



অসম লোকসেৱা আয়োগ

ASSAM PUBLIC SERVICE COMMISSION

Jawaharnagar, Khanapara, Guwahati-781022.

S Y L L A B U S

**Urban Technical Officer (Junior Grade-III) as per Assam Urban Engineering Service cadre under Department of Housing and Urban Affairs, Govt. of Assam.
(ADVT. NO. 16/2023 dated 9th May, 2023)**

PAPER-I

CIVIL ENGINEERING

(Multiple Choice Question)

Full Marks: 100 Marks.

Time: 2-00 hours

Sl. No.	Subjects	Topics
1	Construction Materials	Roads & Building Materials- Timber, Stone, Brick, Sand, Mortar, Concrete, Paints Bitumen etc. Detailing of Walls, floors, Roofs, Ceilings, Staircases, Doors & Windows, Finishing of Building, Plastering, Painting, Ventilation, Air Conditioning, Lighting & Acoustics etc.
2	Theory of Structure	Bending moment & shear force diagrams for statically determine beams, Analysis of Statically determine structure, Slope and deflection, columns, fixed and continuous beams, elastic theory of arches, suspension girder bridge, analysis of frame, concept of structural stability, retaining wall, moving loads and influence lines.
3	Design of Structure	Design of beams, column, slabs, footing, design of compression numbers, design of roof truss, pre-stressed concrete, water tank, plate girder, tubular structures, concept of earthquake resistant design, use of Indian Standard Codes, design of bridges.
4	Transportation Engineering	Introduction: Mode of transportation. Highway Planning: geometric design of highways, testing and specifications of paving materials, design of flexible and rigid pavements. Traffic Engineering: traffic characteristics, theory of traffic flow, intersection design, traffic signs and signal design, highway capacity.
5	Engineering Surveying	General Principles, sign convention surveying instruments and their adjustment, recording of survey observations, plotting of maps and sections, errors and their adjustment. Measurement of distances, directions and heights, correction of measure length and barrings, correction for local attractions, measurement of horizontal and vertical angles, levelling operations, refraction and curvature corrections, Chain and compass study, theodolite and tachometric traversing, traverse computation: plane table survey, solution of two and three points problems contour surveying, setting out direction and grades & type of curves, setting out of curves and excavation lines for building foundation.

Sl. No.	Subjects	Topics
6	Geotechnical Engineering	<p>Soil Mechanics: Origin of soils, soil classification, soil compaction, sheer strength, soil parameters – liquid limit, plastic limit, plastic index etc.</p> <p>Foundation Engineering: Sub-surface investigations – drilling bore holes, sampling, penetration tests, plate load test.</p> <p>Foundation types : Foundation design requirements, bearing capacity of soil, stress distribution, settlement analysis in sands and clays, deep foundation, pile foundation, pile types, load capacity of piles in sands and clays, negative skin friction.</p>
7	Environmental Engineering	Water pollution, air pollution, noise pollution – causes, effects and preventive measures
8	Estimation & Valuation	<p>Introduction, specifications of work, rate analysis, schedule of rates, preparation of estimates for road and building projects.</p> <p>Basic knowledge of value, rental method of valuation, land and buildings methods of valuation</p>
9	Construction Management	Introduction, stages of construction, bar charts and networks, role of equipment and modern construction industries



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PAPER-II

GENERAL STUDIES & GENERAL ENGLISH

(Multiple Choice Question Type)

Total Marks: 100

Time: 2 Hours

Sl. No.	Item/Topic
1	Current affairs (India/Assam)
2	Indian History & National Movement
3	Assam History
4	Geography (India/Assam)
5	Indian Polity & Constitution
6	Sports/Books/Author and important persons of Assam
7	Economy of India & Assam
8	Environment of Assam
9	General Mental Ability
10	Literature, Culture & festivals of Assam & North East
11	English Grammar

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