaran – Devadhathan – Dhananjeyan. Pitham:- Predominant locations – properties – physiological role. Functional varieties of pitham - Pasakam – Ranjakam – Sathakam – Aalosakam – prasakam. Kapham:- Predominant location – properties – physiological role. Functional varieties of Kapham. – Avalampakam – Kilethakam – Pothakam – Tharpakam – Santhikam. Temperament of an individual Features of vatha temperament – pitha temperament – Kapha temperament. **(5 hours)**
5. Seven physical constituents: Nutrient juice (saram) – Blood (Chenneer) – Muscle (ooun) – fat & adipose tissue (kozhuppu) – Bone & Teeth (Enbu) – Bone marrow & nervous tissue (Moolai) – Semen or ovum (Sukilam/suronitham) – their nature and functions. **(4 hours)**
6. Five sheaths (Kosangal) Physical sheath (Annamaya kosam) – Respiratory sheath (Piranamaya kosam) – Mental sheath (Manomaya kosam) – Intellectual sheath (vignanamaya kosam) – Blissful sheath (Ananthamaya kosam) **(3 hours)**
7. Physical sheath:- Composition of food materials – waste or excretory materials (Chakkai) – Nutrients – Tastes – Three vital units (Uyir thathu) – qualities (gunam) Taste:- Properties of six tastes – Synergetic taste (natpu suvai) Antagonistic taste (pakai suvai) Vatha food – pitha food – Kapha food – Sathuva food – Rajasa food - Thamasa food – food and seasons. **(5 hours)**
8. Respiratory sheath:- Functions of pranan – Regulation of breathing – Pranayama thathuvam. **(5 hours)**

9. Mental sheath Siddhars concept of Nadi – Definitions – Characteristics of Nadi (Nadi Nadai) – Nadi ratio – Ten important sites of Nadi – Guru Nadi – Bootha Nadi – Vatha, pitha, Kapha nadi & conjoined nadi (Thondha Nadi) **(2 hours)**
10. Fourteen Natural Urges (Vehangal) Vatham (flatus air) – Thummal (sneezing) – Neer (micturition) – Malam (Defecation) – Kottavi (Yawning) – Pasi (appetite) – Neervetkai (Thirst) – Kasam (cough) – Illaippu (exhaustion) – Nithirai (sleep) – Vanthi (Vomiting) – Kanner (Tears) – Sukilam (semen) – Suvasam (Breathing). **(2 hours)**
11. Longevity of life – According to Siddha principles – Concentration of six Psychophysical centres (Aatharas) – Stimulation of Adharas by meditation & Yoga. **(2 hours)**
12. Intellectual sheath:- (Vingnana maya kosam) Four intellectual faculties (Anthakaranam) – Good & Bad Acts (Iruvinai) – Mukkunam (Satwa, Rajas & Thamas) – Aatharam (six station of soul) – Avathai (Six stages of consciousness) – Dhasa Nadi (Idakalai, Pinkalai, Suzhumunai, Sikuvai, Purudan, Kanthari, Atthi, Alampudai, Sankini & Gugu) **(2 hours)**
13. Blissful sheath (Anantha maya kosam) Self realization (Arivu) – achievement (Siddham) and its details **(2 hours)**
14. Envagai Thervu: Naa- Niram – Mozhi – Vizhi – Malam – Moothiram- Naadi – Sparisam- Physiological Aspect. **(3 hours)**

PRACTICAL

Total Hours : 50

Part-A

Major: **(30 hours)**

1. Examination of Naadi
2. Examination of Udal kattugal
3. Examination of Envagai Thervu
4. Examination of Udal iyal

Part-B

Minor: **(15 hours)**

1. Suvaigal
2. Panchabootha pancheekaram

Part- C:

Spotters: **(5 hours)**

1. Suvaigal
2. Unavu Poruttkal

Distribution of Marks (Mark Weightage) for University Theory

Examination

Chapter – 1	10 Marks
Chapter – 2	5 Marks
Chapter – 3	10 Marks
Chapter – 4	10 Marks
Chapter – 5	10 Marks
Chapter – 6 & 7	10 Marks
Chapter – 8	10 Marks
Chapter – 9	10 Marks
Chapter – 10	10 Marks
Chapter – 11, 12 & 13	5 Marks
Chapter – 14	10 Marks
Total	100 Marks

Distribution of Marks for University Practical Examination

Practical	70 Marks
Viva Voce	20 Marks
Record	10 Marks
Total	100 Marks

UDAL THATHUVAM (PHYSIOLOGY) PAPER II

Total Hours : 100

I. General Physiology (4 hours)

1. Cell - organelles - Transport across cell membrane - Trans membrane electrical potential.
2. Homeostasis - Positive and negative feedback - Acid base balance.

II. Blood and Body fluids (20 hours)

1. Body fluids - ECF & ICF, plasma proteins - classification and functions.
2. Erythrocytes - Erythropoiesis - functions - destruction. Haemoglobin and 'Fe' metabolism, Anaemia, ESR, PCV, Blood indices.
3. Leucocytes - Classification, functions, formation, fate, plasma cells, Immunity
4. Thrombocytes - Hemostasis, Coagulation of Blood.
5. Blood groups, Blood transfusion - compatability.
6. Reticulo endothelial system, spleen, lymphatic system & lymph, tissue fluid & odema.
7. Applied physiology

III. Muscle Physiology (5 hours)

1. Functional anatomy of muscle, Classification, structure, Excitation, contraction and relaxation of smooth, skeletal and cardiac Muscles, Neuro muscular junction.
2. Applied physiology

IV. Renal physiology and Excretion. (10 hours)

1. Functional anatomy of kidney, Nephron, Renal circulation, juxta glomerular apparatus.
2. Urine formation, Glomerular filtration, Reabsorption of filtrate, Renal threshold, Urine concentrating mechanism, Role of kidney in Acid base balance. Filling of bladder and micturation, Action of parathormone & vasopressin. Renal Function Tests.
3. Skin - structure, functions, glands, Regulation on body temperature.
4. Applied physiology

V. Endocrinology (10 hours)

1. Introduction to endocrine physiology, control of secretion, feed back regulation.
2. Hormones secreted, Biosynthesis, functions and regulation of secretion of the following endocrine glands – Hypothalamus, pituitary, Thyroid, Parathyroid, Pancreas, Adrenal cortex and medulla, Local Hormones.
3. Applied physiology

VI. Reproductive systems (6 hours)

1. Sexual differentiation of foetus in uterus, Male sex organs, spermatogenesis, semen, Male sexual act, Male sex hormones, actions & control.
2. Female sex organs, Oogenesis, Menstrual cycle, role female sex hormones, Menopause.
3. Fertilization, Fetoplacental unit, Pregnancy, parturition, Mammary glands & lactation.

4. Applied physiology

VII. Digestive system (10 hours)

1. Functional anatomy of alimentary tract.
2. Mastication, salivary glands, composition & function of saliva, control of salivation, deglutition.
3. Secretion, composition, functions, control of secretion of Stomach, pancreas, Liver, small intestine.
4. Gall bladder, enterohepatic circulation, Motility of GIT, Digestion & absorption of carbohydrates, proteins, Lipids, Defecation.
5. Applied physiology

VIII. Cardio vascular system (10 hours)

1. Introduction – properties of cardiac muscle, conducting tissue of the heart, pacemaker, ionic basis of Action potential.
2. Cardiac cycle – phases & events, heart sounds, Murmur, ECG, Cardiac output and venous return, cardiac function curves, Regulation of cardiac function, Hemodynamics.
3. Arterial Blood pressure & its Regulation, Arterial pulse and venous pulse.
4. Foetal circulation and respiration, shock, cardio vascular adjustments during Exercise.
5. Applied physiology

IX. Respiratory and Environmental Physiology (10 hours)

1. Functional Anatomy of Respiratory tract, Mechanism of Respiration, Ventilation, Surfactant, Compliance, Spirometric volumes and capacities.
2. Exchange of Respiratory gases, Transport of O₂ and CO₂ in blood and tissue fluid.
3. Physiological effects of ascent to high altitudes, Acclimatization, Deep sea physiology. Effects of Exercise on Respiration.
4. Applied physiology

X. Nervous system (10 hours)

1. Functional anatomy of brain and spinal cord, Synapse, Neuroglial cells, degeneration and regeneration of Nerve fibers, Sensory receptors – classification, Threshold stimulus, Grouping of sensory fibres.
2. Reflex activity – Spinal reflexes, reciprocal inhibition, Muscle tone, Motor units.
3. Pathway and Function of Spinal Cord, Ascending & Descending tracts of spinal cord, upper motor neurons, control of muscle tone and voluntary movements, Physiology of Pain.
4. Nuclei, parts, connections and functions of Thalamus, Hypothalamus, basal ganglia, brain stem, limbic system, proprioceptor & vestibular apparatus.
5. Cerebral cortex – layers, connections, Functions of Cerebellum – morphology – nuclei, connections, functions.
6. Higher intellectual functions.
7. Reticular formation – physiology of sleep and arousal, EEG.
8. CSF – formation, circulation and functions.

9. ANS
10. Applied Physiology

XI. Special senses. (5 hours)

1. Functional anatomy of sense organ,
2. Eye – visual process – field of vision – visual path way – pupillary reflex- colour vision – Errors of Refraction.
3. Ear – Auditory Pathway. Mechanism of Hearing – Auditory Defects
4. Sensation of taste
5. Sensation of smell.
6. Applied physiology

PRACTICAL

Total Hours : 50

Part-A

Major: (25 hours)

1. Estimation of Haemoglobin
2. Determination of ESR
3. Determination of PCV & Absolute values
4. Total WBC Count
5. Total RBC Count
6. Differential count of WBC

Part-B

Minor: (22 hours)

1. Determination of bleeding time
2. Determination of clotting time
3. Blood grouping and Rh typing
4. Measurement of Body Temperature
5. Measurement of Blood Pressure
6. Examination of Deep Tendon Reflex (Specify)
7. Examination of Superficial Reflex(Specify)
8. Examination of Cranial Nerves(Specify)
9. Examination of Cardio vascular System(Specify)
10. Examination of Respiratory System(Specify)
11. Examination of Digestive System(Specify)

Part- C:

Spotters: (3 hours)

1. Parts of microscope
2. Apparatus
3. Identification of different type of WBC
4. ECG pattern

Reference Books :-

1. Samson and Wright applied Physiology
2. Hewer's Histology
3. Schafer's Histology
4. Guyton Physiology
5. Ganong Physiology
6. Essentials of Medical Physiology - Dr. K.S.Sembulingam
7. Text book of Physiology- Dr.Saratha Subramaniam

Distribution of Marks (Mark Weightage) for University Theory

Examination

Chapter – I	5 Marks
Chapter – II	15 Marks
Chapter – III	5 Marks
Chapter – IV	10 Marks
Chapter – V	10 Marks
Chapter – VI	10 Marks
Chapter – VII	10 Marks
Chapter – VIII	10 Marks
Chapter – IX	10 Marks
Chapter – X	10 Marks
Chapter – XI	5 Marks
Total	100 Marks

Distribution of Marks for University Practical Examination

Practical	70 Marks
Viva Voce	20 Marks
Record	10 Marks
Total	100 Marks

GUNAPADAM-PAPER I (MOOLIGAI) (MATERIAMEDICA - PLANT KINGDOM)

Total Hours : 200

1) Introduction : (3 hours)

- Properties of drug
- Taste, character, potency, post absorptive tastes (Vibagam)
- Specific action (prabhagam)

2) Study about therapeutic actions with few examples. (3 hours)

3) Detailed study about the following herbs including their Synonyms, Botanical names, various names in regional languages, origin, identification, availability, parts used, description about their properties, therapeutic actions, indications, doses, home remedies and specific formulae related to particular herbs. (174 hours)

Sl. No.	<u>Tamil Name</u>	<u>Botanical Name</u>
1	Agatti	- Sesbania grandiflora
2	Agil	- Aquilaria agallacha roxb
3	Akkarakaaram	- Anacylus pyrethrum DC
4	Asogu	- Saraca asoca
5	Athimathuram	- Glycyrrhiza glabra
6	Athividayam	- Aconitum heterophyllum
7	Atti	- Ficus recemosa
8	Aakasathamara	- Pistia stratiotes
9	Anthimalli	- Mirabilis jalapa
10	Abini -Kasa Kasa	- Papaver somniferum
11	Amukkurakkizhangu	- Withania somnifera
12	Ammaan pachcharisi	- Euphorbia pilulifera
13	Ammaiyar koondhal	- Curcuma reflexa
14	Arasu	- Ficus religiosa
15	Arathai	- Alpinia galanga
16	Ari-val mookku patchilai	- Sida acuta
17	Arunelli	- Phyllanthus acidus
18	Alari	- Nerium odorum
19	Alli	- Nymphaea nouchali
20	Avarai	- Lablab purpureus
21	Avuri	- Indigofera tinctoria
22	Azhavanam	- Lawsonia inermis
23	Azhinjil	- Alangium salvifolium
24	Arugu	- Cynodon dactylon
25	Annasipoo	- Illicium verum
26	Aakaasagarudan	- Corallocarpus epigaeus
27	Aadathodai	- Justicia adhatoda
28	Aadutheendapalai	- Aristolochia bracteolata
29	Aadaiyotti	- Pupalia orbiculata
30	Aathandam	- Capparis zeylanica
31	Aamanakku	- Ricinus communis
32	Chitraamanakku	-

Sl. No.	<u>Tamil Name</u>	<u>Botanical Name</u>
33	Peraamanakku	- Ricinus inermis
34	Chevvaamanakku	- Ricinus tanarius
35	Aayil	- Chukrasia tabularis
36	Aalamaram	- Ficus benghalensis
37	Aavarai	- Cassia auriculata
38	Aalivirai	- Lepidium sativum
39	Aattruthumatti	- Citrullus colocynthis
40	Iruvi	- Dryopteris felixmas
41	Isangu	- Clerodendrum inerme
42	Isappukol vidhai	- Plantago ovata
43	Inji	- Zingiber officinale
44	Indu	- Mimosa rubicaulis
45	Iththi	- Ficus microcarpa
46	Impooral	- Oldenlandia umbellata
47	Ireval chinni	- Rheum emodi
48	Ilanda maram	- Ziziphus mauritania
49	Lavangam	- Syzygium aromaticum
50	Lavangappattai	- Cinnamomum verum
51	Ilavamaram	- Bombax ceiba
52	Mul ilavu	- Bombax malabaricum
53	Iluppai	- Madhuca longifolia
54	Ilaikkalli	- Euphorbia ligularia
55	Eechu (Sitrechu)	- Phoenix sylvestris
56	Paereechu	- Phonex dactilifera
57	Echchura mooli	- Aristolochia indica
58	Usilamaram	- Albizia odoratissima
59	Uttamani	- Pergularia daemia
60	Uppilangodi	- Mimosa paniculata
61	Rudra jada	- Ocimum basilicum
62	Rudraksham	- Elacocarpus sphacsis
63	Urulai kizhangu	- Solanum tuberosum
64	Uzhundu	- Vigna mungo
65	OOmaththai	- Datura metal
66	Karu oomaththai	-
67	Aetti	- Strychnos nux-vomica
68	Aerukku	- Calotropis gigantea
69	Aelikkadilai	- Merremia emarginata
70	Aeliyamanakku	- Jatropha curcas
71	Aelumichai	- Citrus lemon
72	Aellu	- Sesamsum indicum
73	Aelam	- Elettaria cardamomum
74	Chitraelam	- Elettaria regains
75	Kattu – aelakkai	- Amomum subulatum
76	Malayelam	-

Sl. No.	<u>Tamil Name</u>	<u>Botanical Name</u>
77	Iyviral	- Diplocyclos palmatus
78	Odimaram	- Lannea coromandelica
79	Omam	- Carum copticum
80	Kurosani omam	- Hyoscyamus niger
81	Oritazhtamarai	- Ionidium suffrutiocosum
82	Orilai tamarai	- Nervilia aragoana
83	Kanja	- Cannabis sativa
84	Kadambu	- Anthocephalus cadamba
85	Kadalazhinjil	- Salacia reticulata
86	Kadalai	- Cicer arietinum
87	Kadarpasi	- Gracilaria lichenoides
88	Chengadugu	- Brassica juncea
89	Vengadugu	- Brassica alba
90	Kadugu rokani	- Picrorhiza scrophulariflora
91	Kadukkai	- Terminalia chebula
92	Kattukodi	- Cocculus hirsutus
93	Kanap-pundu	- Exacum pedunculatum
94	Kandangkattari	- Solanum surattense
95	Kandupaarangi	- Clerodendron serratum
96	Kathakambu	- Uncaria gambir
97	Kasthuri manjal	- Curcuma aromatica
98	Kamuku -Kalippakku	- Areca catechu
99	Kambu	- Pennisetum typoideum
100	Kottaikaranthai	- Spaeranthus indicus
101	Kaththari	- Solanum melongena
102	Karisalankanni	- Eclipta prostrata
103	Karungali	- Acacia catechu
104	Karunai thandu	- Amarphophallus paeonic folius
105	Karpooravalli	- Aniso chilus carnosus
106	Karumbu	- Saccharum officinarum
107	Karkadaga singhi	- Rhus succedanea
108	Kalappai kizhangu	- Glorius superba
109	Kaliyana pushnikai	- Benincasa hispida
110	Kaliyana murukku	- Erythrina variegata
111	Kazharchi kodi	- Caesalpinia bonduc
112	Kala	- Carissa carandar
113	Kalli	- Euphorbia ligularia
114	Kodikalli	- Sarcosemma brevistigma
115	Sadhurakalli	- Euphorpia antiquorum
116	Kalli-mulayan	- Stapelia virgata
117	Kari-vembu	- Murraya koenigi
118	Karpasi	- Parmelia perlata
119	Katrashai	- Aloe barbadensis
120	Kariabolam	- Aloe littoralis

Sl. No.	<u>Tamil Name</u>	<u>Botanical Name</u>
121	Kaakkanam	- Clitoria ternatea
122	Kaakkai kolli	- Anamirta cocculus
123	Kaanchori	- Tragiainvolucrata
124	Kaattatti	- Bauhinia tomentosa
125	Kaattaamanakku	- Jatropha curcas
126	Kaappikottai	- Coffea arabica
127	Kaarai	- Catunaregum spinora
128	Kaarpokarisi	- Psoralea corylifolia
129	Kaalaan	- Agaricus campestris
130	Kitchilikizhangu	- Curcuma zeodaria
131	Kitchilipazham	- Citrus aurantium
132	Kiranthithakaram	- Tabernaemontana divaricata
133	Kiliyural	-
134	Kilukiluppai	- Crotalaria retusa
135	Keerippundu	- Ophiorrhiza mungos
136	Keeraikal	- Greens
137	Puthina	- Mentha arvensis
138	Puliyarai	- Oxalis corniculata
139	Manali keera	- Gisekia pharnaceoides
140	Keeraithandu	- Amaranthus gangeticus
141	Keezhkaai nelli	- Phylanthus amarus
142	Kungilam	- Shorea robusta
143	Kungumappoo	- Crocus sativus
144	Kudasappaalai	- Holarrhena pubescens
145	Kudiyottipoondu	- Argemone mexicana
146	Kunthrikkam	- Boswellia serrata
147	Kuppeimeni	- Acalypha indica
148	Kuruver	- Vetiveria zizanioides
149	Kurattai	- Trichosanthes tricuspidata
150	Kurinjan	- Gymnema sylvestre
151	Kuntri	- Abrus precatorius
152	Kaezhvaragu	- Eleusine coracana
153	Kodiveli	- Glycosmis arborea
154	Chenkodiveli	- Plumbago rosea
155	Kottikizhangu	- Aponogeton monostachyon
156	Koththumalli	- Coriandrum sativum
157	Kollu	- Macrotyloma uniflorum
158	Kollukkaivelai	- Tephrosia purpurea
159	Korukkaip-puli	- Pithecellobium dulce
160	Konrai-Sarak-Konrai	- Cassia fistula
161	Sirukonrai	- Cassia arborescens
162	Senkonrai	- Cassia margiuata
163	Kottam	- Costus speciosus
164	Gothumai	- Triticum aestivum

Sl. No.	<u>Tamil Name</u>	<u>Botanical Name</u>
165	Korai	- Cyperus rotandus
166	Kovai	- Coccinia grandis
167	Gowrivalpul	-
168	Sadamaanji	- Nardostachys grandiflora
169	Shenbagam	- Michelia champaca
170	Chathakuppai	- Anethum graveolens
171	Chaarana	- Trianthema decandra
172	Chandanam	- Santalum album
173	Naattu jadhikai	- Myristica fragrans
174	Chaathipaththiri	- Myristica fragrans
175	Saamai	- Panicum sumatrense
176	Shaambrani	- Styrax benzoin
177	Salaamisri	- Orchis latifolia
178	Sivathai	- Operculina turpethum
179	Shivanar vembu	- Indigofera aspalathoides
180	Chirunaagapoo	- Mesua nagassarium
181	Chirupeyathi	- Ficus hispida
182	Chitramutti	- Pavonia zeylanica
183	Peramutti	- Pavonia odorata
184	Chinni	- Acalypha fruticosa
185	Cheekai	- Acacia sinuata
186	Seendhil	- Tinospora cordifolia
187	Porseendhil	-
188	Seemai athi	- Ficus carica
189	Cheerakam	- Cuminum cyminum
190	Karuncheerakam	- Nigella sativa
191	Peruncheerakam	- Pimpinella anisum
192	Kaattu cheerakam	- Vernonia antihelmintica
193	Chukku	- Zingiber officinale
194	Chundai	- Solanum torvum
195	Churai	- Lagenaria siceraria
196	Chemparuthi	- Hibiscus rosa-sinensis
197	Chemparathai	- Gossypium arboreum
198	Chembai	- Sesbania sesban
199	Cheruppadi	- Mollugo lotoides
200	Cheviyam	- Piper nigrum
201	Sembu	- Colocasia esculenta
202	Cherankottai	- Semecarpus anacardium
203	Cholam	- Sorghum vulgare
204	Thakarai (Usithakarai)	- Cassia tora
205	Thakkali	- Physalis minima
206	Manathathakkali	- Solanum nigrum
207	Thannirvittan kizhangu	- Asparagus racemosus
208	Tharuppai	- Desmostachya bipinnata

Sl. No.	<u>Tamil Name</u>	<u>Botanical Name</u>
209	Thavasururungai	- Rungia parviflora
210	Thazhuthazhai	- Clerodendrum phlomoidis
211	Thaamarai	- Nelumbo nucifera
212	Thaazhai	- Pandanus odoratissimus
213	Thaalisa-paththiri	- Abies spectabilis
214	Thaantri	- Terminalia bellirica
215	Thippili	- Piper longum
216	Thippiliver	- Piper longum
217	Thirakshai	- Vitis vinifera
218	Thinai	- Setaria italica
219	Thutthi	- Abutilon indicum
220	Thuvarai	- Cajanus cajan
221	Thumbai	- Leucas aspera
222	Thulasi	- Ocimum sanctum
223	Thuthuvilai	- Solanum trilobatum
224	Thengumaram	- Cocos nucifera
225	Thelkodu	- Heliotropium indicum
226	Devadaru	- Cedrus deodara
227	Thettran	- Strychnos potatorum
228	Thottar Chinungi	- Mimosa pudica
229	Nancharuppan	- Tylophora indica
230	Naththaichuri	- Spermacoce hispida
231	Naralai	- Cayratia pedata
232	Nanthiavattam	- Tabernaemontana divaricata
233	Nannaari	- Hemidesmus indicus
234	Naagamalli	- Rhinacanthus nasuta
235	Naabi	- Aconitum napellus
236	Naayuruvi	- Achyranthes aspera
237	Naaval	- Syzygium cumini
238	Nilavembu	- Andrographis paniculata
239	Nila vaarai	- Cassia senna
240	Neeradimuthu	- Hydnocarpus laurifolia
241	Neermulli	- Hygrophila auriculata
242	Nuna	- Mosinda tinctoria
243	Neichatti	- Vernonia cinerea
244	Nerunjil	- Tribulus terrestris
245	Nel	- Oryza sativa
246	Nelli	- Phyllanthus emblica
247	Naervalam	- Croton tiglium
248	Notchi	- Vitex negundo
249	Payaru	- Vigna mungo
250	Pachillai	- Garcinia xanthochymus
251	Pappali	- Casia papaya
252	Pala	- Artocarpus heterophyllus

Sl. No.	<u>Tamil Name</u>	<u>Botanical Name</u>
253	Palasu	- Butea monosperma
254	Parangippattai	- Smilax china
255	Parppadaakam	- Hedyotis coryambose
256	Panai	- Horastrus flbellifer
257	Badampisin	-
258	Pathiri	- Stereospermum colais
259	Barelee	- Hordeum vulgara
260	Vetpaalai	- Wrightia tinctoria
261	Pirappan kizhangu	- Calanus rotang
262	Peetharoghani	- Coptis teeta
263	Peenarimaram	- Sterculia foetida
264	Paavattai	- Pavetta indica
265	Pidangunari	- Premma tomentosa
266	Pirandai	- Cissus quadrangularis
267	Chirupeelai	- Aerva lanata
268	Pugaiyilai	- Nicotiana tobacum
269	Pungu	- Pongamia pinnata
270	Pulluruvi	- Dendrophthoe falcata
271	Puli	- Tamarindus indicus
272	Pulladi	- Desmodium gangeticum
273	Puvarasu	- Thespesia populnea
274	Poonaikali	- Mucuna pruriens
275	Perungayam	- Ferula asafetida
276	Poduthalai	- Phyta nodiflora
277	Ponnanganni	- Alternanthera sessilis
278	Magizh	- Mimusops elengi
279	Mangusthan	- Garcinia mangostana
280	Manjal	- Curcuma longa
281	Mara manjal	- Coscinium fenestratum
282	Manjitti	- Rubia cordifolia
283	Madhanakamappu	- Cycus circinalis
284	Mantharai (red)	- Bauhinia purpurea
285	Malli	- Jasminum grandiflorum
286	Marakkarai	- Catunaregum spinosa
287	Maruthu	- Terminalia arjuna
288	Maa	- Mangifera indica
289	Masikkai	- Quercus infectoria
290	Masipathiri	- Artemisia nilagisica
291	Mathulai	- Punica granatum
292	Milagu	- Piper nigrum
293	Vaal milagu	- Piper cubeba
294	Milakaranai	- Todalial asiatica
295	Musumusukkai	- Mukia madraspatana
296	Mudakkatran	- Cardiospermum helicacabum

Sl. No.	<u>Tamil Name</u>	<u>Botanical Name</u>
297	Murungai	- Moringa oleifera
298	Mulaam	- Citrullus vulgaris
299	Munnai	- Premna corymbosa
300	Mukkirattai	- Boerhavia diffusa
301	Mungkil	- Bambusa arundinacea
302	Vasambu	- Acorus calamus
303	Vandukolli	- Cassia alata
304	Varagu	- Paspalum scrobiculatum
305	Valampurikkai	- Helicteres isora
306	Vallarai	- Centella asiatica
307	Vallaikodi	- Convolvulus repens
308	Vaadhanarayan	- Delonix elata
309	Vaaividangum	- Embelia ribes
310	Vaaluzhuvai	- Celestrus paniculatus
311	Vaazhai	- Musa paradisiaca
312	Vidathari	- Dichrostachys cinerea
313	Viraali	- Dodonaea viscosa
314	Vilvam	- Aegle marmelos
315	Vilamichamver	- Plectranthus vettiveroides
316	Vizhuthi	- Cadaba trifoliata
317	Vilaamaram	- Limonia acidissima
318	Vishamungkil	- Crinum asiaticum
319	Vishnukiranthi	- Evolvulus alsinoides
320	Vengayam	- Allium cepa
321	Vetchi	- Ixora coccia
322	Vendakai	- Abelmoschus esculantus
323	Vendhayam	- Trigonella foenum
324	Vellarikai	- Cucumis sativus
325	Vellarugu	- Enicostemma axillare
326	Vellilothram	- Symplocos racemosa
327	Vellulli	- Allium sativum
328	Vetrilai	- Piper betle
329	Vembu	- Azadirachta indica
330	Verkadalai	- Arachis hypogea
331	Vel	- Acacia nilotica
332	Velvel	- Acacia leucophloea
333	Kudaivel	- Acacia latronum
334	Peekkaruvel	- Acacia farnesiana
335	Velai	- Cleome viscosa
336	Thaivelai	- Gynandropsis gynandra

The following plants which are comparatively less important and can be studied by the students themselves with guidance of the teacher. **(20 hours)**

Sl. No.	<u>Tamil Name</u>	<u>Botanical Name</u>
1	Akrottu	- Juglans regia lin.
2	Alisi virai	- Linum usitatissimum
3	Arukeerai	- Amarantus tristis
4	Annasipazham	- Ananas comosus
5	Aaraikirai	- Marsilea quadrifolia
6	Alapagoda pazham	- Prunus domestica
7	Aal-vallikizhangu	- Manihot esculenta
8	Aattrunetti	- Neptunia oleracea
9	Aanai-katrzhai	- Agave americana
10	Aanai kunri	- Adenanthera pavonina
11	Aanaippuliamaram	- Adansonia digitata
12	Rattai – peimarutti	- Anisomeles malabarica
13	Rathabolam	- Aloe barbadensis
14	Ezhathalari	- Plumeria rubra
15	Uka	- Salvadora persica
16	Uzhalathi	-
17	Usilam	-
18	Aerisalai	-
19	Aelumichan thulasi	- Ocimum gratissimum
20	Aezhilapalai	- Alstonia scholaris
21	Odukan	- Cleistanthus collinus
22	Kakkarikai	- Cucumis sativus
23	Kasa-kasa	- Papaver somniferum
24	Kadarpaalai	- Argyreia nervosa
25	Kadar thengai	- Lodoicea maldivica
26	Kadara naaraththai	- Citrus medica
27	Kalumichchamkai	-
28	Kavizh thumbai	- Trichodesma indicum
29	Kazhu-neer	- Nymphaea alba
30	Kalarva	- Salvadora persica
31	Chirukalarva	- Salvadora persica
32	Karkovai	- Melothria heterophylla
33	Kartaamarai	- Smilax zeylanica
34	Kaasa	- Memecylon umbellatum
35	Kaasi rathnam	- Quamoclit pennata
36	Kaattu aelumichchai	- Atalantia malabarica
37	Kaattu aellu	- Sesamum prostratum
38	Kaattu kadugu	- Cleome viscosa
39	Kaattu karuvappattai	- Cinnamomum iners
40	Kaattu thumbai	-
41	Kaattu paagal	- Momordica dioica

Sl. No.	<u>Tamil Name</u>	<u>Botanical Name</u>
42	Kaattu peipudal	- Trichosanthes lobata
43	Kaattu mullangi	- Blumea lacera
44	Kaattu Vengayam	- Urginea indica
45	Kai-vallikkodi	- Dioscorea alata
46	Kaaramani	- Vigna unguiculata
47	Kaavatambul	- Cymbopogon martinic
48	Kiranthinayagam	-
49	Kumizhamaram	- Gmelina arborea
50	Kurukkaththi	- Hiptage benghalensis
51	Kuruvich-chi	- Ehretia microphylla
52	Kuthan Kuthambai	- Cantana indica
53	Kuntharpanai	- Caryota urens
54	Kuvaikkizhangu	- Maranta arundinacea
55	Koththavarai	- Cyamopsis tetragonoloba
56	Kodaga salai	- Rungia repens
57	Gopuram thangi	- Andrographis echiodes
58	Chanappu	- Crotalaria juncea
59	Sanninayagam	-
60	Chavukkumaram	- Casuarina equisetifolia
61	Samanthipoo	- Chrysanthemum coronarium
62	Chayamaram	- Caesalpinia sappan
63	Chavvarisimaram	-
64	Chaaraiparuppu	- Buchanania lanzan
65	Chinnikizhangu	-
66	Chukkankai	-
67	Chukkan kirai	- Rumex vesicarius
68	Chulukku nayagam	-
69	Suriyakanthi	- Helianthus annus
70	Cheppu – nerunjil	- Indigofera enneaphylla
71	Chevaganar kizhangu	- Gloriosa superba
72	Peyavarai	- Cassia occidentalis
73	Thakkolam	-
74	Tamaraththam	- Avarrhoa carambola
75	Thara	- Fumaria parviflora
76	Thalippanai	- Corypha umbraculifera
77	Thillai	- Excoecaria agallocha
78	Thumbilkkai	- Diospyros peregrina
79	Thurinjibeen	- Alhagi maurorum
80	Thekku	- Tectona grandis
81	Naruvili	- Cordia dichotoma
82	Naaganam	-
83	Naagathali	- Opuntia dillenii
84	Naanal	- Saccharum spontaneum
85	Nilakkadambu	- Asarum europaeum

Sl. No.	<u>Tamil Name</u>	<u>Botanical Name</u>
86	Nilakumizh	- Gmelina asiatica
87	Nilappanai	- Curculigo orchioides
88	Nilavaamanakku	-
89	Nintral chinungi	-
90	Neeralari	- Polygorum barbatum
91	Neerbrahmi	- Bacopa monnieri
92	Neerpula	- Phyllanthus reticulatus
93	Neermel neruppu	- Ammania baccifera
94	Nettilingam	- Polyalthia longifolia
95	Neithar kizhangu	- Nymphaea pubescens
96	Pannimonthan kizhangu	- Trapa natans
97	Paruththi	- Gossypium herbaceum
98	Motchai	- Lablab purpureus
99	Chemparuththi	- Gossypium arboreum
100	Parangikkai	- Cucurbita maxima
101	Panneerpoo	- Rosa centifolia
102	Paakal	- Momorchica charantia
103	Paalai	- Manikara hexandra
104	Piramiya vazhukkai	- Bacopa monnieri
105	Pirai	- Streblus asper
106	Pilimbi	- Averrhoa bilimbi
107	Pilavai kolli	-
108	Pudal	- Trichosanthes cucumescina
109	Punnai	- Calophyllum inophyllum
110	Ponmusuttai	- Sida acuta
111	Manippungu	- Sapindus lausifolia
112	Musarkaathilai	- Ipomea pes-caprae
113	Maavilangu	- Crateva magna
114	Munthiri	- Anacardium occidentale
115	Mullangi	- Raphanus sativus
116	Modagavalli	- Sterculia foetida
117	Valli	- Dioscorea esculenta
118	Chevalli	- Dioscorea purpurea
119	Vaagai	- Albizia lebeck
120	Karuvaagai	- Albizia odoratissima
121	Vaadhumai	- Prunus dulcis
122	Vizhalarisi	- Seed of red grass
123	Peru-lavangappattai	- Cinnamomum macrocarpum
124	Peyatti	- Ficus hispida
125	Vengai	- Pterocarpus marsupium
126	Aruvada	- Ruta chalepensis
127	Ezhuttani poondu	- Launaea pinnatifida
128	Karimulli	- Solanum anguini
129	Kaanaam vaazhai	- Commelina benghalensis

Sl. No.	<u>Tamil Name</u>	<u>Botanical Name</u>
130	Seeththa	- Anona squamosa
131	Pallipundu	- striga lutea
132	Valendrabolam	- Commiphora myrrh

Mooligai - Practicals.

Total Hours : 100

1. Manappagu	(8 hours)
2. Kudineer	(8 hours)
3. Chooranam	(8 hours)
4. Vadagam	(8 hours)
5. Nei	(8 hours)
6. Rasaayanam	(8 hours)
7. Ilagam	(8 hours)
8. Maathirai	(8 hours)
9. Vennai	(8 hours)
10. Parpam	(8 hours)
11. Thailam	(8 hours)
12. Pasai	(8 hours)
13. Theeneer	(4 hours)

Reference Books

- 1) Gunapadam – Mooligai Vaguppu – by Dr. Murugesamudaliar
- 2) Materia Medica – Vol I & II – by Dr. Natkarani.
- 3) Mooligai Iyal – By – Dr.V.Arunachalam M.D.Siddha.

Distribution of Marks (Marks weightage) for University Theory Examination

Note: Serial No. of the plants as per CCIM syllabus.

