

Syllabus for Civil Engineering Bachelor's

Section 1: Subject Knowledge

Please Note: A Total of 40 Questions will be asked, combining the following topics, with the difficulty level commensurate to a Bachelor's Candidate.

Unit I: Engineering Mathematics

Linear Algebra, Calculus, Ordinary Differential Equation (ODE), Partial Differential Equation (PDE), Probability and Statistics, Numerical Methods.

Unit II: Structural Engineering

Engineering Mechanics, Solid Mechanics, Structural Analysis, Displacement methods, Construction Management, Concrete Structures, Steel Structures.

Unit III: Geotechnical Engineering

Soil Mechanics, Foundation Engineering.

Unit IV: Water Resources Engineering

Fluid Mechanics, Hydraulics, Hydrology, Irrigation.

Unit V: Environmental Engineering

Water and Waste Water Quality and Treatment, Air Pollution, Municipal Solid Wastes.

Unit VI: Transportation Engineering

Transportation Infrastructure, Highway Pavements, Traffic Engineering.

Unit VII: Geomatics Engineering

Principles of surveying, Errors and their adjustment, Maps - scale, coordinate system, Distance and angle measurement - Levelling and trigonometric leveling, Traversing and triangulation survey, Total station, Horizontal and vertical curves, Photogrammetry and Remote Sensing.

Section 2: Fundamental Skills

Please Note: A Total of 28 Questions will be asked, combining the following topics, with the difficulty level commensurate to a Bachelor's Candidate.

Unit I: Data Analysis

Unit II: Math and Statistics

Unit III: Lab Skills

Unit IV: Reading and Writing

Section 3: Specific Skill Proficiency

This section has more than 30 skills. You can select the ones you are proficient in from the enrollment form. You can choose a maximum of 2 skills. Each skill contains 10 questions.

