

Ph. D Programme in Medicine, Dentistry, Ayurveda and  
Homeopathic Medicine

Syllabus for :  
Research Methodology Examination (Paper I)

UNIT : 1

1. Research - Definition, types & the steps in research
2. Clinical Epidemiology - Definition, understanding of terms commonly used in clinical epidemiology.
3. Study designs in Medical Research - Descriptive, Analytic & Experimental

UNIT : 2

1. Statistical data - Definition, Sources, Types, Methods of presentation - Tabulation & Diagrammatic presentation such as Bar diagram, Pie diagram & line diagram, Histogram, Frequency polygon, Frequency curve & cumulative Frequency polygon.
2. Sampling Design - Types, Advantages, Disadvantages.
3. Measures of central Tendency - Arithmetic Mean, Median, Mode
4. Measures of Dispersion - Range, Mean Deviation, Standard Deviation.

UNIT : 3

1. Testing of Hypothesis (Tests of Significance) - Steps in testing  
Common Statistical tests
  - a. Large sample test (Z test)
  - b. Small Sample test  
Student 't' test, Paired 't' test, Chi-square test.  
Analysis of variance or ANOVA.

2. **Vital Statistics**

- Definition, Sources, uses indicators of health – Population indicators, Mortality indicators, Morbidity indicators & Fertility indicators

UNIT : 4

1. **Biomedical Communication** - Criteria to assess standards of a publication
2. **Ethical issues in research**
3. **Scientific Research Report Writing**

Scheme of Examination

Subject : RESEARCH METHODOLOGY (PAPER I)  
(Ph.D in Medicine, Dentistry, Ayurveda & Homeopathic Medicine)

Written examination :

Number of Paper – 1

Number of Parts – 1

Maximum Marks – 100

Duration – 3 hrs

Total number of questions – 8

Question to be answered – Any 5

Each question carries 20 marks

Prescribed Books

1. **Dr. Syamalan's Statistics in Medicine**
2. **Methods in Biostatistics for Medical Students and Research Workers**  
B. K. Mahajan