I. 60 marks from the following plants – Important plants / Syllabus New Scheme 2013

1. Agatti	-	Sesbania grandiflora
2. Agil	-	Aquilaria agallacha roxb
3. Akkarakaaram	-	Anacylus pyrethrum DC
4. Asogu	-	Saraca asoca
5. Athimathuram	-	Glycyrrhiza glabra
6. Athividayam	-	Aconitum heterophyllum
10. Abini -Kasa Kasa	-	Papaver somniferum
11. Amukkurakkizhangu	-	Withania somnifera
14. Arasu	-	Ficus religiosa
15. Arathai	-	Alpinia galanga
18. Alari	-	Nerium odorum
20. Avarai	-	Lablab purpureus
21. Avuri	-	Indigofera tinctoria
22. Azhavanam	-	Lawsonia inermis

24. Arugu	-	<i>Cynodon dactylon</i>
27. Aadathodai	-	<i>Justicia adatoda</i>
31. Aamanakku	-	<i>Ricinus communis</i>
32. Chitraamanakku	-	
36. Aalamaram	-	<i>Ficus benghalensis</i>
37. Aavarai	-	<i>Cassia auriculata</i>
40. Iruvi	-	<i>Dryopteris felixmas</i>
43. Inji	-	<i>Zingiber officinale</i>
46. Impooral	-	<i>Oldenlandia umbellata</i>
49. Lavangam	-	<i>Syzygium aromaticum</i>
50. Lavangappattai	-	<i>Cinnamomum verum</i>
53. Iluppai	-	<i>Madhuca longifolia</i>
56. Paereechu	-	<i>Phonex dactilifera</i>
57. Echchura mooli	-	<i>Aristolochia indica</i>
59. Uttamani	-	<i>Pergularia daemia</i>
62. Rudraksham	-	<i>Elacocarpus sphacsis</i>
64. Uzhundu	-	<i>Vigna mungo</i>
65. Oomaththai	-	<i>Datura metal</i>
67. Aetti	-	<i>Strychnos nux-vomica</i>
68. Aerukku	-	<i>Calotropis gigantea</i>
71. Aelumichai	-	<i>Citrus lemon</i>
72. Aellu	-	<i>Sesamum indicum</i>
73. Aelam	-	<i>Elettaria cardamomum</i>
79. Omam	-	<i>Carum copticum</i>
83. Kanja	-	<i>Cannabis sativa</i>
86. Kadalai	-	<i>Cicer arietinum</i>
88. Chengadugu	-	<i>Brassica juncea</i>
89. Vengadugu	-	<i>Brassica alba</i>
91. Kadukkai	-	<i>Terminalia chebula</i>
94. Kandangkattari	-	<i>Solanum surattense</i>
97. Kasthuri manjal	-	<i>Curcuma aromatica</i>
102. Karisalankanni	-	<i>Eclipta prostrata</i>
103. Karungali	-	<i>Acacia catechu</i>
104. Karunai thandu	-	<i>Amarphophallus paeonic folius</i>
105. Karpooravalli	-	<i>Aniso chilus carnosus</i>
106. Karumbu	-	<i>Saccharum officinarum</i>
107. Karkadaga singhi	-	<i>Rhus succedanea</i>
108. Kalappai kizhangu	-	<i>Glorius superba</i>
109. Kaliyana pushnikai	-	<i>Benincasa hispida</i>
111. Kazharchi kodi	-	<i>Caesalpinia bonduc</i>
114. Kodikalli	-	<i>Sarcosemma brevistigma</i>
119. Katrazhai	-	<i>Aloe barbadensis</i>
120. Kariabolam	-	<i>Aloe littoralis</i>
121. Kaakkanam	-	<i>Clitoria ternatea</i>

128. Kaarpokarisi	-	<i>Psoralea corylifolia</i>
142. Kungiliam	-	<i>Shorea robusta</i>
143. Kungumappoo	-	<i>Crocus sativus</i>
144. Kudasappaalai	-	<i>Holarrhena pubescens</i>
146. Kunthrikkam	-	<i>Boswellia serrata</i>
147. Kuppeimeni	-	<i>Acalypha indica</i>
153. Kodiveli	-	<i>Glycosmis arborea</i>
154. Chenkodiveli	-	<i>Plumbago rosea</i>
156. Koththumalli	-	<i>Coriandrum sativum</i>
160. Konrai-Sarak-Konrai	-	<i>Cassia fistula</i>
163. Kottam	-	<i>Costus speciosus</i>
168. Sadamaanji	-	<i>Nardostachys grandiflora</i>
172. Chandanam	-	<i>Santalum album</i>
176. Shaambrani	-	<i>Styrax benzoin</i>
179. Shivanar vembu	-	<i>Indigofera aspalathoides</i>
186. Seendhil	-	<i>Tinospora cordifolia</i>
189. Cheerakam	-	<i>Cuminum cyminum</i>
190. Karuncheerakam	-	<i>Nigella sativa</i>
191. Peruncheerakam	-	<i>Pimpinella anisum</i>
192. Kaattu cheerakam	-	<i>Vernonia antihelmintica</i>
193. Chukku	-	<i>Zingiber officinale</i>
202. Cherankottai	-	<i>Semecarpus anacardium</i>
207. Thannirvittan kizhangu	-	<i>Asparagus racemosus</i>
210. Thazhuthazhai	-	<i>Clerodendrum phlomoidis</i>
211. Thaamarai	-	<i>Nelumbo nucifera</i>
213. Thaalisa-paththiri	-	<i>Abies spectabilis</i>
214. Thaantri	-	<i>Terminalia bellirica</i>
215. Thippili	-	<i>Piper longum</i>
219. Thutthi	-	<i>Abutilon indicum</i>
221. Thumbai	-	<i>Leucas aspera</i>
222. Thulasi	-	<i>Ocimum sanctum</i>
223. Thuthuvelai	-	<i>Solanum trilobatum</i>
224. Thengumaram	-	<i>Cocos nucifera</i>
225. Thelkodu	-	<i>Heliotropium indicum</i>
226. Devadaru	-	<i>Cedrus deodara</i>
227. Thettran	-	<i>Strychnos potatorum</i>
228. Thottar Chinungi	-	<i>Mimosa pudica</i>
229. Nancharuppan	-	<i>Tylophora indica</i>
230. Naththaichuri	-	<i>Spermacoce hispida</i>
232. Nanthiavattam	-	<i>Tabernaemontana divaricata</i>
233. Nannaari	-	<i>Hemidesmus indicus</i>
235. Naabi	-	<i>Aconitum napellus</i>
236. Naayuruvi	-	<i>Achyranthes aspera</i>
237. Naaval	-	<i>Syzygium cumini</i>
238. Nilavembu	-	<i>Andrographis paniculata</i>

239. Nila vaarai	-	Cassia senna
240. Neeradimuthu	-	Hydnocarpus laurifolia
241. Neermulli	-	Hygrophila auriculata
242. Nuna	-	Mosinda tinctoria
244. Nerunjil	-	Tribulus terrestris
246. Nelli	-	Phyllanthus emblica
247. Naervalam	-	Croton tiglium
248. Notchi	-	Vitex negundo
251. Pappali	-	Casica papaya
253. Palasu	-	Butea monosperma
254. Parangippattai	-	Smilax china
255. Parppadaakam	-	Hedyotis coryambose
260. Vetpaalai	-	Wrightia tinctoria
266. Pirandai	-	Cissus quadrangularis
267. Chirupeelai	-	Aerva lanata
268. Pugaiyilai	-	Nicotiana tobacum
269. Pungu	-	Pongamia pinnata
273. Puvarasu	-	Thespesia populnea
274. Poonaikali	-	Mucuna pruriens
275. Perungayam	-	Ferula asafetida
276. Poduthalai	-	Phyta nodiflora
277. Ponnanganni	-	Alternanthera sessilis
280. Manjal	-	Curcuma longa
287. Maruthu	-	Terminalia arjuna
288. Maa	-	Mangifera indica
289. Masikkai	-	Quercus infectoria
290. Masipathiri	-	Artemisia nilagisica
291. Mathulai	-	Punica granatum
292. Milagu	-	Piper nigrum
295. Musumusukkai	-	Mukia madraspatana
297. Murungai	-	Moringa oleifera
300. Mukkirattai	-	Boerhavia diffusa
302. Vasambu	-	Acorus calamus
306. Vallarai	-	Centella asiatica
309. Vaaividangum	-	Embelia ribes
310. Vaaluzhuvai	-	Celestrus paniculatus
311. Vaazhai	-	Musa paradisiaca
314. Vilvam	-	Aegle marmecoles
323. Vendhayam	-	Trigonella foenum
328. Vetrilai	-	Piper betle
329. Vembu	-	Azadirachta indica
336. Thaivelai	-	Gynandropsis gynandra

II. **30 marks** from the following plants – Important plants / Syllabus New Scheme 2013

7. Atti	-	<i>Ficus recemosa</i>
8. Aakasathamara	-	<i>Pistia stratiotes</i>
9. Anthimalli	-	<i>Mirabilis jalapa</i>
12. Ammaan pachcharisi	-	<i>Euphorbia pilulifera</i>
13. Ammaiyaar koondhal	-	<i>Curcuma reflexa</i>
16. Ari-val mookku patchilai	-	<i>Sida acuta</i>
17. Arunelli	-	<i>Phyllanthus acidus</i>
19. Alli	-	<i>Nymphaea nouchali</i>
23. Azhinjil	-	<i>Alangium salvifolium</i>
25. Annasipoo	-	<i>Illicium verum</i>
26. Aakaasagarudan	-	<i>Corallocarpus epigaeus</i>
28. Aadutheendapalai	-	<i>Aristolochia bracteolata</i>
29. Aadaiyotti	-	<i>Pupalia orbiculata</i>
30. Aathandam	-	<i>Capparis zeylanica</i>
33. Peraamanakku	-	<i>Ricinus inermis</i>
34. Chevvaamanakku	-	<i>Ricinus tanarius</i>
35. Aayil	-	<i>Chukrasia tabularis</i>
38. Aalivirai	-	<i>Lepidium sativum</i>
39. Aattruthumatti	-	<i>Citrullus colocynthis</i>
41. Isangu	-	<i>Clerodendrum inerme</i>
42. Isappukol vidhai	-	<i>Plantago ovata</i>
44. Indu	-	<i>Mimosa rubicaulis</i>
45. Iththi	-	<i>Ficus microcarpa</i>
47. Ireval chinni	-	<i>Rheum emodi</i>
48. Ilanda maram	-	<i>Ziziphus mauritiana</i>
51. Ilavamaram	-	<i>Bombax ceiba</i>
52. Mul ilavu	-	<i>Bombax malabaricum</i>
54. Ilaikkalli	-	<i>Euphorbia ligularia</i>
55. Eechu (Sitrechu)	-	<i>Phoenix sylvestris</i>
58. Usilamaram	-	<i>Albizia odoratissima</i>
60. Uppilangodi	-	<i>Mimosa paniculata</i>
61. Rudra jadai	-	<i>Ocimum basilicum</i>
63. Urulai kizhangu	-	<i>Solanum tuberosum</i>
66. Karu oomaththai	-	
69. Aelikkadilai	-	<i>Merremia emarginata</i>
70. Aeliyamanakku	-	<i>Jatropha curcas</i>
74. Chitraelam	-	<i>Elettaria reginae</i>
75. Kattu – aelakkai	-	<i>Amomum subulatum</i>
76. Malayelam	-	
77. Iyvirali	-	<i>Diplocyclos palmatus</i>
78. Odimaram	-	<i>Lannea coromandelica</i>
80. Kurosani omam	-	<i>Hyoscyamus niger</i>
81. Oritazhtamarai	-	<i>Ionidium suffruticosum</i>

82. Orilai tamarai	-	Nervilia aragoana
84. Kadambu	-	Anthocephalus cadamba
85. Kadalazhinjil	-	Salacia reticulata
87. Kadarpassi	-	Gracilaria lichenoides
90. Kadugu rokani	-	Picrorhiza scrophulariflora
92. Kattukodi	-	Cocculus hirsutus
93. Kanap-pundu	-	Exacum pedunculatum
95. Kandupaarangi	-	Clerodendron serratum
96. Kathakambu	-	Uncaria gambir
98. Kamuku -Kalippakku	-	Areca catechu
99. Kambu	-	Pennisetum typoideum
100. Kottaikaranthai	-	Spaeranthus indicus
101. Kaththari	-	Solanum melongena
110. Kaliyana murukku	-	Erythrina variegata
112. Kala	-	Carissa carandar
113. Kalli	-	Euphorbia ligularia
115. Sadhurakalli	-	Euphorbia antiquorum
116. Kalli-mulayan	-	Stapelia virgata
117. Kari-vembu	-	Murraya koenigi
118. Karpasi	-	Parmelia perlata
122. Kaakkai kolli	-	Anamirta cocculus
123. Kaanchori	-	Tragiainvolucrata
124. Kaattatti	-	Bauhinia tomentosa
125. Kaattaamanakku	-	Jatropha curcas
126. Kaappikottai	-	Coffea arabica
127. Kaarai	-	Catunaregum spinora
129. Kaalaan	-	Agaricus campestris
130. Kitchilikizhangu	-	Curcuma zeodaria
131. Kitchilipazham	-	Citrus aurantium
132. Kiranthithakaram	-	Tabernaemontana divaricata
133. Kiliyural	-	
134. Kilukiluppai	-	Crotalaria retusa
135. Keerippundu	-	Ophiorrhiza mungos
136. Keeraikal	-	Greens
137. Puthina	-	Mentha arvensis
138. Puliyarai	-	Oxalis corniculata
139. Manali keerai	-	Gisekia pharnaceoides
140. Keeraithandu	-	Amaranthus gangeticus
141. Keezhkaai nelli	-	Phylanthus amarus
145. Kudiyoottipoondu	-	Argemone mexicana
148. Kuruver	-	Vetiveria zizanioides
149. Kurattai	-	Trichosanthes tricuspidata
150. Kurinjan	-	Gymnema sylvestre
151. Kuntri	-	Abrus precatorius

152. Kaezhvaragu	-	Eleusine coracana
155. Kottikizhangu	-	Aponogeton monostachyon
157. Kollu	-	Macrotyloma uniflorum
158. Kollukkaivelai	-	Tephrosia purpurea
159. Korukkaip-puli	-	Pithecellobium duke
161. Sirukonrai	-	Cassia arborescens
162. Senkonrai	-	Cassia margiata
164. Gothumai	-	Triticum aestivum
165. Korai	-	Cyperus rotundus
166. Kovai	-	Coccinia grandis
167. Gowrivalpul	-	
169. Shenbagam	-	Michelia champaca
170. Chathakuppai	-	Anethum graveolens
171. Chaaranai	-	Trianthema decandra
173. Naattu jadhikai	-	Myristica fragrans
174. Chaathipaththiri	-	Myristica fragrans
175. Saamai	-	Panicum sumatrense
177. Salaamisri	-	Orchis latifolia
178. Sivathai	-	Operculina turpethum
180. Chirunaagapoo	-	Mesua nagassarium
181. Chirupeyathi	-	Ficus hispida
182. Chitramutti	-	Pavonia zeylanica
183. Peramutti	-	Pavonia odorata
184. Chinni	-	Acalypha fruticosa
185. Cheekai	-	Acacia sinuata
187. Porseendhil	-	
188. Seemai athi	-	Ficus carica
194. Chundai	-	Solanum torvum
195. Churai	-	Lagenaria siceraria
196. Chemparuthi	-	Hibiscus rosa-sinensis
197. Chemparathai	-	Gossypium arboreum
198. Chembai	-	Sesbania sesban
199. Cheruppadi	-	Mollugo lotoides
200. Cheviyam	-	Piper nigrum
201. Sembu	-	Colocasia esculenta
203. Cholan	-	Sorghum vulgare
204. Thakarai (Usithakarai)	-	Cassia tora
205. Thakkali	-	Physalis minima
206. Manathathakkali	-	Solanum nigrum
208. Tharuppai	-	Desmostachya bipinnata
209. Thavasumurungai	-	Rungia parviflora
212. Thaazhai	-	Pandanus odoratissimus
216. Thippiliver	-	Piper longum
217. Thirakshai	-	Vitis vinifera

218. Thinai	-	Setaria italica
220. Thuvarai	-	Cajanus cajan
231. Naralai	-	Cayratia pedata
234. Naagamalli	-	Rhinacanthus nasuta
243. Neichatti	-	Vernonia cinerea
245. Nel	-	Oryza sativa
249. Payaru	-	Vigna mungo
250. Pachillai	-	Garcinia xanthochymus
252. Pala	-	Artocarpus heterophyllus
256. Panai	-	Horstrus flbellifer
257. Badampisin	-	
258. Pathiri	-	Stereospermum colais
259. Parely	-	Hordeum vulgare
261. Pirappan kizhangu	-	Calanus rotang
262. Peetharoghani	-	Coptis teeta
263. Peenarimaram	-	Sterculia foetida
264. Paavattai	-	Pavetta indica
265. Pidangunari	-	Premna tomentosa
270. Pulluruvi	-	Dendrophthoe falcata
271. Puli	-	Tamarindus indicus
272. Pulladi	-	Desmodium gangeticum
278. Magizh	-	Mimusops elengi
279. Mangusthan	-	Garcinia mangostana
281. Mara manjal	-	Coscinium fenestratum
282. Manjitti	-	Rubia cordifolia
283. Madhanakamappu	-	Cycus circinalis
284. Mantharai (red)	-	Bauhinia purpurea
285. Malli	-	Jasminum grandiflorum
286. Marakkarai	-	Catunaregum spinosa
293. Vaal milagu	-	Piper cubeba
294. Milakaranai	-	Todalia asiatica
296. Mudakkatran	-	Cardiospermum helicacabum
298. Mulaam	-	Citrullus vulgaris
299. Munnai	-	Premna corymbosa
301. Mungkil	-	Bambusa arundinacea
303. Vandukolli	-	Cassia alata
304. Varagu	-	Paspalum scrobiculatum
305. Valampurikkai	-	Helicteres isora
307. Vallaikodi	-	Convolvulus repens
308. Vaadhanarayan	-	Delonix elata
315. Vilamichamver	-	Plectranthus vettiveroides
316. Vzhuthi	-	Cadaba trifoliata
317. Vilaamaram	-	Limonia acidissima
318. Vishamungkil	-	Crinum asiaticum

319. Vishnukiranthi	-	Evolvulus alsinoides
320. Vengayam	-	Alium cepa
321. Vetchi	-	Ixora coccia
322. Vendakai	-	Abelmoschus esculantus
324. Vellarikai	-	Cucumis sativus
325. Vellarugu	-	Enicostemma axillare
326. Vellilothram	-	Symplocos racemosa
327. Vellulli	-	Allium sativum
330. Verkadalai	-	Arachis hypogea
331. Vel	-	Acacia nilotica
332. Velvel	-	Acacia leucophloea
333. Kudaivel	-	Acacia latronum
334. Peekkaruvel	-	Acacia farnesiana
335. Velai	-	Cleome viscosa
336. Thaivelai	-	Gynandropsis gynandra

III. **10 marks** from the other plants and from the less Important plants / Syllabus New Scheme 2013

1	Akrottu	-	Juglans regia lin.
2	Alisi virai	-	Linum usitatissimum
3	Arukeerai	-	Amarantus tristis
4	Annasipazham	-	Ananas comosus
5	Aaraikirai	-	Marsilea quadrifolia
6	Alapagoda pazham	-	Prunus domestica
7	Aal-vallikizhangu	-	Manihot esculenta
8	Aattrunetti	-	Neptunia oleracea
9	Aanai-katrzhai	-	Agave americana
10	Aanai kunri	-	Adenantha pavonina
11	Aanaippuliamaram	-	Adansonia digitata
12	Rattai – peimarutti	-	Anisomeles malabarica
13	Rathabolam	-	Aloe barbadensis
14	Ezhathalari	-	Plumeria rubra
15	Uka	-	Salvadora persica
16	Uzhalathi	-	
17	Usilam	-	
18	Aerisalai	-	
19	Aelumichan thulasi	-	Ocimum gratissimum
20	Aezhilapalai	-	Alstonia scholaris
21	Odukkann	-	Cleistanthus collinus
22	Kakkarikkai	-	Cucumis sativus
23	Kasa-kasa	-	Papaver somniferum
24	Kadarpaalai	-	Argyrea nervosa
25	Kadar thengai	-	Lodoicea maldivica

26	Kadara naaraththai	-	Citrus medica
27	Kalumichchamkai	-	
28	Kavizh thumbai	-	Trichodesma indicum
29	Kazhu-neer	-	Nymphaea alba
30	Kalarva	-	Salvadora persica
31	Chirukalarva	-	Salvadora persica
32	Karkovai	-	Melothria heterophylla
33	Kartaamarai	-	Smilax zeylanica
34	Kaasa	-	Memecylon umbellatum
35	Kaasi rathnam	-	Quamoclit pennata
36	Kaattu aelumichchai	-	Atalantia malabarica
37	Kaattu aellu	-	Sesamum prostratum
38	Kaattu kadugu	-	Cleome viscosa
39	Kaattu karuvappattai	-	Cinnamomum iners
40	Kaattu thumbai	-	
41	Kaattu paagal	-	Momordica dioica
42	Kaattu peipudal	-	Trichosanthes lobata
43	Kaattu mullangi	-	Blumea lacera
44	Kaattu Vengayam	-	Urginea indica
45	Kai-vallikkodi	-	Dioscorea alata
46	Kaaramani	-	Vigna unguiculata
47	Kaavatambul	-	Cymbopogon martinic
48	Kiranthinayagam	-	
49	Kumizhamaram	-	Gmelina arborea
50	Kurukkaththi	-	Hiptage benghalensis
51	Kuruvich-chi	-	Ehretia microphylla
52	Kuthan Kuthambai	-	Cantana indica
53	Kuntharpanai	-	Caryota urens
54	Kuvaikkizhangu	-	Maranta arundinacea
55	Koththavarai	-	Cyamopsis tetragonoloba
56	Kodaga salai	-	Rungia repens
57	Gopuram thangi	-	Andrographis echiodes
58	Chanappu	-	Crotalaria juncea
59	Sanninayagam	-	
60	Chavukkumaram	-	Casuarina equisetifolia
61	Samanthipoo	-	Chrysanthemum coronarium
62	Chayamaram	-	Caesalpinia sappan
63	Chavvarisimaram	-	
64	Chaaraiaruppu	-	Buchanania lanzan
65	Chinnikizhangu	-	
66	Chukkankai	-	
67	Chukkan kirai	-	Rumex vesicarius
68	Chulukku nayagam	-	
69	Suriyakanthi	-	Helianthus annus

70	Cheppu – nerunjil	-	Indigofera enneaphylla
71	Chevaganar kizhangu	-	Gloriosa superba
72	Peyavarai	-	Cassia occidentalis
73	Thakkolam	-	
74	Tamaraththam	-	Avarrhoa carambola
75	Thara	-	Fumaria parviflora
76	Thalippanai	-	Corypha umbraculifera
77	Thillai	-	Excoecaria agallocha
78	Thumbilkkai	-	Diospyros peregrina
79	Thurinjibeen	-	Alhagi maurorum
80	Thekku	-	Tectona grandis
81	Naruvili	-	Cordia dichotoma
82	Naaganam	-	
83	Naagathali	-	Opuntia dillenii
84	Naanal	-	Saccharum spontaneum
85	Nilakkadambu	-	Asarum europaeum
86	Nilakumizh	-	Gmelina asiatica
87	Nilappanai	-	Curculigo orchiodes
88	Nilavaamanakku	-	
89	Ninral chinungi	-	
90	Neeralari	-	Polygorum barbatum
91	Neerbrahmi	-	Bacopa monnieri
92	Neerpula	-	Phyllanthus reticulatus
93	Neermel neruppu	-	Ammania baccifera
94	Nettilingam	-	Polyalthia longifolia
95	Neithar kizhangu	-	Nymphaea pubescens
96	Pannimonthan kizhangu	-	Trapa natans
97	Paruththi	-	Gossypium herbaceum
98	Motchai	-	Lablab purpureus
99	Chemparuththi	-	Gossypium arboretum
100	Parangikkai	-	Cucurbita maxima
101	Panneerpoo	-	Rosa centifolia
102	Paakal	-	Momorchica charantia
103	Paalai	-	Manikara hexandra
104	Piramiya vazhukkai	-	Bacopa monniesi
105	Piraaai	-	Streblus asper
106	Pilimbi	-	Averrhoa bilimbi
107	Pilavai kolli	-	
108	Pudal	-	Trichosanthes cucumescina
109	Punnai	-	Calophyllum inophyllum
110	Ponmusuttai	-	Sida acuta
111	Manippungu	-	Sapindus lausifolia
112	Musarkaathilai	-	Ipomea pes-caprae
113	Maavilangu	-	Crateva magna

114	Munthiri	-	Anacardium occidentale
115	Mullangi	-	Raphanus sativus
116	Modagavalli	-	Sterculia foetida
117	Valli	-	Dioscorea esculenta
118	Chevalli	-	Dioscorea purpurea
119	Vaagai	-	Albizia lebbeck
120	Karuvaagai	-	Albizia odoratissima
121	Vaadhumai	-	Prunus dulcis
122	Vizhalarisi	-	Seed of red grass
123	Peru-lavangappattai	-	Cinnamomum macrocarpum
124	Peyatti	-	Ficus hispida
125	Vengai	-	Pterocarpus marsupium
126	Aruvada	-	Ruta chalepensis
127	Ezhuttani poondu	-	Launaea pinnatifida
128	Karimulli	-	Solanum anguini
129	Kaanaam vaazhai	-	Commelina benghalensis
130	Seeththa	-	Anona squamosa
131	Pallipundu	-	striga lutea
132	Valendrabolam	-	Commiphora myrrh

Note: Avoid questioning Essay and Short notes with plant's synonyms.

Distribution of Marks for University Practical Examination

Practical	70 Marks
Viva Voce	20 Marks
Record	10 Marks
Total	100 Marks

GUNAPAADAM -PAPER II (THATHU AND VILANGINAM)

(MATERIA MEDICA –METALS, MINERALS AND ANIMAL KINGDOM)

Total Hours : 200

INTRODUCTION

(25 hours)

- Introduction to General Pharmacology (Gunapadam)
- Classification of metals & minerals
- Instruments used for medicine preparation, description about specific techniques, including the special technique of drug preparation.
- Acid distillation formulae.
- Converting ancient measurements into new metric units.
- Internal applications – 32, Definition, examples & their life span
- How to form a medicine production unit
- Classification of combustion (Spudam)
- Study of friendly drugs (Synergetic) and antagonistic drugs.
- Classification of drugs based on five elements

Ulogangal – Metals

(20 hours)

Sl. No	Tamil Name	English Name / Scientific Name
1	Ayam	Iron
2	Ekkhu	Steel
3	Kareeyam	Lead
4	Kandham	Magnetic Oxide of Iron
5	Thambram	Copper
6	Naagam	Zinc
7	Thankam	Gold
8	Mandooram	Ferrous Ferric Oxide
9	Velleeyam	Tin
10	Velli	Silver

II. Pancha Sootham - Mercury & its ores

(15 hours)

Sl. No	Tamil Name	English Name / Scientific Name
1	Rasam	Mercury
2	Rasa chendhooram	Red Sulphide of mercury
3	Lingam	Cinnabar – Natural
4	Pooram	Calomel - Hydragryum subchloride
5	Veeram	Corrosive sublimate - Hydrogyrum per chloride

III. Paashanagal - Metal Salts

(25 hours)

Sl. No	Tamil Name	English Name / Scientific Name
1	Anjanakal	Antimony Sulphide
2	Kanthakam	Sulphur
3	Gowri paashanam	Yellow Oxide of arsenic (Synthetic)
4	Thaalagam	Yellow Arsenic Trisulphide
5	Thottipaashanam	A pharmaceutical preparation of Arsenic combined with mercury & sulphur.

Sl. No	Tamil Name	English Name / Scientific Name
6	Nava pashaanangal	Nine kinds of metal salts
7	Pancha paashanangal	Five kinds of metal salts
8	Manosilai	Red Arsenic Disulphide (Realger)
9	Mirudhaar sinki	Galena (Lead Sulphide)
10	Vellaipaashanam	Arsenum Acidum (White Arsenic)

IV. Karasaram – Salts

(30 hours)

Sl. No	Tamil Name	English Name / Scientific Name
1	Applakkaaram	Sodium Carbonate impure
2	Indhuppu	Sodium Chloride Impure (RockSalt)
3	Evatchaaram	Potassium Carbonate impure
4	Ekambachaaram	A Prepared Salt (an efflorescentsalt)
5	Kadal nurai	Sea froth engendered by submarine fire
6	Kanavaai odu	OS SEPIAE (Cuttle fish bone)
7	Gandhiuppu	Salts of Sulphur
8	Gandhaga lavanam	Salt obtained from Sulphur, mixed with other ingredients (Consolidated sea salt)
9	Kalluppu	Salt found in lumps deposited on beds of rocks at the bottom of the sea
10	Kariuppu	Sodium chloride (Common salt)
11	Kaaichulavanam	Salt produced from the earth impregnated with soda
12	Cheenaakkaaram	Alum (Aluminous Sulphate)
13	Soodan	Camphor
14	Thilaalavanam	A salt derived from sessamum
15	Navauppu mezhugu	Waxy preparation comprises with salts
16	Navachchaaram	Ammonium chloridum (Sal ammoniac)
17	Pachai karpooram	Borneo camphor (Crude camphor)
18	Panchalavanam	Mixture of five salts
19	Pidaalavanam	Black salt
20	Pooneeru	Fuller's earth
21	Amber	Ambra arasea
22	Valaiyaluppu	Extracted salt from fuller's earth (Glass gall)
23	Vengaaram	Sodium biborate (Borax)
24	Vediuppu	Potassium nitrate (Salt petre)
25	Attuppu	A boiled salt obtained from salt petre

V. Navamanigal – Gems

(15 hours)

Sl. No	Tamil Name	English Name / Scientific Name
1	Komedhagam	Onyx (Berly)
2	Neelamani	Sapphire
3	Pavazham	Coral
4	Pushparaagam	Topaz, Yellow Topaz
5	Maragadham	Emerald
6	Maanickam	Ruby (Carbuncle)

Sl. No	Tamil Name	English Name / Scientific Name
7	Vaidooriyam	Cats eye (Chryso prase)
8	Vairam	Diamond
9	Muthu	Pearl

Pavazham & Muthu to be studied in detail, rest of other gems may be studied briefly.

VI. Uparasam - Minerals (Natural Substances) (20 hours)

Sl. No	Tamil Name	English Name / Scientific Name
1	Appiragam	Mica
2	Annabedhi	Ferri Sulphas (Green vitriol)
3	Karpoorasilaasathu	Crystalised foliated Gypsum
4	Kalnaar	Asbestos
5	Kal-matham	
6	Karchunnam	Lime stone
7	Kaadikkaaram	Nitrate of silver
8	Kaavikkal	Red ochre
9	Gomuthra silaasathu	Asphaltum (Asphalt mineral piteh)
10	Thurusu	Cupric sulphate (Blue vitriol)
11	Nandukkal	Fossil stone crab
12	Nimilai	Bismuth
13	Paalthutham	Sulphate of zinc
14	Saathirabedhi	

JEEVAM -MATERIA MEDICA (ANIMAL KINGDOM) (50 hours)

Sl. No	Tamil Name	English Name / Scientific Name
1)	Attai	Hirudo Medicinalis (Speckled leech)
2)	Aamai	Chelonia Turtle (Tortoise)
3)	Aalkaattipatchi	Lapwing bird (Vanellus indicus)
4)	Indrakopa poochi	Mutilla Occidentalis
5)	Iragukal	Feathers
6)	Udumbu	Varanus Sps (Monitor)
7)	Eri vandu	Mylabris Sps.
8)	Elumbugal	Bones
9)	Onan	Calotis (Common Agemaid Lizard)
10)	Kasthuri	Moschus moschiferus musk
11)	Kaandamiruga kombu	Rhinoceros unicornis
12)	Kilinjil	Ostrea edults linn (Common oyster shell)
13)	Kulambugal	Hoofs
14)	Kulavikkoondur	Wasps nest
15)	Kombarakku	Carteria Lacca (Lac)
16)	Kombugal	Horns
17)	Korochanam	Fel Borinum purifactum (Oxbile)
18)	Kozhi	Gallus domes (Domestic cock & hen)
19)	Sangu	Turbinella rapa (Conch Shell)
20)	Chaanam	Dung
21)	Siruneer	Urine

Sl. No	Tamil Name	English Name / Scientific Name
22)	Suraa	Squalus carcharius (Shark)
23)	Thantham	Teeth
24)	Thaen	Honey
25)	Nandu	Crab
26)	Nathai	Fresh Water Snail
27)	Nari echam	Jackal's excreta
28)	Palagarai	Cypraea moneta Linn (Cowry)
29)	Pantri	Sus indicushog (Pig)
30)	Paambu chattai	Snake's slough
31)	Palum pal porutkalum	Milk and milk products
32)	Pitchi	Bile
33)	Puli	Tiger
34)	Punugu	Viverra Civetta (Civet cat)
35)	Poo naagam	Earth Worm
36)	Mayil	Pavo Cristatus Linn (Pea Cock)
37)	Maan	Deer
38)	Min mini poochi	Fire fly
39)	Muttai odugal	Egg shells
40)	Musiru muttai	Egg of Formica Smaragdina
41)	Mudhalai	Crocodills porosus (Crocodile)
42)	Muthuchippi	Mytilus margaritiferus (Pearl Oyster Shell)
43)	Mezhugu	Wax
44)	Yaana	Elephas indicas (Elephant)
45)	Mul eli	
46)	Pazham thinni Vavvaal	(Bat).
47)	Thavalai (Patchai).	Green coloured Frog.
48)	Kaattu-Poonai.	

Thathu Jeevam – Practical

Total Hours : 100

1. Sutthi (Purification of Drugs)	(10 hours)
2. Chooranam	(7 hours)
3. Vadagam	(7 hours)
4. Maathirai	(7 hours)
5. Thailam	(7 hours)
6. Kuzhambu	(7 hours)
7. Ilagam	(7 hours)
8. Parpam	(7 hours)
9. Chendhooram	(7 hours)
10. Mezhugu	(7 hours)
11. Vennai	(7 hours)
12. Rasaayanam	(7 hours)
13. Kalimbu	(7 hours)

Perparation of Peru Marunthugal can be shown in Video to students during Practical hours **(6 hours)**

Reference books:

- 1) Text of Gunapadam – Thathu Jeeva Vaguppu – Vol. II & III – by Dr.R.Thiagarajan
- 2) Pathartha Guna Chindamani
- 3) Pathartha Guna Vilakkam – Kannusamy
- 4) Materia Medica - Vol. I & II – by Dr. Natkarni
- 5) Siddha Vaidhya Thirattu – by Dr. C.S. Uthamarayan

Distribution of Marks (Mark Weightage) for University Theory**Examination**

Introduction & Navamanigal – Gems	5 Marks
Ulogangal – Metals	20 Marks
PanchaSootham - Mercury & its ores	15 Marks
Paashanangal - Metal Salts	10 Marks
Karasaram – Salts	10 Marks
Uparasam - Minerals (Natural Substances)	10 Marks
Jeevam -Materia Medica (Animal Kingdom)	30 Marks
Total	100 Marks

Distribution of Marks for University Practical Examination

Practical	70 Marks
Viva Voce	20 Marks
Record	10 Marks
Total	100 Marks

**Syllabus for Siddha Maruthuva Arignar (BSMS) Course
(2013 SCHEME)**

Second Professional BSMS

UDAL KOORUGAL (ANATOMY) PAPER I

Total Hours : 100

I. OSTEOLOGY WITH APPLIED ANATOMY

(30 hours)

1. General structure of bone and Ossification
2. Types of bones
3. Skull – Norma frontalis, Norma verticalis, Norma basalis, Norma lateralis, Norma occipitalis, Cranial fossa
4. Paranasal sinuses
5. Mandible
6. Hyoid bone
7. Vertebral column – Cervical, Thoracic, Lumbar, Sacrum and Coccyx -
(Typical and atypical)
8. Ribs, Costal cartilages and Sternum
9. Bones of Upper limb – Clavicle, Scapula, Humerus, Radius, Ulna
10. Name and numbers of Carpal, Metacarpal and Phalanges
11. Bones of Lower limb – Hip bone, Comparison between male and female pelvis, Femur, Patella, Fibula, Tibia
12. Name and numbers of Tarsal, Metatarsal and Phalanges
13. Arches of foot

II. ARTHROLOGY WITH APPLIED ANATOMY

(10 hours)

1. Classification of joints
2. Temporomandibular joint
3. Intervertebral joints
4. Shoulder joint
5. Elbow joint
6. Wrist joint
7. Hip joint
8. Knee joint
9. Ankle joint

III. MYOLOGY WITH APPLIED ANATOMY

(20 hours)

1. Scalp
2. Muscles of facial expression
3. Muscles of mastication
4. Muscles of eye ball
5. Suprahyoid muscles
6. Infrahyoid muscles
7. Name of the Pre and Para vertebral muscles
8. Lattismus dorsi, Erector spinae, Trapezius, Rhomboideus major and minor, Name of other muscles of back
9. Pectoral region muscles

10. Scapular region muscles
11. Muscles of Arm
12. Muscles of Forearm
13. Name of muscles of hand
14. Intercostal muscles and diaphragm
15. Anterior and Posterior Abdominal wall muscles
16. Names of Pelvic floor and Perineal muscles
17. Gluteal muscles
18. Muscles of thigh
19. Muscles of leg
20. Name of the muscles involved in the formation of sole of foot

FOSSAE AND TRIANGLES*

(5 hours)

1. Triangles of neck
2. Axilla
3. Cubital fossa
4. Ischiorectal fossa
5. Inguinal Canal
6. Adductor Canal
7. Femoral triangle
8. Popliteal fossa

IV. ANGIOLOGY

(Origin, termination, course and branches/tributaries have to be studied)

ARTERIAL SYSTEM

(20 hours)

1. Aorta – Ascending aorta – Coronary arteries – Arch of aorta – Brachiocephalic trunk – Left and Right Common Carotid – Left and Right Subclavian arteries
2. External and Internal carotid arteries, Vertebral and Basilar arteries – Formation of Circle of Willis
3. Major Arteries in Upper limb – Axillary – Brachial – Radial – Ulnar arteries – Superficial and deep palmar arches
4. Thoracic aorta – Abdominal aorta
5. Common iliac – External and Internal iliac artery
6. Major arteries in Lower limb – Femoral – Popliteal – Anterior and Posterior Tibial Arteries – Dorsalis Pedis artery – Plantar arch

VENOUS SYSTEM

(10 hours)

1. Dural Venous Sinuses
2. External and Internal Jugular Vein
3. Veins of Upper limb – Dorsal Venous arch – Cephalic – Basilic – Median Cubital Vein
4. Coronary sinus
5. Veins of thorax – Brachiocephalic – Azygos – Hemi azygos – Accessory azygos

6. Superior and Inferior vena cava
7. Portal vein and Portacaval anastomosis
8. Veins of lower limb –Dorsal Venous arch – Great and small Saphenous – Anterior and Posterior Tibial Vein

V. LYMPHATICS

(5 hours)

1. Cisterna Chyli – Thoracic duct – Right lymphatic duct (2 hrs.)
2. Axillary, Cervical, Inguinal lymph nodes and its drainage (3 hrs.)

