

Syllabus for Ph. D. (Tech.) Admission test in Mechanical Engineering stream

Engineering Mechanics: Statics and Dynamics. Laws of Equilibrium, Centre of Gravity and moment of Inertia and its uses. Resolution and composition of forces. Types of beams and its reactions. Equation of motions. Kinematics and Kinetics of particle and rigid bodies.

Strength of Materials – Different types of stresses and strains, Stress-Strain variation for various materials, Bending stress and Shearing stresses. Slope and deflections in beams subjected to various loadings.

Engineering and Machine Drawing, Production processes, Theory of machines and dynamics of Machinery, Machine design, Thermodynamics, I.C. engines, Heat transfer and refrigeration, Hydraulics and hydraulic machinery, Power hydraulics, Jigs fixtures and Tool design, Material Science.

Syllabus for Ph. D. (Tech.) Admission test in Plastic Engineering stream

POLYMER IC MATERIALS - PROPERTIES AND APPLICATIONS.

POLYMER BLENDS AND ALLOYS, POLYMER ADDITIVES, FIBRE REINFORCED PLASTICS – VARIOUS FIBRES AND RESINS, FRP MANUFACTURING PROCESSES AND APPLICATIONS.

PROCESSING OF POLYMERS - PROCESSING METHODS SUCH AS EXTRUSION, INJECTION MOULDING, BLOW MOULDING, THERMOFORMING, CALENDERING, ROTATIONAL MOULDING.

PLASTICS PRODUCT DESIGN, DESIGN OF INJECTION MOULDS AND EXTRUSION DIES FOR POLYMERS.

DIFFERENT COMPONENTS OF INJECTION MOULDS, INJECTION MOULDING MACHINE SPECIFICATIONS, CLAMPING SYSTEMS FOR INJECTION MOULDS.