

MD (Hom) Part-I – Paper 3

Subject: Research Methodology & Biostatistics

Time: 3 Hours

Max

Marks: 100

SET – A

Problem Based Question (20 marks)

1. A homoeopathic hospital plans to evaluate the effectiveness of an individualized homoeopathic medicine in patients with Osteoarthritis of knee.

- a) Formulate a suitable research question and hypothesis.
- b) Identify variables involved.
- c) Choose and justify an appropriate **quantitative / qualitative / mixed** research design.
- d) Outline sampling technique and sample size considerations.
- e) Mention ethical issues involved and steps for approval.

Long Answer Questions

(10x4 = 40 marks)

2. Describe the **types of literature review** and explain the steps of developing a structured search strategy using **PICOT**.

3. Explain **qualitative research designs** with emphasis on data collection and data analysis techniques.

4. Discuss **mixed method research design** and explain how research findings are communicated through scientific articles.

5. Explain:

- a) Population and sample
- b) Probability sampling techniques
- c) Measures of central tendency and dispersion

Short Answer Questions

(5x 8 = 40 marks)

6. Importance of research in Homoeopathy.

7. Levels of evidence in research.

8. Participant Information Sheet and Informed Consent.

9. Validity and Reliability.

10. Types of data and levels of measurement.

11. Confidence interval.

12. Type I and Type II errors.

13. Role of SPSS and R software in research.