



**DIRECTORATE OF ADMISSIONS
JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
KUKATPALLY, HYDERABAD - 500 085, TELANGANA STATE, INDIA**

**Part Time Post Graduate Programs (PTPG) in M.Tech. and MBA
For the Academic Year 2026-27**

ENTRANCE TEST SYLLABUS

M.Tech. (STRUCTURAL ENGINEERING)

STRUCTURAL ENGINEERING

Structural Analysis: Simple stresses and Strains, shear force and Bending Moment, flexural stresses - Shear Stresses - Deflection of beams - Principle stresses and Strains - Torsion - Columns and Struts - Direct and bending stresses - beams curved in plan - propped cantilever - Continuous beams - Energy theorem - moving loads - Influence lines - Arches - slope deflection method --moment distribution method - flexibility and stiffness methods - matrix approaches.

Concrete and Steel Structures: Concrete Technology, properties of concrete, basics of mix design. Limit State methods of design; design of reinforced concrete beams, slabs, columns, staircase, earth retaining structures and foundations; detailing of reinforcement; analysis and design of pre-stressed concrete beams, provisions of IS code of practice, Analysis and design of tension and compression members, beams and beam-columns, column bases; Connections - simple and eccentric, beam and column connections, plate and gantry girder and trusses; plastic design of beams and frames, provisions of IS codes of practice.

GEOTECHNICAL ENGINEERING

Soil Mechanics: Origin and Formation of soils, Structure, three-phase system, fundamental definitions, relationships and interrelationships, index properties of soils, particle size analysis, plasticity characteristics, soil classification, stress distribution in soil, permeability of soil, seepage analysis, effective stress principle, consolidation, compaction, shear strength.

Foundation Engineering: Sub-surface investigations- scope, drilling bore holes, sampling, penetration tests, plate load test. Earth pressure theories, Active and Passive earth pressure theories in sands and clays soils, effect of water table, layered soils. Stability of slopes-infinite slopes, finite slopes. Foundation types-foundation design requirements. Shallow foundations-bearing capacity, effect of shape, water table and other factors, settlement analysis in sands & clays. Deep foundations–pile types,

dynamic & static formulae, load carrying capacity of piles in sands & clays, Pile Groups. negative skin friction.

WATER RESOURCES ENGINEERING

Fluid Mechanics: Hydrostatic application of Bernullis's equation, laminar and turbulent flow through pipe lines, pipe network, concept of boundary layer and its growth, uniform flow, critical flow, Specific energy concepts, Hydraulic jump, forces on immersed bodies, flow measurement in channels, tanks and pipes, dimensional analysis and modeling; velocity triangles and specific speed of pumps and turbines. Application of momentum equation, potential flow, kinematics of flow.

Hydrology and Irrigation Engineering: Hydrologic cycle, rainfall, evaporation, infiltration, unit hydrographs, flood estimation, reservoir and channel routing, well hydraulics, Duty, Delta, Estimation of evapo-transpiration, crop water requirements, design of lined and unlined canals, water ways, head works, gravity dams and Ogee spillways, Earthen dams, Design of weirs on permeable foundation, Irrigation methods.

ANSPORTATION ENGINEERING AND ENVIRONMENTAL ENGINEERING

Transportation Engineering: Highway Development and Planning, Road Patterns, Alignment, Engineering-surveys for highway locations, Drawings and reports.

Highway Geometric Design, Elements of cross section, sight distance, Horizontal and Vertical Alignment.

Traffic Engineering, Traffic studies, Volume, origin and destination studies, accident studies, Traffic signs, traffic islands, Intersection design, all grade and grade-separated intersections.

Highway Design, Construction and Maintenance of gravel, water bound, bituminous pavement and concrete pavements, maintenance of roads.

Environmental Engineering: Water requirements, Quality standards, basic unit processes and operations for water treatment. Drinking water standards, water requirements, basic unit operations and unit processes for surface water treatment, distribution of water. Sewage and sewerage treatment: quantity and characteristics of wastewater, Primary, secondary and tertiary treatment of wastewater, sludge disposal, effluent discharge standards. Domestic wastewater treatment, quantity of characteristics of domestic wastewater, primary and secondary treatment Unit operations and unit processes of domestic wastewater, sludge disposal.

