

M.Sc. (PHYSICS) Programme Structure
Programme Code: MSCPHY-20
First Semester

COURSE – 3 Statistical Mechanics and Foundation of Quantum Mechanics Credits - 3
Paper code: MPHY503 Total Marks: 50(Assignment 10 + Theory Exam 40)

BLOCK – 1: INTRODUCTION TO STATISTICAL MECHANICS

- Unit –1 : Statistical Mechanics – Thermo dynamics
- Unit –2 : Ensembles
- Unit –3 : Density Distribution – Liouville’s Theorem
- Unit –4 : Postulates of classical Statistical Mechanics
- Unit –5 : Micro canonical Ensemble
- Unit –6 : Maxwell – Boltzmann Statistics
- Unit –7 : Canonical and grand canonical ensembles

BLOCK – II QUANTUM STATISTICS

- Unit –8 : Postulates of Quantum Statistical Mechanics
- Unit –9 : Quantum Statistics – BE and FD Statistics

BLOCK – III PRINCIPLES OF QUANTUM MECHANICS

- Unit –10 : Birth Of Quantum Mechanics
- Unit –11 : Eigen values and Eigen functions
- Unit –12 : Dirac’s bra and ket vectors
- Unit –13 : Eigen functions and uncertainty principle