KARNATAKA STATE ELIGIBILITY TEST (K-SET)
FOR LECTUERSHIP

Subject: PHYSICAL SCIENCE

Note:
There will be two question papers, Paper-II and Paper-III. Paper II will have 50 objective Type Questions (Multiple choice, Matching type; True/False, Assertion-Reasoning type) carrying 100 marks. All the 50 questions are compulsory and have to be marked in OMR sheet. Paper III contains seventy five (75) objective type questions (Multiple choice, Matching type; True/False, Assertion-Reasoning type) of two (2) marks each. All the 75 questions are compulsory and have to be marked in OMR sheet.

SYLLABUS
PHYSICAL SCIENCES
SYLLABUS

PART – A
I. Mathematical Methods of Physics

II. Classical Mechanics

III. Electromagnetic Theory
IV. Quantum Mechanics

V. Thermodynamic and Statistical Physics

VI. Electronics and Experimental Methods

PART – B
I. Mathematical Methods of Physics
II. Classical Mechanics
Dynamical systems, Phase space dynamics, stability analysis. Poisson brackets and canonical transformations. Symmetry, invariance and Noether’s theorem. Hamilton-Jacobi theory.
III. Electromagnetic Theory
Dispersion relations in plasma. Lorentz invariance of Maxwell’s equation. Transmission lines and wave guides. Radiation- from moving charges and dipoles and retarded potentials.

IV. Quantum Mechanics
V. Thermodynamic and Statistical Physics
First- and second-order phase transitions. Diamagnetism, paramagnetism, and ferromagnetism.

VI. Electronics and Experimental Methods

VII. Atomic & Molecular Physics

VIII. Condensed Matter Physics

IX. Nuclear and Particle Physics