E N D



DIRECTORATE OF ADMISSIONS
JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
KUKATPALLY, HYDERABAD - 500 085, TELANGANA STATE, INDIA

Part Time Post Graduate Programs (PTPG) in M.Tech. and MBA
For the Academic Year 2026-27

ENTRANCE TEST SYLLABUS

M.Tech. (ELECTRICAL POWER ENGINEERING)

NETWORK THEORY: General circuit concept - RLC Parameters - Response of RL - RC - RLC for impulse, step and sinusoidal excitations - Magnetic circuits - Single phase circuits - Concept of Real and Reactive powers - Power factor - Series & Parallel resonance - Three phase circuits - Star & delta connections - line & phase quantities - Analysis of balanced & unbalanced ckt. - Network theorems - Two port networks.

ELECTROMECHANICS: DC Generators - EMF equation - methods of excitation - characteristics of shunt, series and compound generators - DC Motors - Principle of operation - Torque equation - methods of speed control - efficiency - Applications - Single phase transformers - principle of operation - Phasor diagram - Equivalent circuit - iron and copper losses —efficiency - regulation - Polyphase induction motor - principle of operation - Phasor diagram - equivalent circuit - Torque equation - mech. Power developed - torque slip characteristics –

speed control methods & starting methods - Synchronous generators - Principle of operation - Armature reaction - leakage reactance - synchronous reactance & impedance - phasor diagram - voltage regulation - load - characteristics - synchronizing and parallel operation - Synchronous motor - theory of operation - phasor diagram - power developed - excitation & power circles - methods of starting.

POWER SYSTEMS: Operation of Hydropower stations - Thermal Power Stations - Nuclear power Stations - Economic aspects of power station - transmission line parameters - types of conductors - calculation of inductance - capacitance for 2 wire and 3 wire systems. Transmission line performance - short, medium and long line - T and TT network models - ABCD constants - Ferranti effect - Corona - Insulators - Underground cables - Calculation of insulation resistance - Power factor improvement - Protection against over voltage - Fuses - Circuit breakers - Current limiting reactors - Electromagnetic & Static relays - application of relays - protection of busbars - transformers & generators - economic operation of power systems - load frequency control - single area and two area systems - power system transient & steady - state stability analysis, load flow studies.

CONTROL SYSTEMS: System concept - mathematical models of physical systems - block diagram algebra - feedback characteristics - reduction in parameter variations by use of feed back - PID controllers - time response analysis- concept of stability - frequency response analysis.

POWER ELECTRONICS: Basic theory of operation of SCR, BJT and their characteristics - On & Off methods - Snubber circuits - di/dt, dv/dt protection - Line commutated converters both midpoint & bridge type - Single Phase & 3 phase with R, RL loads - Output equations - waveforms - dual converters - AC Voltage controllers (single phase) with R, RL loads - output equation - waveforms - single phase cycle converter - principle of operation - wave forms - forced commutation - techniques - D.C. choppers, single quadrant and two - quadrant operation - Output equation, wave forms - inverters - series & parallel inverters - single phase and three phase - operation - wave forms.

ELECTRICAL MEASUREMENTS: Measuring instruments - classification, ammeter, voltmeter - expression for deflection torque & control torque - Instrument transformers - CT & PT - Measurement of active and reactive power in balanced load - Measurement of energy (single phase) - potentiometers - applications - bridges for resistance, inductance and capacitance measurements.

E N D



DIRECTORATE OF ADMISSIONS
JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
KUKATPALLY, HYDERABAD - 500 085, TELANGANA STATE, INDIA

Part Time Post Graduate Programs (PTPG) in M.Tech. and MBA
For the Academic Year 2026-27

ENTRANCE TEST SYLLABUS

M.Tech. (ENGINEERING DESIGN)

M.Tech. (THERMAL ENGINEERING)

M.Tech. (ADVANCED MANUFACTURING SYSTEMS)

APPLIED MECHANICS AND DESIGN

Engineering Mechanics: Equivalent force systems, free-body concepts, equations of equilibrium, trusses and frames, virtual work and minimum potential energy. Kinematics and kinetics of particles and rigid bodies, impulse and momentum (linear and angular), energy methods, central force motion.