PRACTICALS FOR UDAL KOORUGAL – I

Total Hours : 75

1. Whole body dissection.

(25 hours)

2. Specimen demonstration.

(50 hours)

REFERENCE BOOKS

1. Gray's Anatomy – 40th Edition
2. Text book of Anatomy – T.S. Ranganathan - 5th revised edition edition
3. Human Anatomy – B.D. Chaurasia - 4th Edition –
4. Text book of Anatomy – Inderbir Sing – Edition 5/e
5. Fundamentals of Human Anatomy – A.S. Moni
6. Atlas of Anatomy – Inderbir Sing

UDAL KOORUGAL (ANATOMY) PAPER II **Total Hours : 100**

I. NERVOUS SYSTEM **(40 hours)**

1. Meninges of brain and spinal cord
2. Cerebrum – Lobes, Surfaces, Poles, Fissures, Sulci and Gyri, Areas, Types of fibres, Corpus callosum and Internal capsule
3. Basal nuclei
4. Names of nuclei of Diencephalon
5. Thalamus, Hypothalamus – Parts, Nuclei and Connections
6. Location and boundaries of Ventricles
7. Formation and circulation of CSF
8. External and internal features of Brain stem
9. External and internal features of Cerebellum
10. External and internal features of Spinal cord including tracts
11. Cranial nerves
12. Formation of typical spinal nerves and intercostal nerves
13. Formation of Cervical, Brachial, Lumbar and Sacral plexus including branches
14. Name and location of Sympathetic and Parasympathetic ganglion

II. SPECIAL SENSES **(10 hours)**

1. Eye
2. Ear
3. Nose
4. Tongue
5. Skin

III. RESPIRATORY SYSTEM **(5 hours)**

1. Larynx
2. Trachea
3. Mediastinum
4. Pleura, Lungs and Bronchopulmonary segments

IV. CARDIOVASCULAR SYSTEM **(2 hours)**

1. Heart
2. Pericardium

V. DIGESTIVE SYSTEM **(20 hours)**

1. Oral cavity, Palate, Salivary glands
2. Structure and types of teeth
3. Pharynx
4. Oesophagus
5. Stomach
6. Small intestine
7. Large intestine
8. Peritoneum and its folds
9. Liver
10. Extra biliary apparatus
11. Pancreas

LYMPHOID ORGANS***(3 hours)**

1. Spleen
2. Thymus glands
3. Tonsils

VI. UROGENITAL SYSTEM**(15 hours)**

1. Kidney
2. Ureter
3. Urinary bladder
4. Male and female urethra
5. Male reproductive organs - Scrotum, Testies, Epididymis, Seminal vesicles, Vasdeferens, Spermatic cord, Prostate gland, Penis
6. Female reproductive organs – Uterus, Uterine tubes, Ovaries, External genitalia, Mammary glands

VII. ENDOCRINOLOGY**(5 hours)**

1. Pituitary gland
2. Pineal gland
3. Thyroid and Parathyroid
4. Adrenal gland

PRACTICALS FOR UDAL KOORUGAL – II**Total Hours : 75**

1. Whole body dissection **(25 hours)**
2. Specimen demonstration **(50 hours)**

REFERENCE BOOKS

1. Gray's Anatomy – 40th Edition
2. Text book of Anatomy – T.S. Ranganathan - 5th revised edition edition
3. Human Anatomy – B.D. Chaurasia - 4th Edition –
4. Text book of Anatomy – Inderbir Sing – Edition 5/e
5. Fundamentals of Human Anatomy – A.S. Moni
6. Atlas of Anatomy – Inderbir Sing

UDAL THATHUVAM (PHYSIOLOGY) PAPER I

Total Hours : 50

1. Ninety six fundamental principles (Thathuvas) and its details. Five elements (lymbootham) – five sense organs (pori) – five senses (pulan) – Motor organs (Kanmendriyam) – Discriminative power of five senses (Gnanandriyam) – Four intellectual faculties (Karanam) – Wisdom of Self realization (Arivu) – Ten Vital channels (Dhasa nadi) – Ten vital Air (Dhasavayu) – five visceral cavities (Asayam) – five sheaths (Kosam) – Six vital centres of the Soul (Aatharas) - Three regions (Mandalam) – Three impurities of soul (malam), Three humours (Thodam) - Three physical bindings (Edanai) – Three cosmic qualities (gunam) - Two acts (Vinai) – Eight passions (Ragam) – Five states of consciousness (Avathai). **(5 hours)**
2. Five elements and its medical aspects. Creation of five elements – properties – five fold combination (panchikaranam) – Manifestation of five elements in our body (panchabootha koorugal (or) Purakaruvikal) – Relation between five elements & six tastes – Five elements and three humours – five elements and seven physical constituents. **(5 hours)**
3. Development of Embryo according to Siddhars' concepts. Role of five elements during fertilization, and intrauterine life – Different stages of foetal growth – sex determination & Determination of life span according to Siddhar's concept. **(5 hours)**
4. Three humoral theory Vatham:- Predominant locations – properties – physiological role. Functional varieties of vatham – Pranan – Udhanan – Samanan – Abanan – Viyanan – Nagan – Koorman – Kirukaran – Devadhathan – Dhananjeyan. Pitham:- Predominant locations – properties – physiological role. Functional varieties of pitham - Pasakam – Ranjakam – Sathakam – Aalosakam – prasakam. Kapham:- Predominant location – properties – physiological role Functional varieties of Kapham. – Avalampakam – Kilethakam – Pothakam – Tharpakam – Santhikam. Temperament of an individual Features of vatha temperament – pitha temperament – Kapha temperament. **(5 hours)**
5. Seven physical constituents: Nutrient juice (saram) – Blood (Chenneer) – Muscle (ooun) – fat & adipose tissue (kozhu) – Bone & Teeth (Enbu) – Bone marrow & nervous tissue (Moolai) – Semen or ovum (Sukilam/suronitham) – their nature and functions. **(4 hours)**
6. Five sheaths (Kosangal) Physical sheath (Annamaya kosam) – Respiratory sheath (Piranamaya kosam) – Mental sheath (Manomaya kosam) – Intellectual sheath (vignanamaya kosam) – Blissful sheath (Ananthamaya kosam) **(3 hours)**
7. Physical sheath:- Composition of food materials – waste or excretory materials (Chakkai) – Nutrients – Tastes – Three vital units (Uyir thathu) – qualities (gunam) Taste:- Properties of six tastes – Synergetic taste (natpu suvai) Antagonistic taste (pakai suvai) Vatha food – pitha food – Kapha food – Sathuva food – Rajasa food - Thamasa food – food and seasons. **(5 hours)**
8. Respiratory sheath:- Functions of pranan – Regulation of breathing – Pranayama thathuvam. **(5 hours)**

9. Mental sheath Siddhars concept of Nadi – Definitions – Characteristics of Nadi (Nadi Nadai) – Nadi ratio – Ten important sites of Nadi – Guru Nadi – Bootha Nadi – Vatha, pitha, Kapha nadi & conjoined nadi (Thondha Nadi) **(2 hours)**
10. Fourteen Natural Urges (Vehangal) Vatham (flatus air) – Thummal (sneezing) – Neer (micturition) – Malam (Defecation) – Kottavi (Yawning) – Pasi (appetite) – Neervetkai (Thirst) – Kasam (cough) – Illaippu (exhaustion) – Nithirai (sleep) – Vanthi (Vomiting) – Kanner (Tears) – Sukilam (semen) – Suvasam (Breathing). **(2 hours)**
11. Longevity of life – According to Siddha principles – Concentration of six Psychophysical centres (Aatharas) – Stimulation of Adharas by meditation & Yoga. **(2 hours)**
12. Intellectual sheath:- (Vingnana maya kosam) Four intellectual faculties (Anthakaranam) – Good & Bad Acts (Iruvinai) – Mukkunam (Satwa, Rajas & Thamas) – Aatharam (six station of soul) – Avathai (Six stages of consciousness) – Dhasa Nadi (Idakalai, Pinkalai, Suzhumunai, Sikuvai, Purudan, Kanthari, Atthi, Alampudai, Sankini & Gugu) **(2 hours)**
13. Blissful sheath (Anantha maya kosam) Self realization (Arivu) – achievement (Siddham) and its details **(2 hours)**
14. Envagai Thervu: Naa- Niram – Mozhi – Vizhi – Malam – Moothiram- Naadi – Sparisam- Physiological Aspect. **(3 hours)**

PRACTICAL

Total Hours : 50

Part-A

Major: **(30 hours)**

1. Examination of Naadi
2. Examination of Udal kattugal
3. Examination of Envagai Thervu
4. Examination of Udal iyal

Part-B

Minor: **(15 hours)**

1. Suvaigal
2. Panchabootha pancheekaram

Part- C:

Spotters: **(5 hours)**

1. Suvaigal
2. Unavu Poruttkal

UDAL THATHUVAM (PHYSIOLOGY) PAPER II

Total Hours : 100

I. General Physiology (4 hours)

1. Cell - organelles - Transport across cell membrane - Trans membrane electrical potential.
2. Homeostasis - Positive and negative feedback - Acid base balance.

II. Blood and Body fluids (20 hours)

1. Body fluids - ECF & ICF, plasma proteins - classification and functions.
2. Erythrocytes - Erythropoiesis - functions - destruction. Haemoglobin and 'Fe' metabolism, Anaemia, ESR, PCV, Blood indices.
3. Leucocytes - Classification, functions, formation, fate, plasma cells, Immunity
4. Thrombocytes - Hemostasis, Coagulation of Blood.
5. Blood groups, Blood transfusion - compatability.
6. Reticulo endothelial system, spleen, lymphatic system & lymph, tissue fluid & odema.
7. Applied physiology

III. Muscle Physiology (5 hours)

1. Functional anatomy of muscle, Classification, structure, Excitation, contraction and relaxation of smooth, skeletal and cardiac Muscles, Neuro muscular junction.
2. Applied physiology

IV. Renal physiology and Excretion. (10 hours)

1. Functional anatomy of kidney, Nephron, Renal circulation, juxta glomerular apparatus.
2. Urine formation, Glomerular filtration, Reabsorption of filtrate, Renal threshold, Urine concentrating mechanism, Role of kidney in Acid base balance. Filling of bladder and micturation, Action of parathormone & vasopressin. Renal Function Tests.
3. Skin - structure, functions, glands, Regulation on body temperature.
4. Applied physiology

V. Endocrinology (10 hours)

1. Introduction to endocrine physiology, control of secretion, feed back regulation.
2. Hormones secreted, Biosynthesis, functions and regulation of secretion of the following endocrine glands – Hypothalamus, pituitary, Thyroid, Parathyroid, Pancreas, Adrenal cortex and medulla, Local Hormones.
3. Applied physiology

VI. Reproductive systems (6 hours)

1. Sexual differentiation of foetus in uterus, Male sex organs, spermatogenesis, semen, Male sexual act, Male sex hormones, actions & control.
2. Female sex organs, Oogenesis, Menstrual cycle, role female sex hormones, Menopause.
3. Fertilization, Fetoplacental unit, Pregnancy, parturition, Mammary glands & lactation.

4. Applied physiology

VII. Digestive system (10 hours)

1. Functional anatomy of alimentary tract.
2. Mastication, salivary glands, composition & function of saliva, control of salivation, deglutition.
3. Secretion, composition, functions, control of secretion of Stomach, pancreas, Liver, small intestine.
4. Gall bladder, enterohepatic circulation, Motility of GIT, Digestion & absorption of carbohydrates, proteins, Lipids, Defecation.
5. Applied physiology

VIII. Cardio vascular system (10 hours)

1. Introduction – properties of cardiac muscle, conducting tissue of the heart, pacemaker, ionic basis of Action potential.
2. Cardiac cycle – phases & events, heart sounds, Murmur, ECG, Cardiac output and venous return, cardiac function curves, Regulation of cardiac function, Hemodynamics.
3. Arterial Blood pressure & its Regulation, Arterial pulse and venous pulse.
4. Foetal circulation and respiration, shock, cardio vascular adjustments during Exercise.
5. Applied physiology

IX. Respiratory and Environmental Physiology (10 hours)

1. Functional Anatomy of Respiratory tract, Mechanism of Respiration, Ventilation, Surfactant, Compliance, Spirometric volumes and capacities.
2. Exchange of Respiratory gases, Transport of O₂ and CO₂ in blood and tissue fluid.
3. Physiological effects of ascent to high altitudes, Acclimatization, Deep sea physiology. Effects of Exercise on Respiration.
4. Applied physiology

X. Nervous system (10 hours)

1. Functional anatomy of brain and spinal cord, Synapse, Neuroglial cells, degeneration and regeneration of Nerve fibers, Sensory receptors – classification, Threshold stimulus, Grouping of sensory fibres.
2. Reflex activity – Spinal reflexes, reciprocal inhibition, Muscle tone, Motor units.
3. Pathway and Function of Spinal Cord, Ascending & Descending tracts of spinal cord, upper motor neurons, control of muscle tone and voluntary movements, Physiology of Pain.
4. Nuclei, parts, connections and functions of Thalamus, Hypothalamus, basal ganglia, brain stem, limbic system, proprioceptor & vestibular apparatus.
5. Cerebral cortex – layers, connections, Functions of Cerebellum – morphology – nuclei, connections, functions.
6. Higher intellectual functions.
7. Reticular formation – physiology of sleep and arousal, EEG.
8. CSF – formation, circulation and functions.

9. ANS
10. Applied Physiology

XI. Special senses. (5 hours)

1. Functional anatomy of sense organ,
2. Eye – visual process – field of vision – visual path way – pupillary reflex- colour vision – Errors of Refraction.
3. Ear – Auditory Pathway. Mechanism of Hearing – Auditory Defects
4. Sensation of taste
5. Sensation of smell.
6. Applied physiology

PRACTICAL

Total Hours : 50

Part-A

Major: (25 hours)

1. Estimation of Haemoglobin
2. Determination of ESR
3. Determination of PCV & Absolute values
4. Total WBC Count
5. Total RBC Count
6. Differential count of WBC

Part-B

Minor: (22 hours)

1. Determination of bleeding time
2. Determination of clotting time
3. Blood grouping and Rh typing
4. Measurement of Body Temperature
5. Measurement of Blood Pressure
6. Examination of Deep Tendon Reflex (Specify)
7. Examination of Superficial Reflex(Specify)
8. Examination of Cranial Nerves(Specify)
9. Examination of Cardio vascular System(Specify)
10. Examination of Respiratory System(Specify)
11. Examination of Digestive System(Specify)

Part- C:

Spotters: (3 hours)

1. Parts of microscope
2. Apparatus
3. Identification of different type of WBC
4. ECG pattern

Reference Books :-

1. Samson and Wright applied Physiology
2. Hewer's Histology
3. Schafer's Histology
4. Guyton Physiology
5. Ganong Physiology
6. Essentials of Medical Physiology - Dr. K.S.Sembulingam
7. Text book of Physiology- Dr.Saratha Subramaniyam

GUNAPADAM-PAPER I (MOOLIGAI) (MATERIAMEDICA - PLANT KINGDOM)

Total Hours : 200

1) Introduction : (3 hours)

- Properties of drug
- Taste, character, potency, post absorptive tastes (Vibagam)
- Specific action (prabhagam)

2) Study about therapeutic actions with few examples. (3 hours)

3) Detailed study about the following herbs including their Synonyms, Botanical names, various names in regional languages, origin, identification, availability, parts used, description about their properties, therapeutic actions, indications, doses, home remedies and specific formulae related to particular herbs. (174 hours)

Sl. No.	<u>Tamil Name</u>	<u>Botanical Name</u>
1	Agatti	- Sesbania grandiflora
2	Agil	- Aquilaria agallacha roxb
3	Akkarakaaram	- Anacylus pyrethrum DC
4	Asogu	- Saraca asoca
5	Athimathuram	- Glycyrrhiza glabra
6	Athividayam	- Aconitum heterophyllum
7	Atti	- Ficus recemosa
8	Aakasathamara	- Pistia stratiotes
9	Anthimalli	- Mirabilis jalapa
10	Abini -Kasa Kasa	- Papaver somniferum
11	Amukkurakkizhangu	- Withania somnifera
12	Ammaan pachcharisi	- Euphorbia pilulifera
13	Ammaiyar koondhal	- Curcuma reflexa
14	Arasu	- Ficus religiosa
15	Arathai	- Alpinia galanga
16	Ari-val mookku patchilai	- Sida acuta
17	Arunelli	- Phyllanthus acidus
18	Alari	- Nerium odorum
19	Alli	- Nymphaea nouchali
20	Avarai	- Lablab purpureus
21	Avuri	- Indigofera tinctoria
22	Azhavanam	- Lawsonia inermis
23	Azhinjil	- Alangium salvifolium
24	Arugu	- Cynodon dactylon
25	Annasipoo	- Illicium verum
26	Aakaasagarudan	- Corallocarpus epigaeus
27	Aadathodai	- Justicia adhatoda
28	Aadutheendapalai	- Aristolochia bracteolata
29	Aadaiyotti	- Pupalia orbiculata
30	Aathandam	- Capparis zeylanica
31	Aamanakku	- Ricinus communis
32	Chitraamanakku	-

33	Peraamanakku	-	Ricinus inermis
34	Chevvaamanakku	-	Ricinus tanarius
35	Aayil	-	Chukrasia tabularis
36	Aalamaram	-	Ficus benghalensis
37	Aavarai	-	Cassia auriculata
38	Aalivirai	-	Lepidium sativum
39	Aattruthumatti	-	Citrullus colocynthis
40	Iruvi	-	Dryopteris felixmas
41	Isangu	-	Clerodendrum inerme
42	Isappukol vidhai	-	Plantago ovata
43	Inji	-	Zingiber officinale
44	Indu	-	Mimosa rubicaulis
45	Iththi	-	Ficus microcarpa
46	Impooral	-	Oldenlandia umbellata
47	Ireval chinni	-	Rheum emodi
48	Ilanda maram	-	Ziziphus mauritiana
49	Lavangam	-	Syzygium aromaticum
50	Lavangappattai	-	Cinnamomum verum
51	Ilavamaram	-	Bombax ceiba
52	Mul ilavu	-	Bombax malabaricum
53	Iluppai	-	Madhuca longifolia
54	Ilaikkalli	-	Euphorbia ligularia
55	Eechu (Sitrechu)	-	Phoenix sylvestris
56	Paereechu	-	Phonex dactilifera
57	Echchura mooli	-	Aristolochia indica
58	Usilamaram	-	Albizia odoratissima
59	Uttamani	-	Pergularia daemia
60	Uppilangodi	-	Mimosa paniculata
61	Rudra jadaï	-	Ocimum basilicum
62	Rudraksham	-	Elacocarpus sphacsicus
63	Urulai kizhangu	-	Solanum tuberosum
64	Uzhundu	-	Vigna mungo
65	OOmaththai	-	Datura metal
66	Karu oomaththai	-	
67	Aetti	-	Strychnos nux-vomica
68	Aerukku	-	Calotropis gigantea
69	Aelikkadilai	-	Merremia emarginata
70	Aeliyamanakku	-	Jatropha curcas
71	Aelumichai	-	Citrus lemon
72	Aellu	-	Sesamsum indicum
73	Aelam	-	Elettaria cardamomum
74	Chitraelam	-	Elettaria regains
75	Kattu – aelakkai	-	Amomum subulatum
76	Malayelam	-	

77	Iyvirali	-	Diplocyclos palmatus
78	Odimaram	-	Lannea coromandelica
79	Omam	-	Carum copticum
80	Kurosani omam	-	Hyoscyamus niger
81	Oritazhthamarai	-	Ionidium suffrutiocosum
82	Orilai tamarai	-	Nervilia aragoana
83	Kanja	-	Cannabis sativa
84	Kadambu	-	Anthocephalus cadamba
85	Kadalazhinjil	-	Salacia reticulata
86	Kadalai	-	Cicer arietinum
87	Kadarpasi	-	Gracilaria lichenoides
88	Chengadugu	-	Brassica juncea
89	Vengadugu	-	Brassica alba
90	Kadugu rokani	-	Picrorhiza scrophulariflora
91	Kadukkai	-	Terminalia chebula
92	Kattukodi	-	Cocculus hirsutus
93	Kanap-pundu	-	Exacum pedunculatum
94	Kandangkattari	-	Solanum surattense
95	Kandupaarangi	-	Clerodendron serratum
96	Kathakambu	-	Uncaria gambir
97	Kasthuri manjal	-	Curcuma aromatica
98	Kamuku -Kalippakku	-	Areca catechu
99	Kambu	-	Pennisetum typoideum
100	Kottaikaranthai	-	Spaeranthus indicus
101	Kaththari	-	Solanum melongena
102	Karisalankanni	-	Eclipta prostrata
103	Karungali	-	Acacia catechu
104	Karunai thandu	-	Amarphophallus paeonic folius
105	Karpooravalli	-	Aniso chilus carnosus
106	Karumbu	-	Saccharum officinarum
107	Karkadaga singhi	-	Rhus succedanea
108	Kalappai kizhangu	-	Glorius superba
109	Kaliyana pushnikai	-	Benincasa hispida
110	Kaliyana murukku	-	Erythrina variegata
111	Kazharchi kodi	-	Caesalpinia bonduc
112	Kala	-	Carissa carandar
113	Kalli	-	Euphorbia ligularia
114	Kodikalli	-	Sarcosemma brevistigma
115	Sadhurakalli	-	Euphorbia antiquorum
116	Kalli-mulayan	-	Stapelia virgata
117	Kari-vembu	-	Murraya koenigi
118	Karpasi	-	Parmelia perlata
119	Katrashai	-	Aloe barbadensis
120	Kariabolam	-	Aloe littoralis

121	Kaakkanam	-	<i>Clitoria ternatea</i>
122	Kaakkai kolli	-	<i>Anamirta cocculus</i>
123	Kaanchori	-	<i>Tragiainvolucrata</i>
124	Kaattatti	-	<i>Bauhinia tomentosa</i>
125	Kaattaamanakku	-	<i>Jatropha curcas</i>
126	Kaappikottai	-	<i>Coffea arabica</i>
127	Kaarai	-	<i>Catunaregum spinora</i>
128	Kaarpokarisi	-	<i>Psoralea corylifolia</i>
129	Kaalaan	-	<i>Agaricus campestris</i>
130	Kitchilikizhangu	-	<i>Curcuma zeodaria</i>
131	Kitchilipazham	-	<i>Citrus aurantium</i>
132	Kiranthithakaram	-	<i>Tabernaemontana divaricata</i>
133	Kiliyural	-	
134	Kilukiluppai	-	<i>Crotalaria retusa</i>
135	Keerippundu	-	<i>Ophiorrhiza mungos</i>
136	Keeraikal	-	Greens
137	Puthina	-	<i>Mentha arvensis</i>
138	Puliyarai	-	<i>Oxalis corniculata</i>
139	Manali keera	-	<i>Gisekia pharnaceoides</i>
140	Keeraithandu	-	<i>Amaranthus gangeticus</i>
141	Keezhkaai nelli	-	<i>Phylanthus amarus</i>
142	Kungiliam	-	<i>Shorea robusta</i>
143	Kungumappoo	-	<i>Crocus sativus</i>
144	Kudasappaalai	-	<i>Holarrhena pubescens</i>
145	Kudiyottipoondu	-	<i>Argemone mexicana</i>
146	Kunthrikkam	-	<i>Boswellia serrata</i>
147	Kuppeimeni	-	<i>Acalypha indica</i>
148	Kuruver	-	<i>Vetiveria zizanioides</i>
149	Kurattai	-	<i>Trichosanthes tricuspidata</i>
150	Kurinjan	-	<i>Gymnema sylvestre</i>
151	Kuntri	-	<i>Abrus precatorius</i>
152	Kaezhvaragu	-	<i>Eleusine coracana</i>
153	Kodiveli	-	<i>Glycosmis arborea</i>
154	Chenkodiveli	-	<i>Plumbago rosea</i>
155	Kottikizhangu	-	<i>Aponogeton monostachyon</i>
156	Koththumalli	-	<i>Coriandrum sativum</i>
157	Kollu	-	<i>Macrotyloma uniflorum</i>
158	Kollukkaivelai	-	<i>Tephrosia purpurea</i>
159	Korukkaip-puli	-	<i>Pithecellobium duke</i>
160	Konrai-Sarak-Konrai	-	<i>Cassia fistula</i>
161	Sirukonrai	-	<i>Cassia arborescens</i>
162	Senkonrai	-	<i>Cassia margiuata</i>
163	Kottam	-	<i>Costus speciosus</i>
164	Gothumai	-	<i>Triticum aestivum</i>

165	Korai	-	<i>Cyperus rotandus</i>
166	Kovai	-	<i>Coccinia grandis</i>
167	Gowrivalpul	-	
168	Sadamaanji	-	<i>Nardostachys grandiflora</i>
169	Shenbagam	-	<i>Michelia champaca</i>
170	Chathakuppai	-	<i>Anethum graveolens</i>
171	Chaarana	-	<i>Trianthema decandra</i>
172	Chandanam	-	<i>Santalum album</i>
173	Naattu jadhikai	-	<i>Myristica fragrans</i>
174	Chaathipaththiri	-	<i>Myristica fragrans</i>
175	Saamai	-	<i>Panicum sumatrense</i>
176	Shaambrani	-	<i>Styrax benzoin</i>
177	Salaamisri	-	<i>Orchis latifolia</i>
178	Sivathai	-	<i>Operculina turpethum</i>
179	Shivanar vembu	-	<i>Indigofera aspalathoides</i>
180	Chirunaagapoo	-	<i>Mesua nagassarium</i>
181	Chirupeyathi	-	<i>Ficus hispida</i>
182	Chitramutti	-	<i>Pavonia zeylanica</i>
183	Peramutti	-	<i>Pavonia odorata</i>
184	Chinni	-	<i>Acalypha fruticosa</i>
185	Cheekai	-	<i>Acacia sinuata</i>
186	Seendhil	-	<i>Tinospora cordifolia</i>
187	Porseendhil	-	
188	Seemai athi	-	<i>Ficus carica</i>
189	Cheerakam	-	<i>Cuminum cyminum</i>
190	Karuncheerakam	-	<i>Nigella sativa</i>
191	Peruncheerakam	-	<i>Pimpinella anisum</i>
192	Kaattu cheerakam	-	<i>Vernonia antihelmintica</i>
193	Chukku	-	<i>Zingiber officinale</i>
194	Chundai	-	<i>Solanum torvum</i>
195	Churai	-	<i>Lagenaria siceraria</i>
196	Chemparuthi	-	<i>Hibiscus rosa-sinensis</i>
197	Chemparathai	-	<i>Gossypium arboreum</i>
198	Chembai	-	<i>Sesbania sesban</i>
199	Cheruppadi	-	<i>Mollugo lotoides</i>
200	Cheviyam	-	<i>Piper nigrum</i>
201	Sembu	-	<i>Colocasia esculenta</i>
202	Cherankottai	-	<i>Semecarpus anacardium</i>
203	Cholam	-	<i>Sorghum vulgare</i>
204	Thakarai (Usithakarai)	-	<i>Cassia tora</i>
205	Thakkali	-	<i>Physalis minima</i>
206	Manathathakkali	-	<i>Solanum nigrum</i>
207	Thannirvittan kizhangu	-	<i>Asparagus racemosus</i>
208	Tharuppai	-	<i>Desmostachya bipinnata</i>
209	Thavasurungai	-	<i>Rungia parviflora</i>
210	Thazhuthazhai	-	<i>Clerodendrum phlomidis</i>

211	Thaamarai	-	Nelumbo nucifera
212	Thaazhai	-	Pandanus odoratissimus
213	Thaalisa-paththiri	-	Abies spectabilis
214	Thaantri	-	Terminalia bellirica
215	Thippili	-	Piper longum
216	Thippiliver	-	Piper longum
217	Thirakshai	-	Vitis vinifera
218	Thinai	-	Setaria italica
219	Thutthi	-	Abutilon indicum
220	Thuvarai	-	Cajanus cajan
221	Thumbai	-	Leucas aspera
222	Thulasi	-	Ocimum sanctum
223	Thuthuvelai	-	Solanum trilobatum
224	Thengumaram	-	Cocos nucifera
225	Thelkodukku	-	Heliotropium indicum
226	Devadaru	-	Cedrus deodara
227	Thettran	-	Strychnos potatorum
228	Thottar Chinungi	-	Mimosa pudica
229	Nancharuppan	-	Tylophora indica
230	Naththaichuri	-	Spermacoce hispida
231	Naralai	-	Cayratia pedata
232	Nanthiavattam	-	Tabernaemontana divaricata
233	Nannaari	-	Hemidesmus indicus
234	Naagamalli	-	Rhinacanthus nasuta
235	Naabi	-	Aconitum napellus
236	Naayuruvi	-	Achyranthes aspera
237	Naaval	-	Syzygium cumini
238	Nilavembu	-	Andrographis paniculata
239	Nila vaarai	-	Cassia senna
240	Neeradimuthu	-	Hydnocarpus laurifolia
241	Neermulli	-	Hygrophila auriculata
242	Nuna	-	Mosinda tinctoria
243	Neichatti	-	Vernonia cinerea
244	Nerunjil	-	Tribulus terrestris
245	Nel	-	Oryza sativa
246	Nelli	-	Phyllanthus emblica
247	Naervalam	-	Croton tiglium
248	Notchi	-	Vitex negundo
249	Payaru	-	Vigna mungo
250	Pachillai	-	Garcinia xanthochymus
251	Pappali	-	Casica papaya
252	Pala	-	Artocarpus heterophyllus

253	Palasu	-	<i>Butea monosperma</i>
254	Parangippattai	-	<i>Smilax china</i>
255	Parppadaakam	-	<i>Hedyotis coryambose</i>
256	Panai	-	<i>Horstrus flbellifer</i>
257	Badampisin	-	
258	Pathiri	-	<i>Stereospermum colais</i>
259	Barelee	-	<i>Hordeum vulgara</i>
260	Vetpaalai	-	<i>Wrightia tinctoria</i>
261	Pirappan kizhangu	-	<i>Calanus rotang</i>
262	Peetharoghani	-	<i>Coptis teeta</i>
263	Peenarimaram	-	<i>Sterculia foetida</i>
264	Paavattai	-	<i>Pavetta indica</i>
265	Pidangunari	-	<i>Premma tomentosa</i>
266	Pirandai	-	<i>Cissus quadrangularis</i>
267	Chirupeelai	-	<i>Aerva lanata</i>
268	Pugaiyilai	-	<i>Nicotiana tobacum</i>
269	Pungu	-	<i>Pongamia pinnata</i>
270	Pulluruvi	-	<i>Dendrophthoe falcata</i>
271	Puli	-	<i>Tamarindus indicus</i>
272	Pulladi	-	<i>Desmodium gangeticum</i>
273	Puvarasu	-	<i>Thespesia populnea</i>
274	Poonaikali	-	<i>Mucuna pruriens</i>
275	Perungayam	-	<i>Ferula asafetida</i>
276	Poduthalai	-	<i>Phyta nodiflora</i>
277	Ponnanganni	-	<i>Alternanthera sessilis</i>
278	Magizh	-	<i>Mimusops elengi</i>
279	Mangusthan	-	<i>Garcinia mangostana</i>
280	Manjal	-	<i>Curcuma longa</i>
281	Mara manjal	-	<i>Coscinium fenestratum</i>
282	Manjitti	-	<i>Rubia cordifolia</i>
283	Madhanakamappu	-	<i>Cycus circinalis</i>
284	Mantharai (red)	-	<i>Bauhinia purpurea</i>
285	Malli	-	<i>Jasminum grandiflorum</i>
286	Marakkurai	-	<i>Catunaregum spinosa</i>
287	Maruthu	-	<i>Terminalia arjuna</i>
288	Maa	-	<i>Mangifera indica</i>
289	Masikkai	-	<i>Quercus infectoria</i>
290	Masipathiri	-	<i>Artemisia nilagisica</i>
291	Mathulai	-	<i>Punica granatum</i>
292	Milagu	-	<i>Piper nigrum</i>
293	Vaal milagu	-	<i>Piper cubeba</i>
294	Milakaranai	-	<i>Todalia asiatica</i>
295	Musumusukkai	-	<i>Mukia madraspatana</i>
296	Mudakkatran	-	<i>Cardiospermum helicacabum</i>

297	Murungai	-	<i>Moringa oleifera</i>
298	Mulaam	-	<i>Citrullus vulgaris</i>
299	Munnai	-	<i>Premna corymbosa</i>
300	Mukkirattai	-	<i>Boerhavia diffusa</i>
301	Mungkil	-	<i>Bambusa arundinacea</i>
302	Vasambu	-	<i>Acorus calamus</i>
303	Vandukolli	-	<i>Cassia alata</i>
304	Varagu	-	<i>Paspalum scrobiculatum</i>
305	Valampurikkai	-	<i>Helicteres isora</i>
306	Vallarai	-	<i>Centella asiatica</i>
307	Vallaikodi	-	<i>Convolvulus repens</i>
308	Vaadhanarayan	-	<i>Delonix elata</i>
309	Vaavidangum	-	<i>Embelia ribes</i>
310	Vaaluzhuvai	-	<i>Celestrus paniculatus</i>
311	Vaazhai	-	<i>Musa paradisiaca</i>
312	Vidathari	-	<i>Dichrostachys cinerea</i>
313	Viraali	-	<i>Dodonaea viscosa</i>
314	Vilvam	-	<i>Aegle marmelos</i>
315	Vilamichamver	-	<i>Plectranthus vettiveroides</i>
316	Vizhuthi	-	<i>Cadaba trifoliata</i>
317	Vilaamaram	-	<i>Limonia acidissima</i>
318	Vishamungkil	-	<i>Crinum asiaticum</i>
319	Vishnukiranthi	-	<i>Evolvulus alsinoides</i>
320	Vengayam	-	<i>Alium cepa</i>
321	Vetchi	-	<i>Ixora coccia</i>
322	Vendakai	-	<i>Abelmoschus esculantus</i>
323	Vendhayam	-	<i>Trigonella foenum</i>
324	Vellarikai	-	<i>Cucumis sativus</i>
325	Vellarugu	-	<i>Enicostemma axillare</i>
326	Vellilothram	-	<i>Symplocos racemosa</i>
327	Vellulli	-	<i>Allium sativum</i>
328	Vettilai	-	<i>Piper betle</i>
329	Vembu	-	<i>Azadirachta indica</i>
330	Verkadalai	-	<i>Arachis hypogea</i>
331	Vel	-	<i>Acacia nilotica</i>
332	Velvel	-	<i>Acacia leucophloea</i>
333	Kudaivel	-	<i>Acacia latronum</i>
334	Peekkaruvel	-	<i>Acacia farnesiana</i>
335	Velai	-	<i>Cleome viscosa</i>
336	Thaivelai	-	<i>Gynandropsis gynandra</i>

The following plants which are comparatively less important and can be studied by the students themselves with guidance of the teacher. **(20 hours)**

Sl. No.	<u>Tamil Name</u>	<u>Botanical Name</u>
1	Akrottu	- Juglans regia lin.
2	Alisi virai	- Linum usitatissimum
3	Arukeerai	- Amarantus tristis
4	Annasipazham	- Ananas comosus
5	Aaraikirai	- Marsilea quadrifolia
6	Alapagoda pazham	- Prunus domestica
7	Aal-vallikizhangu	- Manihot esculenta
8	Aattrunetti	- Neptunia oleracea
9	Aanai-katrzhai	- Agave americana
10	Aanai kunri	- Adenanthera pavonina
11	Aanaippuliamaram	- Adansonia digitata
12	Rattai – peimarutti	- Anisomeles malabarica
13	Rathabolam	- Aloe barbadensis
14	Ezhathalari	- Plumeria rubra
15	Uka	- Salvadora persica
16	Uzhalathi	-
17	Usilam	-
18	Aerisalai	-
19	Aelumichan thulasi	- Ocimum gratissimum
20	Aezhilapalai	- Alstonia scholaris
21	Odukkann	- Cleistanthus collinus
22	Kakkarikkai	- Cucumis sativus
23	Kasa-kasa	- Papaver somniferum
24	Kadarpaalai	- Argyreia nervosa
25	Kadar thengai	- Lodoicea maldivica
26	Kadara naaraththai	- Citrus medica
27	Kalumichchamkai	-
28	Kavizh thumbai	- Trichodesma indicum
29	Kazhu-neer	- Nymphaea alba
30	Kalarva	- Salvadora persica
31	Chirukalarva	- Salvadora persica
32	Karkovai	- Melothria heterophylla
33	Kartaamarai	- Smilax zeylanica
34	Kaasa	- Memecylon umbellatum
35	Kaasi rathnam	- Quamoclit pennata
36	Kaattu aelumichchai	- Atalantia malabarica
37	Kaattu aellu	- Sesamum prostratum
38	Kaattu kadugu	- Cleome viscosa
39	Kaattu karuvappattai	- Cinnamomum iners
40	Kaattu thumbai	-
41	Kaattu paagal	- Momordica dioica

Sl. No.	<u>Tamil Name</u>	<u>Botanical Name</u>
42	Kaattu peipudal	- Trichosanthes lobata
43	Kaattu mullangi	- Blumea lacera
44	Kaattu Vengayam	- Urginea indica
45	Kai-vallikkodi	- Dioscorea alata
46	Kaaramani	- Vigna unguiculata
47	Kaavatambul	- Cymbopogon martinic
48	Kiranthinayagam	-
49	Kumizhamaram	- Gmelina arborea
50	Kurukkaththi	- Hiptage benghalensis
51	Kuruvich-chi	- Ehretia microphylla
52	Kuthan Kuthambai	- Cantana indica
53	Kuntharpanai	- Caryota urens
54	Kuvaikkizhangu	- Maranta arundinacea
55	Koththavarai	- Cyamopsis tetragonoloba
56	Kodaga salai	- Rungia repens
57	Gopuram thangi	- Andrographis echiodes
58	Chanappu	- Crotalaria juncea
59	Sanninayagam	-
60	Chavukkumaram	- Casuarina equisetifolia
61	Samanthipoo	- Chrysanthemum coronarium
62	Chayamaram	- Caesalpinia sappan
63	Chavvarisimaram	-
64	Chaaraiparuppu	- Buchanania lanzan
65	Chinnikizhangu	-
66	Chukkankai	-
67	Chukkan kirai	- Rumex vesicarius
68	Chulukku nayagam	-
69	Suriyakanthi	- Helianthus annus
70	Cheppu – nerunjil	- Indigofera enneaphylla
71	Chevaganar kizhangu	- Gloriosa superba
72	Peyavarai	- Cassia occidentalis
73	Thakkolam	-
74	Tamaraththam	- Avarrhoa carambola
75	Thara	- Fumaria parviflora
76	Thalippanai	- Corypha umbraculifera
77	Thillai	- Excoecaria agallocha
78	Thumbilkkai	- Diospyros peregrina
79	Thurinjibeen	- Alhagi maurorum
80	Thekku	- Tectona grandis
81	Naruvili	- Cordia dichotoma
82	Naaganam	-
83	Naagathali	- Opuntia dillenii
84	Naanal	- Saccharum spontaneum
85	Nilakkadambu	- Asarum europaeum

Sl. No.	<u>Tamil Name</u>	<u>Botanical Name</u>
86	Nilakumizh	- Gmelina asiatica
87	Nilappanai	- Curculigo orchiodes
88	Nilavaamanakku	-
89	Ninral chinungi	-
90	Neeralari	- Polygorum barbatum
91	Neerbrahmi	- Bacopa monnieri
92	Neerpula	- Phyllanthus reticulatus
93	Neermel neruppu	- Ammania baccifera
94	Nettilingam	- Polyalthia longifolia
95	Neithar kizhangu	- Nymphaea pubescens
96	Pannimonthan kizhangu	- Trapa natans
97	Paruththi	- Gossypium herbaceum
98	Motchai	- Lablab purpureus
99	Chemparuththi	- Gossypium arboretum
100	Parangikkai	- Cucurbita maxima
101	Panneerpoo	- Rosa centifolia
102	Paakal	- Momorchica charantia
103	Paalai	- Manikara hexandra
104	Piramiya vazhukkai	- Bacopa monnieri
105	Pirai	- Streblus asper
106	Pilimbi	- Averrhoa bilimbi
107	Pilavai kolli	-
108	Pudal	- Trichosanthes cucumescina
109	Punnai	- Calophyllum inophyllum
110	Ponmusuttai	- Sida acuta
111	Manippungu	- Sapindus lausifolia
112	Musarkaathilai	- Ipomea pes-caprae
113	Maavilangu	- Crateva magna
114	Munthiri	- Anacardium occidentale
115	Mullangi	- Raphanus sativus
116	Modagavalli	- Sterculia foetida
117	Valli	- Dioscorea esculenta
118	Chevalli	- Dioscorea purpurea
119	Vaagai	- Albizia lebbek
120	Karuvaagai	- Albizia odoratissima
121	Vaadhumi	- Prunus dulcis
122	Vizhalarisi	- Seed of red grass
123	Peru-lavangappattai	- Cinnamomum macrocarpum
124	Peyatti	- Ficus hispida
125	Vengai	- Pterocarpus marsupium
126	Aruvada	- Ruta chalepensis
127	Ezhuttani poondur	- Launaea pinnatifida
128	Karimulli	- Solanum anguini
129	Kaanaam vaazhai	- Commelina benghalensis

Sl. No.	<u>Tamil Name</u>	<u>Botanical Name</u>
130	Seeththa	- Anona squamosa
131	Pallipundu	- striga lutea
132	Valendrabolam	- Commiphora myrrh

Mooligai - Practicals.

Total Hours : 100

1. Manappagu	(8 hours)
2. Kudineer	(8 hours)
3. Chooranam	(8 hours)
4. Vadagam	(8 hours)
5. Nei	(8 hours)
6. Rasaayanam	(8 hours)
7. Ilagam	(8 hours)
8. Maathirai	(8 hours)
9. Vennai	(8 hours)
10. Parpam	(8 hours)
11. Thailam	(8 hours)
12. Pasai	(8 hours)
13. Theeneer	(4 hours)

Reference Books

- 1) Gunapadam – Mooligai Vaguppu – by Dr. Murugesamudaliar
- 2) Materia Medica – Vol I & II – by Dr. Natkarani.
- 3) Mooligai Iyal – By – Dr.V.Arunachalam M.D.Siddha.

