SYLLABUS FOR RESEARCH ELIGIBILITY TEST (Ph.D.)

Research Methodology

UNIT-I: RESEARCH METHODOLOGY

1. Need and importance of Research in General and with special reference to Physical Education & Sports.

Characteristics of Research and Research Worker.

Classification of Research in relation to Nature, Methods and Nature of data.

2. Formulation of Research Problem.

Location and criteria of selecting a Research problem.

Limitations and Delimitations.

3. Reasons for surveying related literature.

Allied and critical Literature.

4. Hypothesis.

Significance of Hypothesis.

Types of Hypothesis.

5. Historical Research – Meaning, Historical sources and their Evaluation.

Survey Studies – Tools of Survey and Case Studies.

Philosophical Studies - Meaning, Steps in Critical Thinking.

6. Experimental Research.

Meaning and Nature of Experimental Research.

Sources of Experimental Invalidity.

Experimental Designs: Pre, True and Quasi Experimental designs.

7. Research proposal.

Research Report.

UNIT II: APPLIED STATISTICS

1. Importance of Statistics in Physical Education and Sports.

   Statistical processes and their application in Research.

2. Probability – Meaning and methods of Computing probability.

   Binomial Expansion and Computing probability for the obtained scores.

   Properties of Normal Curve.

   Divergence from Normality – Skewness and Kurtosis.

   Development of Norms (Hull, Sigma, T and percentile scales).

3. Sampling and Methods of Sampling.

   Sample vs Population.

4. Correlation and Regression Analysis.

5. Estimation and hypothesis testing.

   Degree of Freedom.

   Type I and Type II Errors.

   One and Two Tailed Tests.

   Level of Significance.

6. Tests of significance – t test, z test and f test.

   One way ANOVA.

   LSD and Scheffe's Tests.

UNIT III: COMPUTER APPLICATION AND GENERAL AWARENESS

1. Operating system

2. Block Diagram of Computers

3. Classification of Computers

4. Flow Chart

5. Application and System Program

6. Generation of Languages

7. I/O Devices memory

8. Concept of PC, mainframe and Super Computers

9. Compilers, Interpreters and Assemblers

10. Basics of MS-OFFICE