

Entrance test for M.Tech. Geoinformatics (All questions will be Multiple choice)

PART A: Aptitude test : Logical reasoning, analytical ability, quantitative techniques and numerical ability.

PART B: General Science

Physical Science

Physics in relation to science, society and technology, Laws of Motion, Work done by a constant force and by a variable force, unit of work, energy and power. Notions of potential energy, conservation of mechanical energy, gravitational potential energy, and its conversion to kinetic energy, potential energy of a spring. Conservative forces. Principles of Rotational Motion Universal law of gravitation, inertial and gravitational mass, variations in the acceleration due to gravity of the earth, orbital velocity, geostationary satellites, gravitational potential, gravitational potential energy near the surface of earth, escape velocity, weightlessness. Thermal conductivity. Black body radiation Longitudinal and transverse waves and wave motion, speed of progressive wave. Electromagnetic oscillations, brief history of electromagnetic waves. Electromagnetic spectrum, including elementary facts about their uses, propagation of electromagnetic waves in atmosphere.

Mathematical Science

Basic elements and tools of statistical analysis, Probability, sampling, measurement and distribution of attributes, Distribution, Poisson and Binomial, Arithmetic, Geometric, and Harmonic mean, moments, matrices, simultaneous linear equations, tests of hypothesis and significance.

Earth Science

Earth Materials, Surface Features and Processes: Gross composition and physical properties of important minerals; properties and processes responsible for mineral concentrations; nature and distribution of minerals. Physiography of the Earth; weathering, erosion, transportation and deposition of Earth's material; formation of soil, energy balance of the Earth's surface processes. Environmental Earth Sciences Properties of water; hydrological cycle; water resources and management. Energy resources, uses, degradation, alternatives and management; Ecology and biodiversity. Impact of use of energy and land on the environment. Exploitation and conservation of mineral and other natural resources. Natural hazards. Elements of Remote Sensing. Elements of GNSS.