Department of Higher Education, Haryana

(Directorate of Technical Education, Haryana)

Admission Brochure

for

for Admission to 2nd Year (3rd Semester)
B.E./B.Tech. (Lateral Entry) for the Session 2025-26 in

The University Departments, Govt. / Private Self Financing institution located in State of Haryana

Issued by

Haryana State Technical Education Society
Bay Nos. 7-12, Sector-4, Panchkula

Website: http://techeduhry.gov.in/ , www.hstes.org.in
E-Mail ID: onlineadmissionhelp@gmail.com
Toll free No. 1800-137-3735

CHAPTER 4

SCHEME SYLLABUS AND PROCEDURE FOR ONLINE ENTRANCE TEST FOR

B.E./B.TECH. (LEET) – 2025

There will be a Common Online Entrance Test for students of all streams of Engineering/ Technology Diploma holders seeking admission to 2nd year (3rd Semester) of B.E./ B.Tech. Course under Lateral Entry Scheme. The Test would have 90 objective types multiple choice of questions. Each question will carry one mark. Separate rank-wise merit list for the above test will be prepared and the admission will be made on the basis of inter-se rank obtained in the said Entrance Test and as per the choice of Branch / Institution filled by the candidate at the time of locking of Choices (counseling). For example, a candidate having diploma in Mech. Engineering or in any other branch of Engineering or Technology can take admission in Computer Engineering and vice-versa, depending upon his / her rank, choice and availability of seats at the time of his / her admission.

4.1 Scheme and Syllabus

Note: The syllabus for B.Tech. (Lateral Entry) Entrance Examination -2025 is in alignment with the Diploma Curriculum prescribed by AICTE/HSBTE. However, the same is not restricted solely to the prescribed curriculum and may require exhaustive study of important topics.

4.1 (A) Scheme of Entrance Test for B.E./B.Tech. (LEET) – 2025

(i) Maximum Marks   : 90

(ii) There will be one Question Paper of 90 miutues duration in following parts:-

Section: 'a'
Questions: 1 to 25
Subject: Basic Sciences
Maximum Marks: 25

Name of Section	Name of Subjects	No. of Questions	Maximum Marks
a-1	Mathematics	8	8
a-2	Physics	8	8
a-3	Chemistry	3	3
a-4	Communication Skills	3	3
a-5	General Awareness	3	3

Section : b

> Questions: 26 to 50
>
> Subject: Electronics Stream Courses
>
> Maximum Marks: 25

Name of Section	Name of Subjects	No. of Questions	Maximum Marks
b-1	Elements of Electrical Engg.	9	9
b-2	Elements of Electronics Engg.	8	8
b-3	Elements of Computer Engg.	8	8

Section : c

> Questions: 51 to 70
> Subject: Mechanical Stream Courses
> Maximum Marks: 20

Name of Section	Name of Subjects	No. of Questions	Maximum Marks
c-1	Elements of Mechanical Engg.	8	8
c-2	Elements of Production Engg./Manufacturing Processes	6	6
c-3	Auto Engg.	6	6

Section : d

> Questions: 71 to 90
> Subject: Other Engineering Streams
> Maximum Marks: 20

Name of Section	Name of Subjects	No. of Questions	Maximum Marks
d-1	Civil Engg. Courses	5	5
d-2	Textile Engg. Courses	5	5
d-3	Chemical/Printing Technology	2	2
d-4	Ceramic Engg.	2	2
d-5	Food Technology	2	2
d-6	Others	4	4

Note:

i. Only objective type multiple-choice questions in English with four answers having only one correct answer will be asked in the Entrance Test.

ii. There will be "No" Negative Marking.

4.1 (B) SYLLABUS OF ENTRANCE TEST FOR B.E./B.Tech (LEET)-2025

(a-1)   MATHEMATICS

Arithmetic Progressions, Complex Numbers, Logarithm, Permutation and Combination, Binomial expansion, Probability, Matrices, Trigonometry, Straight Line, Circle, Differentiation of a function. Successive differentiation. Maxima and Minima, Definite and indefinite Integration, application of integration. First order and first degree ordinary differential equations. Mean, mode, median, mean deviation and standard deviation.