GUNAPAADAM -PAPER II (THATHU AND VILANGINAM)

(MATERIA MEDICA –METALS, MINERALS AND ANIMAL KINGDOM)

Total Hours : 200

INTRODUCTION

(25 hours)

- Introduction to General Pharmacology (Gunapadam)
- Classification of metals & minerals
- Instruments used for medicine preparation, description about specific techniques, including the special technique of drug preparation.
- Acid distillation formulae.
- Converting ancient measurements into new metric units.
- Internal applications – 32, Definition, examples & their life span
- How to form a medicine production unit
- Classification of combustion (Spudam)
- Study of friendly drugs (Synergetic) and antagonistic drugs.
- Classification of drugs based on five elements

Ulogangal – Metals

(20 hours)

Sl. No	Tamil Name	English Name / Scientific Name
1	Ayam	Iron
2	Ekkhu	Steel
3	Kareeyam	Lead
4	Kandham	Magnetic Oxide of Iron
5	Thambram	Copper
6	Naagam	Zinc
7	Thankam	Gold
8	Mandooram	Ferrous Ferric Oxide
9	Velleeyam	Tin
10	Velli	Silver

II. Pancha Sootham - Mercury & its ores

(15 hours)

Sl. No	Tamil Name	English Name / Scientific Name
1	Rasam	Mercury
2	Rasa chendhooram	Red Sulphide of mercury
3	Lingam	Cinnabar – Natural
4	Pooram	Calomel - Hydragryum subchloride
5	Veeram	Corrosive sublimate - Hydrogyrum per chloride

III. Paashanagal - Metal Salts

(25 hours)

Sl. No	Tamil Name	English Name / Scientific Name
1	Anjanakal	Antimony Sulphide
2	Kanthakam	Sulphur
3	Gowri paashanam	Yellow Oxide of arsenic (Synthetic)
4	Thaalagam	Yellow Arsenic Trisulphide
5	Thottipaashanam	A pharmaceutical preparation of Arsenic combined with mercury & sulphur.

Sl. No	Tamil Name	English Name / Scientific Name
6	Nava pashaanangal	Nine kinds of metal salts
7	Pancha paashanangal	Five kinds of metal salts
8	Manosilai	Red Arsenic Disulphide (Realger)
9	Mirudhaar sinki	Galena (Lead Sulphide)
10	Vellaipaashanam	Arsenum Acidum (White Arsenic)

IV. Karasaram – Salts

(30 hours)

Sl. No	Tamil Name	English Name / Scientific Name
1	Applakkaaram	Sodium Carbonate impure
2	Indhuppu	Sodium Chloride Impure (RockSalt)
3	Evatchaaram	Potassium Carbonate impure
4	Ekambachaaram	A Prepared Salt (an efflorescentsalt)
5	Kadal nurai	Sea froth engendered by submarine fire
6	Kanavaai odu	OS SEPIAE (Cuttle fish bone)
7	Gandhiuppu	Salts of Sulphur
8	Gandhaga lavanam	Salt obtained from Sulphur, mixed with other ingredients (Consolidated sea salt)
9	Kalluppu	Salt found in lumps deposited on beds of rocks at the bottom of the sea
10	Kariuppu	Sodium chloride (Common salt)
11	Kaaichulavanam	Salt produced from the earth impregnated with soda
12	Cheenaakkaaram	Alum (Aluminous Sulphate)
13	Soodan	Camphor
14	Thilaalavanam	A salt derived from sessamum
15	Navauppu mezhugu	Waxy preparation comprises with salts
16	Navachchaaram	Ammonium chloridum (Sal ammoniac)
17	Pachai karpooram	Borneo camphor (Crude camphor)
18	Panchalavanam	Mixture of five salts
19	Pidaalavanam	Black salt
20	Pooneeru	Fuller's earth
21	Amber	Ambra arasea
22	Valaiyaluppu	Extracted salt from fuller's earth (Glass gall)
23	Vengaaram	Sodium biborate (Borax)
24	Vediuppu	Potassium nitrate (Salt petre)
25	Attuppu	A boiled salt obtained from salt petre

V. Navamanigal – Gems

(15 hours)

Sl. No	Tamil Name	English Name / Scientific Name
1	Komedhagam	Onyx (Berly)
2	Neelamani	Sapphire
3	Pavazham	Coral
4	Pushparaagam	Topaz, Yellow Topaz
5	Maragadham	Emerald
6	Maanickam	Ruby (Carbuncle)

Sl. No	Tamil Name	English Name / Scientific Name
7	Vaidooriyam	Cats eye (Chryso prase)
8	Vairam	Diamond
9	Muthu	Pearl

Pavazham & Muthu to be studied in detail, rest of other gems may be studied briefly.

VI. Uparasam - Minerals (Natural Substances) (20 hours)

Sl. No	Tamil Name	English Name / Scientific Name
1	Appiragam	Mica
2	Annabedhi	Ferri Sulphas (Green vitriol)
3	Karpoorasilaasathu	Crystalised foliated Gypsum
4	Kalnaar	Asbestos
5	Kal-matham	
6	Karchunnam	Lime stone
7	Kaadikkaaram	Nitrate of silver
8	Kaavikkal	Red ochre
9	Gomuthra silaasathu	Asphaltum (Asphalt mineral piteh)
10	Thurusu	Cupric sulphate (Blue vitriol)
11	Nandukkal	Fossil stone crab
12	Nimilai	Bismuth
13	Paalthutham	Sulphate of zinc
14	Saathirabedhi	

JEEVAM -MATERIA MEDICA (ANIMAL KINGDOM) (50 hours)

Sl. No	Tamil Name	English Name / Scientific Name
1)	Attai	Hirudo Medicinalis (Speckled leech)
2)	Aamai	Chelonia Turtle (Tortoise)
3)	Aalkaattipatchi	Lapwing bird (Vanellus indicus)
4)	Indrakopa poochi	Mutilla Occidentalis
5)	Iragukal	Feathers
6)	Udumbu	Varanus Sps (Monitor)
7)	Eri vandu	Mylabris Sps.
8)	Elumbugal	Bones
9)	Onan	Calotis (Common Agemaid Lizard)
10)	Kasthuri	Moschus moschiferus musk
11)	Kaandamiruga kombu	Rhinoceros unicornis
12)	Kilinjil	Ostrea edults linn (Common oyster shell)
13)	Kulambugal	Hoofs
14)	Kulavikkoondu	Wasps nest
15)	Kombarakku	Carteria Lacca (Lac)
16)	Kombugal	Horns
17)	Korochanam	Fel Borinum purifactum (Oxbile)
18)	Kozhi	Gallus domes (Domestic cock & hen)
19)	Sangu	Turbinella rapa (Conch Shell)
20)	Chaanam	Dung
21)	Siruneer	Urine

Sl. No	Tamil Name	English Name / Scientific Name
22)	Suraa	Squalus carcharius (Shark)
23)	Thantham	Teeth
24)	Thaen	Honey
25)	Nandu	Crab
26)	Nathai	Fresh Water Snail
27)	Nari echam	Jackal's excreta
28)	Palagarai	Cypraea moneta Linn (Cowry)
29)	Pantri	Sus indicushog (Pig)
30)	Paambu chattai	Snake's slough
31)	Palum pal porutkalum	Milk and milk products
32)	Pitchi	Bile
33)	Puli	Tiger
34)	Punugu	Viverra Civetta (Civet cat)
35)	Poo naagam	Earth Worm
36)	Mayil	Pavo Cristatus Linn (Pea Cock)
37)	Maan	Deer
38)	Min mini poochi	Fire fly
39)	Muttai odugal	Egg shells
40)	Musiru muttai	Egg of Formica Smaragdina
41)	Mudhalai	Crocodills porosus (Crocodile)
42)	Muthuchippi	Mytilus margaritiferus (Pearl Oyster Shell)
43)	Mezhugu	Wax
44)	Yaana	Elephas indicas (Elephant)
45)	Mul eli	
46)	Pazham thinni Vavvaal	(Bat).
47)	Thavalai (Patchai).	Green coloured Frog.
48)	Kaattu-Poonai.	

Thathu Jeevam – Practical

Total Hours : 100

1. Sutthi (Purification of Drugs)	(10 hours)
2. Chooranam	(7 hours)
3. Vadagam	(7 hours)
4. Maathirai	(7 hours)
5. Thailam	(7 hours)
6. Kuzhambu	(7 hours)
7. Ilagam	(7 hours)
8. Parpam	(7 hours)
9. Chendhooram	(7 hours)
10. Mezhugu	(7 hours)
11. Vennai	(7 hours)
12. Rasaayanam	(7 hours)
13. Kalimbu	(7 hours)

Perparation of Peru Marunthugal can be shown in Video to students during Practical hours **(6 hours)**

Reference books:

- 1) Text of Gunapadam – Thathu Jeeva Vaguppu – Vol. II & III – by Dr.R.Thiagarajan
- 2) Pathartha Guna Chindamani
- 3) Pathartha Guna Vilakkam – Kannusamy
- 4) Materia Medica - Vol. I & II – by Dr. Natkarni
- 5) Siddha Vaidhya Thirattu – by Dr. C.S. Uthamarayan

**Syllabus for Siddha Maruthuva Arignar (BSMS) Course
(2013 scheme)**

3rd Professional BSMS

NOI NAADAL PAPER – I

(PRINCIPLES OF SIDDHA PATHOLOGY)

Total Hours : 200

1. Introduction to Siddha Pathology

[Page No. 1-4, 107-108, 117-124, Text Book S. No. 1; 5 Hrs]

1.1 Definition of Noi and Noi Naadal

1.2 Importance of Noi Naadal

1.3 Etiology of Diseases as per Siddha system.

1.4 Noi intri vazha kadai pidikka vendiya vithi muraikal , maruthuvanin kadamaikal according to Thiruvalluvar

1.5 Noi intri vazha Kaayakalpam- mani manthira avizhtham

2. Interrelations between five elements, six tastes and three humours – abnormalities during derangements. [Page No. 21-25, Text Book S. No. 1; 5 Hrs]

3. Mukkutra iyal (Vatham – Pitham – Kapham)

[Page No. 232-245, Text Book S. No. 1; 15 Hrs]

3.1 Predominant locations – properties – Functional varieties – physiological role

3.2 Pathological conditions (increased & decreased features)

3.3 Thanilai valarchi – Vetrunilai valarchi – Thannilai adaithal).

4. Thega ilakkanam correlated with diseases

[Page No. 245-248, Text Book S. No. 1; 10 Hrs]

5. Derangements of Uyir thathukal,

[Page No. 255-259, Text Book S. No. 1; 20 Hrs]

6. **Naadi:** [Page No. 82-107, 124-156, 167-195 , Text Book S. No. 1; 20 Hrs]

6.1 Definition – locations

6.2 Vatha Naadi, Pitha Naadi, Kapha Naadi, ratio of Naadi , Conjoined Naadi

6.3 Pulse variations according to seasons

6.4 Preponderant period of Vatha, Pitha & Kapha Naadi – conditions responsible for irregular pulse rhythm – prognosis of a disease based on Naadi.

6.5 Boothha naadi and Pancha Boothha Naadi

6.6 Guru Naadi and its abnormalities

7. Fourteen Natural Urges and the Pathological features manifested due to their suppression. [Page No. 260-265, Text Book S. No. 1; 5 Hrs]

8. Asaathiya, Marana Naadikal and Kurigunangal (Fatal signs & symptoms)

[Page No. 195-232, Text Book S. No. 1; 7 Hrs]

9. Ennvagai Thervukal, [Page No. 269-272, 282-325, Text Book S. No. 1; 15 Hrs]

9.1 Examination through Naadi

9.2 Examination through Sparism

9.3 Examination through Naa

9.4 Examination through Niram

9.5 Examination through Mozhi

9.6 Examination through Vizhi

9.7 Examination through Malam

9.8 Examination through Moothiram- Neerkkuri , & Neikkuri .

9.8.1 Neerkkuri: (Urine general examination) – Alavu (Quantity), Niram (colour), Manam (odour), Nurai (froth), Edai (Density) – Enjal (Deposits)

9.8.2 Neikkuri : The different changes in the oil dropped on the urine to be observed

9.9 Diagnosis of diseases, curable and incurable condition through Ennvagai Thervukal

10. Special Diagnostic Methods in Siddha System

[Page No. 339-352, Text Book S. No. 1; 3 Hrs]

10.1 Manikkadai Nool (Wrist circumetric findings)

10.2 Thoothuvan Ilakkanam.

11. Seven physical constituents (Udal thathukkal) & Malangal (feaces, Urine & sweat increased & decreased features).

[Page No. 255-259, Text Book S. No. 1; 5 Hrs]

12. Digestive fire (Udal thee) -Geographical Classifications & Seasonal variations (Nilamum pozhuthum) – Appropriate time for medications.

[Page No. 265-268, Text Book S. No. 1; 3 Hrs]

13. Primary aetiology of various diseases according to Theraiyar. [Page No. 363-364, Text Book S. No. 1; 2 Hrs]

14. Worms and infectious diseases (Ottu noigal)

[Page No. 353-359, 365-366, Text Book S. No. 1; 10 Hrs]

Diseases: [Text Book S. No. 2]

The following headings should be covered for the following diseases. Veru peyar , Noi kaaranam, mukutra verubadu, Noyin murkurigal, pothukkurigal , Naadi nadai,, Theerum Theeratha Nilai (Prognosis).

Sl. No.	Topics	Hours
1.	Suram	5 hrs
2.	Mukkadaippu	2 hrs
3.	Irumal	2 hrs
4.	Irraippu	2 hrs
5.	Ilaippu	2 hrs
6.	Thamaraga Noi	2 hrs
7.	Athi Kurathi Azhal Noi	2 hrs
8.	Vaanthi	2 hrs
9.	Gunmam	2 hrs
10.	Athisaaram	2 hrs
11.	Kirani (Nina Kazhichal)	2 hrs
12.	Seetha Kazhichal	2 hrs
13.	Kalleeral Noi	2 hrs
14.	Manneeral Noi	2 hrs

15.	Paandu	2hrs
16.	Sobai	2 hrs
17.	Kaamalai	2 hrs
18.	Peruvayiru	5 hrs
19.	Siru Neer Noigal	
19.1.	Siruneer Perukkal Noi	5 hrs
19.2.	Siruneer Arukkal Noi	5 hrs
20.	Vatha Noigal	10 hrs
21.	Pitha Noigal	5 hrs
22.	Kapha Noigal	5 hrs
23.	Keel Vatham	3 hrs

PRACTICALS

Total Hours : 100

Major:

- Clinical applications of Three Humours (Vatham, Pitham, Kapham) **(15 hours)**
- Interpretation of Enn vagai Thervukal **(30 hours)**
- Examination of Ezhu Udai Thathukkal **(5 hours)**

Minor:

- Manikkadai Nool **(5 hours)**
- Neerkkuri and Neikkuri **(15 hours)**
- Clinical applications of individual humours **(15 hours)**
- Clinical applications of individual Udai Thaathu **(5 hours)**
- Clinical applications of Enn vagai Thervu **(10 hours)**

TEXT BOOK

1. Shanmugavelu 2003, Noi Naadal Noi Mudal Naadal Thirattu / Part - I 2nd Edition. Department of Indian Medicine & Homoeopathy, Chennai, Govt. of Tamil Nadu.
2. Shanmugavelu 2003, Noi Naadal Noi Mudal Naadal Thirattu / Part - II 2nd Edition. Department of Indian Medicine & Homoeopathy, Chennai, Govt. of Tamil Nadu.

REFERENCES

1. Prof. Dr. P.M.VENU GOPAL H.P.I.M. 2014, Udai Thathuvam, Department of Indian

Medicine & Homoeopathy, Chennai, Govt. of Tamil Nadu.

2. Dr.Kuppusamy Mudaliar, H.P.I.M. 2012 Siddha Maruthuvam Pothu, Department of Indian Medicine & Homoeopathy, Chennai, Govt. of Tamil Nadu.
3. Dr.K.S.Uthamarayan H.P.I.M. 2003, Siddha Maruthuvanga Churukkam, 3rd Edition, Department of Indian Medicine & Homoeopathy, Chennai, Govt. of Tamil Nadu.
4. Periya Gnana Kovai -- Dhasa vayu's Pancheeharanam
5. Dr.Kannan Rajaram B.S.M.S, ATSVS Siddha Medical College, Munchirai
 1. 2008 Varma Maruthuvam
 2. 2008 Atharam thoondum muraikalum Noi kanippum
 3. 2007 Varma Maruthuvathin Adipadaikal

Distribution of Marks (Mark Weightage) for University Theory

Examination

Chapter – 1	5 Marks
Chapter – 2 & 3	10 Marks
Chapter – 4 & 5	5 Marks
Chapter – 6	15 Marks
Chapter – 7	5 Marks
Chapter – 8	5 Marks
Chapter – 9	20 Marks
Chapter – 10, 11, 12, 13 & 14	15 Marks
Chapter – Diseases	20 Marks
Total	100 Marks

Distribution of Marks for University Clinical Examination

Clinical	70 Marks
Viva Voce	20 Marks
Record	10 Marks
Total	100 Marks

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NOI NADAL PAPER- II

Total Hours : 150

(Principles of Modern Pathology including Clinical Pathology)

1. Introduction of Pathology [5 hrs]

1.1 Advances of Pathology

1.2 Classification of Pathology

2. Lab Techniques, equipments, study of Pathogenesis (Instrumental Technique) [6 hrs]

3. Cell [15 hrs]

Cell injury , Cell response to injury – Degeneration – Common Causes – Fatty changes , Atrophy, Hypertrophy – Metaplasia , Hyperplasia – Aplasia etc.

4. Immunopathology, [10 hrs]

5. Haemodynamics – Shock , oedema , embolism , thrombosis , ischemia , infarction , congestion [20 hrs]

6. Inflammation and wound healing [7 hrs]

7. Infectious diseases (Pathogenesis of the bacteria, virus and fungal infections) [15 hrs]

8. Gene and chromosomal Pathology – Diseases due to abnormalities of Gene, Diagnosis [10 hrs]

9. Nutrition (Proteins, vitamins and minerals) [15 hrs]

10. Haematology [7 hrs]

Abnormalities RBC, WBC, Platelets

11. Neoplasm [10 hrs]

Etiology – Classification – Pathogenesis - Para neoplastic syndromes and complications -
Diagnosis

12. Metabolic and life style disorders [30 hrs]

Diabetes, Obesity, Hypertension COPD, Jaundice, Arthritis and Ill effects of radiation etc.

Practicals	Total Hours :100
CLINICAL PATHOLOGY	
1. Haematology	(30 hours)
2. Examination of Sputum for AFB.	(5 hours)
3. Examination of Urine	(4 hours)
4. Examination of Faeces	(2 hours)
5. Blood smear examination	(5 hours)
6. Widal Test	(3 hours)
7. Vaginal Smear.	(3 hours)
8. Serological test- VDRL – Elisa Test – Hbs Ag, RA factor – ASO Titre	(10 hours)
9. Skin – Skin clipping procedure.	(2 hours)
10. Liver Function Tests, Renal Function Tests.	(6 hours)
Histopathology slides & specimens (minimum 10 nos.)	(10 hours)
Liver-fatty, cirrhosis & carcinoma	
Lung – Tuberculosis, Bronchitis, Bronchiectasis & carcinoma	
Stomach – Gastritis, Ulcer & carcinoma	
Uterus &Ovary – Endometritis, PCOD, Fibroid, Ovarian cyst & carcinoma.	
Fibro adenoma breast	
Colloidal Goiter	
Osteoclastoma	
Other slides	

Haematology slides**(10 hours)**

Iron deficiency Anaemia

Acute Myeloid leukaemia

Chronic Myeloid leukaemia

Acute lymphoblastic leukaemia

Chronic lymphoblastic leukemia

Radiology**(10 hours)**

Basic Principles

Respiratory System – Tuberculosis, COPD, Pleural effusion etc.

Cardio-vascular System – Enlargement, etc.

Osteology - Fracture, Dislocation, Tumor etc.

Text Books:

1. Harsh Mohan 2010, Text Book Of Pathology, 6th Edition, Jitinder P Vij, Jaypee Brothers Medical Publishers (p) Ltd., EMCA House, 22/23B Ansari Road Danyaganj.
2. Robbins and Cotran 2008, Pathologic Basis of Disease, 7th Edition Elsevier adivision of Reed Elsevier India private Limited, Logix Park, First Floor, A4 &A5 Sector -16 Noida 201301, U.P> India. Vinay Kumar MD, FRC Patho, Abul K. Abbas MBBS & Nelson Fausto,MD.
3. CK. Jayaram Panikar 2007, Text Book of Medical parasitology, 6th Edition, Jaypee Brothers Medical Publishers (p) Ltd. EMCA House, 22/23B Ansari Road Danyaganj.
4. Sanyal & Battacharya 2011, Clinical Pathology, A Practical Manual, 2nd Edition Elsevier, a division of Reed Elsevier. India private Ltd.
5. Harsh Mohan 2010, Clinical Pathology, 6th Edition, Jitinder P Vij, Jaypee Brothers Medical Publishers (p) Ltd. EMCA House, 22/23B Ansari Road Danyaganj.

Distribution of Marks (Marks Weightage) for University Theory Examination

Chapter – 3	10 Marks
Chapter – 4	10 Marks
Chapter – 5	15 Marks
Chapter – 6	20 Marks
Chapter – 7, 8 & 9	10 Marks
Chapter – 10	10 Marks
Chapter – 11	10 Marks
Chapter –12	15 Marks
Total	100 Marks

Distribution of Marks for University Practical Examination

Practical	70 Marks
Viva Voce	20 Marks
Record	10 Marks
Total	100 Marks

Syllabus for Siddha Maruthuva Arignar (BSMS)
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SATTAM SARNTHA MARUTHUVAMUM NANJU MARUTHUVAMUM

(Forensic Medicine and Toxicology)

Total Hours : 150

SATTAM SARNTHA MARUTHUVAM (Forensic Medicine)

1) Introduction :- (Page No: 21-49, Ref.Book- S.No.1 , 3hours)

Definitions – unnatural deaths – inquest – courts – power of courts – proceedings of the courts – medical evidences – dying declaration – witness –Sentences- professional secrets of a doctor – doctors and proceedings of the courts- Medical Certificate.

2) Medical Law and Ethics: (Page No: 29,32,35,49,53,- Ref.Book-S.No.3 , Page No.45- S.no: 4 , 3hours)

Duties of Medical Practitioners-Professional Secrecy-Professional Negligency -Mercy killing-Organ Transplantation.

3) Identity :- (Page No: 50-110, Ref.Book- S. No.1 , 10 hours)

Useful factors for identity- identity in civil and criminal cases - identity in dead person - racial characters and religion– sex – sex determination from bones -age – age determination from teeth and bones – general development and stature -complexion features of individuality – hair- external peculiarities-scars –Moles- malformation-Tattoomarks – Anthropometry – Dactylography – poroscopy-occupational marks.

4) Medico legal Autopsy :- (Page No: 113-134, 163-164- Ref.Book- S. No.1 , 3hours)

Type of Autopsy- Conditions – Important points to be noted – External and Internal examination – preparation of specimens for analysis – Issue of death certificate-Exhumation.

5) Death and Its Causes :- (Page No 130-145, Ref.Book- S No.3 , 3hours)

Definition -Medico legal importance – Modes of death and classification – sudden death – signs of death.

6) Post-mortem Changes :- (Page No: 146, 170, Ref.Book- S. No.3 , 147-162- Ref.Book- S. No.1 , 3hours)

Post Mortem Hypostasis- Cadaveric changes in the muscle – primary relaxation – rigidity – Secondary relaxation – Decomposition – Putrefaction-Adipocere formation – Mummification – Estimation time of death.

7) Asphyxia :- (Page No.165-207 - Ref.Book- S. No.1 , 10hours)

Definition-Asphyxia and Asphyxial death – causes – features of asphyxia and asphyxial death – Autopsy findings common to all asphyxias – Hanging – Complete and Incomplete Hanging-causes of death – autopsy findings – judicial hangings – medico legal aspects – Accidental-Suicidal-Homicidal Hanging-strangulation – autopsy findings – medico legal aspects – differences between hanging and strangulation – Throttling – autopsy findings – Drowning – causes – Autopsy findings – How to confirm the cause of death — first aid – smothering –Suffocation- medico legal aspects – choking – traumatic asphyxias – autopsy findings.

8) Wounds and classification :- (Page No: 208--283, Ref.Book- S. No.1 , 10 hours)

Wounds –classification- abrasions – contusion – lacerated wounds – incised wound – stab wound – firearm wound and their medico legal importance – Ante mortem and post mortem wounds – Internal and external changes of wounds – Age of the wounds – death due to wounds – fatal injuries - Grievous injuries – Defense wound – varieties of firearm and its function. Causes for death due to firearm – Hemorrhage – fat embolism – Systemic embolism-Bomb Explosive Wounds.

9) Sexual offences : (Page No: 392-416- Ref.Book- S.No.3, 6 hours)

Classifications-Rape-Incest – procedure for examination of the accused and victim – Findings of the examination – Important point to be noted in accused and victim – Examination of the place where the offence takes place- blood stains – general examination–age and sex identification from blood stains-blood groups-DNA –finger printing- chemical examination – Semenology – acid phosphatase test – alizarin test & etc. ; Serological examinations – Microscopic examination – Difference between

semen & other substances- **Unnatural sexual offences** :Sodomy- Examination of the accused and Victim- Bestiality – Examination of the accused and animal -Buccal Coitus – Tribadism – **Sexual Perversions**: Transveritism – Sadism – Masochism –Exhibitionism- Fetchism – Necrophilia-Froteurism- masturbation-undinsm-lust murder.

10) Impotence and Sterility, Sterilization, Artificial Insemination: (Page No: 364-370- Ref.Book- S.No.3, 4 hours)

Impotence and Sterility- Sterilization-Artificial Insemination-Surrogate Motherhood.

11) Virginity :- (Page No: 371-373- Ref. Book- S.No.3 and Page No.399- S. no: 4 , 2 hours)

Anatomy of Female genitalia – Hymen – Causes for the Rupture of hymen – Medical legal importance.

12) Pregnancy :- (Page No: 327-347, Ref. Book- S. No.1 and Page No: 378- Ref. Book- S.No.3, 3 hours)

Fertilization — Confirmatory findings for pregnancy – Presumptive signs – Probable signs – Positive signs – Biological Tests-Medico legal Importance-Legitimacy and Paternity.

13) Delivery :- (Page No: 379-380- Ref. Book- S.No.3, 3hours)

Signs of delivery the living – Signs of remote delivery in the living – Signs of delivery in the non living Woman– Supposititious child.

14) Abortion :- (Page No: 381-391- Ref. Book- S.No.3, 3 hours)

Definition – Natural abortion –Cause of Abortion-Artificial Abortion- Justifiable abortion – Abortion on the basis of health condition – Rules to be followed by the physician – Procedures – Criminal abortion – complications – Cause of death.

15) Infanticide :- (Page No: 417-427- Ref. Book- S.No.3, 3 hours)

Infanticide & its criminal proceedings – Still born babies – Features – Dead born – features – mummification – Causes of death – To confirm whether still born or birth after death – Accidental causes –Natural Causes-Criminal Causes- Precipitate Labor –

Medico legal Importance-Concealment of Birth-Sudden Infant death syndrome-Battered baby syndrome.

16) Burns and Scalds :- (Page No: 394-411, Ref. Book- S. No.1 , 5 hours)

Burns – Scalds – Stages of Burns & scalds – signs & symptoms – causes of death – Autopsy findings.

17) Death from Lightning, Electricity, Hot & Cold :- (Page No: 412-422, Ref. Book- S. No.1 , 6hours)

Lightning and its effects – Medication – Autopsy findings – Electricity and its effect – Causes for death – Medication – Autopsy findings – Hot – Effects – cold and its effects – Autopsy findings.

18) Starvation :- (Page No: 320-321- Ref. Book- S.No.3, 3 hours)

Definitions – signs & Symptoms – Cause of death– Autopsy findings.

19) Forensic Psychiatry :- (Page No: 457-472- Ref. Book- S.No.3, 8 hours)

Insanity – Delirium – Delusion – Medico legal aspects – Hallucination – illusion –Lucid interval– impulse – obsession – Phobia- idiocy – Mental Subnormality-Diagnose insanity- Imbecility – feeble-mindedness – Dementia – Schizophrenia – Psychic epilepsy – melancholia – Psychiatry due to alcohol abuse – Feigned insanity – laws related to psychiatry – court and psychiatrics – somnambulism – Automatism-Hypnotism and mesmerism-Medico legal Importance.

NANJU MARUTHUVAM (TOXICOLOGY)

Section: 1 Introduction (Page No: 473-493- Ref. Book- S.No.3, 3 hours)

Definition – History of poison-Law of Poisons- classification of poisons – Factors modifying the Effect of Poison- Action of Poison-Biotransformation – Route of administration –Route of Excretion- diagnosis of poisoning in Living and dead – Duties of a doctor in case of poisoning – Treatment of poisoning.

Section: 2 Corrosive poisons (Acids strong alkalis) (Page No: 525-529- Ref.Book- S.No.1 and Page No: 505-508,528,529 Ref.Book- S.No.3, **3 hours**)

Inorganic Acids: Sulphuric Acid-Nitric Acid-Hydrochloric Acid.

Organic Acids: Carbolic Acid-Oxalic acid.

Strong Alkalis: Sodium, Potassium, Ammonium Hydroxides and Carbonates

Section: 3 Irritant Poisons

I. Agricultural poisons: Organo Phosphorous- Organo Chlorine- Carbamates. (Page No: 494-498,500- Ref.Book- S.No.3, **2 hours**)

II. Inorganic Irritant Poisons: (Page No: 510-520- Ref.Book- S.No.3 and Page No.611--612, S.No.1 **4hours**)

Metals: Arsenic Compounds-Antimony-Lead-copper-Mercury compounds-Zinc

Non Metals: Phosphorous--Sulphur-Mica.(PageNo.530-32 -S.No.1 and Page No.27,35-S.No.2 **2 hours**)

Mechanical Irritants: Glass powder-Diamond powder-Animal and vegetable Hairs. (PageNo.612 -S.No.1, **2 hours**)

III. Inorganic Irritant Poisons: (Page No: 524-528- Ref.Book- S.No.3 and Page No.46-63, S.No.2 **10 hours**)

Plants: Abrus precatorius – Calotropis gigantea – Semecarpus anacardium – Capsicum annum – Croton tiglium – Ricinus communis – Euphorbia antiquorum – Excoecaria agallocha- Gloriosa Superba-Plumbago zeylanica (Parts used, Chemical Compounds, Signs and Symptoms, Fatal dose, Fatal Period, Siddha and Modern method of Treatment, Postmortem Examination and Medico legal Importance)

Animal Bites and Stings: (Page No: 639-664- Ref.Book- S.No.1 - Page No.74-134, S.No.2- Page No.528-536-S.No.3 **3 hours**)

Ants-Scorpion-Wasps-Spider-Snakes- Centlipedes-Bees-Rats-Onan-Lizards-Leech-Frog-Dog-Cat-Monkey-Horse-Fox-Unknown bite-Crocodile-Beetle-Pig-Animal bites treated with palagarai parpam.

Section: 4 Systemic Poisons

I. Neurotic or Cerebral Poisons:

Inebriant and CNS depressants: Opium-Morphine - Pethidine- Alcohol-Ethyl ,Methyl Alcohol-Toddy-Country Arrack. (page no.580-85,615-17,630-39–S.No.1 and page No.59-S.No.2, 4 hours)

CNS Stimulants: Amphetamine. (Page No: 562- Ref.Book- S.No.3, 1hour)

Deliriant: Datura fastuosa- Cannabis sativa--Cocaine. (Page No: 566-571- Ref.Book-S.No.3 and Page No.58-60, S.No.2, **2 hours**)

Spinal Poison: Strychnosnux vomica. (Page No: 585-590- Ref.Book- S.No.1 - Page No.59-S.No.2, 1 hour)

II. Cardiac Poisons: - (Page No: 583-587- Ref.Book- S.No.3 and Page No.57,58,60-62, S.No.2 (**3hours**))

Nerium odorum – Cerbera thevitea- Aconitum ferox – Nicotiana tobaccum- Cleistanthus collinus- Digitalis Purpurea. (Parts used, active principles, Signs and Symptoms, Fatal dose, Fatal Period, Siddha and Modern method of Treatment, Postmortem Examination and Medico legal Importance)

III. Asphyxiants: (Page No: 588-594- Ref.Book- S.No.3 , **3hours**) Carbon

Monoxide-Carbon Dioxide-Hydrogen Sulphide and War Gases.

Section: 5 Food Poisonings and Poisonous Foods (Page No: 603-608- Ref.Book- S.No.3 and Page No.46-63, S.No.2 , **11 hours**)

Definition-poisoning due to Micro organisms(Bacteria,Protozoa,fungus) - Botulism-poison due to chemical - Vegetable Origin (Lythyrus Sativus, Rye, Oats, Barely, Ground nut, Argemone Mexicana, Mushrooms, Ulunthu, Thuvarai, kadali, motchai, Cocconut, Banana fruit, Jack fruit, Bombax Malbaricum, Naval kottai, Sivanar root, Nungu, Magilam poo, wheet, Gingily oil)-Fish Poisoning—Ghee-Honey-Curd rice-Rice- Egg- Kudineer Thodam- Idu Marunthu -Neer Thodam- Features of Poisonous food-Examination of Poisonous Food-Signs and Symptoms-Treatment.

Section: 6 Drug Dependence (Page No: 572-574- Ref.Book- S.No.3 , **3 hours**)

Definition-Causes-Types of Drug Dependence-Treatment-Investigations of drug abuse deaths.

Section: 7 House hold Poisons (Page No: 475- Ref.Book- S.No.3 and Page No.599-602, S.No.1, **2hours**)

Analgesics, Anti pyretics, Kerosene, Camphor, - Ant powder-Match Box-

Practicals

Total Hours : 100

Topics:

Spotters: Toxic Plants-Toxic Metals and Minerals-Toxic Animals and household poison.

(Practical work - 18 hours).

Microscope Findings: Stains, Animal and Human Hairs, Semen, Blood, Fibers etc. (Practical work - 9 hours).

Photos: Injury Cases, Burning, Drowning, Hanging, Strangulation.(Practical work -19 hours)

Weapons: Knife, Stone, Ligature, Stick, Blunt and Sharp edged weapons, Fire arms

(Practical work - 14 hours).

Certificates: Medical Certificate, Physical Fitness, Wound Certificate, Age

Certificate, Drunkenness, Death certificate.(Practical work - 20 hours).

Instruments: stomach wash tube and Ryles tube

(Practical work - 5 hours)

Examinations: Bones, X rays, Dental.

(Practical work - 15 hours)

Text Books:

3. Sattam Saarntha Maruthuvamum Nanju Maruthuvamum, Second Edition 1999, P.A. Muhammed Iqbal, MD (Siddha), Published by Department of Indian Medicine and Homeopathy, Chennai 106,
4. Nanju Murivu Nool, Third Edition, 1998, K.S. Murukesa Mudaliyar, Published by Department of Indian Medicine and Homeopathy, Chennai 106,
5. Dr.K.S.Narayan Reddy, 2013-The Essentials of Forensic Medicine and Toxicology, 32nd Edition, Published by K.Suguna devi, H.No.16-11-15/2/2, Saleem nagar colony, No.1 malakpet, Hyderabad-36.
6. Dr. Apurba Nandy, 2013-Nandys's Hand Book of Forensic Medicine and Toxicology, 1st published, New Central Book Agency (P)Ltd., 8/1,Chintamani Das lane, Kolkata-9.

Reference Books:

1. C.A.Franklin, 1988-Modi's Text Book of Medical Jurisprudence and Toxicology 21st

Edition.

2. Dr.K.M.Natkarni.1993- Materia Medica vol-I and II, 3rd Edition, K.M.Popular Prakashan PVT Ltd, Bombay.
3. Vishavaidhya Arooda Noolkal, First edition, 2000, Thamarai Noolakam, Chennai 26
4. Sarabendra Vaidhya Muraikal, Visha Roga Chikitchai, Fifth edition 2005, Dr.S. Venkata Rajan, Saraswathy Mahal Library, Thanjavur
5. Visha Vaidhya Chintamani, Sirumanavoor Munisamy Mudhaliyar, 1995, B.R. Balakrishnan Nayakar, Chennai- 79
6. Theran Yamaka Venba , Second edition, 1973, Dr.P.A. Muhamed Abdullah Sahib
7. Gunapadam, Thathu Jeevam, Fourth Edition, 1992, Dr. R. Thyagarajan, Published by Department of Indian Medicine and Homeopathy, Chennai 106

Distribution of Marks (Mark Weightage) for University Theory Examination

Chapter – 1 & 2	5 Marks
Chapter – 3	10 Marks
Chapter – 4, 5, 6 & 8	10 Marks
Chapter – 7 & 9	10 Marks
Chapter – 10 & 11	5 Marks
Chapter – 12, 13, 14 & 15	5 Marks
Chapter – 16, 17 & 18	5 Marks
Chapter –19	10 Marks
Toxicology	40 Marks
Total	100 Marks

Distribution of Marks for University Practical Examination

Practical	70 Marks
Viva Voce	20 Marks
Record	10 Marks
Total	100 Marks

**Syllabus for Siddha Maruthuva Arignar (BSMS)
Course (2013 SCHEME)
3rd Professional BSMS**

NOI ANUGAVITHI OZHUKKAM

Total Hours : 100

(HYGIENE AND COMMUNITY MEDICINE INCLUDING NATIONAL HEALTH POLICIES)

CHAPTER – 1 (Hour - 1)

Introduction to preventive and social medicine, concept of man and society, aim and scope of preventive and social medicine, relations between economic factors and environment in health and disease

CHAPTER – 1 (A) (Hour - 1)

The ways to lead a disease free life as said by ancient siddhar Theriyar

CHAPTER – 2 (Hour - 2)

The five Geographical Classifications - description and occurrence of diseases

CHAPTER – 3 (Hours - 2)

Ancient town planning – modern town planning

CHAPTER – 4 (Hours - 3)

Industries – occupational diseases and its preventions – Occupational hazards.

CHAPTER – 5 (Hours - 4)

Oorthooimai – waste management – Excreta disposal – modern sewage treatment and other methods of sewage disposal. Recycling Methods

CHAPTER -6 (Hours - 2)

Modern house and vaasthu, Modern Construction Techinques which prevent natural calamities.

CHAPTER – 7 (Hour - 1)

Burial and Cremation.

CHAPTER – 8 (Hours - 4)

Seasons (Perumpozhuthu, Sirupozhuthu) – Principles to be followed in the above seasons and the specific food.

Imporikal Kappu, Seasonal Food habits, Uthrayanam, Thachayanam, Uttama, Mathima, Athama Kaala Ozhukam.

CHAPTER – 9 (Hours - 5)

Water – uses – sources – pollution and its related diseases, Purification and distribution. Water treatment methods

Rain water, Snow water – Collection methods and Application types

River Water – types and therapeutic Values

Waterfalls, Pond water and Well water – types and therapeutic Values

Nandu Kuzhi neer, Naaval mara neer, Karunkalli neer, Vaazhai neer, Ella neer – types and therapeutic Values.