Strength of Materials: Stress and strain, elastic constants, stress-strain relationship, Mohr's circle.

Deflection of beams, bending and shear stresses, shear force and bending moment diagrams, torsion of circular shafts, thin and thick cylinders, Euler's theory of columns, strain energy methods, thermal stresses.

Theory of Machines: Analysis of plane mechanisms, dynamic analysis of slider-crank mechanism, planar cams and followers, gear tooth profiles, kinematics and design of gears, governors and flywheels, balancing of reciprocating and rotating masses.

Vibrations: Free and forced vibration of single degree freedom systems, effect of damping, vibration isolation, resonance, critical speed of shafts.

Design of Machine Elements: Design for static and dynamic loading, fatigue strength, failure theories. Design of bolted, riveted and welded joints; design of shafts and keys; design of spur gears, brakes and clutches, rolling and sliding contact bearings; belt, ropes and chain drives, springs, IC engine components, power screws.

THERMAL SCIENCE AND ENGINEERING

Fluid Mechanics: Fluid properties, fluid statics, manometry, buoyancy, control-volume analysis of mass, momentum and energy, fluid acceleration, differential equation of continuity and momentum. Bernoulli's equation. Viscous flow of incompressible fluids; boundary layer, flow through pipes, head losses in pipes, bends etc. turbo machines: velocity triangles Euler's equation, specific speed, Pelton wheel, centrifugal pump, Francis and Kaplan. turbines.

Heat-Transfer: Modes of heat transfer, one dimensional heat conduction, resistance concept, electrical analogy, unsteady heat conduction, fins, dimensionless parameters in free and forced convective heat transfer, various practical correlations for heat transfer over flat plates and through pipes thermal boundary layer, effect of turbulence, radiative heat transfer, black and grey surfaces shape factors, network analysis, heat exchanger performance, LMTD and NTU methods.

Thermodynamics: Zeroth, first and second laws of thermodynamics, thermodynamic system and processes irreversibility and availability, behaviour of ideal and real gases, properties of pure substances, calculation of work and heat in ideal processes, Analysis of thermodynamics cycles related to energy conversion. Carnot, Rankine, Otto, Diesel, Brayton and Vapour compression cycle.

Steam Engineering: Steam generators, Steam engines, steam turbines-impulse and reaction, velocity diagrams, compounding, reheat factor.

I.C. Engines; Requirements and suitability of fuels in IC engines, fuel ratings, fuel-air mixture requirements, normal combustion in SI and CI engines, engine performance and testing gas turbines.

Reciprocating Air Compressor: Isothermal, adiabatic and polytropic compression, staging the compression process, intercooling and aftercooling, minimum work requirement, volumetric efficiency. Centrifugal and axial flow compressors.

Refrigeration and Air-conditioning: Refrigerant compressors, expansion devices, condensers and evaporators, properties of moist air, psychrometric chart, basic psychrometric processes.

MANUFACTURING AND INDUSTRIAL ENGINEERING

Engineering Materials: Structure and properties of engineering materials and their applications, heat treatment.

Metal Casting: Casting processes - pattern making, moulds and cores, solidification, design of casting, casting defects.

Metal Working: Stress-strain diagrams for ductile and brittle material, plastic deformation, mechanisms, fundamentals of hot and cold working processes-forging, extrusion, wire drawing, sheet metal working, punching, blanking, - bending, deep drawing, coining and spinning.

Metal Joining Processes. Fusion and non-fusion welding processes, design of welded joints, modern welding processes.

Machining Processes and Machine Tool Operation: Mechanics of metal cutting, single and multipoint cutting tools, geometry and machining aspects, tool life, machinability, economics of machining, non- traditional machining processes.