(a-2)   PHYSICS

- Units and Dimensions with Dimensional analysis and their Limitations.
- Motion in one dimension and Newton's Laws of Motion.
- Work and Energy and Conservation Laws of Energy.
- Properties of matter i.e. Elasticity, surface tension and viscosity in fluid motion.
- Waves and vibration, Characteristics of waves and simple Harmonic motion.
- Rotational motion, Conservation of angular momentum.
- Heat and temperature, measurement of temperature and mode of transfer of heat and their laws.
- Geometric optics and simple optical instruments.
- Simple laws of electrostatics and their use to find the E and Potential, Capacitors and dielectric constant.
- Laser, its principle and use, superconductivity, Conventional and non-conventional energy sources.

(a-3)   CHEMISTRY

Hard and soft water, types of hardness, disadvantages of hardness of water, its causes and its remedies. Brief introduction of the terms:

- Acidity
- Basicity
- Ion Exchange Method
- Electronic Configuration upto atomic number 30
- Equivalent weight
- PH value

  Definition of symbol, formula, valency & chemical equation.

(a-4)   COMMUNICATION SKILL

Words, antonyms and synonyms, communication technique Grammatical ability

- Preposition
- Correction
- Voice
- Narration
- Punctuation
- Tenses
- correction incorrect sentences

(a-5)   GENERAL AWARENESS

General awareness about Technical Education in Haryana such as:

- Name of Polytechnic, Number of Polytechnics and sanctioned intake
- Eligibility for admission to LEET
- Number of Institutions offering BE/B.Tech. & B.Pharmacy.
- Name the Processes involved in on-line off campus counseling.
- General awareness about Haryana
- No. of Districts/Tehsils/Blocks/villages
- Total population of State/Area of state/Boundary states of Haryana, History of Haryana General awareness about country, General awareness about Polytechnics

SECTION   b

SUBJECT   ELECTRONICS STREAM COURSES

(b-1) ELEMENTS OF ELECTRICAL ENGINEERING

- Electrical and Magnetic Circuits: EMF, Kirchhoffis laws and Faraday's Laws, Network theorems.
- AC Circuits: RMS value, behavior of RLC elements, series and parallel circuits, series and parallel resonance circuits.
- Transformers: Introductions to single phase and three phase transformers
- DC Machines: Theory, constructions and operation of DC generator and motor.
- Induction Motor: Principle, construction and operation of three phase induction motors.
- Transmission and Distribution: Advantage of high voltage for transmission, comparison of 3 phase, single phase, 2 phase and three wire D.C. Systems

(b-2) ELEMENTS OF ELECTRONICS ENGINEERING

Measurements & Instrumentation: Errors, standards, accuracy precision resolution, Ammeters, voltmeters, wattmeters and energy meters, insulation tester, earth tester, multimeter, CRO, measurement of V, I & F on CRO low, medium & high resistance measurement, AC Bridges, Transducers for measurement of temperature, displacement, Communication System, Types of modulation, demodulation.

Analog Electronics: Semiconductor diode circuits, zener diode and zener diode circuits, LED, Photo diode, BJT, FET & their configurations and characteristics, Biasing, small signal & large signal amplifiers, OPAMPS, oscillators, regulated power supply.

Digital Electronics: Number System, conversion from one to another system, Binary arithmetic, codes conversion & parity; Logic gates; Boolean algebra, FlipFlop.

Industrial Electronics and Control: SCR, DIAC, TRIAC.

(b-3) ELEMENTS OF COMPUTER ENGINEERING

- Fundamentals of Computers: Organization of Digital Computers, Data Processing High Level Languages, Translators, Compilers, Interpreters, algorithms, Flow Charting Instructions.
- Computer Organization: Overview of registers, bus organized computers, instruction set, Instruction execution, Hard-wired and micro programmed control units, Processor Organization. Memory Organization : Cache and virtual memory, 1/0 organization.
- Operating Systems: Overview of Operating Systems, Basic functions, concept of process, scheduling memory management, critical section, synchronization, monitors.
- Programming in C, Steps in Program development, flowcharting algorithm, C Language: Data types, Console 1/0 program control statements, arrays , structures, unions functions, pointers, enumerated data types and type statement, File handling C standard library and header files.
- Basic of Computer networking LAN, WAN, Internet & Application.

SECTION c
SUBJECT MECHANICAL STREAM COURSES

(c-1) ELEMENTS OF MECHANICAL ENGINEERING

- Applied Mechanics: Friction, laws of friction, friction applications, centroid of a plane area, simple machines, screw jack, wheel & axles, system of pulleys, projectile, work, power, energy.