CHAPTER – 10 (Hours - 3)

Neruppu (or) thee – Atmospheric temperature – Effects of heat stress – Effects of cold stress – Preventive measures of global warming – humidity

CHAPTER – 11 (Hours - 5)

Air pollution – Health aspects, Prevention and control, ventilation – Types, Effects of different types of fumes

CHAPTER – 12 (Hours - 2)

Noise – effects of noise pollution and its control.

CHAPTER – 13 (Hours - 3)

Habits – Personal hygiene and daily routines– Costumes – gems and pearls –. Pancha Karpam

CHAPTER – 14 (Hours - 4)

Food – Six tastes – Three types of food – Toxicity – Adulteration – Food borne diseases – Prevention and control – Food standards- Food Digestion time, Patiyam, Selection of food based on uyir thathukal. Junk foods and health hazards.

CHAPTER – 15 (Hours - 2)

Beverages – Drinking water- Effects of water depending on the utensils – fruit juices - Neerakaram, Kaadi neer.

CHAPTER – 16 (Hours - 2)

Uses of Betel leaf and nut. Ill effects of Tobacco products

CHAPTER – 17 (Hours - 2)

Rest and sleep – Types of bed

CHAPTER – 18 (Hours - 4)

Nutritious and balanced diet – Role of fibers, cereals, vegetables – Greens – fruits – animal proteins – fish – birds – pickles etc. – Diseases – Thitoda sama porulgal –, Nutritional Disorders and public health

CHAPTER – 19 (Hour -3)

Serving procedures – types of vessels and their effect on food preparation.

CHAPTER – 20 (Hours - 14)

Communicable diseases:

Causes – Symptoms – Prevention and control of Chicken pox – Measles – Mumps – Influenza – Diphtheria – Whooping cough – Tuberculosis – Plaque – Rubella, etc

Intestinal infections:

Causes, symptoms, prevention and control of poliomyelitis – Viral hepatitis – Cholera – acute diarrheal diseases – Typhoid – Food poisoning – Amoebiasis – Ascariasis – Hook worm infestation etc

Vector borne infection:

Causes, Symptoms, Prevention and Control of; Dengue – Malaria – Filariasis – Chi-gun- gunia, Lepto Spirosis, SARS.

Surface infection:

Causes, Symptoms, Prevention and Control of; Trachoma – Tetanus - Leprosy – STD – AIDS/ HIV.

CHAPTER – 21 (Hours - 12)

National & Regional health programmes – NMEP – NFCP – NLCP – NTP – National Aids control programme – National programme for control of blindness – Iodine deficiency disorders programme – National cancer control programme – National mental health programme – National diabetes control programme – Child survival and safe motherhood programme – National family welfare programme – National water supply and sanitation programme – Minimum needs programme – Health and missions.

CHAPTER – 22 (Hours - 5)

Mental Health – Counseling and eradication of social stigma.

CHAPTER – 23 (Hours - 5)

Siddha concept of preventive measures – immunology and personnel hygiene.

Vaccination & Immunization Schedule

CHAPTER – 24 (Hours - 5)

Hospital Acquired Infections, Preventive methods.

CHAPTER – 25 (Hours - 4)

Hospital & Bio Medical Waste – Types and Disposal management.

Text Books:

- 1) Noi illa neri by Dr. Durairajan, H.P.I.M., Department of Indian Medicine & Homoeopathy, Chennai, Govt. of Tamil Nadu.
- 2) Park's Textbook of Preventive and Social Medicine by K. Park, 21st Edition, Banarsidas Bhanot Publishers

Reference books:

- 1) Pathartha Guna Chintamani – Published by Ratna nayakar & Sons, Chennai 1932.
- 2) Agathiyar Gunavagadam
- 3) Siddha Maruthuvannga Surukkam – Dr. C. S. Uthamarayan – H.P.I.M., Department of Indian Medicine & Homoeopathy, Chennai, Govt. of Tamil Nadu.
- 4) A Treatise on Hygiene and Public Health by Birendra Nath Ghosh, Scientific Publishing Company, 1953.

Distribution of Marks (Mark Weightage) for University Theory

Examination

Chapter – 1 & 1 (A)	5 Marks
Chapter – 2, 3, 4, 5, 6 & 7	25 Marks
Chapter – 8	5 Marks
Chapter – 9, 10, 11, 12 & 13	20 Marks
Chapter – 14	5 Marks
Chapter – 15, 16 & 17	5 Marks
Chapter – 18 & 19	5 Marks
Chapter –20, 22, 24 & 25	20 Marks
Chapter –21	5 Marks
Chapter –23	5 Marks

Total	100 Marks
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Syllabus for Siddha Maruthuva Arignar (BSMS) Course (2103 SCHEME)
3rd Professional BSMS

RESEARCH METHODOLOGY AND MEDICAL STATISTICS

Total Hours : 100

1. Research Methodology [10 hrs]

i) Introduction

- ❑ Objectives of research
- ❑ Types of research
- ❑ Research methods
- ❑ Research process (Sources of data and data collection, Developing hypothesis and formulating research question, Extensive research survey, Preparing research design, Determining sample design, Execution of project, Analysis of data, Hypothesis testing, Generalisation and interpretation, Preparation of the report or the thesis)
- ❑ Problems encountered by researchers in India.

ii) Areas of Research Interest in Siddha [5 hrs]

- ❑ Alavaigal and its interpretation with contemporary research
- ❑ Literary research / Fundamental research (especially Siddha research methodologies)
- ❑ Product/Drug/Pharmaceutical research
- ❑ Epidemiological/Clinical research.
- ❑ SWOT(Strength, Weakness, Opportunity & Threat)

2. Literary Review [5 hrs]

- ❑ Reviewing in research / Search for research Hypothesis/ Historical evidences / published papers

3. Protocol [5 hrs]

- ❑ Designing a Protocol
- ❑ Various Templates in Protocol

4. Epidemiological studies and its application in clinical research [10 hrs]

☐ Observational studies:

- i) Descriptive studies
- ii) Analytical studies: Ecological, Cross sectional, Case-control (Retrospective) and Cohort study (Prospective, Retrospective and Combined)

☐ Experimental studies:

- i) Randomization (Randomized Controlled Trial and its varieties & Non randomized trial and its varieties)
- ii) Blinding

5. Pre-clinical studies [10 hrs]

- ☐ Traditional methods to identify the quality of raw materials and preparations
- ☐ Authentication and Standardization of Siddha drugs
- ☐ Pharmacological screening for Safety and efficacy (in vivo and in vitro)
- ☐ Nanotechnology.

(Ref: Protocol for testing by PLIM/ OECD Guidelines / GMP Guidelines)

6. Pre requisite for clinical study [5 hrs]

- ☐ Investigational pharmaceutical product
- ☐ Pre- clinical supporting data & pilot study etc.
- ☐ Research Protocol (Relevant components of protocol)
- ☐ Case Report Form (CRF)
- ☐ Informed consent process
- ☐ Interim review.

7. Ethical guidelines [10 hrs]

- ☐ Ethical and safety considerations (Ethics committee)
- ☐ Composition
- ☐ Submission of application
- ☐ IEC approval

8. Clinical trial designs and AYUSH GCP [15 hrs]

- ☐ Clinical research /trial – introduction
- ☐ AYUSH GCP guidelines
- ☐ Types of clinical trials
- ☐ Phases of clinical trial

- ❑ Data collection, Processing, and Data analysis
- ❑ Interpretation-Reporting method of clinical trial
- ❑ Clinical data management (CDM)
- ❑ Responsibilities of Sponsor, Monitor and Investigator
- ❑ Clinical Trial Registry of India –CTRI

9. Bio- Statistics [15 hrs]

- ❑ Introduction
- ❑ Measures of Central Tendency and Dispersion
- ❑ Normal distribution
- ❑ Sampling-Probability- Sampling variability
- ❑ Tests of significance- difference in means - difference in proportions of large samples -Chi-square test, t-test
- ❑ Demography and vital statistics
- ❑ Dataanalysis& Interpretation of results
- ❑ Tabulation- Diagrams (Bar charts, Histogram, Pie charts, Pictogram)- Statistical maps- Sources and presentation of data- Statistical averages
- ❑ Scientific writing.
- ❑ Hospital information Systems and hospital management system.
- ❑ Qualitative and quantitative data
- ❑ Statistical Analysis of SPSS, Epi info and Epi data

10. Pharmacovigilance [5 hrs]

- ❑ Introduction&importance
- ❑ Siddhaliterature and Pharmaco vigilance
- ❑ Difficulties in Pharmacovigilance (Re challenging & dechallenging)
- ❑ Adverse Drug reactions- Regulations
- ❑ Identification of ADR- Prevention of ADR.

11. Intellectual Property Right (IPR),TKDL [5 hrs]

12. Glossary of selected terms in research methodology and statistics.

Text Books:

1. Introduction to Biostatistics and Research Methods - P. S. S. Sundar Rao, J. Richard
2. Biostatistics, Principles and Practices, Antonisamy.B et al, Tata Mcgrawhiil Education Private Limited, New Delhi,2010

Sources for Reference:

1. Good Clinical Practices published by CDSCO, GoI. (<http://rgcb.res.in/wp-content/uploads/2014/07/Good-Clinical-Practice-Guideline.pdf>)
2. Becoming a Successful Clinical Trial Investigator by Dr.P.K. Julka DNA Press 2nd Edn. 2009.
3. ETHICAL GUIDELINES FOR BIOMEDICAL RESEARCH ON HUMAN PARTICIPANTS by Indian Council for Medical Research, New Delhi on (http://icmr.nic.in/ethical_guidelines.pdf)
4. Good clinical Practice for Clinical trials of Ayurveda, Siddha and Unani Medicine (GCP-ASU) Department of AYUSH, Ministry of Health & Family Welfare, Government of India, New Delhi-2013 (<http://indianmedicine.nic.in/writereaddata/linkimages/5110899178-Final%20Book%2028-03-13.pdf>)
5. Handbook for good clinical research practice (GCP): Guidance for implementation World Health Organization 2002 (http://apps.who.int/prequal/info_general/documents/GCP/gcp1.pdf)

Distribution of Marks (Mark Weightage) for University Theory Examination

Chapter – 1, 2, 3, 4, 5, 6 , 7, 8, 10, 11 & 12	80 Marks
Chapter – 9	20 Marks
Total	100 Marks

**Syllabus for Siddha Maruthuva Arignar (BSMS) Course
(2013 scheme)**

3rd Professional BSMS

NOI NAADAL PAPER – I

(PRINCIPLES OF SIDDHA PATHOLOGY)

Total Hours : 200

1. Introduction to Siddha Pathology

[Page No. 1-4, 107-108, 117-124, Text Book S. No. 1; 5 Hrs]

1.1 Definition of Noi and Noi Naadal

1.2 Importance of Noi Naadal

1.3 Etiology of Diseases as per Siddha system.

1.4 Noi intri vazha kadai pidikka vendiya vithi muraikal , maruthuvanin kadamaikal according to Thiruvalluvar

1.5 Noi intri vazha Kaayakalpam- mani manthira avizhtham

2. Interrelations between five elements, six tastes and three humours – abnormalities during derangements. [Page No. 21-25, Text Book S. No. 1; 5 Hrs]

3. Mukkutra iyal (Vatham – Pitham – Kapham)

[Page No. 232-245, Text Book S. No. 1; 15 Hrs]

3.1 Predominant locations – properties – Functional varieties – physiological role

3.2 Pathological conditions (increased & decreased features)

3.3 Thanilai valarchi – Vetrunilai valarchi – Thannilai adaithal).

4. Thega ilakkanam correlated with diseases

[Page No. 245-248, Text Book S. No. 1; 10 Hrs]

5. Derangements of Uyir thathukal,

[Page No. 255-259, Text Book S. No. 1; 20 Hrs]

6. **Naadi:** [Page No. 82-107, 124-156, 167-195 , Text Book S. No. 1; 20 Hrs]

6.1 Definition – locations

6.2 Vatha Naadi, Pitha Naadi, Kapha Naadi, ratio of Naadi , Conjoined Naadi

6.3 Pulse variations according to seasons

6.4 Preponderant period of Vatha, Pitha & Kapha Naadi – conditions responsible for irregular pulse rhythm – prognosis of a disease based on Naadi.

6.5 Boothha naadi and Pancha Boothha Naadi

6.6 Guru Naadi and its abnormalities

7. Fourteen Natural Urges and the Pathological features manifested due to their suppression. [Page No. 260-265, Text Book S. No. 1; 5 Hrs]

8. Asaathiya, Marana Naadikal and Kurigunangal (Fatal signs & symptoms)

[Page No. 195-232, Text Book S. No. 1; 7 Hrs]

9. Ennvagai Thervukal, [Page No. 269-272, 282-325, Text Book S. No. 1; 15 Hrs]

9.1 Examination through Naadi

9.2 Examination through Sparism

9.3 Examination through Naa

9.4 Examination through Niram

9.5 Examination through Mozhi

9.6 Examination through Vizhi

9.7 Examination through Malam

9.8 Examination through Moothiram- Neerkkuri , & Neikkuri .

9.8.1 Neerkkuri: (Urine general examination) – Alavu (Quantity), Niram (colour), Manam (odour), Nurai (froth), Edai (Density) – Enjal (Deposits)

9.8.2 Neikkuri : The different changes in the oil dropped on the urine to be observed

9.9 Diagnosis of diseases, curable and incurable condition through Ennvagai Thervukal

10. Special Diagnostic Methods in Siddha System

[Page No. 339-352, Text Book S. No. 1; 3 Hrs]

10.1 Manikkadai Nool (Wrist circumetric findings)

10.2 Thoothuvan Ilakkanam.

11. Seven physical constituents (Udal thathukkal) & Malangal (feaces, Urine & sweat increased & decreased features).

[Page No. 255-259, Text Book S. No. 1; 5 Hrs]

12. Digestive fire (Udal thee) -Geographical Classifications & Seasonal variations (Nilamum pozhuthum) – Appropriate time for medications.

[Page No. 265-268, Text Book S. No. 1; 3 Hrs]

13. Primary aetiology of various diseases according to Theraiyar. [Page No. 363-364, Text Book S. No. 1; 2 Hrs]

14. Worms and infectious diseases (Ottu noigal)

[Page No. 353-359, 365-366, Text Book S. No. 1; 10 Hrs]

Diseases: [Text Book S. No. 2]

The following headings should be covered for the following diseases. Veru peyar , Noi kaaranam, mukutra verubadu, Noyin murkurigal, pothukkurigal , Naadi nadai,, Theerum Theeratha Nilai (Prognosis).

Sl. No.	Topics	Hours
1.	Suram	5 hrs
2.	Mukkadaippu	2 hrs
3.	Irumal	2 hrs
4.	Irraippu	2 hrs
5.	Ilaippu	2 hrs
6.	Thamaraga Noi	2 hrs
7.	Athi Kurathi Azhal Noi	2 hrs
8.	Vaanthi	2 hrs
9.	Gunmam	2 hrs
10.	Athisaaram	2 hrs
11.	Kirani (Nina Kazhichal)	2 hrs
12.	Seetha Kazhichal	2 hrs
13.	Kalleeral Noi	2 hrs
14.	Manneeral Noi	2 hrs

15.	Paandu	2hrs
16.	Sobai	2 hrs
17.	Kaamalai	2 hrs
18.	Peruvayiru	5 hrs
19.	Siru Neer Noigal	
19.1.	Siruneer Perukkal Noi	5 hrs
19.2.	Siruneer Arukkal Noi	5 hrs
20.	Vatha Noigal	10 hrs
21.	Pitha Noigal	5 hrs
22.	Kapha Noigal	5 hrs
23.	Keel Vatham	3 hrs

PRACTICALS

Total Hours : 100

Major:

- Clinical applications of Three Humours (Vatham, Pitham, Kapham) **(15 hours)**
- Interpretation of Enn vagai Thervukal **(30 hours)**
- Examination of Ezhu Udai Thathukkal **(5 hours)**

Minor:

- Manikkadai Nool **(5 hours)**
- Neerkkuri and Neikkuri **(15 hours)**
- Clinical applications of individual humours **(15 hours)**
- Clinical applications of individual Udai Thaathu **(5 hours)**
- Clinical applications of Enn vagai Thervu **(10 hours)**

TEXT BOOK

1. Shanmugavelu 2003, Noi Naadal Noi Mudal Naadal Thirattu / Part - I 2nd Edition. Department of Indian Medicine & Homoeopathy, Chennai, Govt. of Tamil Nadu.
2. Shanmugavelu 2003, Noi Naadal Noi Mudal Naadal Thirattu / Part - II 2nd Edition. Department of Indian Medicine & Homoeopathy, Chennai, Govt. of Tamil Nadu.

REFERENCES

1. Prof. Dr. P.M.VENU GOPAL H.P.I.M. 2014, Udal Thathuvam, Department of Indian Medicine & Homoeopathy, Chennai, Govt. of Tamil Nadu.
2. Dr.Kuppusamy Mudaliar, H.P.I.M. 2012 Siddha Maruthuvam Pothu, Department of Indian Medicine & Homoeopathy, Chennai, Govt. of Tamil Nadu.
3. Dr.K.S.Uthamarayan H.P.I.M. 2003, Siddha Maruthuvanga Churukkam, 3rd Edition, Department of Indian Medicine & Homoeopathy, Chennai, Govt. of Tamil Nadu.
4. Periya Gnana Kovai -- Dhasa vayu's Panchaaharanam
5. Dr.Kannan Rajaram B.S.M.S, ATSVS Siddha Medical College, Munchirai
 1. 2008 Varma Maruthuvam
 2. 2008 Atharam thoondum muraikalum Noi kanippum
 3. 2007 Varma Maruthuvathin Adipadaikal

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NOI NADAL PAPER- II

Total Hours : 150

(Principles of Modern Pathology including Clinical Pathology)

1. Introduction of Pathology [5 hrs]

1.1 Advances of Pathology

1.2 Classification of Pathology

2. Lab Techniques, equipments, study of Pathogenesis (Instrumental Technique) [6 hrs]

3. Cell [15 hrs]

Cell injury , Cell response to injury – Degeneration – Common Causes – Fatty changes , Atrophy, Hypertrophy – Metaplasia , Hyperplasia – Aplasia etc.

4. Immunopathology, [10 hrs]

5. Haemodynamics – Shock , oedema , embolism , thrombosis , ischemia , infarction , congestion [20 hrs]

6. Inflammation and wound healing [7 hrs]

7. Infectious diseases (Pathogenesis of the bacteria, virus and fungal infections) [15 hrs]

8. Gene and chromosomal Pathology – Diseases due to abnormalities of Gene, Diagnosis [10 hrs]

9. Nutrition (Proteins, vitamins and minerals) [15 hrs]

10. Haematology [7 hrs]

Abnormalities RBC, WBC, Platelets

11. Neoplasm [10 hrs]

Etiology – Classification – Pathogenesis - Para neoplastic syndromes and complications -
Diagnosis

12. Metabolic and life style disorders [30 hrs]

Diabetes, Obesity, Hypertension COPD, Jaundice, Arthritis and Ill effects of radiation etc.

Practicals	Total Hours :100
CLINICAL PATHOLOGY	
1. Haematology	(30 hours)
2. Examination of Sputum for AFB.	(5 hours)
3. Examination of Urine	(4 hours)
4. Examination of Faeces	(2 hours)
5. Blood smear examination	(5 hours)
6. Widal Test	(3 hours)
7. Vaginal Smear.	(3 hours)
8. Serological test- VDRL – Elisa Test – Hbs Ag, RA factor – ASO Titre	(10 hours)
9. Skin – Skin clipping procedure.	(2 hours)
10. Liver Function Tests, Renal Function Tests.	(6 hours)
Histopathology slides & specimens (minimum 10 nos.)	(10 hours)
Liver-fatty, cirrhosis & carcinoma	
Lung – Tuberculosis, Bronchitis, Bronchiectasis & carcinoma	
Stomach – Gastritis, Ulcer & carcinoma	
Uterus &Ovary – Endometritis, PCOD, Fibroid, Ovarian cyst & carcinoma.	
Fibro adenoma breast	
Colloidal Goiter	
Osteoclastoma	
Other slides	

Haematology slides**(10 hours)**

Iron deficiency Anaemia

Acute Myeloid leukaemia

Chronic Myeloid leukaemia

Acute lymphoblastic leukaemia

Chronic lymphoblastic leukemia

Radiology**(10 hours)**

Basic Principles

Respiratory System – Tuberculosis, COPD, Pleural effusion etc.

Cardio-vascular System – Enlargement, etc.

Osteology - Fracture, Dislocation, Tumor etc.

Text Books:

1. Harsh Mohan 2010, Text Book Of Pathology, 6th Edition, Jitinder P Vij, Jaypee Brothers Medical Publishers (p) Ltd., EMCA House, 22/23B Ansari Road Danyaganj.
2. Robbins and Cotran 2008, Pathologic Basis of Disease, 7th Edition Elsevier adivision of Reed Elsevier India private Limited, Logix Park, First Floor, A4 &A5 Sector -16 Noida 201301, U.P> India. Vinay Kumar MD, FRC Patho, Abul K. Abbas MBBS & Nelson Fausto,MD.
3. CK. Jayaram Panikar 2007, Text Book of Medical parasitology, 6th Edition, Jaypee Brothers Medical Publishers (p) Ltd. EMCA House, 22/23B Ansari Road Danyaganj.
4. Sanyal & Battacharya 2011, Clinical Pathology, A Practical Manual, 2nd Edition Elsevier, a division of Reed Elsevier. India private Ltd.
5. Harsh Mohan 2010, Clinical Pathology, 6th Edition, Jitinder P Vij, Jaypee Brothers Medical Publishers (p) Ltd. EMCA House, 22/23B Ansari Road Danyaganj.

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SATTAM SARNTHA MARUTHUVAMUM NANJU MARUTHUVAMUM

(Forensic Medicine and Toxicology)

Total Hours : 150

SATTAM SARNTHA MARUTHUVAM (Forensic Medicine)

1) Introduction :- (Page No: 21-49, Ref.Book- S.No.1 , 3hours)

Definitions – unnatural deaths – inquest – courts – power of courts – proceedings of the courts – medical evidences – dying declaration – witness –Sentences- professional secrets of a doctor – doctors and proceedings of the courts- Medical Certificate.

2) Medical Law and Ethics: (Page No: 29,32,35,49,53,- Ref.Book-S.No.3 , Page No.45- S.no: 4 , 3hours)

Duties of Medical Practitioners-Professional Secrecy-Professional Negligency -Mercy killing-Organ Transplantation.

3) Identity :- (Page No: 50-110, Ref.Book- S. No.1 , 10 hours)

Useful factors for identity- identity in civil and criminal cases - identity in dead person - racial characters and religion– sex – sex determination from bones -age – age determination from teeth and bones – general development and stature -complexion features of individuality – hair- external peculiarities-scars –Moles- malformation-Tattoomarks – Anthropometry – Dactylography – poroscopy-occupational marks.

4) Medico legal Autopsy :- (Page No: 113-134, 163-164- Ref.Book- S. No.1 , 3hours)

Type of Autopsy- Conditions – Important points to be noted – External and Internal examination – preparation of specimens for analysis – Issue of death certificate-Exhumation.

5) Death and Its Causes :- (Page No 130-145, Ref.Book- S No.3 , 3hours)

Definition -Medico legal importance – Modes of death and classification – sudden death – signs of death.

6) Post-mortem Changes :- (Page No: 146, 170, Ref.Book- S. No.3 , 147-162- Ref.Book- S. No.1 , 3hours)

Post Mortem Hypostasis- Cadaveric changes in the muscle – primary relaxation – rigidity – Secondary relaxation – Decomposition – Putrefaction-Adipocere formation – Mummification – Estimation time of death.

7) Asphyxia :- (Page No.165-207 - Ref.Book- S. No.1 , 10hours)

Definition-Asphyxia and Asphyxial death – causes – features of asphyxia and asphyxial death – Autopsy findings common to all asphyxias – Hanging – Complete and Incomplete Hanging-causes of death – autopsy findings – judicial hangings – medico legal aspects – Accidental-Suicidal-Homicidal Hanging-strangulation – autopsy findings – medico legal aspects – differences between hanging and strangulation – Throttling – autopsy findings – Drowning – causes – Autopsy findings – How to confirm the cause of death — first aid – smothering –Suffocation- medico legal aspects – choking – traumatic asphyxias – autopsy findings.

8) Wounds and classification :- (Page No: 208--283, Ref.Book- S. No.1 , 10 hours)

Wounds –classification- abrasions – contusion – lacerated wounds – incised wound – stab wound – firearm wound and their medico legal importance – Ante mortem and post mortem wounds – Internal and external changes of wounds – Age of the wounds – death due to wounds – fatal injuries - Grievous injuries – Defense wound – varieties of firearm and its function. Causes for death due to firearm – Hemorrhage – fat embolism – Systemic embolism-Bomb Explosive Wounds.

9) Sexual offences : (Page No: 392-416- Ref.Book- S.No.3, 6 hours)

Classifications-Rape-Incest – procedure for examination of the accused and victim – Findings of the examination – Important point to be noted in accused and victim – Examination of the place where the offence takes place- blood stains – general examination–age and sex identification from blood stains-blood groups-DNA –finger printing- chemical examination – Semenology – acid phosphatase test – alizarin test & etc. ; Serological examinations – Microscopic examination – Difference between

semen & other substances- **Unnatural sexual offences** :Sodomy- Examination of the accused and Victim- Bestiality – Examination of the accused and animal -Buccal Coitus – Tribadism – **Sexual Perversions**: Transveritism – Sadism – Masochism –Exhibitionism- Fetchism – Necrophilia-Froteurism- masturbation-undinsm-lust murder.

10) Impotence and Sterility, Sterilization, Artificial Insemination: (Page No: 364-370- Ref.Book- S.No.3, 4 hours)

Impotence and Sterility- Sterilization-Artificial Insemination-Surrogate Motherhood.

11) Virginity :- (Page No: 371-373- Ref. Book- S.No.3 and Page No.399- S. no: 4 , 2 hours)

Anatomy of Female genitalia – Hymen – Causes for the Rupture of hymen – Medical legal importance.

12) Pregnancy :- (Page No: 327-347, Ref. Book- S. No.1 and Page No: 378- Ref. Book- S.No.3, 3 hours)

Fertilization — Confirmatory findings for pregnancy – Presumptive signs – Probable signs – Positive signs – Biological Tests-Medico legal Importance-Legitimacy and Paternity.

13) Delivery :- (Page No: 379-380- Ref. Book- S.No.3, 3hours)

Signs of delivery the living – Signs of remote delivery in the living – Signs of delivery in the non living Woman– Supposititious child.

14) Abortion :- (Page No: 381-391- Ref. Book- S.No.3, 3 hours)

Definition – Natural abortion –Cause of Abortion-Artificial Abortion- Justifiable abortion – Abortion on the basis of health condition – Rules to be followed by the physician – Procedures – Criminal abortion – complications – Cause of death.

15) Infanticide :- (Page No: 417-427- Ref. Book- S.No.3, 3 hours)

Infanticide & its criminal proceedings – Still born babies – Features – Dead born – features – mummification – Causes of death – To confirm whether still born or birth after death – Accidental causes –Natural Causes-Criminal Causes- Precipitate Labor –

Medico legal Importance-Concealment of Birth-Sudden Infant death syndrome-Battered baby syndrome.

16) Burns and Scalds :- (Page No: 394-411, Ref. Book- S. No.1 , 5 hours)

Burns – Scalds – Stages of Burns & scalds – signs & symptoms – causes of death – Autopsy findings.

17) Death from Lightning, Electricity, Hot & Cold :- (Page No: 412-422, Ref. Book- S. No.1 , 6hours)

Lightning and its effects – Medication – Autopsy findings – Electricity and its effect – Causes for death – Medication – Autopsy findings – Hot – Effects – cold and its effects – Autopsy findings.

18) Starvation :- (Page No: 320-321- Ref. Book- S.No.3, 3 hours)

Definitions – signs & Symptoms – Cause of death– Autopsy findings.

19) Forensic Psychiatry :- (Page No: 457-472- Ref. Book- S.No.3, 8 hours)

Insanity – Delirium – Delusion – Medico legal aspects – Hallucination – illusion –Lucid interval– impulse – obsession – Phobia- idiocy – Mental Subnormality-Diagnose insanity- Imbecility – feeble-mindedness – Dementia – Schizophrenia – Psychic epilepsy – melancholia – Psychiatry due to alcohol abuse – Feigned insanity – laws related to psychiatry – court and psychiatrics – somnambulism – Automatism-Hypnotism and mesmerism-Medico legal Importance.

NANJU MARUTHUVAM (TOXICOLOGY)

Section: 1 Introduction (Page No: 473-493- Ref. Book- S.No.3, 3 hours)

Definition – History of poison-Law of Poisons- classification of poisons – Factors modifying the Effect of Poison- Action of Poison-Biotransformation – Route of administration –Route of Excretion- diagnosis of poisoning in Living and dead – Duties of a doctor in case of poisoning – Treatment of poisoning.

Section: 2 Corrosive poisons (Acids strong alkalis) (Page No: 525-529- Ref.Book- S.No.1 and Page No: 505-508,528,529 Ref.Book- S.No.3, **3 hours**)

Inorganic Acids: Sulphuric Acid-Nitric Acid-Hydrochloric Acid.

Organic Acids: Carbolic Acid-Oxalic acid.

Strong Alkalis: Sodium, Potassium, Ammonium Hydroxides and Carbonates

Section: 3 Irritant Poisons

I. Agicultural poisons: Organo Phosphorous- Organo Chlorine- Carbamates. (Page No: 494-498,500- Ref.Book- S.No.3, **2 hours**)

II. Inorganic Irritant Poisons: (Page No: 510-520- Ref.Book- S.No.3 and Page No.611--612, S.No.1 **4hours**)

Metals: Arsenic Compounds-Antimony-Lead-copper-Mercury compounds-Zinc

Non Metals: Phosphorous--Sulphur-Mica.(PageNo.530-32 -S.No.1 and Page No.27,35-S.No.2 **2 hours**)

Mechanical Irritants: Glass powder-Diamond powder-Animal and vegetable Hairs. (PageNo.612 -S.No.1, **2 hours**)

III. Inorganic Irritant Poisons: (Page No: 524-528- Ref.Book- S.No.3 and Page No.46-63, S.No.2 **10 hours**)

Plants: Abrus precatorius – Calotropis gigantea – Semecarpus anacardium – Capsicum annum – Croton tiglium – Ricinus communis – Euphorbia antiquorum – Excoearia agallocha- Gloriosa Superba-Plumbago zeylanica (Parts used, Chemical Compounds, Signs and Symptoms, Fatal dose, Fatal Period, Siddha and Modern method of Treatment, Postmortem Examination and Medico legal Importance)

Animal Bites and Stings: (Page No: 639-664- Ref.Book- S.No.1 - Page No.74-134, S.No.2- Page No.528-536-S.No.3 **3 hours**)

Ants-Scorpion-Wasps-Spider-Snakes- Centlipedes-Bees-Rats-Onan-Lizards-Leech-Frog-Dog-Cat-Monkey-Horse-Fox-Unknown bite-Crocodile-Beetle-Pig-Animal bites treated with palagarai parpam.

Section: 4 Systemic Poisons

I. Neurotic or Cerebral Poisons:

Inebriant and CNS depressants: Opium-Morphine - Pethidine- Alcohol-Ethyl ,Methyl Alcohol- Toddy-Country Arrack. (page no.580-85,615-17,630-39—S.No.1 and page No.59-S.No.2, 4 hours)

CNS Stimulants: Amphetamine. (Page No: 562- Ref.Book- S.No.3, 1hour)

Deliriant: Datura fastuosa- Cannabis sativa--Cocaine. (Page No: 566-571- Ref.Book- S.No.3 and Page No.58-60, S.No.2, **2 hours**)

Spinal Poison: Strychnosnux vomica. (Page No: 585-590- Ref.Book- S.No.1 - Page No.59-S.No.2, 1 hour)

II. Cardiac Poisons: - (Page No: 583-587- Ref.Book- S.No.3 and Page No.57,58,60-62, S.No.2 (**3hours**))

Nerium odorum – Cerbera thevitea- Aconitum ferox – Nicotiana tobaccum- Cleistanthus collinus- Digitalis Purpurea. (Parts used, active principles, Signs and Symptoms, Fatal dose, Fatal Period, Siddha and Modern method of Treatment, Postmortem Examination and Medico legal Importance)

III. Asphyxiants: (Page No: 588-594- Ref.Book- S.No.3 , **3hours**) Carbon

Monoxide-Carbon Dioxide-Hydrogen Sulphide and War Gases.

Section: 5 Food Poisonings and Poisonous Foods (Page No: 603-608- Ref.Book- S.No.3 and Page No.46-63, S.No.2 , **11 hours**)

Definition-poisoning due to Micro organisms(Bacteria,Protozoa,fungus) - Botulism-poison due to chemical - Vegetable Origin (Lythyrus Sativus, Rye, Oats, Barely, Ground nut, Argemone Mexicana, Mushrooms, Ulunthu, Thuvarai, kadali, motchai, Cocconut, Banana fruit, Jack fruit, Bombax Malbaricum, Naval kottai, Sivanar root, Nungu, Magilam poo, wheet, Gingily oil)-Fish Poisoning—Ghee-Honey-Curd rice-Rice- Egg- Kudineer Thodam- Idu Marunthu -Neer Thodam-Features of Poisonous food-Examination of Poisonous Food-Signs and Symptoms-Treatment.

Section: 6 Drug Dependence (Page No: 572-574- Ref.Book- S.No.3 , **3 hours**)

Definition-Causes-Types of Drug Dependence-Treatment-Investigations of drug abuse deaths.

Section: 7 House hold Poisons (Page No: 475- Ref.Book- S.No.3 and Page No.599-602, S.No.1, **2hours**)

Analgesics, Anti pyretics, Kerosene, Camphor, - Ant powder-Match Box-

Practicals

Total Hours : 100

Topics:

Spotters: Toxic Plants-Toxic Metals and Minerals-Toxic Animals and household poison.
(Practical work - 18 hours).

Microscope Findings: Stains, Animal and Human Hairs, Semen, Blood, Fibers etc. (Practical work - 9 hours).

Photos: Injury Cases, Burning, Drowning, Hanging, Strangulation.(Practical work -19 hours)

Weapons: Knife, Stone, Ligature, Stick, Blunt and Sharp edged weapons, Fire arms (Practical work - 14 hours).

Certificates: Medical Certificate, Physical Fitness, Wound Certificate, Age Certificate, Drunkenness, Death certificate.(Practical work - 20 hours).

Instruments: stomach wash tube and Ryles tube

(Practical work - 5 hours)

Examinations: Bones, X rays, Dental.

(Practical work - 15 hours)

Text Books:

3. Sattam Saarntha Maruthuvamum Nanju Maruthuvamum, Second Edition 1999, P.A. Muhammed Iqbal, MD (Siddha), Published by Department of Indian Medicine and Homeopathy, Chennai 106,
4. Nanju Murivu Nool, Third Edition, 1998, K.S. Murukesa Mudaliyar, Published by Department of Indian Medicine and Homeopathy, Chennai 106,
5. Dr.K.S.Narayan Reddy, 2013-The Essentials of Forensic Medicine and Toxicology, 32nd Edition, Published by K.Suguna devi, H.No.16-11-15/2/2, Saleem nagar colony, No.1 malakpet, Hyderabad-36.
6. Dr. Apurba Nandy, 2013-Nandys's Hand Book of Forensic Medicine and Toxicology, 1st published, New Central Book Agency (P)Ltd., 8/1,Chintamani Das lane, Kolkata-9.

Reference Books:

1. C.A.Franklin, 1988-Modi's Text Book of Medical Jurisprudence and Toxicology 21st Edition.
2. Dr.K.M.Natkarni.1993- Materia Medica vol-I and II, 3rd Edition, K.M.Popular Prakashan PVT Ltd, Bombay.
3. Vishavaidhya Arooda Noolkal, First edition, 2000, Thamarai Noolakam, Chennai 26
4. Sarabendra Vaidhya Muraikal, Visha Roga Chikitchai, Fifth edition 2005, Dr.S. Venkata Rajan, Saraswathy Mahal Library, Thanjavur
5. Visha Vaidhya Chintamani, Sirumanavoor Munisamy Mudhaliyar, 1995, B.R. Balakrishnan Nayakar, Chennai- 79
6. Theran Yamaka Venba , Second edition, 1973, Dr.P.A. Muhamed Abdullah Sahib
7. Gunapadam, Thathu Jeevam, Fourth Edition, 1992, Dr. R. Thyagarajan, Published by Department of Indian Medicine and Homeopathy, Chennai 106

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**NOI ANUGAVITHI OZHUKKAM Total Hours : 100
(HYGIENE AND COMMUNITY MEDICINE INCLUDING NATIONAL HEALTH POLICIES)**

CHAPTER – 1 (Hour - 1)

Introduction to preventive and social medicine, concept of man and society, aim and scope of preventive and social medicine, relations between economic factors and environment in health and disease

CHAPTER – 1 (A) (Hour - 1)

The ways to lead a disease free life as said by ancient siddhar Theriyar

CHAPTER – 2 (Hour - 2)

The five Geographical Classifications - description and occurrence of diseases

CHAPTER – 3 (Hours - 2)

Ancient town planning – modern town planning

CHAPTER – 4 (Hours - 3)

Industries – occupational diseases and its preventions – Occupational hazards.

CHAPTER – 5 (Hours - 4)

Oorthooimai – waste management – Excreta disposal – modern sewage treatment and other methods of sewage disposal. Recycling Methods

CHAPTER -6 (Hours - 2)

Modern house and vaasthu, Modern Construction Techinques which prevent natural calamities.

CHAPTER – 7 (Hour - 1)

Burial and Cremation.

CHAPTER – 8 (Hours - 4)

Seasons (Perumpozhuthu, Sirupozhuthu) – Principles to be followed in the above seasons and the specific food.

Imporikal Kappu, Seasonal Food habits, Uthrayanam, Thachayanam, Uttama, Mathima, Athama Kaala Ozhukam.

CHAPTER – 9 (Hours - 5)

Water – uses – sources – pollution and its related diseases, Purification and distribution.
Water treatment methods

Rain water, Snow water – Collection methods and Application types

River Water – types and therapeutic Values

Waterfalls, Pond water and Well water – types and therapeutic Values

Nandu Kuzhi neer, Naaval mara neer, Karunkalli neer, Vaazhai neer, Ella neer – types and therapeutic Values.

CHAPTER – 10 (Hours - 3)

Neruppu (or) thee – Atmospheric temperature – Effects of heat stress – Effects of cold stress – Preventive measures of global warming – humidity

CHAPTER – 11 (Hours - 5)

Air pollution – Health aspects, Prevention and control, ventilation – Types, Effects of different types of fumes

CHAPTER – 12 (Hours - 2)

Noise – effects of noise pollution and its control.

CHAPTER – 13 (Hours - 3)

Habits – Personal hygiene and daily routines– Costumes – gems and pearls –. Pancha Karpam

CHAPTER – 14 (Hours - 4)

Food – Six tastes – Three types of food – Toxicity – Adulteration – Food borne diseases – Prevention and control – Food standards- Food Digestion time, Patiyan, Selection of food based on uyir thathukal. Junk foods and health hazards.

