

2.4 CIVIL ENGINEERING PRACTICES

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RATIONALE

Diploma holders in Civil Engineering are expected to supervise construction of buildings and irrigation structures. This subject aims at imparting skills for preparing constructional drawing of various components of building and irrigation engineering drawings to develop competencies for reading and interpreting the drawings, and their execution in their field.

COURSE OUTCOMES

After undergoing the subject, students will be able to:

- CO1: Layout foundation plan of different types of foundations
- CO2: Prepare details of brick courses in joints
- CO3: Explain the drawing to craftsman
- CO4: Draw the drawing of channel (L-section and cross-section)
- CO5: Draw layout plan of a canal head works
- CO6: Read and interpret the Building and Irrigation Engineering Drawings

DETAILED CONTENTS CUM PRACTICALS

BUILDING DRAWING(Part A)

Drawing No. 1

Details of spread footing foundations, load bearing and non-load bearing wall for given thickness of walls with the help of given data or rule of the thumb, showing offsets, position of DPC. The details of the concrete and brick apron have to be shown in the drawing.

Drawing No. 2

Plans of 'T' and Corner junction of walls of 1 Brick, 1-1/2 Brick and 2 brick thick in English bond.

Drawing No. 3

Drawing plan, elevation of arches: circular arch, segmental arch (one sheet)

Drawing No. 4

Elevation, sectional plan and sectional side elevation of flush door, glazed door, panelled door with wire gauge shutter.

Drawing No. 5

Drawing details of damp proofing arrangement of roofs and walls as per BIS Code. Show the rain water drainage arrangement also.

Drawing No. 6

Drawing Damp Proofing details in basement of buildings

IRRIGATION ENGINEERING DRAWING (Part B)**Drawing No. 7**

Typical cross-section of a channel

- L-section of a channel for given data
- Typical cross section of an unlined and lined channel in cutting, partly cutting, and partly filling and fully in filling with given design data.

Drawing No. 8

Layout plan of a canal head works

Drawing No. 9

Draw the typical L-section of a weir

Drawing No. 10

Draw the X-section of an Earthen Dam

- i) Homogeneous
- ii) Zoned type
- iii) Diaphragm type

Drawing No. 11

Cross section of a tube well

Drawing No. 12

Layout and cross section of rain water harvesting system.

RECOMMENDED BOOKS

1. “Civil Engineering Drawing” by Loyal JS ; SatyaParkashan, New Delhi
2. “ Civil Engineering Drawings” by Chandel RP
3. “ Civil Engineering Drawing by Kumar NS; IPH, New Delhi
4. “Civil Engineering Drawing” by Malik RS and Meo GA ; Asian Publishing House, New Delhi
5. “Civil Engineering Drawing” by S.K. Garg; Khanna Publishers.
6. E-books/e-tools/relevant software to be used as recommended by AICTE/HSBTE/NITTTR.

SUGGESTED WEBSITES

1. <http://swayam.gov.in>

INSTRUCTIONAL STRATEGY

Teachers are expected to develop skills in preparation and interpretation of building construction and irrigation engineering drawings as per BIS codes of practice. Attention must be paid towards line work, specifications writing, dimensioning, proportioning and accuracy for industrial unit at different intervals of time. Reading and interpreting actual field drawings should also be practiced so as to develop necessary competency in the students.

Important Note:

- i) Paper should be set from Part A of 30 marks and Part B of 30 marks