

KALOJI NARAYANA RAO UNIVERSITY OF HEALTH SCIENCES**TELANGANA STATE, WARANGAL – 506 002****M.D. (HOMOEOPATHY) PART I EXAMINATIONS: APRIL 2026****RESEARCH METHODOLOGY AND BIOSTATISTICS****PAPER III****Time: 3 Hours.****Max Marks: 100****Note:** Answer all questions.

Give Diagrammatic representation wherever necessary.

Problem based question:**1 X 20 = 20**

1. A researcher plans to study the impact of homoeopathic constitutional treatment on quality of life in patients with rheumatoid arthritis. The study aims to explore both the clinical outcomes and patient experiences through a comprehensive approach.

Based on this scenario:

- a. Justify why a mixed methods research design would be appropriate for this study.
- b. Describe the data collection techniques that could be employed in this mixed methods study.
- c. Explain how you would analyse the data collected from both quantitative and qualitative components.
- d. Discuss the ethical considerations specific to this study and outline the process of obtaining ethical clearance.

Long answer questions:**4 X 10 = 40**

2. Describe the need and purpose of a review of literature in homoeopathic research and explain the different types of literature review process.
3. A study was conducted to measure the haemoglobin levels (in grams per decilitre) of 15 patients before starting homoeopathic treatment for anaemia. The following data was recorded:

patient no	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Hb level (g/dL)	9.2	8.5	10.1	9.8	8.9	11.2	9.5	10.3	9	10.8	8.7	9.6	10.5	9.3	10

Based on the above data, calculate the following descriptive statistics with appropriate formulas and step by step calculations:

- a. Mean haemoglobin level
- b. Median haemoglobin level
- c. Mode (if any) of haemoglobin levels
- d. Range of the data
- e. Variance of the haemoglobin levels
- f. Standard deviation of the haemoglobin levels
- g. Interpret these measures in the context of this homoeopathic research study and explain their clinical significance.

4. Explain the concept of data presentation in communicating research findings. Discuss the guidelines for presenting data in textual, tabular and graphical formats. Describe the various types of graphical representations suitable for qualitative data.
5. Define probability sampling and explain different types of probability sampling with a medical example for each.

Short answer questions:

8 X 5 = 40

6. Discuss the importance of research in homoeopathy. Explain how Hahnemann demonstrated research qualities in developing homoeopathic principles.
7. Explain the principles of data recording in research. describe the components of a special case record and write a note on EPI info software.
8. Explain the structure and function of the institutional ethics committee. Discuss the role of data safety monitoring board in research conduct.
9. Define biostatistics, explain the importance of clinical significance homoeopathic clinical research, discuss how bias and chance affect the outcomes of research.
10. Define data and explain the different types of data used in biomedical research with suitable example.
11. Define confidence interval and explain its application in homoeopathic research with appropriate medical examples. Describe the steps involved in calculating a 95% confidence interval for a given dataset.
12. Discuss the concept of variance with their applications.
13. Discuss the role of reference management software in Homoeopathic research writing. Write a note on iThenticate software
