



**Maulana Abul Kalam Azad University of Technology, West Bengal
(MAKAUT, WB)**

Syllabus of Research Eligibility Test (RET) in Research Methodology

Sl.	Topic/Module
1.	Module 1: Meaning, scope and significance of social research: Types of Research: (a) Pure and Applied, (b) Exploratory, Descriptive, (c) Experimental; Steps in Social Research & types, conceptualization and formulation of research objectives and hypotheses.
2.	Module 2: Literature Review: Concept, necessity, different ways to carry out literature reviews, research gap.
3.	Module 3: Scientific Study of Social Phenomena: (a) The Scientific Method, Logic in Social Science, (b) Objectivity and Subjectivity in Social Science, (c) Positivism and Empiricism. Methods of research: (a) Quantitative and Qualitative (Characteristics and different sources of data : Primary & Secondary. Techniques of Data Collection: (a) Survey, (b) Observation, (c) Questionnaire & Schedule, (d) Interview, (e) Case Study and so on.
4.	Module 4 : Sampling, Measurement and Scaling: Sampling: Types, Advantages and Limitations, sample size determination. Various scaling techniques, validity & reliability.
5.	Module 5: Classification & presentation of Data: (a) Coding, Tables, Graphs, (b) Measures of Central Tendency & Dispersion.
6.	Module 6: Hypothesis Testing: Definition, Concepts, Types of hypothesis, Test Statistics, Critical Value, Decision Rule, Procedure, Hypothesis testing for mean, proportion etc.
7.	Module 7: Introduction to Data Analysis Techniques: Data Analysis: Procedure for testing of hypothesis, the null hypothesis, determining levels of significance, type I and II errors, grouped data distribution, analysis of variance: one way, two way, chi square test and its application, students 't' distribution, non-parametric statistical techniques. Correlation and regression analysis –factor analysis – cluster analysis, introduction to various classification techniques like logistic regression, discriminant analysis, naïve bayes.

8.	Module 8: Data Ethics: Concept, business benefits, Principles, Ethical use of algorithms.
9.	Module 9: Research report preparation and presentation: Review of literature: historical survey and its necessity, layout of research plan, meaning, techniques and precautions of interpretation, types of report: technical report, popular report, report writing – layout of research report, mechanics of writing a research report, writing bibliography and references, how to remove plagiarism.