

TECHNICIAN (Civil)

Skill Test Pattern and Syllabus (Indicative)

17.12.2025

The skill test consists of two parts 1) Practical knowledge test and 2) Laboratory test

The level of test is ITI in Civil Trade.

Practical Knowledge Test

The objective test will be for **60** marks and duration of the test will be for **01** hour.

The medium of language will be English only.

Laboratory Test

The lab test will be for **40** marks and duration of the test will be as per concerned department convenience.

The medium of language will be English only.

The indicative syllabus for practical knowledge test and laboratory test is given below.

Environmental Engineering

Introduction. Terms used in PHE. Various types of water supply pipes and fittings. Material specification. Type of overhead and underground water tanks. Tools and equipment's used in water supply system. Basic concept, terminology and process used in Water treatment plant. Water supply engineering – estimation of water requirements, selection of sources and pipe materials, methods of water purification, water supply and distribution; Sanitation engineering – methods of collection and conveyance of sewage, primary and secondary treatments, methods of disposal; Pollution control – identification of various pollution and their prevention, environmental impact assessment, Basic test on water sample.

Soil Mechanics and Foundation Engineering

Index properties of soil; hydraulic properties of soil; classification and strength of soil; sampling; soil stabilization; seepage analysis; bearing capacity and foundation settlement; basics of foundation engineering; Basic tests on soil.

Construction Materials and Construction Practice

Soil, Bricks, Timber, Stone, Lime, Cement and Concrete, Steel, Glass – Materials properties and laboratory experiments; Foundations; Masonry; Flooring; Plastering and Painting; Formwork and scaffolding; testing of materials for properties.

Basic Transportation Engineering

Classification of roads; Geometric design of highway; Rigid and flexible pavements.

Basic Structural Engineering

Simple stresses and strains; shear force and bending moment; geometrical properties of sections; stresses in beams and shafts.

Surveying

Principles of chain survey. Classification, accuracy, types of chains and tapes. Direct and Indirect ranging, levelling, contouring, Total station, GPS

Estimating, Costing and Basics of Construction Management

Areas and volumes; Embankments and Cuttings; Analysis of rates; Taking off quantities. Planning of civil engineering projects; contracts management; scheduling and time management; resource management; quality management and safety

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