

Fourth B.O.Th. Year

405. BIO STATISTICS & RESEARCH METHODOLOGY

Total hours: 50

Theory: 50 Marks (Final exams: 35 Marks, Internal Assessment: 15 Marks)

COURSE OBJECTIVES

The student should know with 75% of accuracy in written exams for following objectives:

- 1) Understand advantages of reviewing literature, sources & methods of research.
- 2) Distinguish types of studies understand strategies to eliminate errors/bias \selection of sample.
- 3) Enumerate details needed for writing protocol, know contents of research protocol.
- 4) Understand what are biomedical ethics, informed consent, functioning of ethical committees.
- 5) Describe how to collect data & present it
- 6) Defln' & explain common statistical terms.
- 7) Explain the calculations of mean median, with average & percentile calculation.
- 8) Explain describe impertinent of finding standard deviation, Quartile derivation, variables & calculate them.
- 9) Describe the meaning of normal distribution & normal curves.
- 10) Describe various sampling methods & their application.
- 11) Explain various sampling variability & significance of different sampling
- 12) Define term probability explain various theorems & various methods, hypothesis in their calculation.
- 13) Describe significance of calculations & recording difference in mean values.
- 14) Explain application of Chi-square test
- 15) Explain related sampling & importance in finding correlation & regression.
- 16) Explain various methods of frequency distribution.
- 17) Describe measure of central value.
- 18) Explain measurement of different variables.
- 19) Application of demography & vital statistics.
- 20) Explain correlation of measures of population & vital Statistics Explain importance of cumulative distribution of norms.

COURSE CONTENTS

1. Review of literature
2. Study design
3. Sample size
4. Sampling variability & significance
5. Protocol writing
6. Ethical aspects
7. Data collection & presentation .
8. Common statistical terms
9. Measures of location, average & percentiles
10. Variability & its measures
11. Normal distribution & normal curve
12. Probability
13. Significance of difference in mean
14. Chi- Square test
15. Correlation & regression

16. Demography & vital statistics
17. Correlation of measures of population & vital statistics.
18. Referencing Methods
19. Type of Research

BOOKS RECOMMENDED

A practical approach to PG dissertation- R. Raveendran & B. Gitanjali
Research Methods for Therapist - Hicks Carolyn
Methods in Biostatistics Mahajan