4002 - CIVIL ENGINEERING DRAWING - I

Teaching Schedule Per Week			Progressive Assessment		Examination Schedule (Marks)			
Lectures	Practical	Credits			Theory		Practical Ex.	Total
2	4	6	50		4Hrs	100	0	150

Pre-requisite	Source
2001	CVL

Semester	Theory	Test	Total	TW	PR	Gr Total
	—	—	—	50	50	100

RATIONALE: The students are required to- Understand plans, elevations and side elevations of objects by projections. Understand sectional views of solids with different sectional lines and different viewing directions perpendicular to sectional plane. Understand signs and symbols used in Civil Engineering as per I.S.962-1967. Understand the building components in a building plan. Understand principles of perspective views. Produce plan, elevation, side elevations and sections of given object by projections.

COURSE CONTENTS	Hrs	Mks
1. LETTERING AND NUMBERING	2	7
As per I.S. 962-1967, common scales for working drawing, submission drawings, scale for enlarged details of building components, dimensioning techniques used in Civil Engg. drawing and use of card scales.		
2. PROJECTIONS OF PLANES	5	15
Plan, elevation and side elevations. Examples of rectangle and polygon can be taken with its plane lying in all possible directions.		

3. PROJECTIONS OF SOLIDS Plan, elevation and side elevations. Examples such as pyramid, prism, cone and cylinder can be taken with their axis parallel to V.P. and inclined to H.P, parallel to H.P and inclined to V.P and inclined to V.P and H. P. Examples of building outlines can also be taken.	8	25
4. SECTIONAL VIEWS Principle, purpose and viewing directions. Sectional views of different solids such as pyramid, cylinder, prism, cube resting on ground and cut by planes. Cutting planes in horizontal direction, cutting plane in vertical direction. True shape of section when cutting plane is neither parallel nor perpendicular to V.P. Examples of sections of battened doors, panelled doors can be considered for sectional side elevations and sectional plan.	8	25
5. PERSPECTIVE VIEWS One point and two point perspective. Detailed procedure for example of- Four steps with different eye position. Rectangular flower bed. Building blocks bounded by planes only.	3	10
6. BUILDING DRAWING Symbols in Civil Engg. Drawing as per I. S 962 -Symbols for sections of brickwork, plaster, concrete, aggregates, soling wood, metal glass. Symbols for doors and windows showing opening-direction, ventilators, rolling shutters. Symbols for sanitary installations such as wash basin, bath, lavatory basins, kitchen sinks, European and Indian w. c., water pipeline, flashing cisterns. Symbols for electrical work in building such as main fuse board, light plug, power plug, sockets, ceiling fan, main switches, bells, fire alarm, exhaust fan, fan regulator and earth point. Development of a line plan of a single-storied building into detailed plan and thereby studying building components in plan such as wall thickness, windows and door presentations, steps at entrance, chajja-lines, porch-lines and roof line.	6	18
Total	32	100

Notes- Projection of solids is restricted to third angle projecting only. Chapter 6 can be taught through term work or sheet work directly. For setting theory paper reference may be made to list of practical

PRACTICAL

1. Lettering and numerical with standard-sizes. 2mm and 4mm (1 sheet)
2. Signs and symbols used in Civil Engg. as per I. S 962-1967 (2 sheets as covered in chapter 6)
3. Plan, elevation of a polygon inclined to one plane and inclined to both the planes. (1sheet
4. Plan, elevation and side elevation of a solid (pyramid or prism) with its axis inclined to both the planes. (1 sheet)
5. Free hand sketches of simple Civil Engg. objects such as, wash basin, sink, bath tub, line plans and freehand elevations. (1 sheet).
6. Sectional views of solids resting on ground and cut by horizontal plane with offset, and a vertical plane with offset. Solids like pyramid, cone or cylinder can be considered (1 sheet).
7. Section of wall from foundation bed to roof level. (1 sheet)
8. Two-point perspective of a simple object bounded by planes and straight lines.

* T.W. No. 3,4,5,6, and 8 are to be full imperial sheets.

REFERENCE BOOKS

1. Building drawing by Shah, Kale and Patki
2. Civil Engg. Drawing by Mallik.
3. Building Construction by Rangwala
4. Building Construction by Sushilkumar.
5. Engineering Drawing by N.D. Bhatt
6. Engineering Drawing by K. R. Gopalkrishna (vol. II)