Metrology and Inspection: Limits, fits and tolerances, linear and angular measurements, comparators, gauge design, interferometry, form and finish measurement, measurement of screw threads, alignment and testing methods.

Tool Engineering: Principles of work holding, design of jigs and fixtures, design of press working tools.

Manufacturing Analysis. Part-print analysis, tolerance analysis in manufacturing and assembly, time and cost analysis.

Computer Integrated Manufacturing: Basic concepts of CAD, CAM, Group technology.

Work Study. Method study, work measurement time study, work sampling, job evaluation, merit rating. Production Planning and Control. Forecasting models, aggregate production planning" master scheduling, materials requirements planning.

Inventory Control: Deterministic and probabilistic models, safety stock inventory control systems.

Operations Research: Linear programming, simplex and simplex method, transportation, assignment, network flow models, simple queuing models, PERT and CPM.

E N D



DIRECTORATE OF ADMISSIONS
JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
KUKATPALLY, HYDERABAD - 500 085, TELANGANA STATE, INDIA

Part Time Post Graduate Programs (PTPG) in M.Tech. and MBA
For the Academic Year 2026-27

ENTRANCE TEST SYLLABUS

M.Tech.(EMBEDDED SYSTEMS)

Engineering Mathematics

Linear Algebra: Vector space, basis, linear dependence and independence, matrix algebra, eigen values and eigen vectors, rank, solution of linear equations – existence and uniqueness.

Calculus: Mean value theorems, theorems of integral calculus, evaluation of definite and improper integrals, partial derivatives, maxima and minima, multiple integrals, line, surface and volume integrals, Taylor series.

Differential Equations: First order equations (Linear and Nonlinear), higher order linear differential equations with constant coefficients, method of variation of parameters, Cauchy's and Euler's equations, initial and boundary value problems, partial differential equations and variable separable method.

Complex Variables: Analytic functions, Cauchy's integral formula: Cauchy's integral theorem, Taylor's and Laurent' Series, residue theorem.

Probability and Statistics: Probability, Joint and conditional probability, discrete and continuous random variables, probability distribution and density functions. Exponential, Poisson, normal and Binomial Distributions Functions. mean, mean square and standard deviation.

Numerical Methods: Solutions of non-Linear equations, single and multi-step methods for differential equations.

Networks: Definition and properties of Laplace transform, Network Solution Methods: nodal and mesh analysis. Network Theorems: Superposition, Thevenin and Norton's Maximum Power Transfer; Wye-Delta Transformation; Steady State Sinusoidal Analysis Using Phasors; Time domain analysis of simple linear circuits, Solution of Network Equations Using Laplace Transform; Frequency Domain analysis of RLC circuits; 2-Port Network Parameters: Driving point and transfer functions. State Equations for Networks.

Signals and Systems: Continuous-time and discrete-time Fourier series, Continuous-time and discrete-time Fourier transform, DFT and FFT, Z-Transform. Sampling theorem. Linear Time-Invariant (LTI) Systems: Definitions and properties; Causality, stability, impulse response, convolution, poles and zeros, parallel and cascade structure, frequency response, group delay, phase delay.

Electronic Devices: Energy bands in intrinsic and extrinsic Silicon. Carrier transport in silicon: Diffusion current, drift current, mobility, and resistivity. Generation and recombination of carriers. P-N Junction diode,

Zener diode, Tunnel diode, BJT, JFET, MOS Capacitor, MOSFET, LED, Avalanche Photo Diode. Device Technology: Integrated circuits fabrication process, oxidation, diffusion, ion implantation, photolithography.

Analog Circuits: Small signal equivalent circuits of diodes, BJTs, MOSFETs and analog CMOS. Simple diode circuits, clipping, clamping, rectifier. Biasing and bias stability of BJT and FET amplifiers. Amplifiers: single- and multi-stage, differential, operational, feedback, and power amplifiers. Frequency response of an amplifiers. Simple op-amp circuits. Filters. Sinusoidal oscillators; Criterion for oscillation; Single-Transistor and op-amp configurations and wave-shaping circuits, 555 timers. Power supplies, regulation, series and shunt transistor regulators.