- Strength of materials: Stress, Strain, Hooks law, stress-strain diagram, temperature stresses, composite section, Relation between elastic constants, (E.C.G.) Resilience, Pri nci p a1 stresses, principal planes, B.M. & S.F. diagram for simply supported and cantilevers, beams, columns & structs.
- Thermodynamics: First law of thermodynamics, second law of thermod amics, zeroth law, steam properties, Diesel cycle, otto cycle.
- Modes of Heat Transfer (Conduction, Convection, Radiation).
- Fluid Mechanics: Properties of fluid, Viscosity, Newtonian and Non-Newtonian fluids, Bernoulli's Theorem, Types of Fluid flows, Dimension less numbers, Measurement of fluid flow by the pilot tube, Venturimeter, Darcy equation.

(c-2) ELEMENTS OF PRODUCTION ENGINEERING/ MANUFACTURING PROCESSES

Workshop Technology: Lathe- operations, turning machining Time, cutting speed, feed, Depth of cut, Drilling, Type of drilling machines, Drilling operation, Drilling time, Milling up milling down milling milling operations, milling cutters, milling time, Shaper & Planer Working Principle, Measuring Instruments and Gauges, Vernier Caliper, Micrometer, Sine Bar, Plug gauges, snap gauges, ring gauges welding Soldering Brazing.

- Material Science: Engg. Materials, Mechanical properties of materials, hardness testing methods, heat treatment, hardening annealing tempering carburzing Normalizing.
- Engineering Graphics & Drawing: First angle and third angle projection methods, orthographic views, Isometric views, conventions for lines and materials, Projections of lines and solids (only conceptual questions).
- Foundry: Pattern and their types, molds and molding materials.
- Plastic & their properties, various molding processes of plastic.
- Industrial management: types of organizational structure, qualities & responsibilities of good leader, methods of quality control, productivity.

(c-3) AUTOMOBILE ENGINEERING

Power flow in an automobile

- Gear box & its types,
- use and types of breaks,
- types of clutches,
- basic knowledge of differential,
- cooling
- lubrication of Engine,
- types of wheels and tyres used in Automobile,
- major automobile industries. E-vehicles, hybrid vehicles.
- Steering system and angles.

SECTION   *d*

SUBJECT   **OTHER ENGG. STREAMS**

(d-1) CIVIL ENGG. COURSES

- Introduction to brick, raw materials for bricks, manufacturing of bricks, brick work in foundation.
- Index properties of soil, seepage of soil.
- Water demand for industrial/Commercial & domestic purposes, per capita demand, various sources of water, Treatment & Disposal of sludge
- Types of foundation (Design not included), Repair & Maintenance of Buildings, Basic principles of surveying chain surveying, Bench Mark, compass surveying Basics of RCC (elementary knowledge) different grades of concrete, workability, mixing of concrete, compaction of concrete.
- Classification & suitability of various types of doors, roofs.
- Name of earth moving machinery, different types of road material, flexible & rigid pavements, classification of bridges.
- Water requirement of crops, methods of irrigations Concept/ meaning/ need/ competencies/ qualities of Entrepreneur classifications of dams & site selection for reservoir classifications of rocks.
- various types of cement & their uses
- Basis of Ecology, Pollution of water its causes & remedial near, Role of non- conventional sources of energy.

(d-2) TEXTILE ENGG. COURSES

- Different types of fibers, Fabrics & yarn manufacturing & performance, Weaving Technology
- Textile testing & quality control
- Modern methods in yarn products
- Bleaching, Dying & Printing.

(d-3) CHEMICAL / PRINTING ENGG.

Elementary knowledge of Fluid Flow, Chemical process industry, Agro based industries,Petro chemicals Introduction of printing machines/presses, types of printing

(d-4) CERAMIC ENGG.

Classification of various pottery productions, ceramic material & their properties

(d-5) FOOD TECHNOLOGY

Vitamins, cereals & Pulses milk & milk powder preservation of food process.

(d-6) OTHERS ENGG. COURSES

(d-6) (i) AGRICULTURE

Introduction to Farm equipment

(d-6) (ii) Architecture

History of Indian Architecture, building topologies.

(d-6) (iii) FASHION DESIGN & FASHION TECHNOLOGY

Knowledge of Fashion Technology, History & culture, Introduction to garment manufacturing machines & tools.