

Paper I	Research Methodology & Biostatistics No of total Questions - 10 (5 Questions on Research Methodology and 5 Questions on Biostatistics) Each Questions carries 5 marks	Total Marks - 50
Paper II	Recent advances in the concerned speciality No of total Questions - 10 Each Questions carries 5 marks	Total Marks - 50
Paper III	Presentation & Discussion (Relevant to the Research topic for Ph. D.)	Total Marks - 50

Paper I**Research Methodology & Biostatistics****50 Marks****Section - A****Research Methodology****(5 Question – 5 Marks each)**

Sr. No.	Topic
1	Introduction to research methodology in medical practice and the research question
2	Concept of populations and samples
3	Fundamental principles of measurements and data management
4	Ethical issues in clinical research
5	Architecture of Research Designs
6	(a) Descriptive and cross sectional studies (b) Case control studies
7	(a) Cohort studies (b) Randomized controlled trials
8	Methods of Data Collection
9	Data Interpretation
10	Writing the research protocol
11	Critical appraisal of a journal articles relevant to the proposed topic
12	Presentation and publishing a research article

Section B**Biostatistics****(5 Question – 5 Marks each)**

Sr. No.	Topic
1	Measures of disease frequency
2	Measures of effect and association
3	Estimation and hypothesis testing including tests of Significance (Chi-square, t-tests, ANOVA, Non parametric tests)
4	The concept of confidence intervals
5	Sample size and sampling
6	SPSS/SAS/Stata/Epi Info applications
7	Measurement errors, reliability, validity and bias
8	Confounding and measures to deal with it (matching, stratified analysis and multivariate analysis)
9	Study of diagnostic tests (Sensitivity, specificity, ROC curve, Bayes' theorem)

Paper – II Recent advances in the concerned specialty**50 Marks**

(10 Questions of 5 Marks each)

(Paper to be set by the concerned H.O.D. or a person nominated by the University)

Paper – III Presentation & Discussion (Relevant to the Research topic for Ph. D.)**50 Marks**