Faculty of Engineering & Technology

B.E. (Evening) - (Civil / Electrical / Mechanical)

I - Physical Sciences

Compulsory for all branches

Mathematics	Algebra,Trigonometry,CoordinateGeometry, Calculus, Differential Equations,Vector
Physics	Heating & Chemical effects of current; Thermo-electric effects; SHM, Velocity, acceleration and Types of waves, frequency, wave length and wave velocity, Diffraction and polarization of waves, Cathodes and X-rays, Radioactivity, Nuclear fusion and fission
Chemistry	Organic Chemistry, Electrochemistry, pH Value and buffer solution, Corrosion, Alloys, Fuels, Water, Environmental Chemistry and Polymers.

II - Engineering Sciences

(A) B.E. - (Civil Engg.)

Structural Analysis	Stresses and Strains, Bending moment and shear force,Bending Stresses, Columns, Steel Truss - Simple analysis of steel trusses.
Design of R.C. Structure	Singly & Doubly Reinforced Beam,Slabs,T-Beam, Columns & Footings
Building Materials and Construction	Building Materials Building Construction
Irrigation Engineering	Flow of Water Flow over notches and weirs Flow through Open Channels Methods of Irrigation River training & Cross Drainage Works Dams Canal masonary works.
Environmental Engineering	Water supply Engineering Sanitary Engineering
Transportation Engineering :	
Roads	Highway Geometric Design, Highway materials & Constructions, Pavement Design,Traffic Engineering
Railways	Gauges, Sleepers, Plate Laying, Ballast, Points & Crossings, Train Resistance
Bridges	Type of Bridges, Loads on Bridges, Design of Bridges

Soil Mechanics	Index Properties Shear Strength Permeability and Seepage Consolidation & Compaction
Surveying	Chain Surveying Compass Surveying Plane Table Surveying Levelling Theodolite Traversing

(B) B.E. (Electrical Engineering)

(B) B.E. (Electrical Engg.)	**Fields and Circuits**	Magnetic Field due to current,Ohm's and Kirchhoff's Laws, Faraday's Law of Magnetic Induction
	Electrical Machines and Power Apparatus	Transformer, D.C. Machines Induction Motor Synchronous Machines Distribution & Transmission Systems.
	Instrumentation and Control	PMMC, PI, Dynamometer type instruments, bridges, CRO, Transducers, Time domain and frequency domain analysis, controllers.
	Electronics	Binary numbers, logic gates transistors, diodes, OPAMP, display devices, telemetry.

(C) B.E. (Mechanical *Engg.*)

Theory and Design of Machines :

Stress, strain and mechanical properties of materials. Shear force and bending moment. Strain energy, columns and struts, system of forces, moment and couple. Trusses, pulley, friction, laws of friction, thin cylindrical and spherical shells. Simple mechanisms, clutches, brakes and dynamometer. Belt drives, gear drives, governor, flywheel, cams, springs, lubrication and bearings. Design of shaft, keys and couplings Design of joints, threads and threaded joints, rivets and riveted joints.

Hydraulic and Hydraulic Machines:

Fluids types and properties. Pascal's law and pressure measuring devices. Types of fluid flow, steady & unsteady, uniform & non-uniform, laminar and turbulent flows. Reynolds number and its significance. Energy of liquid in motion, Bernoulli's theorem, its applications, venturimeter and orifices, Flow through pipes. Hydraulic machines, hydraulic pumps, Pelton, Francis and Kaplan turbines, hydraulic ram, hydraulic accumulator and hydraulic press.

Thermodynamics and H.P. Engineering:

Thermodynamics systems and laws. Concept of work, internal energy, enthalpy and entropy. Reversible and irreversible processes. Steam formation and its characteristics. Heat transfer basics, various modes of heat transfer, fuel properties and calorific value. Gas power cycles, air standard efficiency of Otto cycle and diesel cycle. Vapour power cycles, steam nozzles, steam turbines, steam condensers, air compressors. Heat engines, classification basic terminology, performance parameters, gas turbines. Refrigeration cycles, air refrigeration systems and analysis. Effects of sub cooling and superheating. Refrigeration system components and controls. Refrigerants and their desirable properties. Human comfort air conditioning, sensible and latent heat loads and dew point.

Production and Industrial Engineering:

Pattern making and sand casting. Forming operations. Measuring instruments. Nomenclature of single point cutting tool. Machine tools, welding and its types. Ferrous metal and its alloys. Non ferrous metals and its alloys. Heat treatment of metals. Processing of polymers. Productivity and its measurements, plant location and layouts. Material handling system, Work study. Production planning and control, CPM, PERT, break even analysis, depreciation and its methods. Management of human, materials and machines. Ownership and its types. Types of wages and incentives. Elements of cost and quality control.