PAPER-III

Post Code- T-04

Syllabus for Draughtsman Civil

1. Draw free hand sketches of hand tools used in civil work, draw plane figures applying drawing instruments with proper layout and the method of folding drawing sheets. Construct plain scale, comparative scale, diagonal scale and vernier scale.

2. Draw orthographic projections of different objects with proper lines, lettering and dimensioning, Draw Isometric / Oblique / Perspective views of different solid / hollow / cut sections with proper lines, lettering and dimensioning. Draw types of ground and upper floors. Draw different types of vertical movement according to shape, location, materials in stair, lift, ramp and escalator. Draw different types of roofs, truss according to shape, construction, purpose and span.

3. Draw component parts of a single storied residential building with suitable symbols and scales. Draw different types of stone and brick masonry, different types of shallow and deep foundation. Draw different types of shoring, scaffolding, underpinning, framework and timbering, different types of Damp proofing in different position, different types of arches and lintels with chajja. Drawing of different types of carpentry joints. Draw different types of doors and windows according to manner of construction, arrangement of component and working operation.

4. Perform site survey with plane table and prepare a map. Make topography map by contours with levelling instrument. Perform site survey with Theodolite and prepare site plan. Perform site survey with chain / tape and prepare site plan. Perform site survey with prismatic compass and prepare site plan. Draw single storied building site plan layout.

5. Prepare the detailed drawing of electrical wiring system. Demonstrate basic mathematical concept and principles to perform practical operations. Understand and explain basic science in the field of study.

6. Create objects on CAD workspace using Toolbars, Commands, Menus, formatting layer and style. Draw a sanction plan of double storied flat roof residential building by using CAD. Create objects on 3D modelling concept in CAD. Prepare a drawing of public building detailing with roof and coloumns by frame structures using CAD. Prepare detailed drawing of RCC structures using CAD and prepare bar bending schedule. Draw the details of a framed structure and portal frame of a residential building using CAD. Draw the different types of steel sections, rivets and bolts using CAD. Draw the details of girders, roof trusses and steel stanchions using CAD. Prepare the detailed drawing showing the different types of sanitary fittings, arrangements of manholes, details of septic tank using CAD.

7. Draw the details flow diagram of water treatment plant (WTP) and Sewerage Treatment plant (STP). Draw the cross-sectional view of different types of roads showing component parts using CAD. Draw the details of different types of culverts using CAD. Prepare detailed drawing a bridge using CAD. Draw the typical cross section of rail sections, railway tracks in cutting and embankment using CAD. Prepare detailed drawing of typical cross sections of Dam, barrages, weir and Cross drainage works using CAD.Draw the schematic diagram of different structures of Hydroelectric project using CAD.

8. Prepare detailed estimate and cost analysis of different types of building and other structures using application software. Prepare rate analysis of different items of work.

9. Prepare a map using Total station. Locate the station point using GPS and obtain a set of co-ordinates. Demonstrate basic mathematical concept and principles to perform practical operations. Understand and explain basic science in the field of study.

10. Problems on preparing preliminary/Approximate estimates for building project.