



অসম দক্ষতা বিশ্ববিদ্যালয়

Assam Skill University

(A State University established under Assam Act No. IX of 2020)

[Recognised Under Section 2(f) of the UGC Act, 1956]

[AICTE Approved Id – 1-44753529533 and HEI Code - U-1372]

LATERAL ENTRY EXAMINATION, 2026

For Admission to 3rd Semester of B.Tech. Programme (Civil Engineering)

- **Syllabus for the Entrance Examination (Lateral):**

1. Mathematics:

Algebra: Complex Numbers, Partial Fractions, Permutation and Combination, Binomial Theorem, Logarithms, Series (AP, GP), Matrix and Determinants, Solutions of Linear Equations.

Trigonometry: Compound Angles and Multiple Angles, Trigonometric Identities and Equations, Inverse Trigonometric Functions, Properties of Triangles.

Calculus: Functions and Limits, Continuity and Differentiability, Applications of Derivatives, Integration and Methods of Integration, Definite Integrals and Applications, Area under curves.

Co-ordinate Geometry: Straight Lines, Circle, Parabola, Ellipse, and Hyperbola, Three-dimensional Coordinate Geometry.

2. General Aptitude:

English Communication: Grammar and Vocabulary, Reading Comprehension, Technical Writing, Formal Communication.

Logical Reasoning: Analytical Reasoning, Problem Solving, Pattern Recognition, Data Interpretation

3. Engineering Graphics:

Geometrical Constructions, Lettering and Scales, Projection of points, Projection of lines, Orthographic projection, Rivets heads and joints, Isometric Projection, Thread Profiles, Screwed fastenings.

4. Civil Engineering:

Engineering Mechanics: Force Systems and Equilibrium, Moments and Couples, Center of Gravity and Centroid, Moment of Inertia, Friction and Applications.

Structural Mechanics: Stress and Strain Analysis, Shear Force and Bending Moment Diagrams, Theory of Simple Bending, Deflection of Beams, Column Theory and Buckling, Analysis of Trusses.

Address: Bidya Nagar, Gerimari, Mangaldai, District: Darrang, Assam, Pin-784125

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Building Materials and Construction: Properties of Stone, Brick, Timber, Cement and Concrete Technology, Concrete Mix Design, Construction Methods and Techniques, Masonry and Foundations, Doors, Windows, and Roofing.

Surveying: Chain and Compass Surveying, Leveling and Contouring, Theodolite and Plane Table Surveying, Curve Setting, Modern Survey Techniques.

Hydraulics and Water Resources: Properties of Fluids, Hydrostatic Pressure and Forces, Flow through Orifices, Weirs, and Notches, Flow through Pipes, Open Channel Flow, Irrigation Engineering Basics.

Geotechnical Engineering: Soil Properties and Classification, Compaction and Consolidation, Shear Strength of Soils, Bearing Capacity of Soils, Site Investigation, Foundation Engineering.

Transportation Engineering: Highway Geometric Design, Pavement Materials and Construction, Traffic Engineering, Railway Engineering Basics.

Environmental Engineering: Water Supply and Treatment, Sewage Treatment and Disposal, Solid Waste Management, Air and Noise Pollution

Estimation and Costing: Quantity Surveying, Rate Analysis, Specifications and Contracts, Project Planning and Management.

Design of Structures: RCC Design Principles (Limit State Method), Design of Beams, Slabs, and Columns, Steel Structure Design Basics, Foundation Design.

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