Digital Circuits: Boolean algebra, minimization of Boolean Functions; logic gates; digital IC families (DTL, TTL, ECL, MOS, CMOS, Number systems.). Combinational circuits: Arithmetic circuits, code converters, multiplexers, decoders, PROMs and PLAs. Sequential circuits: Latches and flip-flops, counters and shift-registers. Sample and hold circuits, ADCs, DACs. Semiconductor memories: ROM, SRAM and DRAM, Microprocessor (8086): Architecture, addressing modes, programming, memory and I/O Interfacing, 8051 Micro Controller Architecture and Interfacing, Arm processor fundamentals.

Control Systems: Basic control system components; Feedback principle; Transfer function; Block diagram representation; Signal flow graph; Transient and steady-state analysis of LTI systems; Frequency response; Routh- Hurwitz and Nyquist stability criteria.

Communications: Deterministic and Random Signals, types of noise, autocorrelation, power spectral density, properties of white noise, filtering of random signals through LTI systems; analog communication systems: amplitude and angle modulation and demodulation systems, spectra of AM and FM. Information theory: entropy, mutual information and channel capacity theorem; Digital communications: Types of sampling Pulse Code Modulation (PCM); Digital modulation schemes: Amplitude, phase and frequency shift keying schemes (ASK, PSK, FSK, QAM); Matched filter receiver, calculation of bandwidth, SNR and BER for digital modulation schemes; Fundamentals of error correction, Hamming codes; Timing and frequency synchronization, intersymbol interference. Basics of TDMA, FDMA and CDMA.

Electromagnetics: Transmission Lines: equations, characteristic impedance, impedance matching, impedance transformation, S-parameters, Antennas: antenna types, radiation pattern, gain and directivity, return loss, Basics of radar.

E N D



DIRECTORATE OF ADMISSIONS
JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
KUKATPALLY, HYDERABAD - 500 085, TELANGANA STATE, INDIA

Part Time Post Graduate Programs (PTPG) in M.Tech. and MBA
For the Academic Year 2026-27

ENTRANCE TEST SYLLABUS

M.Tech. (COMPUTER SCIENCE & ENGG.)

CS – Computer Science

Discrete Mathematics:

Propositional and first order logic, Sets, relations, functions, partial orders and lattices. Monoids, Groups, Graphs: connectivity, matching, coloring, Combinatorics: counting, recurrence relations, generating functions.

Probability and Statistics:

Random variables, Uniform, normal, exponential, poisson and binomial distributions, Mean, median, mode and standard deviation. Conditional probability and Bayes theorem.

Computer Science and Information Technology.

Digital Logic:

Boolean algebra. Combinational and sequential circuits. Minimization. Number representations and computer arithmetic (Fixed and floating point).

Computer Organization and Architecture:

Machine instructions and addressing modes. ALU, data-path and control unit. Instruction pipelining, pipeline hazards. Memory hierarchy: cache, main memory and secondary storage; I/O interface (interrupt and DMA mode.)

Programming and Data Structures

Programming in C. Recursion. Arrays, stacks, queues, linked lists, trees, binary search trees, binary heaps, graphs.

Algorithms

Searching, sorting, hashing. Asymptotic worst case time and space complexity. Algorithm design techniques: greedy, dynamic programming and divide-and-conquer. Graph traversals, minimum spanning trees, shortest paths

Theory of Computation

Regular expressions and finite automata. Context-free grammars and push-down automata. Regular and context-free

Languages, pumping lemma. Turing machines and undecidability.

Compiler Design

Lexical analysis, parsing, syntax-directed translation. Runtime environments. Intermediate code generation. Local optimization, Data flow analysis: constant propagation, liveness analysis, common subexpression elimination.

Operating System

System calls, processes, threads, inter-process communication, concurrency and synchronization. Deadlock. CPU and I/O scheduling. Memory management and virtual memory. File systems.

Databases

ER-model. Relational model: relational algebra, tuple calculus, SQL. Integrity constraints, normal forms. File organization, indexing (e.g., B and B+ trees). Transactions and concurrency control.