CHAPTER – 15 (Hours - 2)

Beverages – Drinking water- Effects of water depending on the utensils – fruit juices - Neerakaram, Kaadi neer.

CHAPTER – 16 (Hours - 2)

Uses of Betel leaf and nut. Ill effects of Tobacco products

CHAPTER – 17 (Hours - 2)

Rest and sleep – Types of bed

CHAPTER – 18 (Hours - 4)

Nutritious and balanced diet – Role of fibers, cereals, vegetables – Greens – fruits – animal proteins – fish – birds – pickles etc. – Diseases – Thritoda sama porulgal –, Nutritional Disorders and public health

CHAPTER – 19 (Hour -3)

Serving procedures – types of vessels and their effect on food preparation.

CHAPTER – 20 (Hours - 14)

Communicable diseases:

Causes – Symptoms – Prevention and control of Chicken pox – Measles – Mumps – Influenza – Diphtheria – Whooping cough – Tuberculosis – Plaque – Rubella, etc

Intestinal infections:

Causes, symptoms, prevention and control of poliomyelitis – Viral hepatitis – Cholera – acute diarrheal diseases – Typhoid – Food poisoning – Amoebiasis – Ascariasis – Hook worm infestation etc

Vector borne infection:

Causes, Symptoms, Prevention and Control of; Dengue – Malaria – Filariasis – Chi-gun-gunia, Lepto Spirosis, SARS.

Surface infection:

Causes, Symptoms, Prevention and Control of; Trachoma – Tetanus - Leprosy – STD – AIDS/ HIV.

CHAPTER – 21 (Hours - 12)

National & Regional health programmes – NMEP – NFCP – NLCP – NTP – National Aids control programme – National programme for control of blindness – Iodine deficiency disorders programme – National cancer control programme – National mental health programme – National diabetes control programme – Child survival and safe motherhood programme – National family welfare programme – National water supply and sanitation programme – Minimum needs programme – Health and missions.

CHAPTER – 22 (Hours - 5)

Mental Health – Counseling and eradication of social stigma.

CHAPTER – 23 (Hours - 5)

Siddha concept of preventive measures – immunology and personnel hygiene.

Vaccination & Immunization Schedule

CHAPTER – 24 (Hours - 5)

Hospital Acquired Infections, Preventive methods.

CHAPTER – 25 (Hours - 4)

Hospital & Bio Medical Waste – Types and Disposal management.

Text Books:

- 1) Noi illa neri by Dr. Durairajan, H.P.I.M., Department of Indian Medicine & Homoeopathy, Chennai, Govt. of Tamil Nadu.
- 2) Park's Textbook of Preventive and Social Medicine by K. Park, 21st Edition, Banarsidas Bhanot Publishers

Reference books:

- 1) Pathartha Guna Chintamani – Published by Ratna nayakar & Sons, Chennai 1932.
- 2) Agathiyar Gunavagadam
- 3) Siddha Maruthuvannga Surukkam – Dr. C. S. Uthamarayan – H.P.I.M., Department of Indian Medicine & Homoeopathy, Chennai, Govt. of Tamil Nadu.
- 4) A Treatise on Hygiene and Public Health by Birendra Nath Ghosh, Scientific Publishing Company, 1953.

Syllabus for Siddha Maruthuva Arignar (BSMS) Course (2103 SCHEME)
3rd Professional BSMS

RESEARCH METHODOLOGY AND MEDICAL STATISTICS

Total Hours : 100

1. Research Methodology [10 hrs]

i) Introduction

- ❑ Objectives of research
- ❑ Types of research
- ❑ Research methods
- ❑ Research process (Sources of data and data collection, Developing hypothesis and formulating research question, Extensive research survey, Preparing research design, Determining sample design, Execution of project, Analysis of data, Hypothesis testing, Generalisation and interpretation, Preparation of the report or the thesis)
- ❑ Problems encountered by researchers in India.

ii) Areas of Research Interest in Siddha [5 hrs]

- ❑ Alavaigal and its interpretation with contemporary research
- ❑ Literary research / Fundamental research (especially Siddha research methodologies)
- ❑ Product/Drug/Pharmaceutical research
- ❑ Epidemiological/Clinical research.
- ❑ SWOT(Strength, Weakness, Opportunity & Threat)

2. Literary Review [5 hrs]

- ❑ Reviewing in research / Search for research Hypothesis/ Historical evidences / published papers

3. Protocol [5 hrs]

- ❑ Designing a Protocol
- ❑ Various Templates in Protocol

4. Epidemiological studies and its application in clinical research [10 hrs]

☐ Observational studies:

- i) Descriptive studies
- ii) Analytical studies: Ecological, Cross sectional, Case-control (Retrospective) and Cohort study (Prospective, Retrospective and Combined)

☐ Experimental studies:

- i) Randomization (Randomized Controlled Trial and its varieties & Non randomized trial and its varieties)
- ii) Blinding

5. Pre-clinical studies [10 hrs]

- ☐ Traditional methods to identify the quality of raw materials and preparations
- ☐ Authentication and Standardization of Siddha drugs
- ☐ Pharmacological screening for Safety and efficacy (in vivo and in vitro)
- ☐ Nanotechnology.

(Ref: Protocol for testing by PLIM/ OECD Guidelines / GMP Guidelines)

6. Pre requisite for clinical study [5 hrs]

- ☐ Investigational pharmaceutical product
- ☐ Pre- clinical supporting data & pilot study etc.
- ☐ Research Protocol (Relevant components of protocol)
- ☐ Case Report Form (CRF)
- ☐ Informed consent process
- ☐ Interim review.

7. Ethical guidelines [10 hrs]

- ☐ Ethical and safety considerations (Ethics committee)
- ☐ Composition
- ☐ Submission of application
- ☐ IEC approval

8. Clinical trial designs and AYUSH GCP [15 hrs]

- ☐ Clinical research /trial – introduction
- ☐ AYUSH GCP guidelines
- ☐ Types of clinical trials
- ☐ Phases of clinical trial

- ❑ Data collection, Processing, and Data analysis
- ❑ Interpretation-Reporting method of clinical trial
- ❑ Clinical data management (CDM)
- ❑ Responsibilities of Sponsor, Monitor and Investigator
- ❑ Clinical Trial Registry of India –CTRI

9. Bio- Statistics [15 hrs]

- ❑ Introduction
- ❑ Measures of Central Tendency and Dispersion
- ❑ Normal distribution
- ❑ Sampling-Probability- Sampling variability
- ❑ Tests of significance- difference in means - difference in proportions of large samples -Chi-square test, t-test
- ❑ Demography and vital statistics
- ❑ Dataanalysis& Interpretation of results
- ❑ Tabulation- Diagrams (Bar charts, Histogram, Pie charts, Pictogram)- Statistical maps- Sources and presentation of data- Statistical averages
- ❑ Scientific writing.
- ❑ Hospital information Systems and hospital management system.
- ❑ Qualitative and quantitative data
- ❑ Statistical Analysis of SPSS, Epi info and Epi data

10. Pharmacovigilance [5 hrs]

- ❑ Introduction&importance
- ❑ Siddhaliterature and Pharmaco vigilance
- ❑ Difficulties in Pharmacovigilance (Re challenging & dechallenging)
- ❑ Adverse Drug reactions- Regulations
- ❑ Identification of ADR- Prevention of ADR.

11. Intellectual Property Right (IPR),TKDL [5 hrs]

12. Glossary of selected terms in research methodology and statistics.

Text Books:

1. Introduction to Biostatistics and Research Methods - P. S. S. Sundar Rao, J. Richard
2. Biostatistics, Principles and Practices, Antonisamy.B et al, Tata Mcgrawhiil Education Private Limited, New Delhi,2010

Sources for Reference:

1. Good Clinical Practices published by CDSCO, GoI. (<http://rgcb.res.in/wp-content/uploads/2014/07/Good-Clinical-Practice-Guideline.pdf>)
2. Becoming a Successful Clinical Trial Investigator by Dr.P.K. Julka DNA Press 2nd Edn. 2009.
3. ETHICAL GUIDELINES FOR BIOMEDICAL RESEARCH ON HUMAN PARTICIPANTS by Indian Council for Medical Research, New Delhi on (http://icmr.nic.in/ethical_guidelines.pdf)
4. Good clinical Practice for Clinical trials of Ayurveda, Siddha and Unani Medicine (GCP-ASU) Department of AYUSH, Ministry of Health & Family Welfare, Government of India, New Delhi-2013 (<http://indianmedicine.nic.in/writereaddata/linkimages/5110899178-Final%20Book%2028-03-13.pdf>)
5. Handbook for good clinical research practice (GCP): Guidance for implementation World Health Organization 2002 (http://apps.who.int/prequal/info_general/documents/GCP/gcp1.pdf)

Syllabus for Siddha Maruthuva Arignar (BSMS) Course
Final Professional BSMS
(2013 Scheme)

SUBJECT: MARUTHUVAM (MEDICINE)

Total Hours : 150

Study of following disease with clinical demonstration, their various names, Definition, causes, premonitory signs, signs & symptoms, description about the humoral disorders, pulse reading, complications, Associated disease, fatal signs, Line of treatment, prognosis, specific or special medicines, regimen and diet. Necessary modern scientific correlations shall also be incorporated as and when required.

- | | |
|--|------------|
| 1. Kural kammal (Hoarseness of voice) | (2 hours) |
| 2. Mookkadaippu (Sinusitis and Nasal block) | (2 hours) |
| 3. Irumal noi (Cough) | (2 hours) |
| 4. Eraippu noi (Bronchial asthma) | (2 hours) |
| 5. Elaippu noi (Tuberculosis) | (2 hours) |
| 6. Kuruthiazhal noi (Bleeding disorders and abnormalities of blood pressure) | (2 hours) |
| 7. Thamaraga noi (pertaining with heart diseases) | (3 hours) |
| 8. Veluppu noi (Anaemia) | (2 hours) |
| 9. Oodhal noi (Dropsy) | (2 hours) |
| 10. Ulaimanthai (Acute / chronic enteritis) | (2 hours) |
| 11. Suvayinmai (Disorder of tastes) | (2 hours) |
| 12. Seriyamai (Indigestion) | (2 hours) |
| 13. Neervetkai (Polydipsia) | (2 hours) |
| 14. Vikkal (Hiccup) | (2 hours) |
| 15. Vanthi (Vomitting) | (2 hours) |
| 16. Mantham (Dyspepsia) | (2 hours) |
| 17. Gunmam (Pain abdomen) | (3 hours) |
| 18. Manneeral noi (Diseases of spleen) | (2 hours) |
| 19. Kalleeral noi (Diseases of liver) | (2 hours) |
| 20. Manjal noi (Jaundice) | (2 hours) |
| 21. Peruvayiru (Abdominal distension) | (4 hours) |
| 22. Kudalpidippu (Abdominal colic) | (2 hours) |
| 23. Perunkalichal noi (Diarrhoea) | (2 hours) |

24. Ninakalichal noi (Amoebic dysentery) (2 hours)
25. Kaduppu kalichal noi (Bacillary dysentery) (2 hours)
26. Oozhi noi (Cholera) (2 hours)
27. Soolai (Pricking pain of varied aetiology) (3 hours)

28. Siruneer noikal

28 (I) Neerinai arukkal noikal (Conditions of reduced urinary output)

- a) Kalladaippu noi (Renal calculi) (3 hours)
- b) Neeradaippu noi (Retention of urine) (3 hours)
- c) Neerkattu (Anuria) (3 hours)
- d) Sottu neer (Incontinence of urine) (3 hours)
- e) Neersurukku (Oliguria) (3 hours)
- f) Vellai noi (Urethritis/ inflammation of the uro-genital organs) (3 hours)

28 (II) Neerinai perukkal noikal (Conditions of increased urinary output)

- a) Meganeer/Athimoothiram(Polyuria) (4 hours)
- b) Neerizhivu (Diabetes mellitus) (3 hours)
- c) Thelineer (Diabetes insipidus) (2 hours)
- d) Venneer (Spermatorrhoea) (2 hours)
29. Keel vayu (Arthritis) (4 hours)
30. Suram – 64 (Fever – 64 types) (7 hours)
31. Mukkutra noi (Delirium) (3 hours)
32. Ammai noi (Viral infections) (3 hours)
33. Vatha noi (Rheumatic diseases and other neurological disorders) & Pakkavatham (Hemiplegia) (8 hours)
34. Pitha noi (Pitha diseases) (5 hours)
35. Iya noi (Kapha diseases) (4 hours)
36. Endocrine (diseases) (8 hours)
- (i) Hyper pituitarism
- (ii) Hypo pituitarism
- (iii) Hyper thyroidism
- (iv) Hypo thyroidism
- (v) Cushing's syndrome
- (vi) Adrenal insufficiency
- (vii) Hyper parathyroidism
- (viii) Hypo parathyroidism

37. Infectious diseases (5 hours)
38. Sexually transmitted diseases
- 38.1 Korrukku noi (Syphilis) – 38.2 Mega vettai noi – (Gonorrhoea) (5 hours)
39. Ema kurai noi/ Theivu noi – HIV & AIDS (3 hours)
40. Life style disorders (7 hours)

PRACTICALS: (200 hours)

1. Practical training in the general examination and systemic examination.
2. Maintaining clinical records
3. Envagai thervu
4. Nadi parisothanai
5. Application of Neerkuri and Neikuri
6. Application of Manikkadai nool
7. Application of Clinical investigations and interpretations
8. Practical training in common medical emergencies
9. Practical application of puramaruthuvam in medical cases

REFERENCE BOOKS:

1. Siddha Maruthuvam, Kuppusamy Muthaliar (1st Edn. 1954), Tamilnadu Siddha medical council, Chennai, 2nd Edn. 1987.
2. Yugi vaidhya chintamani, Yugimamunivar, Department of Indian Medicine & Homoeopathy, Govt. of Tamil Nadu, Chennai, Revised Edn. 1998
3. Jeeva raktchamirtham, Subramaniya Pandithar, The Arrow Press, Madras, 2nd Edn., 1928
4. Siddha Maruthuvaanga Surukkam, C. S. Uthamarayan, H.P.I.M., Department of Indian Medicine & Homoeopathy, Govt. of Tamil Nadu, Chennai,
5. Noikalukku Siddha parikaram Part I & II, Shanmugavelu, Indian medicine and homeopathy department, Chennai – 106, (1st Edn. 1972, Reprint: 2012)
6. Davidson's principle and practice of medicine, 2014, 22nd Edn., Churchill Livingstone, Elsevier, ISBN NO.- 9780702050473
7. Hutchison's Clinical Methods, Saunders Ltd. ISBN: 978-0-7020-4091-7.
8. Practical Medicine, PJ Mehta, The National Book Depot, 20th Edn., 2013, ISBN : 9788190704618

DISTRIBUTION OF MARKS (WEIGHTAGE OF MARKS) FOR UNIVERSITY THEORY EXAMINATION

60 Marks from the following chapters

1. Mookkadaippu
2. Irumal noi
3. Eraippu noi
4. Elaippu noi
5. Kuruthi azhal noi
6. Thamaraga noi
7. Veluppu noi
8. Oodhal noi
9. Seriyamai
10. Gunmam
11. Manjal noi
12. Peruvayiru
13. Perunkalichal noi
14. Ninakalichal noi
15. Kaduppu kalichal noi
16. Oozhi noi
17. Siruneer noikal
18. Keel vayu
19. Suram-64

30 Marks from the following chapters

1. Kural kammal
2. Ulaimanthai
3. Suvayinmai
4. Neervetkai
5. Vikkal
6. Vanthi
7. Mantham
8. Manneeral noi
9. Kalleeral noi
10. Kudalpidippu
11. Soolai
12. Mukkutra noi
13. Ammai noi

10 Marks from the following chapters

1. Vatha noi
2. Pitha noi
3. Iya noi
4. Endocrine diseases
5. Infectious diseases
6. Sexually transmitted diseases
7. Ema kurai noi/ Theivu noi (HIV & AIDS)
8. Lifestyle disorders

DISTRUBUTION OF MARKS IN UNIVERSITY CLINICAL EXAMINATIONS

Clinical	70 Marks
Viva voce	20 Marks
Record	10 Marks
Total	100 Marks

SUBJECT: VARMAM, PURAMARUTHUVAM AND SIRAPPUMARUTHUVAM
(Varmam Therapy, External Therapy and Special Medicine)

Total Hours : 150

I KAYAKALPAM

(15 hours)

Definition – Description – Regimen – uses & etc.

- 1) Kalpa medicines (Rejuvenation Therapy) - Classification – General & special karpam.
 - Mooligai karpam – (Herbal origin)
 - Thathu Karpam (minerals origin)
 - Jeeva Karpam – (Animal origin)
- 2) Attanga yogam - Iyamam- Niyamam- Asanam- Pranayamam- Prathiyakaram- Thaarana-
Thiyanam-Samadhi
- 3) Pranayamam – Definition – Philosophy – method – Regimen – Uses
- 4) Yoga –Definition – Principles of yoga practice- yoga postures – types - explanation–
philosophy – uses.
- 5) Muppu - Definition – philosophies – classification – description – uses.

II. VARMAM:

(10 hours)

1. Definition – Description about the importance of Varmam – why it is called as Unique
feature of Siddha system : - Basic Philosophies related to the formation of Varma points –
classification based on three humours – based on anatomical locations – based on signs &
symptoms – special & particular physical manipulation techniques & massage pertaining to
Varma therapy – pulse diagnosis of varma patients – Important medicines used in varma
therapy – Specific food items prescribed for the patients.
2. Detailed study about the following Varma points:- (it includes location – signs & symptoms –
necessary manipulation techniques – medicines)

Paduvarmam (12)

(6 hours)

- | | |
|----------------------|-------------------------------|
| 1) Uchi varmam | 7) Urakka kaalam |
| 2) Pidari kaalam | 8) Thummi kaalam |
| 3) Chevikuthikaalam | 9) Ner Varmam |
| 4) Natchathirakaalam | 10) Adappa kaalam |
| 5) Thilartha kaalam | 11) Periya athisurikki kaalam |
| 6) Kannaadikaalam | 12) Kallidai kaalam |

Thodu varmam (96)

(34 hours)

I. Varma points located in Head & Neck :(22)

- | | |
|-----------------------|--------------------------------|
| 1) Pootellu Varmam | 12) Aayama kaalam |
| 2) Mun chuvadi varmam | 13) Nadi kaalam |
| 3) Nettri kaalam | 14) Chenni Varmam |
| 4) Pin chuvadi varmam | 15) Poigai kaalam |
| 5) Porichal varmam | 16) Kurunthukuthi kaalam |
| 6) Puruva kaalam | 17) Alavattukona chenni Varmam |

- 7) kannakaalam
- 8) Kumbidum kaalam
- 9) Bala varmam
- 10) Chuliyadi Varmam
- 11) Moorthi kaalam

II Varma Points located in Trunk : (37)

- 23) Malar varmam
- 25) Kulir varmam
- 27) Maattraan kaalam
- 29) Kaareeral varmam
- 31) Koombu varmam
- 33) Villu varmam
- 35) Urumi varmam
- 37) Kakotta kaalam
- 39) Changu thirikaalam
- 41) Manthira kaalam
- 43) Iruppu varmam
- 45) Andakkaalam
- 47) Thandu varmam
- 49) Pandri varmam
- 51) Mothira kaalam
- 53) Valamburi kaalam
- 55) Naabi varmam
- 57) Pushti kaalam
- 59) Kurunthukuthi kaalam.

III The Varma points located in the Extremities: (37)

- 60) Thuthikai varmam
- 62) Kavali varmam
- 64) Manikattu varmam
- 66) Muzhankai varmam
- 68) Kochu varmam
- 70) Puja varmam
- 72) Aani varmam
- 74) Chulukku varmam
- 76) Aaama kaalam
- 78) Chirattai varmam
- 80) Channi varmam
- 82) Visha varmam
- 84) Kaal kannu varmam
- 86) Nadai varmam
- 88) Mudichu Varmam
- 90) Naduviral chulukku varmam
- 92) Peruviral mayya varmam
- 94) Konachanni
- 96) Paathachakkaram.

- 18) Vettu Varmam
- 19) Kokki kaalam.
- 20) Manthira kaalam
- 21) Kannu varmam
- 22) Arukukaalam.

- 24) Vilangu varmam
- 26) Arangu varmam
- 28) Thivalai varmam
- 30) Velleeral varmam
- 32) Nenchadaippan varmam
- 34) Mundellu varmam
- 36) Kuttri varmam
- 38) Chippi varmam
- 40) Vaayu kaalam
- 42) Chiriya Athichuriki
- 44) Villu varmam
- 46) Kaccha varmam
- 48) Thandinadi varmam
- 50) Ada varmam
- 52) Vaanthi kaalam
- 54) Chorutheenda kaalam
- 56) Hanuman varmam
- 58) Chuli varmam

- 61) Dhakshana kaalam
- 63) Peruviral mayya varmam
- 65) Kannu varmam
- 67) Muttu varmam
- 69) Chulukku varmam`
- 71) Mozhi varmam
- 73) Pathakkala varmam
- 75) Kochu varmam
- 77) Thundu varmam
- 79) Muttu varmam
- 81) Naai thalai varmam
- 83) Uppu Kuttri varmam
- 85) Kuthikaal varmam
- 87) Kulachu varmam
- 89) Boomi kaalam
- 91) Kaal kavali
- 93) Adakka varmam
- 95) Komberi kaalam

III. GERIATRICS

(5 hours)

Definition – Description – Care and management physical & mental disorder – Care – External changes.

IV. PSYCHIATRY:

(25 hours)

1) Classification of psychiatric disorders – Aetiological factors – Examination of mental state – Manifestations of psychiatric illness – Delusions and hallucinations – symptoms of depression – Anxiety symptoms – Deliberate self harm and Suicidal ideation – Schizophrenia & Delusional disorders – Mood disorders – Neurotic, stress related and Somatoform disorders – Disorders of Adult personality and behaviour.

Introduction – Definition – Types – Treatment of the following diseases.

2) Paithiyam noi - 18 types

- | | | |
|------------------------|---------------------------|------------------------|
| 1. Aavesa Paithiyam | 2. Abikasa Paithiyam | 3. Mavuna Paithiyam |
| 4. Suronitha Paithiyam | 5. Vihaara Paithiyam | 6. Thaaga Paithiyam |
| 7. Azhal Paithiyam | 8. Murka Paithiyam | 9. Naduku Paithiyam |
| 10. Visha Paithiyam | 11. Pralaaba Paithiyam | 12. Pitha Paithiyam |
| 13. Aankaara Paithiyam | 14. Gnana Paithiyam | 15. Kaivisha Paithiyam |
| 16. Kama Paithiyam | 17. Visha Thaga Paithiyam | 18. Siddha Paithiyam |

3)a) Kirigai noi

b) Unmatham noi c)

Brammai noi d)

Matha noi

e) Mathathiyam noi f)

Soothika vatham

g) Moorchai – Apasmaram – mayakkam.

4) Seizure disorders a)

Valippu noi

b) Kakai Valippu noi

V. PURA MARUTHUVAM (External Therapy) 32 types

(15 hours) Definition

– Types – THOKKANAM – (Physical manipulation) Descriptions according to Therantharu
– practical training – Steam therapy - Fume therapy- Bandages- Patru (Plaster) – Ottradam (Fomentation) – Poochu (paste) – Podi thimirdhal (powder massage)- Kalikkam- Anjanam (eye applications) – Nasika paranam (Medicated snuff)- Nasiyam (Nasal drops) – Murichal (Surgical correction of malunited fracture) – kombu kattal (splinting) – peechu (enema/douche) Oothal (blowing), Podi thimirthal-(Massage with herbal grains or paste)

VI. BONE AND JOINT DISEASES:

(25 hours)

Injuries to bones : Fracture – varieties – X-ray findings – complications – indications for surgical treatment – fracture of childhood – reduction procedures with splints – POP and modern techniques – practical training.

Diseases of bones:-Osteomyelitis – Tuberculosis – Rickets – Scurvy – Paget's disease – Osteochondritis –Acromegaly–Tumours of bones–(Benign and malignant)–Secondary tumours.

Injury to Joints: Dislocation of shoulder joint, Jaw etc.

Diseases of Joints: Acute suppurative, Gonococcal, syphilitic arthritis, chronic arthritis - T B gummatous, Rheumatoid and osteo arthritis – X-ray findings.

Injuries to muscles and tendons

Deformities -Scoliosis, kyphosis, cubitus valgus, Dupuytren's contracture, Coxa vara, Genu valgum, flat foot.

Injury to vertebrae – complications

Skull fracture

VII. Diseases of Central Nervous System : (15 hours)

1. Hemiplegia
2. Parkinsonism
3. Poliomyelitis
4. Cranial nerve disorders
5. Paraplegia
6. Quadriplegia
7. Cerebellar ataxia
8. Myopathy
9. Motor neuron disease

PRACTICAL TRAINING IN THE ATTACHED HOSPITAL ON THE FOLLOWING (200 hours)

- 1) Clinical examination of Neurological, Psychiatry and Orthopedics cases.
- 2) Practical training on Varma Therapy.
- 3) Practical training on Puramaruthuvam – (External therapy) Steam therapy - Fume therapy- Bandages- Patru (Plaster) – Ottradam (Fomentation) – Poochu (paste) – Podi thimirdhal (Massage with herbal grains or paste) - Kalikkam- Anjanam (eye applications) – Nasika paranam- Nasiyam (Nasal applications) – Murichal (Surgical correction of malunited fracture) – kombu kattal (splinting) – peeche (enema/douche)
- 4) Practical training on Therapeutic applications of Yoga.
- 5) Writing case records.

Text Book:

1. Siddha Maruthuvam Sirappu, Dr.R.Thiagarajan, Directorate of Indian Medicine & Homeopathy, Chennai, 1995.
2. Varma Soothiram (A Tamil text on martial arts), Institute of Asian Studies, Chennai, 2007
3. Light on Yoga, Shri BKS Iyengar, HarperCollins Publishers, 2001, ISBN: 9780007107001
4. Siddhar Kaya Karpam – Central Council for Research in Ayurveda & Siddha, New Delhi, 1985
5. External Therapies of Siddha Medicine, Dr.Thirunarayanan, Centre for Traditional Medicine and Research, Chennai, 2010
6. Sanni, Vaisoori, Paithiyam & Oozhinoi Thoguthi (Paithya Roga Nidaanam), T.Mohana Raj, ATSVS Siddha Medical College and Hospital, Kanniyakumari, ISBN :9789380288079

Reference Book

1. Sanni, Vaisoori, Paithiyam & Oozhinoi Thoguthi, T.Mohana Raj, ATSVS Siddha Medical College and Hospital, Kanniyakumari, ISBN :9789380288079
2. Varmam marthuvam – Dr. Kannan Rajaram, ATSVS Siddha Medical College and Hospital, Kanniyakumari, ISBN: 9788190868433

3. Yugi vaidhya chintamani, Yugimamunivar, Department of Indian Medicine & Homoeopathy, Govt. of Tamil Nadu, Chennai, Revised Edn. 1998
4. Vatha Noi Thoguthi, T.Mohana Raj, ATSVS Siddha Medical College and Hospital, Kanniyakumari, ISBN :9789380288079
5. Varma Odivu Murivu Saari suthiram 1500, T.Mohana Raj, ATSVS Siddha Medical College and Hospital, Kanniyakumari, ISBN -9789380288062
6. Asana Paranayama Muthira Bantha, Swami Sathyanananda Saraswasthi, Yoga Publications Trust, Bihar, 2008, ISBN: 9788186336144
7. A Short Text Book of psychiatry, M S Bhatia, CBS publishers and distributors Pvt. Ltd., New Delhi 2011. ISBN 9788123920450
8. Text Book of Neurology, Navneet Kumar, PHI learning Pvt. Ltd., New Delhi, 2011, ISBN: 9788120342439
9. Davidson's principle and practice of medicine, 2014, 22nd Edn., Churchill Livingstone, Elsevier, ISBN NO: 9780702050473
10. Text book of orthopaedics and traumatology, Mayilvahanan Natarajan, Wolter Kluwer India | Lippincott William, 2011, ISBN:9788184734430

DISTRIBUTION OF MARKS (MARKS WEIGHTAGE) FOR UNIVERSITY THEORY EXAMINATION

Chapter – 1	20 Marks
Chapter – 2	20 Marks
Chapter – 3 & 4	20 Marks
Chapter – 5	10 Marks
Chapter – 6	20 Marks
Chapter – 7	10 Marks
Total	100 Marks

DISTRUBUTION OF MARKS IN UNIVERSITY CLINICAL EXAMINATIONS

Clinical	70 Marks
Viva voce	20 Marks
Record	10 Marks
Total	100 Marks

ARUVAI, THOL MARUTHUVAM

(SURGERY INCLUDING DENTISTRY AND DERMATOLOGY)

Total Hours : 150

ARUVAI MARUTHUVAM (GENERAL SURGERY)

(60 hours)

1. Literary evidences for the antiquity of surgical practice in Siddha medicine (1 hour)
2. Classification on the practice of treatment. Divine method (Vinnavarurai) – Rational method (Manidarurai) – Surgical method (Asurarurai) – (Aruvai, Agni, Karam and 25 sub divisions). (1 hour)
3. Study on Aruvai (Surgical excision)- Keeral (Incision)- Kuruthi vangal (Blood letting)- Attai vidal (Leech therapy)- Salagai (Probing)- Varthi (Medicated wick)- Oodhal (Blowing)- Peechu - (enema/ douch) - Urinthal (Sucking)- Kattudhal (bandaging)- Chuttigai (cauterization)- Vedhu (Steam therapy)- Pugai (Fumigation)- Karam (caustic applications) (2 hours)
4. General principles of surgery – Pre and post operative care – its management. (1 hour)
5. Study of causes, clinical features, classification, diagnosis, treatment (medical & surgical) with scientific correlations – clinical examination and investigations for the following diseases.
 - a. Veekam – (Inflammation) (2 hours)
 - b. Punkal – (Ulcers) (2 hours)
 - c. Kattigal- (Tumours) (2 hours)
 - d. Silaippun- (Sinus ulcers & its treatment with karanool) (2 hours)
 - e. Moolanoikal- (Ano-rectal diseases) (2 hours)
 - f. Arpaviranam – (koppulam – mugapparu – Thavalaichori – Akkul koppulam Akkul katti – Akkul nilapoosani katti – Akkul erichal katti – Putru vanmegam Aani – Naga chutru – Setrupun – Maru – Attathar kopulam – Varagu koppulam) (5 hours)
 - g. Pavuthiram – Fistula-in-ano (2 hours)
 - h. Mega kattikal – Diabetic skin lesions, STD (1 hour)
 - i. Yanaikkal – Filariasis (1 hour)
 - j. Kandamalai – Cervical adenitis (1 hour)
 - k. Nagil katti – Benign & malignant tumours of the breast (1 hour)
 - l. Vithai noi – Diseases of scrotum (1 hour)
 - m. Kiranthi noi – Chronic ulcers (1 hour)
 - n. Kalladaippu - Renal calculi (1 hour)
 - o. Aankuri noigal – Diseases of the male genitalia. (1 hour)
6. Naakku noigal (Diseases of the tongue) – Ulnakku noigal (Diseases of the uvula). (2 hours)
7. Acute specific infections – Tetanus, Gas gangrene, Cellulitis, Septicaemia, Bactremia, Pyemia, Wounds. (2 hours)
8. Non- specific infectious diseases: Cellulitis, Carbuncle, Ulceration and gangrene. (2 hours)
9. Tumours and cysts – Benign and malignant tumours. (2 hours)
10. Fluid electrolyte and acid base balance – Parenteral fluid therapy – contra indications to I.V therapy – clinical guide to fluid requirement – Alternative route for parenteral fluid therapy – Proctolysis, Transnasal intragastric tube – Acidosis & Alkalosis. (5 hours)
11. Burns and Scalds – Haemorrhage – Types of Shock (2 hours)
12. a) Diseases of arteries – Aneurysm, Embolism, Thrombosis (5 hours)
b) Diseases of veins – Thrombosis of vein, Varicose vein, Venous ulcer, Thrombophlebitis
c) Diseases of lymphatic vessels and lymph nodes – Lymphoedema, lymphadenitis, lymphadenoma (Hodgkin's disease)

13. Infections of Hand & Foot (1 hour)
14. Diseases of breast – Breast abscess, Fibroadenoma, ANDI, Carcinoma breast. (2 hours)
15. 1) Diseases of Rectum, Anus, Fissure in ano etc. (2 hours)
2) Diseases of urinary bladder, Prostatic gland, retention of urine. (2 hours)
16. Diseases of urethra, Phymosis, Paraphymosis. (1 hour)
17. Diseases of testis & scrotum – Orchitis, Hydrocele, Haematocoele, Varicocele, Herniae (2 hours)

KAN, KATHU, MOOKKU, THONDAI MARUTHUVAM

KAN MARUTHUVAM (Eye diseases & Management) (20 hours)

1. Definition of normal healthy eye
2. Names of 96 eye diseases according to “Agasthiyar nayana vithi”
3. Prophylactic measures for healthy vision
4. Causes of eye diseases
5. Classification of eye diseases according to Agasthiyar and Nagamuni nayana vithi – Including their names, signs & symptoms, surgical treatment techniques and medicines
6. Surgical treatment for Pitha kasam
7. Suttigai or Ratchai treatment for Padalam
8. Surgical treatment for Karunagappadalam
9. Ratchai treatment for Ezhuchinoi
10. Surgical treatment for Mudamayir
11. Medicines commonly used for Eye diseases:
 - a) Padalathi mathirai
 - b) Kankasa mathirai
 - c) Matcha Rethinadhi mathirai
 - d) Ilaneer kuzhambu
 - e) Chandrodhaya mathirai
 - f) Narikelanjanam
 - g) Pazha kirambu pakkuva vennai
 - h) Kandu Parpam
 - i) Anda neer
 - j) Kan thailam
12. Comparison with modern diagnosis:
 - a) Suzhal vanderithal - Vitreous opacities
 - b) Naga padalam - Pterygium
 - c) Mayir puzhuvettu - Ulcerative blepharitis
 - d) Amaram - Ophthalmia neonatorum
 - e) Kuvalai vippuruthi - Dacryocystitis
 - f) Vellezhuthu - Presbyopia
 - g) Thurmamisa valarchi – Episcleritis
 - h) Mudamayir - Trichiasis
13. Cataract and its surgical treatment.
14. Conjunctivitis and its treatment.
15. Glaucoma and its treatment.
16. Presbyopia, Myopia, Astigmatism, Nystagmus.
17. The causes and prevention of blindness.
18. Hygiene of Eye.
19. Viral infections of Eye

KATHU MARUTHUVAM (Ear diseases & Management)**(10 hours)**

Study of the following ear diseases with internal and external medicines: Sevi vatha noi – sevi soolai noi – sevi sannai noi – sevi vippuruthi noi – Sevi yezhuchi, Sevi Karappan - sevikkuttam – seviparu – sevopilavai

1. Diseases of the external ear.
2. Diseases of Middle Ear
3. Tinnitus
4. Deafness

MOOKKU MARUTHUVAM (Nasal diseases& Management)**(5 hours)**

1. Peenisam - Nasal and paranasal sinus diseases.
2. Epistaxis
3. Rhinitis, nasal polyp.
4. Head ache

THONDAI MARUTHUVAM (THROAT DISEASES& Management)**(5 hours)**

1. Infections of nasopharynx, Tonsils, Adenoids, Esophagus.
2. Acute and chronic laryngitis
3. Disorders of voice.

PAL MARUTHUVAM (DENTISTRY)**(15 hours)**

1. Pal noigal (Dental diseases) – Eeru noigal (Diseases of the gums) –Aids to Oral Hygiene.
2. Abnormalities of Structure – Hypoplasia of the deciduous and permanent dentition – classification of aetiological factors in hypoplasia – Flurosis – Prevention of flurosis.
3. Attrition, Abrasion and erosion of the Teeth.
4. Dental caries.
5. Inflammation, Necrosis and Gangrene of pulp.
6. Acute and chronic periapical abscess.
7. Resorption of the Teeth.
8. Cementum abnormalities associated with its formation.
9. Stains and discolouration of the Teeth.
10. Gingivitis – supra gingival and sub gingival calculus – Stomatitis.
11. Congenital abnormalities of salivary glands – congenital atresia of the ducts.

THOL MARUTHUVAM (SKIN DISEASES & Management)**(35 hours)**

1. Classification of Kutta noigal according to “Yugi chinthamani”
2. Definition for common Dermatological terms Macule – Papule – Vesicles – Wheal – Pustule – Scales – Crust – Excoriations – Fissure –Ulcer - Scar – Alopecia Areata – Atrophy – Burrow – Comedone – Circinata – Erythema – Erythroderma – Erythemato – Squamous – Granuloma etc.
3. Aids to healthy skin
4. Karappaan - Dermatitis and Eczema.
5. Padarthamarai – Tinea infections - Pimples(Acnes)- Verkuru (Prickly heat)
6. Kanakkadi, Silvida thadippu- Urticaria
7. Puzhu vettu-Alopaecia

8. Podugu-Dandruf, Palunni-Molluscum, Maru-Wart
9. Venpadai – Vitiligo and leucoderma
10. Kalanjaga Padai - Psoriasis
11. Sirangu- Scabies
12. Perunoi – Leprosy
13. Bacterial, Viral, Fungal infections of the skin
14. Drug eruption and Bullous eruptions.
15. Diseases of the hair and scalp – Nails – Sebaceous glands – Sweat glands.
16. Skin disorders due to metabolic, nutritional, vascular, atrophic, endocrinal dysfunction and poisons.

PRACTICAL TRAINING IN THE ATTACHED HOSPITAL ON THE FOLLOWING (200 hours)

- 1) Aruvai (Surgical excision)- Keeral (Incision)- Kuruthi vungal (Blood letting)- Attai vidal (Leech therapy)- Salagai(Probing)- Varthi (Medicated wick)- Oodhal (Blowing)- Peechu (Douch/enema) Urinchal(Sucking)- Kattudhal (bandaging)- Chuttigai(cauterization)-Vedhu (Steam therapy)- Pugai (Fumigation)- Karam (caustic medicines)
- 2) Sterilization – Anti sepsis – Sepsis – Surgical Instruments
- 3) Dressing of Ulcers and wounds.
- 4) Hospital infection and preventions
- 5) I.V. fluids infusion and blood transfusion
- 6) Modern surgical instruments – Various Forceps – Retractors – Needle holders – Urinary Catheters - Proctoscope – nasogastric tube – Suture needles and Threads.
- 7) Suture materials – varieties of suture – practical training in suturing.
- 8) Preparation and application of Karanool.
- 9) A knowledge of anaesthesia of general & local.
- 10) Examination of surgical cases –Acute abdomen- wounds – tumours etc.
- 11) Examination of Eye – Ear – Nose – Throat – Skin etc.
- 12) Writing case sheets of surgical cases.
- 13) Practical training in reading, X-rays, Ultra sonogram, CT scan & MRI.
- 14) 1st aid – to aid unconscious patients – CPR – bandages – snake bite – scorpion sting – burns – scalds – haemorrhages and etc.

