Teaching Plan for the Session 2025–26 (Even and Odd Semesters)

Name of the Teacher: Gouranga Saikia

Department of Mathematics, J.B. College (Autonomous)

Class/ Semester	Title & Code of The Paper Allotted	Method of Teaching	Teaching Material	Unit	Period/ Hours Required	Topics	Remarks/Books
UG I/ Odd	MTHMJ-011 (Basic Analysis and Algebra)	Lecture, Discussion	Chalk & Talk, Notes	III	10	Sequences: Bounded, Convergent, Cauchy sequences. Limit theorems	S.C. Malik & S.L. Arora, Mathematical Analysis
UG I/ Odd	MTHMI-011 (Basic Analysis and Algebra)	Lecture, Discussion	Chalk & Talk, Notes	III	10	Same as MTHMJ-011	Same as MTHMJ-011.
UG I/ Odd	DTNVA-011 (Digital Technology & Numerical Literacy)	Lecture, Discussion	Chalk & Talk, Notes	III, IV	14	Number system & properties, Some applications of basic mathematics.	Prescribed Textbooks & Reference Materials
UG II/ Even	MTHMJ-021 (Calculus & ODE)	Lecture, Discussion	Chalk & Talk, Notes	III	10	Reduction formulae, arc length, area and volume of revolution.	G. George, Differential and Integral Calculus; S.L. Ross, Differential Equations.
UG II/ Even	MTHMI-021 (Calculus & ODE)	Lecture, Discussion	Chalk & Talk, Notes	III	10	Same as MTHMJ-021: Reduction formulas, applications in integration.	Same as MTHMJ-021.
UG II/ Even	DTNVA-021 (Digital Technology & Numerical Literacy)	Lecture, Discussion	Chalk & Talk, Notes	III, IV	14	Number system & properties, Some applications of basic mathematics.	Prescribed Textbooks & Reference Materials
UG III/ Odd	MTHMJ-032 (Theory of Real Functions)	Lecture, Discussion	Chalk & Talk, Notes	III & IV	36	Differentiability, Mean Value Theorems, Applications, Taylor's Theorem.	R. Bartle & D.R. Sherbert, Introduction to Real Analysis; T.M. Apostol, Mathematical Analysis.

UG V/Odd	MTHMJ-051 (PDE and System of ODE)	Lecture, Discussion	Chalk & Talk, Notes	III, IV & V	36	Partial Differential Equations.	S.L. Ross, Differential Equations, John Wiley & Sons, India.
UG V/Odd	MTHMI-051 (Linear programming) (Practical)	Practical Demo.	Notes, Computer Lab	I	10	Matrix operations, basic computations and solutions using software.	Standard practical manuals and lab guides.
UG VI/Even	MTHMJ-061 (Metric Space & Complex Analysis)	Lecture, Discussion	Chalk & Talk, Notes	I & II	36	Metric space basics, open/closed sets, convergence, continuity.	W. Rudin, Principles of Mathematical Analysis; E.T. Copson, Metric Spaces.
PG I/Odd	PMTHD-101(B) (Special Functions & PDE)	Lecture, Discussion	Chalk & Talk, Notes	I & II	36	Gamma function, Legendre and Bessel functions, recurrence relations.	I.N. Sneddon, Special Functions; N.N. Lebedev, Special Functions and Their Applications.
PG II/Even	PMTHD-201(A) (Fuzzy Sets and Systems)	Lecture, Discussion	Chalk & Talk, Notes	III, IV & V	36	Fuzzy Measures, Decision Making	Klir and Bo Yuan, Fuzzy Sets and Fuzzy Logic.
PG III/Odd	PMTHD-301(B) (Hydro-dynamics Continuum Mechanics)	Lecture, Discussion	Chalk & Talk, Notes	IV, V & VI	36	Continuum Mechanics: stress tensors, constitutive laws.	Continuum Mechanics textbooks like Gurtin, Malvern, etc.
PG III/Odd	PMTHA-301 (Scientific Writing)	Lecture, Practical Demo.	PPT, Notes, Computer Lab	I & II	24	Structure of scientific papers, thesis writing basics.	Manuals on research methodology and academic writing.
PG IV/Even	PMTHD-401(B) (Fluid Dynamics)	Lecture, Discussion	Chalk & Talk, Notes	I & III	36	Fluid statics, conservation laws, Euler's equations.	F. Chorlton, Textbook of Fluid Dynamics.
PG IV/Even	PMTHA-401 (Scientific Computation)	Lecture, Practical Demo.	PPT, Notes, Computer Lab	I & II	24	Numerical methods for solving PDEs, boundary value problems.	S.C. Chapra & R.P. Canale, Numerical Methods for Engineers.