Computer Networks

Concept of layering: OSI and TCP/IP Protocol Stacks; Basics of packet, circuit and virtual circuit-switching; Data link layer: framing, error detection, Medium Access Control, Ethernet bridging; Routing protocols: shortest path, flooding, distance vector and link state routing; Fragmentation and IP addressing, IPv4, CIDR notation, Basics of IP support protocols (ARP, DHCP, ICMP), Network Address Translation (NAT); Transport layer: flow control and congestion control, UDP, TCP, sockets; Application layer protocols: DNS, SMTP, HTTP, FTP, Email.

E N D



**DIRECTORATE OF ADMISSIONS
JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
KUKATPALLY, HYDERABAD - 500 085, TELANGANA STATE, INDIA**

**Part Time Post Graduate Programs (PTPG) in M.Tech. and MBA
For the Academic Year 2026-27**

ENTRANCE TEST SYLLABUS

M. Tech. (ENVIRONMENTAL MANAGEMENT)

Ecology & Environment:

1. Nature of ecosystems
2. Energy flow in ecosystems-energy fixation by Autotrophs –Energy beyond the producers
3. Biogeochemical cycles and ecosystems
4. Ecology of populations - population growth - age structure - equilibrium level -
5. Dynamics of ecological communities.

Recommended Books: Concepts of Ecology, E. J. Kormondy, Prentice-Hall 1984

Microbiology:

1. Major characteristics of microorganisms --- bacteria - Fungi, molds and yeasts - algae - protozoa – Viruses.
2. Cultivation of microorganisms – Control of microorganisms - physical and chemical agents.
3. Microorganisms in aerobic & anaerobic biological waste treatment- major groups of microbes and their role.
4. Microorganisms, growth kinetics- bacterial growth curve, various phases of growth, growth rate and doubling time.

Environmental Chemistry:

1. Basic concepts and scope of environmental chemistry – Environmental Segments.
2. Atmosphere - Structure - Chemical and photo chemical reactions – and ozone chemistry - green house effect.
3. Hydrosphere - hydrologic cycle – chemistry of water and waste water.
4. Lithosphere - micro and macro nutrients – Wastes and pollution of soil air and water.
5. Environmental technologies, Environmental effects of pollution – Health effects of pollution.

Pollution Control Engineering:

1. Solid, Liquid and Gaseous Wastes, Various Pollutants and their Harmful effects.
2. Waster quality, waster purificatrion systems.
3. Waste water characteristics, Primary / Secondary treatment methods.
4. Air Pollution control methods.
5. Dispersion of pollutants and self-purification aspects.

Geology , Remote Sensing & GIS

1. Origin and age of the earth, internal Constitution of the earth, Geological processes - Exegetic and endogenic, ligneous, metamorphic and sedimentary rocks, distinguishing features of these three types of rocks, basic principle of structural geology, geology of dams and reservoirs.
2. Geomorphic cycle, geomorphic agents, definition of weathering, types of weathering physical and chemical, definition of erosion and denudation, cycle of erosion, landforms created by geomorphic agents.
3. Map terminology: map reading, topographic map, conventional symbols, locating points, map projections and classification of maps.
4. Aerial photogrametry: Definition, photo scale, classification of Ariel photographs, Air photo interpretation key elements, photo grammetric terminology.
5. Remote Sensing: Electromagnetic energy, Electro magnetic spectrum, various satellites and sensors, latest advancements in satellite remote sensing, General knowledge on Indian remote sensing Programmes.

Elementary Mathematics, Statistics and Computer Science:

1. Elementary Mathematics: Solutions of simultaneous linear equations, quadratic equations, progressions, perambulations and combinations, concepts of matrices and determinants.
2. Statistics: sample mean and variance, random variable, distributed and continuous distributions, mean and variance of distribution, correlation, coefficient, confidence intervals, goodness of fit, test, pairs of measurements, fitting straight lines.
3. Introduction to computers and programming: components of computers, characteristics of computer, modes of operation, type of computer algorithms, flowcharts, programming languages, operating systems, fundamentals, of C, structure of C, variables and constants, arithmetic and logical expressions, standard output-input functions, conditional statements and looping in C, various types of functions.

