

DR. D. Y. Patil Vidyapeeth, Pune
Pre-Ph.D. Course syllabus - Faculty of Medicine

Paper I

Research Methodology & Statistics

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 Statistics (5 Questions – 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, Bays' theorem)

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

Paper – II Recent Developments in concerned discipline as per the following distribution **50 Marks**

Two pattern of papers may be made –

(1) Scholars with Medical qualifications

- 1) General Principles of Medicine
(Health Economics, Global health issues, Concepts of Medical Education, Palliative & End of life case, Integrative Medicine, Hospital Administration, Medical aspects of Consumer Protection Act, Medical negligence, Infection control) **05 Marks**
- 2) Recent developments in Pre-clinical sciences **15 marks**
- 3) Recent developments in Para-clinical sciences **15 marks**
- 4) Recent developments in clinical sciences **15 marks**

(2) Scholars with non-Medical qualification (M.Sc.)

The paper for non-Medical qualifications (M.Sc.) will be set on the various aspects of Life Sciences with Special reference to human life

- 1) Cell Biology & General aspects of Biochemistry **05 Marks**
 - 2) Genetics & Genomics **15 Marks**
 - 3) Immunology & Immunogenetics **10 Marks**
 - 4) Molecular Biology **15 Marks**
 - 5) Bio Engineering & Biophysics **05 Marks**
- (Paper to be set by Dean, Faculty of Medicine or a person nominated by the University)

Paper – III Recent Advances in the concerned specialty **50 Marks**
(Paper to be set by the concerned H.O.D. or a person nominated by the University)

Paper – IV Presentation & Discussion **50 Marks**

Second Option

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| Paper | I | Research Methodology |
| Paper | II | Statistics pertaining to concerned Faculty |
| Paper | III | Recent Advances in concerned subject |
| Paper | IV | Presentation on the topic in consultation with the Guide |