

## Curriculum plan (Odd Semester 2024-25)

**Teacher Name: Chetan Kumar**

**Paper name: Introductory Mathematical Methods for Economics**

**Class type: BA (Hons) Economics Sem-1**

**Paper shared with: NA**

Unit to be taken	Month wise schedule to be followed	Tests/Assignments/ Revision/Presentations etc
Unit 1 Preliminaries: Logic and proof techniques; sets and set operations; relations; functions and their properties; number systems.	September (Week 1-Week 4)	Internal Assessment (IA): 30 Marks <ul style="list-style-type: none"> <li>• Two class test (12 marks each), and</li> <li>• 6 marks for attendance</li> </ul>
Unit 2 Functions of one real variable: Graphs; elementary types of functions: quadratic, polynomial, power, exponential, logarithmic; sequences and series: convergence, algebraic properties	October (Week 1 - 4)	
UNIT 2: continuous functions: characterisation, properties with respect to various operations and applications; differentiable functions: characterisation, properties with respect to various operations and applications; second and higher order derivatives: properties and applications;	November (Week 1-week 4)	Continuous Assessment (CA): 40 Marks  <ul style="list-style-type: none"> <li>• assignments will be periodically provided to the students</li> </ul>
Unit 3 Single-variable optimization Geometric properties of functions: convex functions, their characterisation and applications; local and global optima: geometric and calculus-based characterisation, applications.	December (Week 1-week 4)	
		35 marks towards the overall assessment
		-5 marks for attendance

### Readings

1. Sydsaeter, K., Hammond, P. (2002). **Mathematics for economic analysis. Pearson Educational.**