

# Research Methodology Syllabus

## **Unit 1: Research Aptitude**

- Research: Meaning, types, and characteristics, positivism and post-positivistic approach to research
- Methods of research: Experimental, descriptive, historical, qualitative and quantitative methods
- Steps of research
- Thesis and article writing: Format and styles of referencing
- Application of ICT in research
- Research ethics

## **Unit 2: Data Interpretation**

- Sources, acquisition and classification of data
- Quantitative and qualitative data
- Graphical representation (bar-chart, histograms, pie-chart, table-chart and line-chart) and mapping of data
- Data interpretation
- Data and governance

## **Unit 3: Biostatistics**

- Definition, application, sample size, importance of sample size, factors influencing sample size, dropouts,
- Statistical tests of significance, type of significance tests, parametric tests (students “t” test, ANOVA
- Correlation coefficient, regression)
- Non-parametric tests (wilcoxon rank tests, analysis of variance, correlation, chi square test), null hypothesis, P values, degree of freedom, interpretation of P values.

## **Unit 4: Internet and Communication Technology**

- ICT: General abbreviations and terminology
- Basics of Internet, Intranet, E-mail, Audio and Video-conferencing
- Digital initiatives in higher education
- ICT and Governance