REFERENCE BOOKS

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2. Siddha Maruthuvam Sirappu, Dr.R.Thiagarajan, Directorate of Indian Medicine & Homeopathy, Chennai, 1995.
3. Kan Maruthuvam, Mohammed Iqbal, .
4. Agathiar Nayana Vidhi 500, Amirthalingam Pillai, T.S. Manoranjani Press, Chennai, 1936.
5. Nagamunivar Nayana Vidhi 200, Amirthalingam Pillai, T.S. Manoranjani Press, Chennai, 1936
6. Sarabendra Vaidya Muraigal-Nayana Roga Sigichai, Amirthalingam Pillai, T.S. and Vengatranjan, S. Saraswathi Mahal Library Publication, Thanjavur, 1959.
7. Kann Maruthuvam, Madhavan, V.R, International Institute of Tamil Studies, Chennai, 1982.
8. Siddhar Aruvai Maruthuvam, Uthamarayan, C.S. Dept. of Indian Medicine and Homeopathy, Chennai, 1968

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12. Theran Thylavarka Churakkam, Ramachandiran S P., Thamarai Noolagam, Chennai, 2012.
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14. Baily & love's Short practice of surgery, Norman S Williams, CRC Press, ISBN: 9781444121278
15. A Manual on Clinical surgery, S. Das, S. Das's Publications, ISBN: 9788190568104
16. SRB's Manual of surgery, Sriram Bhatt, Jaypee Brothers Medical Publishers Pvt. Ltd. ISBN: 9789351524168
17. Text book of Diseases of Eye, Vasudev Anantha Rao, All India Publishers & Distributors, 2015, ISBN : 9788180040481
18. Diseases of Ear, Nose, Throat – Dr. Muhammed Iqbal
19. Practice of Dermatology, Dr. Bhel, CBS Publishers & Distributors, 2002, ISBN: 9788123905723
20. Essentials in Dermatology, D. M. Thappa, Jaypeebrothers, 2009, ISBN: 9788184485585
21. A concise text book of surgery, Das S., Dr Somen Das – Kolkata, 2014, ISBN: 9788190568128,

DISTRIBUTION OF MARKS (WEIGHTAGE OF MARKS) FOR UNIVERSITY THEORY EXAMINATION

- A) Questions shall be framed for Siddha aspect- 50 marks
 B) Questions shall be framed for Modern aspect- 50 marks

A) Siddha aspect

- a) Introduction- Chapter 2 & 3 of the syllabus - 10 Marks
- b) Study of surgical diseases- chapter 5 of the syllabus- 25 Marks
- c) Kan, Kathu, Mooku and Thol Maruthuvam- 15 Marks

In which, questions can be framed for any categories up to the maximum instructed. Maximum marks should not be exceeded beyond 50 marks.

The questions shall be for Siddha aspect as follows:

- a) One essay question – $1 \times 10 = 10$
- b) Five short notes - $5 \times 5 = 25$
- c) Five brief answers- $5 \times 3 = 15$

B) Modern aspect

Questions shall be framed for Modern aspect- 50 marks

- a) General surgery - 30 Marks
- b) Dermatology - 10 Marks
- c) ENT and Ophthalmology- 10 Marks

In which, questions can be framed for any categories up to the maximum instructed. Maximum marks should not be exceeded beyond 50 marks.



SUBJECT: SOOL, MAGALIR MARUTHUVAM
(Obstetrics and Gynaecology)

Total Hours : 100

SOOL MARUTHUVAM (Obstetrics)

- I. Koopagam (Anatomy and Physiology) : (3 hrs)
 1. Applied Anatomy of Pelvis – Types – Divisions - True & False Pelvis – pelvic floor – Perineum.
 2. External Genital organs – Internal Genital organs
 3. Breast – Physiology of ovulation and Menstruation.
- II. Karu Urpathy : (4hrs)

(Development of Embryo) According to Siddha aspect – Early development of Embryo in Modern aspect – Fertilization – Morula – Blastocyst- Implantation – Trophoblast – Decidua – Chorion and chorionic villi – Amnion – Amniotic fluid - Development of inner cell mass – Umbilical cord transport – Placental development – Placental hormones and Functions - Maternal and fetal circulation.
- III. Karpini Urupugalin Maruthalgal: (Maternal changes due to Pregnancy) (4hrs)

Role of hormones in pregnancy. Management of disorders and treatment
- IV. Sool Kanippu: (Diagnosis of Pregnancy): (4hrs)

First, Second & Third trimester – Subjective – Objective – confirmative signs – Assessment of duration of pregnancy – Calculation of Estimated Date of confinement – Pseudocyesis – Difference between Primi and multigravidae.
- V. Karpini Tharkaapu (Antenatal care): (5hrs)

Abdominal and pelvic examination – Antenatal visits – Advice – Obstetric grips – Vaginal examination – Minor ailments in pregnancy - Siddha treatment and Yogasanas during pregnancy. Contraception – Siddha and modern concepts – Oral – Injectables – Implants - IUCDs. Etc – Management and treatment

vi. Magavu: (Foetus) : (2hrs)

Attitude – lie – Presentation – Position – Sizes of embryo and Foetus during gestation.
Diameters of fetal skull – term baby – Preterm baby. – Management and treatment

vii. Irattai Magavu and Pan Sool: (Twins and Multiple pregnancy). (2hrs)

viii. Magaperu Kukaranam: (Complications of Pregnancy): (9hrs)

Hyperemesis gravidarum – Hydatidiform mole – Oligohydramnios – Polyhydramnios - Anaemia
– Abnormalities of placenta and cord – Hypertensive disorders of pregnancy – Gestational Hypertension - Pre eclampsia – Eclampsia – Gunava avathanagam (Stanza 324 of Yugi vaithiya chinthamani) – Preterm labour – Premature Rupture of Membrane (PROM) – Intra Uterine Growth Retardation (IUGR) – Rhesus isoimmunisation. – Management and treatment -Maternal infection – TORCH – Sexually Transmitted Diseases (STD) – Syphilis – HIV – Gonorrhoea – Chicken pox – Malaria – Diabetes – Heart disease – Liver disease – Tuberculosis – Urinary Tract infections. – Management and treatment

ix. Karuchithaivu: (Abortion) : (4hrs)

Types, Kandagava avathanagam (Stanza 323 of Yugi vaithiya chinthamani) – Differential diagnosis — Management and treatment – Ectopic Pregnancy – Tubal – abdominal – ovarian.

x. Magapperu Mun Uthirasalai: (Antepartum Hemorrhage): (2hrs)

a. Abruptio placenta b. Placenta previa. – Management and treatment

xi. Sukha Magaperu Nadai: (Stages of Normal Labour): (3hrs)

Role of hormones in Labour – Uterine action. – Management students are to be exposed to sufficient number of deliveries.

xii. Sukha Magaperu Nigalchikal: (Mechanism of Normal Labour): (2hrs)

Descent – flexion – Internal rotation – Extension – restitution – external rotation.

xiii. Sukha Magaperu Kanippu: (Management of Normal Labour): (3hrs)

Diagnosis of Labour – Management of First Stage – Aseptic and Antiseptic precautions - Second stage of Labour – Delivery position- Episiotomy – Ligation of cord – Management of third stage.

xiv. Asatharana Magaperu: (Abnormal Labour): (6hrs)

Occipito posterior presentation – Face – brow – Breech – Transverse or oblique lie – Compound presentation –Cesarean procedures – Management

xv. Sool Poopu Sugaranam: (Normal Puerperium): (3hrs)

Involution of uterus – other pelvic Structures - Lochia – Lactation – Physiology of Lactation – Advantages of breast feeding – care of puerperium – care of the newborn. – Management and treatment

xvi. Magaperu Pin Uthirasalai: (Postpartum hemorrhage): (1hr)

Retained placenta. – Management and treatment

xvii. Sool Poopu Kukaranam: (Abnormalities of the Puerperium) (3hrs)

Puerperal pyrexia – Puerperal sepsis – subinvolution – Predisposing causes – Organisms – venous complications in the puerperium – Deep vein Thrombosis – Thrombophlebitis – Cerebral venous Thrombosis – Mastitis and breast abscess – Postpartum pituitary Necrosis – Psychiatric disorders during puerperium. – Management and treatment

I. Text books :

1. Sool Maruthuvam, P.M. Venugopal, Department of Indian Medicine & Homoeopathy, Govt. of Tamil Nadu, Chennai, 5th Edn. 2007.
2. DC Dutta's Textbook of Obstetrics, DC Dutta, Hiralal Konar, 8th Edn. JAY PEE Bros. Medical Publishers Pvt. Ltd., ISBN:9789351527237
3. Mudaliar and Menon's Clinical Obstetrics, Universities Press Pvt Ltd., Hyderabad, 12th Edn., 2015

II. Reference books:

1. Agathiyar vaithiya chinthamani, Dr.Prema, Thamarai noolakam, March 1996
2. Chikicha rathina deepam 4000, C. Kannusami pillai, Rathnanayagar & sons, Chennai. 1st Edn., 2007.
3. Maadhar Maruthuvam, Dr.Chidambarathanu pillai Siddha Medical Literature Research Centre, Chennai, 2nd Edn., Nov. 1984.
4. Arivaiyar chinthamani, Dr.P.Mohan raj, ATSVS Siddha medical college, Munchirai, May 2008.
5. Yacob vaithiya chinthamani 700, S.P. Ramachandran, Thamarai noolakam, May 1996.
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8. Theraiyar vaithiya kaaviyam 1500, S.P. Ramachandran, Thamarai noolakam, 2nd Edn., Aug 2000.
9. Yugimuni vaithiya kaaviyaam, P.C Mohan, Thamarai noolakam, 2nd Edn., October 2014.
10. Birammamuni vaithiya soothiram Vol. II, Dr.K.Maruthamuthu, Saraswathy mahal noolakam, Thanjavur, 2nd Edn., 2006.
11. Pulippani vaithiyam 500, S.P. Ramachandran, Thamarai noolakam, 1st Edn., Dec 1999.
12. Eliya vaithiya muraikal 800, Dr.Prema, Tamil university, Thanjavur, 2nd Edn., May 2010.
13. Yugi vaidhya chintamani, Yugimamunivar, Department of Indian Medicine & Homoeopathy, Govt. of Tamil Nadu, Chennai, Revised Edn. 1998.

SUBJECT: MAGALIR MARUTHUVAM (Gynaecology)

1. History, Examination and diagnostic procedure of a Gynecological patient. (1hr)
2. Congenital malformation of female genital organs. (1hr)
Vaginal – Uterine – Fallopian tube – ovarian anomalies – other anomalies.
3. Muthal Poopu(Sukharanam & Kukaranam): (1hr)
Puberty – Normal and abnormal. – Management and treatment
4. Poopu: (2hrs)
Menstruation –Menstrual cycle-Hypothalamo-pituitary-Ovarian axis (H-P-O axis) –
Premenstrual syndrome. – Management and treatment
5. Kadai Poopu: (1hr)
Menopause – organ changes – Menopausal symptoms – Management in siddha.
6. Neuroendocrinology in relation to Reproduction. (1hr)
7. Poopu Kolarugal: (Disorders of Menstruation). (2hrs)
Amennorrhoea – Menorrhagia – Metrorrhagia – Dysfunctional Uterine bleeding – Types –
DD – – Management and treatment
8. Soothagavali: (Dysmenorrhoea): (1hr)
Siddha and modern concepts– Management and treatment
9. Karuppai Adithallal:(Displacement of Uterus). (1hr)
Genital prolapse – Retroversion – chronic inversion. – Management and treatment
10. Maladu: (4hrs)
Infertility in Siddha and modern aspects – Types, Treatment and Management
11. Yoni Rogangal: Diseases of the Vagina in Siddha aspect and treatment. (2hrs)
12. Koopaga Urupugallin azharchi: Infections of the pelvic organs. (4hrs)
Vellai -(Leucorrhoea) – Vulvitis – Bartholinitis – Vaginitis – Cervicitis – Endometritis –
Salpingitis – Oophoritis – Parametritis – Genital Tuberculosis – Management and treatment
Sexually Transmitted Infections.
Gonorrhoea – Syphilis – AIDS – Hepatitis B & C – Bacterial vaginosis – Trichomonas Vaginitis
– monilial vaginitis – Management and treatment
13. Siruneer vega Kolarugal: Urinary problems in Gynecology. (2hrs)
Urinary Tract Infections – Incontinence – Fistula – Vesico vaginal fistula and Recto vaginal
fistula (VVF & RVF). – Management and treatment
14. Nan Maravai Kattigal-Karuppai (Benign lesions of the Uterus) (2hrs)
Fibroid – polyps. – Management and treatment

- | | |
|---|--------|
| 15. Nachu Maravai Kattigal- Karuppai (Malignant lesions of the Uterus) | (6hrs) |
| Cancer of cervix, Uterus and Vagina. – Management and treatment | |
| 16. Nan Maravai Kattigal- Sinaippai (Benign lesions of the ovary) | (2hrs) |
| Polycystic ovarian Disease (PCOD) – Siddha treatment. Follicular cyst – Endometrial (Chocolate cyst) – Dermoid cyst. – Management and treatment | |
| 17. Nachu Maravai Kattigal – Sinaippai: | (2hrs) |
| (Malignant Ovarian Tumors) Management and treatment | |
| 18. Nagil Sothanai: | (3hrs) |
| Breast Examination – Fibroadenoma – Carcinoma. – Management and treatment | |
| 19. Miscellaneous: | (2hr) |
| Post menopausal bleeding – Lowbackache – Dyspareunia – Pruritus Vulvae – Hirsutism. – Management and treatment– Hermaphroditism, Turner’s syndrome, Klinefelter’s syndrome- Virilism – Management | |

PRACTICAL TRAINING IN THE ATTACHED HOSPITAL ON THE FOLLOWING (175 hours)

1. Examination of Ante natal and Post natal Cases
2. Practical training on handling instruments like speculum, uterine sound, vulsalum etc.,
3. Vaginal smear
4. Clinical examination of Breast.
5. Writing of case records.
6. Training on Ultrasonogram ,necessary investigations and interpretations.
7. Application of Puramauthuvam in OG conditions

Text books :

1. Magalir Maruthuvam, P.M. Venugopal, Department of Indian Medicine & Homoeopathy, Govt. of Tamil Nadu, Chennai, 4th Edn., Reprint, 2013.
2. DC Dutta’s Textbook of Gynaecology, DC Dutta, Hiralal Konar, 7th Edn. JAY PEE Bros. Medical Publishers Pvt. Ltd., ISBN: 9789385891595
3. Shaw’s Text book of Gynecology, Shirish N. Daftary & V.G. Padubidri, Reed Elsiwer India Pvt. Ltd, 16th Edn 2015, ISBN: 9788131238721.

Reference books:

1. Jeeva raktchamirtham, Subramaniya Pandithar, The Arrow Press, Madras, 2nd Edn., 1928
2. Yugi vaidhya chintamani, Yugimamunivar, Department of Indian Medicine & Homoeopathy, Govt. of Tamil Nadu, Chennai, Revised Edn., 1998.
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12. Eliya vaithiya muraikal 800, S.Prema, Tamil university, Thanjavur, 2nd Edn.,May2010.
13. Thanvanthiri vaithiya kummi -300, V.R.Madhavan, Tamil university, Thanjavur, 1st Edn., July 2004.

DISTRIBUTION OF MARKS (MARKS WEIGHTAGE) FOR UNIVERSITY THEORY EXAMINATION

SOOL MARUTHUVAM

Chapter – 1 & 2	5 Marks
Chapter – 3 & 4	5 Marks
Chapter – 5	5 Marks
Chapter – 6, 7 & 8	15 Marks
Chapter – 9, 10 & 11	10 Marks
Chapter – 12, 13 & 14	10 Marks
Chapter – 15, 16 & 17	15 Marks

MAGALIR MARUTHUVAM

Chapter – 1, 2, 3, 4, 5 & 6	5 Marks
Chapter – 7, 8 & 9	5 Marks
Chapter – 10, 11, 12, & 13	10 Marks
Chapter – 14, 15, 16 & 17	10 Marks
Chapter – 18 & 19	5 Marks
Total	100 Marks

DISTRIBUTION OF MARKS IN UNIVERSITY CLINICAL EXAMINATIONS

Clinical	70 Marks
Viva voce	20 Marks
Record	10 Marks
Total	100 Marks

**SUBJECT: KUZHANTHAI MARUTHUVAM
(PAEDIATRICS)**

Total Hours : 100

1. Neo natal care, Infant care, Child care.

(4hrs)

2. Breast milk

(3hrs)

composition, advantages and disadvantages to the children and mother.

3. New born

(6hrs)

Term baby-preterm baby-Low birth weight-Minor problems in pediatric age group.-Intrauterine infections.-Respiratory disorders.-Icterus.-Neonatal seizures.-Rh incompatibility-ABO incompatibility.-Undescended testis.-Phimosis.-Hydrocele.-Ambiguous genitalia.-APGAR score.- Neonatal reflexes

4. Immunization

(3hrs)

Immunization schedule. (IAP, WHO)-complication of immunisation-other schedules of immunisation-Urai maathirai, Chei ennai

5. Growth and development

(6hrs)

Introduction-factors affecting growth and development.-periods of growth-assessment of physical growth-assessment of bone age.-eruption of teeth-behavioural development.- developmental milestones.-developmental delay.

-Disorders of growth and development

- short stature-failure to thrive
- behavioural disorders-nail biting, thumb sucking, pica eating
- poor school achievers.
- breath holding spells.

6. Adolescent

(3hrs)

Physiology.-Stages of sexual maturation.-Hormonal changes.-Health problems during adolescence.-Psychological problems.-Juvenile delinquency-management and line of treatment

7. Nutritional deficiency disorders

(4hrs)

Protein energy malnutrition.-Vitamin and mineral deficiency diseases.-management and line of treatment-Study of causes, clinical features, classification, diagnosis, treatment (medical & surgical) with scientific correlations – clinical examination and investigations for the following diseases.

8. Agakaarana noigal according to yugimuni

(32hrs)

Kiranthi (2 types)– Thodam(25 types) – Maantham(33 types) – Kanam(24 types) - Karappan(18 types) – Suram(20 types) – Sanni(9 types) – Valippu(4 types) – Akkaram(8 types) - Paandu, Sobai, Kamalai(3 types) – Kazhichal(3)types– Kakkuvan -Amaram-Maalaikann

9.Purakaarana noigal according to yugimuni**(2hr)**

Seeri seeri azhuthal – Vikkal – Vayiru porumal- Vayitru noi - Kottaavi – Malakkattu – Neerkkattu -Vayiruveengal – Paal Kudiyaamai - Paal ethireduthal - Thodam

10.Infectious diseases.**(8hrs)**

Diphtheria-Pertussis-Tetanus-Mumps-Measles-Chicken pox-AIDS in children.

11.Infestations:**(2hrs)**

Naaku poochi -Keeri poochi-Masaraipuzhu-Other infestations-management and line of treatment

12. Gastro intestinal system.**(6hrs)**

Seriyamai - Vaanthi – Vikkal - Lactose intolerance - Malabsorption syndrome – Dysentery - Rectal prolapse - Congenital pyloric stenosis - management and line of treatment

13.Cardio vascular system.**(6hrs)**

Congenital cardiac diseases. -cyanotic and acyanotic heart diseases -management and line of treatment

14. Central nervous system.**(8hrs)**

Baala vaatham and its types-Cerebral palsy. -Mental retardation. Hyperactivity disorders- ADHD, Autism-Temper tantrum. -management and line of treatment

15. Musculo skeletal disorder.**(2hr)**

Muscular dystrophy -management and line of treatment

16. Genetic disorder**(2hr)**

Down's syndrome & its management, other common genetic disorders

17. Endocrine disorder.**(3hr)**

Cushing's syndrome. -Juvenile diabetes mellitus. management and line of treatment

PRACTICAL TRAINING IN THE ATTACHED HOSPITAL ON THE FOLLOWING**(175 hours)**

1. Examination of Infantile and Neonatal cases.
2. Practical training on handling instruments like incubator, suction tube etc.,
3. Practical application on Immunization schedule
4. Training on General and Systemic Examinations of Pediatric cases
5. Writing of case records.
6. Training on Ultrasonogram ,necessary investigations and interpretations.
7. Application of puramaruthuvam in peadiatric ailments.

Reference books

1. Pillaipini maruthuvam, S.sundhar rajan, Department of Indian Medicine & Homoeopathy, Govt. of Tamil Nadu, Chennai, 1st edn. 1993
2. Kuzhanthai maruthuvam Vol. I to V, Chidambarathanu pillai, Siddha Medical Literature Research Centre, Chennai, 2003-2004
3. Balavatha nidhanam, Chidambarathanu pillai, Siddha Medical Literature Research Centre, Chennai
4. Kuzhandhai vaithiyam, Chidambarathanu pillai, Siddha Medical Literature Research Centre, Chennai, 1997
5. Maadhar Maruthuvam, Dr.Chidambarathanu Pillai, Siddha Medical Literature Research Centre, Chennai
6. Mooligai Iyal, Arunachalam V., Pothigai Pathippagam, Ambasamuthiram, 1st Edn., 1994.
7. Pregnancy, childbirth, postpartum and newborn care - A guide for essential practice, WHO, United Nations Population Fund & UNICEF, 3rd edn., 2015
8. Managing complications in pregnancy and childbirth - A guide for midwives and doctors, WHO; United Nations Population Fund; UNICEF & World Bank, 2003, ISBN: 9241545879
9. Managing newborn problems -A guide for doctors, nurses and midwives, World Health Organization, Dept. of Reproductive Health and Research; United Nations Population Fund; UNICEF, ISBN: 9241546220
10. WHO recommended interventions for improving maternal and newborn health -Integrated management of pregnancy and childbirth, WHO, 2007
11. Standards for maternal and neonatal care - Group 1: General standards of care for healthy pregnancy and childbirth, World Health Organization, Department of Making Pregnancy Safer and Department of Reproductive Health and Research, 2007 (Web only version as a part of WHO Integrated Management of Pregnancy and Childbirth Care (IMPAC) Package)
12. Balavagadam, C.S. Murugesu Mudaliar (Au.), Pon Kurusironmani (Ed.), Department of Indian Medicine & Homoeopathy, Govt. of Tamil Nadu, Chennai, Revised Edn. 1998
13. Jeeva raktchamirtham, Subramaniya Pandithar, The Arrow Press, Madras, 2nd Edn., 1928
14. Aathmaratchaamirthamennum Vaithiya Saara Sangiragam, Kandasamy Mudaliar, Sri Shenbaga Pathipagam, 2012
15. Kuzhanthai Nala Maruthuvam, Dr. N. Rajarajeswari, Dr. A. Jagadeesan, Tamil University, Thanjavoor, 2003, ICBN: 9788170903154
16. Mathalai Noi thoguthi, Dr. P. Mohanraj, ATSVS Siddha Medical College and Hospital, Kanniyakumari, 2008 (Vol. I, II), 2009 Vol. III, ISBN : 9789380288109
17. Guide to Child Care (Parenting the Indian way), R.K. Anand, Vakils Feffer And Simons Ltd., 2nd Edn. 2008, ISBN: 9788184620085
18. Siddha Maruthuvam, Dr. Kuppusamy Mudhaliar, Tamilnadu Siddha medical council, Chennai, 2nd edn, 1987.
19. Ghai Essential Pediatrics, Vinod K Paul, CBS Publishers & Distributors-New Delhi ISBN: 9788123923345,
20. Achar's Textbook of Pediatrics, Swarna Rekha Bhat (ed.), Universities Press, 4th Edn., 2009

DISTRIBUTION OF MARKS (MARKS WEIGHTAGE) FOR UNIVERSITY THEORY EXAMINATION

Chapter – 1, 2 & 3	3 Marks
Chapter – 4	5 Marks
Chapter – 5 & 6	5 Marks
Chapter – 7	5 Marks
Chapter – 8	45 Marks
Chapter – 9	5 Marks
Chapter – 10	5 Marks
Chapter –11	3 Marks
Chapter – 12	5 Marks
Chapter –13	3 Marks
Chapter – 14	5 Marks
Chapter – 15	3 Marks
Chapter – 16	5 Marks
Chapter –17	3 Marks
Total	100 Marks

DISTRIBUTION OF MARKS IN UNIVERSITY CLINICAL EXAMINATIONS

Clinical	70 Marks
Viva voce	20 Marks
Record	10 Marks
Total	100 Marks

Syllabus for Siddha Maruthuva Arignar (BSMS) Course
Final Professional BSMS
(2013 Scheme)

SUBJECT: MARUTHUVAM (MEDICINE)

Total Hours : 150

Study of following disease with clinical demonstration, their various names, Definition, causes, premonitory signs, signs & symptoms , description about the humoural disorders, pulse reading , complications , Associated disease, fatal signs, Line of treatment, prognosis, specific or special medicines, regimen and diet. Necessary modern scientific correlations shall also be incorporated as and when required.

- | | |
|--|------------|
| 1. Kural kammal (Hoarseness of voice) | (2 hours) |
| 2. Mookkadaippu (Sinusitis and Nasal block) | (2 hours) |
| 3. Irumal noi (Cough) | (2 hours) |
| 4. Eraippu noi (Bronchial asthma) | (2 hours) |
| 5. Elaippu noi (Tuberculosis) | (2 hours) |
| 6. Kuruthiazhal noi (Bleeding disorders and abnormalities of blood pressure) | (2 hours) |
| 7. Thamaraga noi (pertaining with heart diseases) | (3 hours) |
| 8. Veluppu noi (Anaemia) | (2 hours) |
| 9. Oodhal noi (Dropsy) | (2 hours) |
| 10. Ulaimanthai (Acute / chronic enteritis) | (2 hours) |
| 11. Suvayinmai (Disorder of tastes) | (2 hours) |
| 12. Seriyamai (Indigestion) | (2 hours) |
| 13. Neervetkai (Polydipsia) | (2 hours) |
| 14. Vikkal (Hiccup) | (2 hours) |
| 15. Vanthi (Vomitting) | (2 hours) |
| 16. Mantham (Dyspepsia) | (2 hours) |
| 17. Gunmam (Pain abdomen) | (3 hours) |
| 18. Manneeral noi (Diseases of spleen) | (2 hours) |
| 19. Kalleeral noi (Diseases of liver) | (2 hours) |
| 20. Manjal noi (Jaundice) | (2 hours) |
| 21. Peruvayiru (Abdominal distension) | (4 hours) |
| 22. Kudalpidippu (Abdominal colic) | (2 hours) |
| 23. Perunkalichal noi (Diarrhoea) | (2 hours) |

24. Ninakalichal noi (Amoebic dysentery) (2 hours)
25. Kaduppu kalichal noi (Bacillary dysentery) (2 hours)
26. Oozhi noi (Cholera) (2 hours)
27. Soolai (Pricking pain of varied aetiology) (3 hours)

28. Siruneer noikal

28 (I) Neerinai arukkal noikal (Conditions of reduced urinary output)

- a) Kalladaippu noi (Renal calculi) (3 hours)
- b) Neeradaippu noi (Retention of urine) (3 hours)
- c) Neerkattu (Anuria) (3 hours)
- d) Sottu neer (Incontinence of urine) (3 hours)
- e) Neersurukku (Oliguria) (3 hours)
- f) Vellai noi (Urethritis/ inflammation of the uro-genital organs) (3 hours)

28 (II) Neerinai perukkal noikal (Conditions of increased urinary output)

- a) Meganeer/Athimoothiram(Polyuria) (4 hours)
- b) Neerizhivu (Diabetes mellitus) (3 hours)
- c) Thelineer (Diabetes insipidus) (2 hours)
- d) Venneer (Spermatorrhoea) (2 hours)
29. Keel vayu (Arthritis) (4 hours)
30. Suram – 64 (Fever – 64 types) (7 hours)
31. Mukkutra noi (Delirium) (3 hours)
32. Ammai noi (Viral infections) (3 hours)
33. Vatha noi (Rheumatic diseases and other neurological disorders) & Pakkavatham (Hemiplegia) (8 hours)
34. Pitha noi (Pitha diseases) (5 hours)
35. Iya noi (Kapha diseases) (4 hours)
36. Endocrine (diseases) (8 hours)
- (i) Hyper pituitarism
- (ii) Hypo pituitarism
- (iii) Hyper thyroidism
- (iv) Hypo thyroidism
- (v) Cushing's syndrome
- (vi) Adrenal insufficiency
- (vii) Hyper parathyroidism
- (viii) Hypo parathyroidism

37. Infectious diseases (5 hours)
38. Sexually transmitted diseases
- 38.1 Korrukku noi (Syphilis) – 38.2 Mega vettai noi – (Gonorrhoea) (5 hours)
39. Ema kurai noi/ Theivu noi – HIV & AIDS (3 hours)
40. Life style disorders (7 hours)

PRACTICALS: (200 hours)

1. Practical training in the general examination and systemic examination.
2. Maintaining clinical records
3. Envagai thervu
4. Nadi parisothanai
5. Application of Neerkuri and Neikuri
6. Application of Manikkadaai nool
7. Application of Clinical investigations and interpretations
8. Practical training in common medical emergencies
9. Practical application of puramaruthuvam in medical cases

REFERENCE BOOKS:

1. Siddha Maruthuvam, Kuppusamy Muthaliar (1st Edn. 1954), Tamilnadu Siddha medical council, Chennai, 2nd Edn. 1987.
2. Yugi vaidhya chintamani, Yugimamunivar, Department of Indian Medicine & Homoeopathy, Govt. of Tamil Nadu, Chennai, Revised Edn. 1998
3. Jeeva raktchamirtham, Subramaniya Pandithar, The Arrow Press, Madras, 2nd Edn., 1928
4. Siddha Maruthuvaanga Surukkam, C. S. Uthamarayan, H.P.I.M., Department of Indian Medicine & Homoeopathy, Govt. of Tamil Nadu, Chennai,
5. Noikalukku Siddha parikaram Part I & II, Shanmugavelu, Indian medicine and homeopathy department, Chennai – 106, (1st Edn. 1972, Reprint: 2012)
6. Davidson's principle and practice of medicine, 2014, 22nd Edn., Churchill Livingstone, Elsevier, ISBN NO.- 9780702050473
7. Hutchison's Clinical Methods, Saunders Ltd. ISBN: 978-0-7020-4091-7.
8. Practical Medicine, PJ Mehta, The National Book Depot, 20th Edn., 2013, ISBN : 9788190704618

SUBJECT: VARMAM, PURAMARUTHUVAM AND SIRAPPUMARUTHUVAM
(Varmam Therapy, External Therapy and Special Medicine)

Total Hours : 150

I KAYAKALPAM

(15 hours)

Definition – Description – Regimen – uses & etc.

- 1) Kalpa medicines (Rejuvenation Therapy) - Classification – General & special karpam.
 - Mooligai karpam – (Herbal origin)
 - Thathu Karpam (minerals origin)
 - Jeeva Karpam – (Animal origin)
- 2) Attanga yogam - Iyamam- Niyamam- Asanam- Pranayamam- Prathiyakaram- Thaaranai- Thiyanam-Samadhi
- 3) Pranayamam – Definition – Philosophy – method – Regimen – Uses
- 4) Yoga –Definition – Principles of yoga practice- yoga postures – types - explanation– philosophy – uses.
- 5) Muppu - Definition – philosophies – classification – description – uses.

II. VARMAM:

(10 hours)

1. Definition – Description about the importance of Varmam – why it is called as Unique feature of Siddha system : - Basic Philosophies related to the formation of Varma points – classification based on three humours – based on anatomical locations – based on signs & symptoms – special & particular physical manipulation techniques & massage pertaining to Varma therapy – pulse diagnosis of varma patients – Important medicines used in varma therapy – Specific food items prescribed for the patients.
2. Detailed study about the following Varma points:- (it includes location – signs & symptoms – necessary manipulation techniques – medicines)

Paduvarmam (12)

(6 hours)

- | | |
|----------------------|-------------------------------|
| 1) Uchi varmam | 7) Urakka kaalam |
| 2) Pidari kaalam | 8) Thummi kaalam |
| 3) Chevikuthikaalam | 9) Ner Varmam |
| 4) Natchathirakaalam | 10) Adappa kaalam |
| 5) Thilartha kaalam | 11) Periya athisurikki kaalam |
| 6) Kannaadikaalam | 12) Kallidai kaalam |

Thodu varmam (96)

(34 hours)

- I. Varma points located in Head & Neck :(22)

- | | |
|-----------------------|--------------------------------|
| 1) Pootellu Varmam | 12) Aayama kaalam |
| 2) Mun chuvadi varmam | 13) Nadi kaalam |
| 3) Nettri kaalam | 14) Chenni Varmam |
| 4) Pin chuvadi varmam | 15) Poigai kaalam |
| 5) Porichal varmam | 16) Kurunthukuthi kaalam |
| 6) Puruva kaalam | 17) Alavattukona chenni Varmam |

- 7) kannakaalam
- 8) Kumbidum kaalam
- 9) Bala varmam
- 10) Chuliyadi Varmam
- 11) Moorthi kaalam

II Varma Points located in Trunk : (37)

- 23) Malar varmam
- 25) Kulir varmam
- 27) Maattraan kaalam
- 29) Kaareeral varmam
- 31) Koombu varmam
- 33) Villu varmam
- 35) Urumi varmam
- 37) Kakotta kaalam
- 39) Changu thirikaalam
- 41) Manthira kaalam
- 43) Iruppu varmam
- 45) Andakkaalam
- 47) Thandu varmam
- 49) Pandri varmam
- 51) Mothira kaalam
- 53) Valamburi kaalam
- 55) Naabi varmam
- 57) Pushti kaalam
- 59) Kurunthukuthi kaalam.

III The Varma points located in the Extremities: (37)

- 60) Thuthikai varmam
- 62) Kavali varmam
- 64) Manikattu varmam
- 66) Muzhankai varmam
- 68) Kochu varmam
- 70) Puja varmam
- 72) Aani varmam
- 74) Chulukku varmam
- 76) Aaama kaalam
- 78) Chirattai varmam
- 80) Channi varmam
- 82) Visha varmam
- 84) Kaal kannu varmam
- 86) Nadai varmam
- 88) Mudichu Varmam
- 90) Naduviral chulukku varmam
- 92) Peruviral mayya varmam
- 94) Konachanni
- 96) Paathachakkaram.

- 18) Vettu Varmam
- 19) Kokki kaalam.
- 20) Manthira kaalam
- 21) Kannu varmam
- 22) Arukukaalam.

- 24) Vilangu varmam
- 26) Arangu varmam
- 28) Thivalai varmam
- 30) Velleeral varmam
- 32) Nenchadaippan varmam
- 34) Mundellu varmam
- 36) Kuttri varmam
- 38) Chippi varmam
- 40) Vaayu kaalam
- 42) Chiriya Athichuriki
- 44) Villu varmam
- 46) Kaccha varmam
- 48) Thandinadi varmam
- 50) Ada varmam
- 52) Vaanthi kaalam
- 54) Chorutheenda kaalam
- 56) Hanuman varmam
- 58) Chuli varmam

- 61) Dhakshana kaalam
- 63) Peruviral mayya varmam
- 65) Kannu varmam
- 67) Muttu varmam
- 69) Chulukku varmam`
- 71) Mozhi varmam
- 73) Pathakkala varmam
- 75) Kochu varmam
- 77) Thundu varmam
- 79) Muttu varmam
- 81) Naai thalai varmam
- 83) Uppu Kuttri varmam
- 85) Kuthikaal varmam
- 87) Kulachu varmam
- 89) Boomi kaalam
- 91) Kaal kavali
- 93) Adakka varmam
- 95) Komberi kaalam

III. GERIATRICS

(5 hours)

Definition – Description – Care and management physical & mental disorder – Care – External changes.

IV. PSYCHIATRY:

(25 hours)

1) Classification of psychiatric disorders – Aetiological factors – Examination of mental state – Manifestations of psychiatric illness – Delusions and hallucinations – symptoms of depression – Anxiety symptoms – Deliberate self harm and Suicidal ideation – Schizophrenia & Delusional disorders – Mood disorders – Neurotic, stress related and Somatoform disorders – Disorders of Adult personality and behaviour.

Introduction – Definition – Types – Treatment of the following diseases.

2) Paithiyam noi - 18 types

- | | | |
|------------------------|---------------------------|------------------------|
| 1. Aavesa Paithiyam | 2. Abikasa Paithiyam | 3. Mavuna Paithiyam |
| 4. Suronitha Paithiyam | 5. Vihaara Paithiyam | 6. Thaaga Paithiyam |
| 7. Azhal Paithiyam | 8. Murka Paithiyam | 9. Naduku Paithiyam |
| 10. Visha Paithiyam | 11. Pralaaba Paithiyam | 12. Pitha Paithiyam |
| 13. Aankaara Paithiyam | 14. Gnana Paithiyam | 15. Kaivisha Paithiyam |
| 16. Kama Paithiyam | 17. Visha Thaga Paithiyam | 18. Siddha Paithiyam |

3)a) Kirigai noi

b) Unmatham noi c)

Brammai noi d)

Matha noi

e) Mathathiyam noi f)

Soothika vatham

g) Moorchai – Apasmaram – mayakkam.

4) Seizure disorders a)

Valippu noi

b) Kakai Valippu noi

V. PURA MARUTHUVAM (External Therapy) 32 types

(15 hours) Definition

– Types – THOKKANAM – (Physical manipulation) Descriptions according to Therantharu – practical training – Steam therapy - Fume therapy- Bandages- Patru (Plaster) – Ottradam (Fomentation) – Poochu (paste) – Podi thimirdhal (powder massage)- Kalikkam- Anjanam (eye applications) – Nasika paranam (Medicated snuff)- Nasiyam (Nasal drops) – Murichal (Surgical correction of malunited fracture) – kombu kattal (splinting) – peechu (enema/douche) Oothal (blowing), Podi thimirthal-(Massage with herbal grains or paste)

VI. BONE AND JOINT DISEASES:

(25 hours)

Injuries to bones : Fracture – varieties – X-ray findings – complications – indications for surgical treatment – fracture of childhood – reduction procedures with splints – POP and modern techniques – practical training.

Diseases of bones:-Osteomyelitis – Tuberculosis – Rickets – Scurvy – Paget's disease – Osteochondritis –Acromegaly–Tumours of bones–(Benign and malignant)–Secondary tumours.

Injury to Joints: Dislocation of shoulder joint, Jaw etc.

Diseases of Joints: Acute suppurative, Gonococcal, syphilitic arthritis, chronic arthritis - T B gummatous, Rheumatoid and osteo arthritis – X-ray findings.

Injuries to muscles and tendons

Deformities -Scoliosis, kyphosis, cubitus valgus, Dupuytren's contracture, Coxa vara, Genu valgum, flat foot.