E N D



**DIRECTORATE OF ADMISSIONS
JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
KUKATPALLY, HYDERABAD - 500 085, TELANGANA STATE, INDIA**

**Part Time Post Graduate Programs (PTPG) in M.Tech. and MBA
For the Academic Year 2026-27**

ENTRANCE TEST SYLLABUS

M.Tech. (REMOTE SENSING AND GIS)

I. COMPUTER GRAPHICS AND PROGRAMMING COMPUTER GRAPHICS

Representative uses of computer graphics, framework for interactive graphics, input devices, raster graphics features, scan converting lines, Incremental algorithm and mid point line algorithm for scan converting lines.

INTRODUCTION TO C :

Fundamentals, structure of C functions, variables constants, data types and arithmetic expressions, standard input – output functions, conditional statements.

PROGRAMMING IN C

Logical operations, program looping, operators, arrays, functions, structures, pointers, modular programming, user defined data types input output from files libraries and generalized functions, recursion

Suggested Reading Material :

1. Programming in C by Stephen G Kochan – Schaum's Series
2. Computer Graphics by Foley, vanDam, Feiner, Hughes

**II. CONVENTIONAL SURVEYING REMOTE SENSING and PHOTORAMMETRY.
CONVENTIONAL SURVEYING and MAPPING**

Surveying methods, Topographics Surveying, Theodolite application, General features of Survey of India topographical sheets, Map scale, Indtroduction to Map scale, Introduction to Map projections, Introduction to cartography.

REMOTE SENSING PHYSICS AND SATELLITES :

Physical principles of Remote Sensing, Sources of Electro magnetic energy, Electro Magnetic Spectrum, General aspects of Indian Space program.

PHOTOGRAMMETRY :

Aerial Photo formats, Scale of aerial photograph, Relief displacement, Eements of Photogrammetry, stereoscopic products and applications.

Suggested reading material :

1. Physical Geography by Tikka
2. Soil Physics By M.C. Oswal
3. Geology by P.K.Mukherjee

III. GEO-SCIENCES GEOGRAPHY

Landforms origin, classification and distribution, elements of weather and climate, heating of atmosphere, temperature, atmospheric pressure, winds, humidity, evaporation and condensation, precipitation,

SOILS

Mechanical composition of soil-soil texture, soil structure. Irrigation – irrigation methods, soil salinity and water quality. Soil conservation – soil erosion, water erosion, types of water erosion factors affecting soil erosion, estimation of soil loss; erosion control; wind erosion, factors influencing wind erosion, control of wind erosion

Suggested Reading material :

1. Physical Geography by Tikka
2. Soil Physics By M.C.Oswal
3. Geology by P.K.Mukherjee

IV. PROBABILITY AND STATISTICS:

PROBABILITY :

Sample space and events, axioms of probability, finite probability spaces, infinite sample spaces, conditional probability, multiplication theorem for conditional probability, independence, independent or repeated trials, binomial distribution, normal distribution.

STATISTICS:

Sample mean and sample variance, random variable discrete and continuous distributions, Mean and Variance of distribution, estimation of parameters, confidence intervals, testing of hypothesis.

Suggested Reading Material :

1. Probability and Statistics - Schaum's Series.

• END *



**DIRECTORATE OF ADMISSIONS
JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
KUKATPALLY, HYDERABAD - 500 085, TELANGANA STATE, INDIA**

**Part Time Post Graduate Programs (PTPG) in M.Tech. and MBA
For the Academic Year 2026-27**

ENTRANCE TEST SYLLABUS

M. B. A.

(HR / Finance / Marketing / Entrepreneurship)

Section A: Analytical / Reasoning ability

(a). Problem solving (b) Data Sufficiency

Section B: Mathematical ability

(a). Arithmetical ability (b). Algebraic and Geometrical ability (c). Statistical ability

Section C: Communication ability

(a). Vocabulary (b). Business Terms (c). Functional grammar (d). Reading
comprehension

E N D