

**Nepal Telecom**  
Nepal Doorsanchar Company Ltd.

**Syllabus**

**Part – II: (Specialized Subject for civil engineer Level 7 Tech. -  
Free and Internal competition)**

Time: 2 hours

Full Marks: 100

Pass Marks: 40

**Part II (Specialized Module) All the Questions are Compulsory**

Types of question	Number of questions	Marks	Total Marks	Remarks
Objective Questions	30	1	30	1/4 marks will be deducted for each incorrect answer
Short Questions	10	4	40	
Long Questions	3	10	30	
			<b>100</b>	

Use of non-programmable calculator and relevant codes of practices are permitted in the examination hall.

- 1. Theory of Structures (15~25%)**  
Deflection of Beams, Statically Determinate and Indeterminate Arches and frames, Consistent Deformation Method, Slope Deflection Method, Moment, Distribution Method, Introduction to Plastic Analysis, Basic concept of Matrix, Method of Analysis, Analysis of Building Frames for vertical and lateral loads
- 2. Design of Reinforced Concrete Structures (15~25%)**  
Concrete Structures and Design Concepts, Working Stress Method, Limit State, Method and design of structural members using this method, Detailing of structural members, ductile detailing of members, Basic concept of Pre-stressed Concrete
- 3. Design of Steel Structures (7 ~ 15%)**  
Steel Structures, Analysis of Telecom Towers, Design of tension members, Design of Axially and Eccentrically loaded compression members, Design and Detailing of Joints, Design of Beams, Design of Roof Trusses
- 4. Surveying (7 ~ 15%)**  
Linear measurements, Chain and Compass survey, Leveling and contouring, Plane tabling, Traversing, Tachometry, Field astronomy and GPS system

5. **Water supply and Sanitary Engineering (3 ~7%)**  
Sources of water, Quantity and Quality of Water, Water Treatment Systems, Conveyance of water, Valves and fittings, Design and Construction of Sewers, Sewer appurtenances, Disposal of sewage from isolated Buildings.
6. **Construction Management (15~25%)**  
Specifications and Contractual Procedure, Equipment for excavation, fill, transportation, compaction and concrete construction, Cranes for lifting materials and parts, Construction Process, Construction Planning, Regulatory Requirements, Maintenance project, Personnel Management, Record Keeping
7. **Estimating and Valuation (10 ~ 20%)**  
Method of Estimating, Preparation of Detailed Estimate, Types of Estimates, Analysis of rates, Valuation