Injury to vertebrae – complications

Skull fracture

VII. Diseases of Central Nervous System :

(15 hours)

1. Hemiplegia
2. Parkinsonism
3. Poliomyelitis
4. Cranial nerve disorders
5. Paraplegia
6. Quadriplegia
7. Cerebellar ataxia
8. Myopathy
9. Motor neuron disease

PRACTICAL TRAINING IN THE ATTACHED HOSPITAL ON THE FOLLOWING

(200 hours)

- 1) Clinical examination of Neurological, Psychiatry and Orthopedics cases.
- 2) Practical training on Varma Therapy.
- 3) Practical training on Puramaruthuvam – (External therapy) Steam therapy - Fume therapy- Bandages- Patru (Plaster) – Ottradam (Fomentation) – Poochu (paste) – Podi thimirdhal (Massage with herbal grains or paste) - Kalikkam- Anjanam (eye applications) – Nasika paranam- Nasiyam (Nasal applications) – Murichal (Surgical correction of malunited fracture) – kombu kattal (splinting) – peecheu (enema/douche)
- 4) Practical training on Therapeutic applications of Yoga.
- 5) Writing case records.

Text Book:

1. Siddha Maruthuvam Sirappu, Dr.R.Thiagarajan, Directorate of Indian Medicine & Homeopathy, Chennai, 1995.
2. Varma Soothiram (A Tamil text on martial arts), Institute of Asian Studies, Chennai, 2007
3. Light on Yoga, Shri BKS Iyengar, HarperCollins Publishers, 2001, ISBN: 9780007107001
4. Siddhar Kaya Karpam – Central Council for Research in Ayurveda & Siddha, New Delhi, 1985
5. External Therapies of Siddha Medicine, Dr.Thirunarayanan, Centre for Traditional Medicine and Research, Chennai, 2010
6. Sanni, Vaisoori, Paithiyam & Oozhinoi Thoguthi (Paithya Roga Nidaanam), T.Mohana Raj, ATSVS Siddha Medical College and Hospital, Kanniyakumari, ISBN :9789380288079

Reference Book

1. Sanni, Vaisoori, Paithiyam & Oozhinoi Thoguthi, T.Mohana Raj, ATSVS Siddha Medical College and Hospital, Kanniyakumari, ISBN :9789380288079
2. Varmam marthuvam – Dr. Kannan Rajaram, ATSVS Siddha Medical College and Hospital, Kanniyakumari, ISBN: 9788190868433

3. Yugi vaidhya chintamani, Yugimamunivar, Department of Indian Medicine & Homoeopathy, Govt. of Tamil Nadu, Chennai, Revised Edn. 1998
4. Vatha Noi Thoguthi, T.Mohana Raj, ATSVS Siddha Medical College and Hospital, Kanniyakumari, ISBN :9789380288079
5. Varma Odivu Murivu Saari suthiram 1500, T.Mohana Raj, ATSVS Siddha Medical College and Hospital, Kanniyakumari, ISBN -9789380288062
6. Asana Paranayama Muthira Bantha, Swami Sathyanananda Saraswasthi, Yoga Publications Trust, Bihar, 2008, ISBN: 9788186336144
7. A Short Text Book of psychiatry, M S Bhatia, CBS publishers and distributors Pvt. Ltd., New Delhi 2011. ISBN 9788123920450
8. Text Book of Neurology, Navneet Kumar, PHI learning Pvt. Ltd., New Delhi, 2011, ISBN: 9788120342439
9. Davidson's principle and practice of medicine, 2014, 22nd Edn., Churchill Livingstone, Elsevier, ISBN NO: 9780702050473
10. Text book of orthopaedics and traumatology, Mayilvahanan Natarajan, Wolter Kluwer India | Lippincott William, 2011, ISBN:9788184734430

ARUVAI, THOL MARUTHUVAM

(SURGERY INCLUDING DENTISTRY AND DERMATOLOGY)

Total Hours : 150

ARUVAI MARUTHUVAM (GENERAL SURGERY)

(60 hours)

1. Literary evidences for the antiquity of surgical practice in Siddha medicine (1 hour)
2. Classification on the practice of treatment. Divine method (Vinnavarurai) – Rational method (Manidarurai) – Surgical method (Asurarurai) – (Aruvai, Agni, Karam and 25 sub divisions). (1 hour)
3. Study on Aruvai (Surgical excision)- Keeral (Incision)- Kuruthi vungal (Blood letting)- Attai vidal (Leech therapy)- Salagai (Probing)- Varthi (Medicated wick)- Oodhal (Blowing)- Peechu - (enema/ douch) - Urinchal (Sucking)- Kattudhal (bandaging)- Chuttigai (cauterization)- Vedhu (Steam therapy)- Pugai (Fumigation)- Karam (caustic applications) (2 hours)
4. General principles of surgery – Pre and post operative care – its management. (1 hour)
5. Study of causes, clinical features, classification, diagnosis, treatment (medical & surgical) with scientific correlations – clinical examination and investigations for the following diseases.
 - a. Veekam – (Inflammation) (2 hours)
 - b. Punkal – (Ulcers) (2 hours)
 - c. Kattigal- (Tumours) (2 hours)
 - d. Silaippun- (Sinus ulcers & its treatment with karanoool) (2 hours)
 - e. Moolanoikal- (Ano-rectal diseases) (2 hours)
 - f. Arpaviranam – (koppulam – mugapparu – Thavalaichori – Akkul koppulam Akkul katti – Akkul nilapoosani katti – Akkul erichal katti – Putru vanmegam Aani – Naga chutru – Setrupun – Maru – Attathar kopulam – Varagu koppulam) (5 hours)
 - g. Pavuthiram – Fistula-in-ano (2 hours)
 - h. Mega kattikal – Diabetic skin lesions, STD (1 hour)
 - i. Yanaikkal – Filariasis (1 hour)
 - j. Kandamalai – Cervical adenitis (1 hour)
 - k. Nagil katti – Benign & malignant tumours of the breast (1 hour)
 - l. Vithai noi – Diseases of scrotum (1 hour)
 - m. Kiranthi noi – Chronic ulcers (1 hour)
 - n. Kalladaippu - Renal calculi (1 Hour)
 - o. Aankuri noigal – Diseases of the male genitalia. (1 hour)
6. Naakku noigal (Diseases of the tongue) – Ulnakku noigal (Diseases of the uvula). (2 hours)
7. Acute specific infections – Tetanus, Gas gangrene, Cellulitis, Septicaemia, Bactremia, Pyemia, Wounds. (2 hours)
8. Non- specific infectious diseases: Cellulitis, Carbuncle, Ulceration and gangrene. (2 hours)
9. Tumours and cysts – Benign and malignant tumours. (2 hours)
10. Fluid electrolyte and acid base balance – Parenteral fluid therapy – contra indications to I.V therapy – clinical guide to fluid requirement – Alternative route for parenteral fluid therapy – Proctolysis, Transnasal intragastric tube – Acidosis & Alkalosis. (5 hours)
11. Burns and Scalds – Haemorrhage – Types of Shock (2 hours)
12. a) Diseases of arteries – Aneurysm, Embolism, Thrombosis (5 hours)
b) Diseases of veins – Thrombosis of vein, Varicose vein, Venous ulcer, Thrombophlebitis
c) Diseases of lymphatic vessels and lymph nodes – Lymphoedema, lymphadenitis, lymphadenoma (Hodgkin's disease)

13. Infections of Hand & Foot (1 hour)
14. Diseases of breast – Breast abscess, Fibroadenoma, ANDI, Carcinoma breast. (2 hours)
15. 1) Diseases of Rectum, Anus, Fissure in ano etc. (2 hours)
2) Diseases of urinary bladder, Prostatic gland, retention of urine. (2 hours)
16. Diseases of urethra, Phymosis, Paraphymosis. (1 hour)
17. Diseases of testis & scrotum – Orchitis, Hydrocele, Haematocele, Varicocele, Herniae (2 hours)

KAN, KATHU, MOOKKU, THONDAI MARUTHUVAM

KAN MARUTHUVAM (Eye diseases & Management) (20 hours)

1. Definition of normal healthy eye
2. Names of 96 eye diseases according to “Agasthiyar nayana vithi”
3. Prophylactic measures for healthy vision
4. Causes of eye diseases
5. Classification of eye diseases according to Agasthiyar and Nagamuni nayana vithi – Including their names, signs & symptoms, surgical treatment techniques and medicines
6. Surgical treatment for Pitha kasam
7. Suttigai or Ratchai treatment for Padalam
8. Surgical treatment for Karunagappadalam
9. Ratchai treatment for Ezhuchinoi
10. Surgical treatment for Mudamayir
11. Medicines commonly used for Eye diseases:
 - a) Padalathi mathirai
 - b) Kankasa mathirai
 - c) Matcha Rethinadhi mathirai
 - d) Ilaneer kuzhambu
 - e) Chandrodhaya mathirai
 - f) Narikelanjanam
 - g) Pazha kirambu pakkuva vennai
 - h) Kandu Parpam
 - i) Anda neer
 - j) Kan thailam
12. Comparison with modern diagnosis:
 - a) Suzhal vanderithal - Vitreous opacities
 - b) Naga padalam - Pterygium
 - c) Mayir puzhuvettu - Ulcerative blepharitis
 - d) Amaram - Ophthalmia neonatorum
 - e) Kuvalai vippuruthi - Dacryocystitis
 - f) Vellezhuthu - Presbyopia
 - g) Thurmamisa valarchi – Episcleritis
 - h) Mudamayir - Trichiasis
13. Cataract and its surgical treatment.
14. Conjunctivitis and its treatment.
15. Glaucoma and its treatment.
16. Presbyopia, Myopia, Astigmatism, Nystagmus.
17. The causes and prevention of blindness.
18. Hygiene of Eye.
19. Viral infections of Eye

KATHU MARUTHUVAM (Ear diseases & Management)**(10 hours)**

Study of the following ear diseases with internal and external medicines: Sevi vatha noi – sevi soolai noi – sevi sannai noi – sevi vippuruthi noi – Sevi yezhuchi, Sevi Karappan - sevikkuttam – seviparu – sevopilavai

1. Diseases of the external ear.
2. Diseases of Middle Ear
3. Tinnitus
4. Deafness

MOOKKU MARUTHUVAM (Nasal diseases& Management)**(5 hours)**

1. Peenisam - Nasal and paranasal sinus diseases.
2. Epistaxis
3. Rhinitis, nasal polyp.
4. Head ache

THONDAI MARUTHUVAM (THROAT DISEASES& Management)**(5 hours)**

1. Infections of nasopharynx, Tonsils, Adenoids, Esophagus.
2. Acute and chronic laryngitis
3. Disorders of voice.

PAL MARUTHUVAM (DENTISTRY)**(15 hours)**

1. Pal noigal (Dental diseases) – Eeru noigal (Diseases of the gums) –Aids to Oral Hygiene.
2. Abnormalities of Structure – Hypoplasia of the deciduous and permanent dentition – classification of aetiological factors in hypoplasia – Flurosis – Prevention of flurosis.
3. Attrition, Abrasion and erosion of the Teeth.
4. Dental caries.
5. Inflammation, Necrosis and Gangrene of pulp.
6. Acute and chronic periapical abscess.
7. Resorption of the Teeth.
8. Cementum abnormalities associated with its formation.
9. Stains and discolouration of the Teeth.
10. Gingivitis – supra gingival and sub gingival calculus – Stomatitis.
11. Congenital abnormalities of salivary glands – congenital atresia of the ducts.

THOL MARUTHUVAM (SKIN DISEASES & Management)**(35 hours)**

1. Classification of Kutta noigal according to “Yugi chinthamani”
2. Definition for common Dermatological terms Macule – Papule – Vesicles – Wheal – Pustule – Scales – Crust – Excoriations – Fissure –Ulcer - Scar – Alopecia Areata – Atrophy – Burrow – Comedone – Circinata – Erythema – Erythroderma – Erythemato – Squamous – Granuloma etc.
3. Aids to healthy skin
4. Karappaan - Dermatitis and Eczema.
5. Padarthamarai – Tinea infections - Pimples(Acnes)- Verkuru (Prickly heat)
6. Kanakkadi, Silvida thadippu- Urticaria
7. Puzhu vettu-Alopaecia

8. Podugu-Dandruf, Palunni-Molluscum, Maru-Wart
9. Venpadai – Vitiligo and leucoderma
10. Kalanjaga Padai - Psoriasis
11. Sirangu- Scabies
12. Perunoi – Leprosy
13. Bacterial, Viral, Fungal infections of the skin
14. Drug eruption and Bullous eruptions.
15. Diseases of the hair and scalp – Nails – Sebaceous glands – Sweat glands.
16. Skin disorders due to metabolic, nutritional, vascular, atrophic, endocrinal dysfunction and poisons.

PRACTICAL TRAINING IN THE ATTACHED HOSPITAL ON THE FOLLOWING (200 hours)

- 1) Aruvai (Surgical excision)- Keeral (Incision)- Kuruthi vungal (Blood letting)- Attai vidal (Leech therapy)- Salagai(Probing)- Varthi (Medicated wick)- Oodhal (Blowing)- Peechu (Douch/enema) Urinchal(Sucking)- Kattudhal (bandaging)- Chuttigai(cauterization)-Vedhu (Steam therapy)- Pugai (Fumigation)- Karam (caustic medicines)
- 2) Sterilization – Anti sepsis – Sepsis – Surgical Instruments
- 3) Dressing of Ulcers and wounds.
- 4) Hospital infection and preventions
- 5) I.V. fluids infusion and blood transfusion
- 6) Modern surgical instruments – Various Forceps – Retractors – Needle holders – Urinary Catheters - Proctoscope – nasogastric tube – Suture needles and Threads.
- 7) Suture materials – varieties of suture – practical training in suturing.
- 8) Preparation and application of Karanool.
- 9) A knowledge of anaesthesia of general & local.
- 10) Examination of surgical cases –Acute abdomen- wounds – tumours etc.
- 11) Examination of Eye – Ear – Nose – Throat – Skin etc.
- 12) Writing case sheets of surgical cases.
- 13) Practical training in reading, X-rays, Ultra sonogram, CT scan & MRI.
- 14) 1st aid – to aid unconscious patients – CPR – bandages – snake bite – scorpion sting – burns – scalds – haemorrhages and etc.

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2. Siddha Maruthuvam Sirappu, Dr.R.Thiagarajan, Directorate of Indian Medicine & Homeopathy, Chennai, 1995.
3. Kan Maruthuvam, Mohammed Iqbal, .
4. Agathiar Nayana Vidhi 500, Amirthalingam Pillai, T.S. Manoranjani Press, Chennai, 1936.
5. Nagamunivar Nayana Vidhi 200, Amirthalingam Pillai, T.S. Manoranjani Press, Chennai, 1936
6. Sarabendra Vaidya Muraigal-Nayana Roga Sigichai, Amirthalingam Pillai, T.S. and Vengatranjan, S. Saraswathi Mahal Library Publication, Thanjavur, 1959.
7. Kann Maruthuvam, Madhavan, V.R, International Institute of Tamil Studies, Chennai, 1982.
8. Siddhar Aruvai Maruthuvam, Uthamarayan, C.S. Dept. of Indian Medicine and Homeopathy, Chennai, 1968

9. Agathiar 2000, Vengatrajan, S., Sarasvati Mahal Library Publication, Thanjavur, 1981, pp. 219-319.
10. Agasthiar Rana Vaidhyam, Vaithiyar.V.R.Sundaram,
11. Siddha Vaidya Thirattu, K.N.Kuppusamy Mudaliar, Dept. of Indian Medicine and Homeopathy, Chennai
12. Theran Thylavarka Churakkam, Ramachandiran S P., Thamarai Noolagam, Chennai, 2012.
13. Yugi vaidhya chintamani, Yugimamunivar, Department of Indian Medicine & Homoeopathy, Govt. of Tamil Nadu, Chennai, Revised Edn. 1998
14. Baily & love's Short practice of surgery, Norman S Williams, CRC Press, ISBN: 9781444121278
15. A Manual on Clinical surgery, S. Das, S. Das's Publications, ISBN: 9788190568104
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17. Text book of Diseases of Eye, Vasudev Anantha Rao, All India Publishers & Distributors, 2015, ISBN : 9788180040481
18. Diseases of Ear, Nose, Throat – Dr. Muhammed Iqbal
19. Practice of Dermatology, Dr. Bhel, CBS Publishers & Distributors, 2002, ISBN: 9788123905723
20. Essentials in Dermatology, D. M. Thappa, Jaypee brothers, 2009, ISBN: 9788184485585
21. A concise text book of surgery, Das S., Dr Somen Das – Kolkata, 2014, ISBN: 9788190568128,

SUBJECT: SOOL, MAGALIR MARUTHUVAM
(Obstetrics and Gynaecology)

Total Hours : 100

SOOL MARUTHUVAM (Obstetrics)

- I. Koopagam (Anatomy and Physiology) : (3 hrs)
 1. Applied Anatomy of Pelvis – Types – Divisions - True & False Pelvis – pelvic floor – Perineum.
 2. External Genital organs – Internal Genital organs
 3. Breast – Physiology of ovulation and Menstruation.
- II. Karu Urpathy : (4hrs)

(Development of Embryo) According to Siddha aspect – Early development of Embryo in Modern aspect – Fertilization – Morula – Blastocyst- Implantation – Trophoblast – Decidua – Chorion and chorionic villi – Amnion – Amniotic fluid - Development of inner cell mass – Umbilical cord transport – Placental development – Placental hormones and Functions - Maternal and fetal circulation.
- III. Karpini Urupugalin Maruthalgal: (Maternal changes due to Pregnancy) (4hrs)

Role of hormones in pregnancy. Management of disorders and treatment
- IV. Sool Kanippu: (Diagnosis of Pregnancy): (4hrs)

First, Second & Third trimester – Subjective – Objective – confirmative signs – Assessment of duration of pregnancy – Calculation of Estimated Date of confinement – Pseudocyesis – Difference between Primi and multigravidae.
- V. Karpini Tharkaapu (Antenatal care): (5hrs)

Abdominal and pelvic examination – Antenatal visits – Advice – Obstetric grips – Vaginal examination – Minor ailments in pregnancy - Siddha treatment and Yogasanas during pregnancy. Contraception – Siddha and modern concepts – Oral – Injectables – Implants - IUCDs. Etc – Management and treatment

vi. Magavu: (Foetus) : (2hrs)

Attitude – lie – Presentation – Position – Sizes of embryo and Foetus during gestation.
Diameters of fetal skull – term baby – Preterm baby. – Management and treatment

vii. Irattai Magavu and Pan Sool: (Twins and Multiple pregnancy). (2hrs)

viii. Magaperu Kukaranam: (Complications of Pregnancy): (9hrs)

Hyperemesis gravidarum – Hydatidiform mole – Oligohydramnios – Polyhydramnios - Anaemia
– Abnormalities of placenta and cord – Hypertensive disorders of pregnancy – Gestational
Hypertension - Pre eclampsia – Eclampsia – Gunava avathanagam (Stanza 324 of Yugi vaithiya
chinthamani) – Preterm labour – Premature Rupture of Membrane (PROM) – Intra Uterine
Growth Retardation (IUGR) – Rhesus isoimmunisation. – Management and treatment -Maternal
infection – TORCH – Sexually Transmitted Diseases (STD) – Syphilis – HIV – Gonorrhoea –
Chicken pox – Malaria – Diabetes – Heart disease – Liver disease – Tuberculosis – Urinary Tract
infections. – Management and treatment

ix. Karuchithaivu: (Abortion) : (4hrs)

Types, Kandagava avathanagam (Stanza 323 of Yugi vaithiya chinthamani) – Differential
diagnosis — Management and treatment – Ectopic Pregnancy – Tubal – abdominal – ovarian.

x. Magapperu Mun Uthirasalai: (Antepartum Hemorrhage): (2hrs)

a. Abruptio placenta b. Placenta previa. – Management and treatment

xi. Sukha Magaperu Nadai: (Stages of Normal Labour): (3hrs)

Role of hormones in Labour – Uterine action. – Management students are to be exposed to
sufficient number of deliveries.

xii. Sukha Magaperu Nigalchikal: (Mechanism of Normal Labour): (2hrs)

Descent – flexion – Internal rotation – Extension – restitution – external rotation.

xiii. Sukha Magaperu Kanippu: (Management of Normal Labour): (3hrs)

Diagnosis of Labour – Management of First Stage – Aseptic and Antiseptic precautions - Second
stage of Labour – Delivery position- Episiotomy – Ligation of cord – Management of third stage.

xiv. Asatharana Magaperu: (Abnormal Labour): (6hrs)

Occipito posterior presentation – Face – brow – Breech – Transverse or oblique lie – Compound
presentation –Cesarean procedures – Management

xv. Sool Poopu Sugaranam: (Normal Puerperium): (3hrs)

Involution of uterus – other pelvic Structures - Lochia – Lactation – Physiology of Lactation –
Advantages of breast feeding – care of puerperium – care of the newborn. – Management and
treatment

xvi. Magaperu Pin Uthirasalai: (Postpartum hemorrhage): (1hr)

Retained placenta. – Management and treatment

xvii. Sool Poopu Kukaranam: (Abnormalities of the Puerperium) (3hrs)

Puerperal pyrexia – Puerperal sepsis – subinvolution – Predisposing causes – Organisms – venous complications in the puerperium – Deep vein Thrombosis – Thrombophlebitis – Cerebral venous Thrombosis – Mastitis and breast abscess – Postpartum pituitary Necrosis – Psychiatric disorders during puerperium. – Management and treatment

I. Text books :

1. Sool Maruthuvam, P.M. Venugopal, Department of Indian Medicine & Homoeopathy, Govt. of Tamil Nadu, Chennai, 5th Edn. 2007.
2. DC Dutta's Textbook of Obstetrics, DC Dutta, Hiralal Konar, 8th Edn. JAY PEE Bros. Medical Publishers Pvt. Ltd., ISBN:9789351527237
3. Mudaliar and Menon's Clinical Obstetrics, Universities Press Pvt Ltd., Hyderabad, 12th Edn., 2015

II. Reference books:

1. Agathiyar vaithiya chinthamani, Dr.Prema, Thamarai noolakam, March 1996
2. Chikicha rathina deepam 4000, C. Kannusami pillai, Rathnanayagar & sons, Chennai. 1st Edn., 2007.
3. Maadhar Maruthuvam, Dr.Chidambarathanu pillai Siddha Medical Literature Research Centre, Chennai, 2nd Edn., Nov. 1984.
4. Arivaiyar chinthamani, Dr.P.Mohan raj, ATSVS Siddha medical college, Munchirai, May 2008.
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7. Theraiyar thailavarukka surukkam, C.T.Subramaniya pandithar, Rathnanayagar & sons, Chennai, 4th Edn., 2006.
8. Theraiyar vaithiya kaaviyam 1500, S.P. Ramachandran, Thamarai noolakam, 2nd Edn., Aug 2000.
9. Yugimuni vaithiya kaaviyaam, P.C Mohan, Thamarai noolakam, 2nd Edn., October 2014.
10. Birammamuni vaithiya soothiram Vol. II, Dr.K.Maruthamuthu, Saraswathy mahal noolakam, Thanjavur, 2nd Edn., 2006.
11. Pulippani vaithiyam 500, S.P. Ramachandran, Thamarai noolakam, 1st Edn., Dec 1999.
12. Eliya vaithiya muraikal 800, Dr.Prema, Tamil university, Thanjavur, 2nd Edn., May 2010.
13. Yugi vaidhya chintamani, Yugimamunivar, Department of Indian Medicine & Homoeopathy, Govt. of Tamil Nadu, Chennai, Revised Edn. 1998.

SUBJECT: MAGALIR MARUTHUVAM (Gynaecology)

1. History, Examination and diagnostic procedure of a Gynecological patient. (1hr)
2. Congenital malformation of female genital organs. (1hr)
Vaginal – Uterine – Fallopian tube – ovarian anomalies – other anomalies.
3. Muthal Poopu(Sukharanam & Kukaranam): (1hr)
Puberty – Normal and abnormal. – Management and treatment
4. Poopu: (2hrs)
Menstruation –Menstrual cycle-Hypothalamo-pituitary-Ovarian axis (H-P-O axis) –
Premenstrual syndrome. – Management and treatment
5. Kadai Poopu: (1hr)
Menopause – organ changes – Menopausal symptoms – Management in siddha.
6. Neuroendocrinology in relation to Reproduction. (1hr)
7. Poopu Kolarugal: (Disorders of Menstruation). (2hrs)
Amennorrhoea – Menorrhagia – Metrorrhagia – Dysfunctional Uterine bleeding – Types –
DD – – Management and treatment
8. Soothagavali: (Dysmenorrhoea): (1hr)
Siddha and modern concepts– Management and treatment
9. Karuppai Adithallal:(Displacement of Uterus). (1hr)
Genital prolapse – Retroversion – chronic inversion. – Management and treatment
10. Maladu: (4hrs)
Infertility in Siddha and modern aspects – Types, Treatment and Management
11. Yoni Rogangal: Diseases of the Vagina in Siddha aspect and treatment. (2hrs)
12. Koopaga Urupugallin azharchi: Infections of the pelvic organs. (4hrs)
Vellai -(Leucorrhoea) – Vulvitis – Bartholinitis – Vaginitis – Cervicitis – Endometritis –
Salpingitis – Oophoritis – Parametritis – Genital Tuberculosis – Management and treatment
Sexually Transmitted Infections.
Gonorrhoea – Syphilis – AIDS – Hepatitis B & C – Bacterial vaginosis – Trichomonas Vaginitis
– monilial vaginitis – Management and treatment
13. Siruneer vega Kolarugal: Urinary problems in Gynecology. (2hrs)
Urinary Tract Infections – Incontinence – Fistula – Vesico vaginal fistula and Recto vaginal
fistula (VVF & RVF). – Management and treatment
14. Nan Maravai Kattigal-Karuppai (Benign lesions of the Uterus) (2hrs)
Fibroid – polyps. – Management and treatment

15. Nachu Maravai Kattigal- Karuppai (Malignant lesions of the Uterus)	(6hrs)
Cancer of cervix, Uterus and Vagina. – Management and treatment	
16. Nan Maravai Kattigal- Sinaippai (Benign lesions of the ovary)	(2hrs)
Polycystic ovarian Disease (PCOD) – Siddha treatment. Follicular cyst – Endometrial (Chocolate cyst) – Dermoid cyst. – Management and treatment	
17. Nachu Maravai Kattigal – Sinaippai:	(2hrs)
(Malignant Ovarian Tumors) Management and treatment	
18. Nagil Sothanai:	(3hrs)
Breast Examination – Fibroadenoma – Carcinoma. – Management and treatment	
19. Miscellaneous:	(2hr)
Post menopausal bleeding – Lowbackache – Dyspareunia – Pruritus Vulvae – Hirsutism. – Management and treatment– Hermaphroditism, Turner’s syndrome, Klinefelter’s syndrome- Virilism – Management	

PRACTICAL TRAINING IN THE ATTACHED HOSPITAL ON THE FOLLOWING (175 hours)

1. Examination of Ante natal and Post natal Cases
2. Practical training on handling instruments like speculum, uterine sound, vulsalum etc.,
3. Vaginal smear
4. Clinical examination of Breast.
5. Writing of case records.
6. Training on Ultrasonogram ,necessary investigations and interpretations.
7. Application of Puramauthuvam in OG conditions

Text books :

1. Magalir Maruthuvam, P.M. Venugopal, Department of Indian Medicine & Homoeopathy, Govt. of Tamil Nadu, Chennai, 4th Edn., Reprint, 2013.
2. DC Dutta’s Textbook of Gynaecology, DC Dutta, Hiralal Konar, 7th Edn. JAY PEE Bros. Medical Publishers Pvt. Ltd., ISBN: 9789385891595
3. Shaw’s Text book of Gynecology, Shirish N. Daftary & V.G. Padubidri, Reed Elsiwer India Pvt. Ltd, 16th Edn 2015, ISBN: 9788131238721.

Reference books:

1. Jeeva raktchamirtham, Subramaniya Pandithar, The Arrow Press, Madras, 2nd Edn., 1928
2. Yugi vaidhya chintamani, Yugimamunivar, Department of Indian Medicine & Homoeopathy, Govt. of Tamil Nadu, Chennai, Revised Edn., 1998.
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12. Eliya vaithiya muraikal 800, S.Prema, Tamil university, Thanjavur, 2nd Edn.,May2010.
13. Thanvanthiri vaithiya kummi -300, V.R.Madhavan, Tamil university, Thanjavur, 1st Edn., July 2004.

**SUBJECT: KUZHANTHAI MARUTHUVAM
(PAEDIATRICS)**

Total Hours : 100

1. Neo natal care, Infant care, Child care.

(4hrs)

2. Breast milk

(3hrs)

composition, advantages and disadvantages to the children and mother.

3. New born

(6hrs)

Term baby-preterm baby-Low birth weight-Minor problems in pediatric age group.-Intrauterine infections.-Respiratory disorders.-Icterus.-Neonatal seizures.-Rh incompatibility-ABO incompatibility.-Undescended testis.-Phimosis.-Hydrocele.-Ambiguous genitalia.-APGAR score.- Neonatal reflexes

4. Immunization

(3hrs)

Immunization schedule. (IAP, WHO)-complication of immunisation-other schedules of immunisation-Urai maathirai, Chei ennai

5. Growth and development

(6hrs)

Introduction-factors affecting growth and development.-periods of growth-assessment of physical growth-assessment of bone age.-eruption of teeth-behavioural development.- developmental milestones.-developmental delay.

-Disorders of growth and development

- short stature-failure to thrive
- behavioural disorders-nail biting, thumb sucking, pica eating
- poor school achievers.
- breath holding spells.

6. Adolescent

(3hrs)

Physiology.-Stages of sexual maturation.-Hormonal changes.-Health problems during adolescence.-Psychological problems.-Juvenile delinquency-management and line of treatment

7. Nutritional deficiency disorders

(4hrs)

Protein energy malnutrition.-Vitamin and mineral deficiency diseases.-management and line of treatment-Study of causes, clinical features, classification, diagnosis, treatment (medical & surgical) with scientific correlations – clinical examination and investigations for the following diseases.

8. Agakaarana noigal according to yugimuni

(32hrs)

Kiranthi (2 types)– Thodam(25 types) – Maantham(33 types) – Kanam(24 types) - Karappan(18 types) – Suram(20 types) – Sanni(9 types) – Valippu(4 types) – Akkaram(8 types) - Paandu, Sobai, Kamalai(3 types) – Kazhichal(3)types– Kakkuvan -Amaram-Maalaikann

9.Purakaarana noigal according to yugimuni**(2hr)**

Seeri seeri azhuthal – Vikkal – Vayiru porumal- Vayitru noi - Kottaavi – Malakkattu – Neerkkattu -Vayiruveengal – Paal Kudiyaamai - Paal ethireduthal - Thodam

10.Infectious diseases.**(8hrs)**

Diphtheria-Pertussis-Tetanus-Mumps-Measles-Chicken pox-AIDS in children.

11.Infestations:**(2hrs)**

Naaku poochi -Keeri poochi-Masaraipuzhu-Other infestations-management and line of treatment

12. Gastro intestinal system.**(6hrs)**

Seriyamai - Vaanthi – Vikkal - Lactose intolerance - Malabsorption syndrome – Dysentery - Rectal prolapse - Congenital pyloric stenosis - management and line of treatment

13.Cardio vascular system.**(6hrs)**

Congenital cardiac diseases. -cyanotic and acyanotic heart diseases -management and line of treatment

14. Central nervous system.**(8hrs)**

Baala vaatham and its types-Cerebral palsy. -Mental retardation. Hyperactivity disorders- ADHD, Autism-Temper tantrum. -management and line of treatment

15. Musculo skeletal disorder.**(2hr)**

Muscular dystrophy -management and line of treatment

16. Genetic disorder**(2hr)**

Down's syndrome & its management, other common genetic disorders

17. Endocrine disorder.**(3hr)**

Cushing's syndrome. -Juvenile diabetes mellitus. management and line of treatment

PRACTICAL TRAINING IN THE ATTACHED HOSPITAL ON THE FOLLOWING**(175 hours)**

1. Examination of Infantile and Neonatal cases.
2. Practical training on handling instruments like incubator, suction tube etc.,
3. Practical application on Immunization schedule
4. Training on General and Systemic Examinations of Pediatric cases
5. Writing of case records.
6. Training on Ultrasonogram ,necessary investigations and interpretations.
7. Application of puramaruthuvam in peadiatric ailments.

Reference books

1. Pillaipini maruthuvam, S.sundhar rajan, Department of Indian Medicine & Homoeopathy, Govt. of Tamil Nadu, Chennai, 1st edn. 1993
2. Kuzhanthai maruthuvam Vol. I to V, Chidambarathanu pillai, Siddha Medical Literature Research Centre, Chennai, 2003-2004
3. Balavatha nidhanam, Chidambarathanu pillai, Siddha Medical Literature Research Centre, Chennai
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7. Pregnancy, childbirth, postpartum and newborn care - A guide for essential practice, WHO, United Nations Population Fund & UNICEF, 3rd edn., 2015
8. Managing complications in pregnancy and childbirth - A guide for midwives and doctors, WHO; United Nations Population Fund; UNICEF & World Bank, 2003, ISBN: 9241545879
9. Managing newborn problems -A guide for doctors, nurses and midwives, World Health Organization, Dept. of Reproductive Health and Research; United Nations Population Fund; UNICEF, ISBN: 9241546220
10. WHO recommended interventions for improving maternal and newborn health -Integrated management of pregnancy and childbirth, WHO, 2007
11. Standards for maternal and neonatal care - Group 1: General standards of care for healthy pregnancy and childbirth, World Health Organization, Department of Making Pregnancy Safer and Department of Reproductive Health and Research, 2007 (Web only version as a part of WHO Integrated Management of Pregnancy and Childbirth Care (IMPAC) Package)
12. Balavagadam, C.S. Murugesu Mudaliar (Au.), Pon Kurusironmani (Ed.), Department of Indian Medicine & Homoeopathy, Govt. of Tamil Nadu, Chennai, Revised Edn. 1998
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14. Aathmaratchaamirthamennum Vaithiya Saara Sangiragam, Kandasamy Mudaliar, Sri Shenbaga Pathipagam, 2012
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SCHEME OF EXAMINATIONS

FIRST PROFESSIONAL B.S.M.S DEGREE COURSE

EXAMINATION DATE:

The examination dates shall be decided by the University as per this regulation.

SCHEME OF EXAMINATION AND DISTRIBUTION OF MARKS FOR FIRST PROFESSIONAL B.S.M.S

SI No	Subject	Theory					Practical				
		Dura tion	Univ. Mark	IA	O	T	Dura tion	Univ. Mark	IA	O	T
1	Siddha Maruthuva Adippadai Thathuvangalum Varalarum (History & Fundamental Principles of Siddha Medicine)	3 hrs	100	20	30	150	-	-	-	-	-
2	Tamil Language	3 hrs	100	20	30	150	-	-	-	-	-
3	Uyir Vedhiyal (Bio-Chemistry)	3 hrs	100	20	30	150	3 hrs	70	20	10	100
4	Udal Koorugal I (Anatomy Paper I)	3 hrs	100	20	30	150	3 hrs	70	20	10	100
5	Udal Thathuvam I (Siddha Physiology)	3 hrs	100	20	30	150	3 hrs	70	20	10	100
6	Udal Koorugal II (Anatomy Paper II)	3 hrs	100	20	30	150	3 hrs	70	20	10	100
7	Udal Thathuvam II (Physiology)	3 hrs	100	20	30	150	3 hrs	70	20	10	100

(IA : Internal Assessment, O: Oral, R: Record, T: Total)

MARKS QUALIFYING FOR PASS:

50% marks in University written examination : 50/100

50% marks in University Practical examination : 35/70

50% marks in aggregate of written, Practical, Oral, Internal Assessment & Record : 125/250

The candidate shall be permitted to carry over any two subjects in first Professional B.S.M.S
Examination for promotion to Second Professional B.S.M.S course.

SECOND PROFESSIONAL B.S.M.S DEGREE COURSE

EXAMINATION DATE:

The examination dates shall be decided by the University as per this regulation.

SCHEME OF EXAMINATION AND DISTRIBUTION OF MARKS FOR SECOND PROFESSIONAL B.S.M.S

SI No	Subject	Theory					Practical				
		Duration	Univ. Mark	IA	O	T	Duration	Univ. Mark	IA	O	T
1	Maruthuva Thavana Iyal (Medicinal Botany)	3 hrs	100	20	30	150	3 hrs	70	20	10	100
2	Marunthiyal Adippadaihalum Marunthu Sei Muraikalum (Basic Principles of Pharmacy)	3 hrs	100	20	30	150	3 hrs	70	20	10	100
3	Gunapadam – I (Mooligai) (Plant Kingdom)	3 hrs	100	20	30	150	3 hrs	70	20	10	100
4	Noi Nadal – I (Siddha Pathology)	3 hrs	100	20	30	150	3 hrs	70	20	10	100
5	Gunapadam – II (Thathu & Vilaginam) (Metals, Minerals & Animal Kingdom)	3 hrs	100	20	30	150	3 hrs	70	20	10	100
6	Noi Nadal – II (Principles of Modern Pathology)	3 hrs	100	20	30	150	3 hrs	70	20	10	100
7	Nunuyir Iyal (Micro biology)	3 hrs	100	20	30	150	3 hrs	70	20	10	100

(IA : Internal Assessment, O: Oral, R: Record, T: Total)

MARKS QUALIFYING FOR PASS:

50% marks in University written examination : 50/100

50% marks in University Practical examination : 35/70

50% marks in aggregate of written, Practical, Oral, Internal Assessment & Record : 125/250

The candidate shall be permitted to carryover any two subjects in second Professional B.S.M.S Examination for promotion to final Professional B.S.M.S course.

FINAL PROFESSIONAL B.S.M.S DEGREE COURSE

EXAMINATION DATE:

The examination dates shall be decided by the University as per this regulation.

SCHEME OF EXAMINATION AND DISTRIBUTION OF MARKS FOR FINAL PROFESSIONAL B.S.M.S

SI No	Subject	Theory					Practical/Clinical						T
		Duration	Univ. Mark	IA	O	T	Univ. Mark	Practical	R	Long Case	Short case	IA	
1	Noi Anugavidhi Ozhukkam (Hygiene & Community Medicine)	3 hrs	100	20	30	150	-	-	-	-	-	-	-
2	Sattan Sarntha Maruthuvamum Najnu Noolum (Forensic Medicine & Toxilogy)	3 hrs	100	20	30	150	70	-	10	-	-	20	100
3	Maruthuvam – Pothu (General Medicine)	3 hrs	100	20	30	150	-	-	10	50	20	20	100
4	Sirappu Maruthuvam including Yoga & Varma (Special Medicine)	3 hrs	100	20	30	150	-	-	10	50	20	20	100
5	Aruvai Maruthuvam including Enbumurivu and pal Maruthuvam (Surgery) (Surgery including Bone Setting and Dental Disease)	3 hrs	100	20	30	150	-	-	10	50	20	20	100
6	Sool, Magalir Maruthuvam and Kuzhanthai Marithuvam (Obstetrics, Gynaecology and Paediatric Medicine)	3 hrs	70 30 100	20	30	150	-	-	10	50	20	20	100

(IA : Internal Assessment, O: Oral, R: Record, T: Total)

MARKS QUALIFYING FOR PASS:

50% marks in University written examination	: 50/100
50% marks in University Practical examination	: 35/70
50% marks in aggregate of written, Practical, Oral, Internal Assessment & Record	: 125/250

Candidates who have passed in all subjects of the Final Professional B.S.M.S and the carried over subjects of the first & second Professional B.S.M.S only shall be eligible for Compulsory Rotatory Resident Internship.