COURSE OBJECTIVES AND COURSE OUTCOMES

T. Y. B. Sc. SEMESTER - V

PHYSICS PAPER - I

SUBJECT: MATHEMATICAL, THERMAL AND STATISTICAL PHYSICS

(USPH501)

Sr. No.	Course Objectives	Course Outcomes
1)	Analyze probability, the concepts of independent events and standard continuous distributions	Explain probability, concepts of independent events and standard continuous distributions. Solve problems involving probability
2)	Investigate exponential, trigonometric, inverse trigonometric, hyperbolic and inverse hyperbolic functions of complex variables. Discuss logarithms, complex roots and powers of complex variables	Examine exponential, trigonometric, inverse trigonometric, hyperbolic and inverse hyperbolic functions of complex variables. Determine logarithms, complex roots and powers of complex variables
3)	Discuss non homogeneous differential equations and partial differential equations. Solve problems to determine solutions of non-homogeneous differential equations and partial differential equations	Understand non homogeneous differential equations and partial differential equations. Determine solutions of non-homogeneous differential equations and partial differential equations
4)	Examine concepts of statistical thermodynamics like configurations, Boltzmann distribution, canonical ensemble, partition function, equipartition theorem and entropy	Analyze concepts of statistical thermodynamics like configurations, dominance of Boltzmann distribution, canonical ensemble, partition function, equipartition theorem and entropy
5)	Compare classical and quantum statistics. Discuss Maxwell-Boltzmann, Bose-Einstein and Fermi-Dirac Distributions with examples to each one of them	Understand classical and quantum statistics. Explain Maxwell-Boltzmann, Bose-Einstein and Fermi- Dirac Distributions with examples

COURSE OBJECTIVES AND COURSE OUTCOMES

T. Y. B. Sc. SEMESTER - VI

PHYSICS PAPER - I

SUBJECT: CLASSICAL MECHANICS (USPH601)

Sr. No.	Course Objectives	Course Outcomes
1)	Investigate different types of motions that can occur under a central potential	Analyze different types of motions that can occur under a central potential and their applications to planetary orbits
2)	Discuss moving coordinate systems, laws of motion on rotating Earth, Foucault pendulum and Larmor's theorem	Understand moving coordinate systems, laws of motion on rotating Earth, Foucault pendulum and Larmor's theorem
3)	Explain different types of constraints with examples, generalized coordinates, virtual displacement, virtual work and D'Alembert's principle	Outline different types of constraints with examples, generalized coordinates, virtual displacement, virtual work and D'Alembert's principle
4)	Discuss kinematics of moving fluids, Equation of motion for an ideal fluid and conservation laws for fluid motion	Analyze kinematics of moving fluids, Equation of motion for an ideal fluid and conservation laws for fluid motion
5)	Investigate rigid body dynamics	Understand rigid body dynamics
6)	Discuss basic nonlinear mechanics and to become aware of nonlinear phenomena	Analyze basic nonlinear mechanics and to become aware of nonlinearity