

Curriculum Development Plan: Prof. Monika Bassi
B.Sc. (H) Physics, Fourth Year, Semester VVI, NEP-UGCF
(Odd Semester, 2025-2026)
No. of Theory Periods per week = 1

Name of Paper & Code	Allocation of Lectures	Month wise schedule followed by the Department	Tutorial/assignment/ Presentation etc.
Research Methodology, Unit II: Data Collection, analysis and interpretation			
<u>1. Methods of data collection:</u> Survey, interview, observation, experimentation, and case study	7	August	• Syllabus Overview • Reference Books • Problem solving • Assignments • Students' difficulties
<u>2. Descriptive statistics:</u> Measures of central tendency (mean, median, mode) and dispersion (range, standard deviation)	4	August-September	• Derivations • Problem solving • Assignments • Students' difficulties
<u>3. Inferential statistics:</u> Hypothesis testing, Z test, T test; regression analysis (basic concepts of multiple linear regression analysis and theory of attributes)	3	September	• Derivations • Problem solving • Assignments • Students' difficulties • Class Test
<u>4. Curve fitting:</u> Using linear and nonlinear regression (parameter space, gradient search method, and Marquardt method)	8	October	• Derivations • Problem solving • Assignments • Students' difficulties • Class Test
<u>5. Role of:</u> Simulation Calibration methods Error analysis Background handling in experimental design	4	November	• Derivations • Problem solving • Assignments • Students' difficulties • Class Test