

Paper I

Syllabus For Civil Engineering

| Sl. No | SUBJECT | TOPICS | MARKS ALLOTTED |
|--------------|-----------------------------------|--|----------------|
| I. | 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. | 10 |
| II. | Theory of Structure | Bending moment & shear force diagrams for statically determinate beams, Analysis of Statically determinate 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. | 10 |
| III. | Design of Structure | Design of beams, columns, slabs, footing, design of compression members, 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. | 10 |
| IV. | 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. | 15 |
| V. | 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 bearings, correction for local attractions, measurement of horizontal and vertical angles, leveling operations, refraction and curvature corrections, Chain and compass survey, 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. | 10 |
| VI. | Geotechnical Engineering | Soil Mechanics : Origin of soils, soil classification, soil compaction, shear strength, soil parameters- liquid limit, plastic limit, plastic index etc. Foundation Engineering : Sub-surface investigations - drilling bore holes, sampling, penetration tests, plate load test. 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. | 15 |
| VII. | Environmental Engineering | Water pollution, air pollution, noise pollution - causes, effects and preventive measures. | 10 |
| VIII. | Estimation & valuation | Introduction, specifications of work, rate analysis, schedule of rates, preparation of estimates for road and building projects. Basic knowledge of value, rental method of valuation, land and building methods of valuation. | 10 |
| IX. | Construction Management | Introduction, stages of construction, bar charts and networks, role of equipment and modern construction industries. | 10 |
| TOTAL | | | 100 |


 Deputy Secretary.
 Public Works Department of Jammu
 Dispur, Guwahati

Paper II

Syllabus For General Studies

| Sl. No. | SUBJECT | TOPICS | MARKS ALLOTTED |
|---------|---|--|----------------|
| I | General Studies | 10. Current Affairs (India/ Assam) 11. Indian History & National Movement. 12. Assam History. 13. Geography (India/ Assam) 14. Indian Polity & Constitution. 15. Sports/ Books/ Author and important people of Assam 16. Economy of India & Assam. 17. Environment of Assam. 18. General Mental Ability. | 3 X 9 = 27 |
| II | General English (HSLC equivalent) | 4. Correction of Common error. 5. Precis Writing 6. Usage of tenses. | 7 X 3 = 21 |
| III | Basic Knowledge of regional language of the State (HSLC equivalent) | 2. Literature, culture & festivals of Assam & North East. | 12 |

TOTAL - 60


Deputy Secretary,
to the Government of Assam
Public Works Roads (Estt.) Dep.
Dispur, Guwahati.