Ramgarhia Polytechnic College, Phagwara

Civil Engineering Department

Head of Department:	Er. Gurcharan Singh
Name of the Faculty:	Er. Vishal Sandhu
Discipline:	Civil Engineering Department
Semester:	3rd
Subject:	Building Drawing
Lesson Plan Duration:	16 Weeks

RATIONALE

Drawing is the language of engineers. Engineering is incomplete without a thorough knowledge of drawing. A Civil Engineering diploma holder must be capable of sketching detailed constructional drawing of various components of building for the purpose of communication with the craftsman. Planning of small buildings, developing a line plan, dimensioning, key plan, drainage plan should be a part of curriculum. The

diploma engineer must be conversant with reading and interpretation of drawing for execution of work.

Learning Outcomes

After undergoing the subject, students will be able to:

- Read and interpret building drawings
- Explain the drawing to craftsman
- Layout foundation plan of different types of foundations
- Prepare drawings of small buildings, developing different sections of building
- Draw building drawing sheets using CAD software
- Guide and supervise carpenters in various carpentry works related to doors, windows etc
- Prepare details of brick courses in joints
- Draw the sketches of various joints of carpentry
- Demonstrate circular arch and segmental arches

PO ⇨ CO ⇩	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	✓			✓			✓
CO2		✓			✓		✓
CO3		✓			✓		
CO4		✓		✓		✓	✓
CO5	✓					✓	
CO6		✓	✓		✓		✓
CO7	✓	✓			✓		✓
CO8		✓	✓				✓
CO9	✓		✓		✓		✓

Syllabus

PRACTICAL	Details
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.
2.	Plans of ‘T’ and Corner junction of walls of 1 Brick, 1-1/2 Brick and 2 brick thick in English bond

3.	Drawing plan, elevation of arches: circular arch, segmental arch
4.	Elevation, sectional plan and sectional side elevation of flush door, glazed door, panelled door with wire gauge shutter.
5.	Draw atleast one sheet using CAD software
6.	Drawing plan, elevation of a small building by measurement and foundation detail and sectional elevation.
7.	Drawing detailed plan, elevation and section of a two room residential building from a given line plan, showing details of foundations, roof and parapet

8	Drawings of following floors Cement concrete floors on ground and at first floor i) Wooden flooring ii) Bonded cement concrete flooring iii) Ceramic/vitrified tile flooring
9	Drawing of flat roof, showing the heat/thermal insulation provisions
10	Draw at least one sheet using CAD software
11	Drawing details of damp proofing arrangement of roofs and walls as per BIS Code. Show the rain water drainage arrangement also

Reference Books:

1. Civil Engineering Drawing by RS Malik, Asia Publishing House

2. Civil Engineering Drawing by V.B.Sikka. Katson Publishing, Ludhiana

3. Civil Engineering Drawing by NS Kumar; IPH, New Delhi

4. Principles of Building Drawing by MG Shah and CM Kale, MacMillan, Delhi

5. Building Construction by Moorthy NRK

6. Civil Engg Drawing by Layal

7. Zaidi, SKA and Siddiqui, Suhail; Drawing and Design of Residential and Commercial Buildings, Standard Publishers and Distributors, Delhi.

8. SP : 20

9. National Building Code

Delivery/Instructional Methodologies

Sr.No.	Description
1.	Chalk and Talk
2.	PowerPoint Presentation

Assessment Methodologies

Sr. No.	Description	Type
1.	Student Assignment	Direct
2.	Test	Direct
3.	Board Examination	Direct
4.	Student Feedback	Direct

Gaps in the syllabus - to meet industry/profession requirements

S.NO.	DESCRIPTION	PROPOSED ACTIONS	PO MAPPING
	N/A	N/A	N/A

Topics beyond syllabus/advanced topics

Units	Details	Hours

N/A	N/A	N/A

Web Source References

Sr. No.	URL
1.	https://nptel.ac.in/

Lesson Plan

Week	Practical Day	
1st	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.
	2.	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.
2nd	3.	Plans of Corner junction of walls of 1 Brick, 1-1/2 Brick and 2 brick thick in English bond

	4.	Plans of ‘T’ junction of walls of 1 Brick, 1-1/2 brick thick in English bond
3rd	5.	Drawing plan, elevation of arches: circular arch
	6.	Drawing plan, elevation of arches: segmental arch
4th	7.	Elevation, sectional plan and sectional side elevation of flush door
	8.	Elevation, sectional plan and sectional side elevation of glazed door
5th	9	Elevation, sectional plan and sectional side elevation of panelled door with wire gauge shutter.
	10.	Elevation, sectional plan and sectional side elevation of panelled door with wire gauge shutter.
6th	11.	Draw atleast one sheet using CAD software
	12.	Drawing plan, elevation of a small building by measurement and foundation detail and sectional elevation.

7th	13.	Drawing detailed plan, elevation and section of a two room residential building from a given line plan, showing details of foundations, roof and parapet
	14.	Drawing detailed plan, elevation and section of a two room residential building from a given line plan, showing details of foundations, roof and parapet
8th	15.	Drawing detailed plan, elevation and section of a two room residential building from a given line plan, showing details of foundations, roof and parapet
	16.	Drawing detailed plan, elevation and section of a two room residential building from a given line plan, showing details of foundations, roof and parapet
9th	17.	Drawing detailed plan, elevation and section of a two room residential building from a given line plan, showing details of foundations, roof and parapet
	18.	Drawing detailed plan, elevation and section of a two room residential building from a given line plan, showing details of foundations, roof and parapet
10th	19.	Drawings of following floors Cement concrete floors on ground and at first floor i) Bonded cement concrete flooring
	20.	Bonded cement concrete flooring

11th	21.	Wooden flooring
	22.	Wooden flooring
12th	23.	Ceramic/vitrified tile flooring
	24.	Ceramic/vitrified tile flooring
13th	25.	terrazzo flooring
	26.	terrazzo flooring
14th	27.	Drawing of flat roof, showing the heat/thermal insulation provisions.
	28.	Drawing of flat roof, showing the heat/thermal insulation provisions.
15th	29.	Draw atleast one sheet using CAD software
	30.	Draw atleast one sheet using CAD software
16th	31.	Drawing details of damp proofing arrangement of roofs and walls as per BIS Code. Show the rain water drainage arrangement also.
	32.	Drawing details of damp proofing arrangement of roofs and walls as per

		BIS Code. Show the rain water drainage arrangement also.

NBA has defined the following seven POs for an Engineering diploma graduate:

i) **Basic and Discipline specific knowledge**: Apply knowledge of basic mathematics, science and engineering fundamentals and engineering specialization to solve the engineering problems.

ii) **Problem analysis:** Identify and analyze well-defined engineering problems using codified standard methods.

iii**)** **Design/ development of solutions**: Design solutions for well-defined technical problems and assist with the design of systems components or processes to meet specified needs.

iv) **Engineering Tools, Experimentation and Testing**: Apply modern engineering tools and appropriate technique to conduct standard tests and measurements.

v) **Engineering practices for society, sustainability and environment**: Apply appropriate technology in context of society, sustainability, environment and ethical practices.

vi) **Project Management**: Use engineering management principles individually, as a team member or a leader to manage projects and effectively communicate about well-defined engineering activities.

vii) **Life-long learning**: Ability to analyze individual needs and engage in updating in the context of technological changes.

Program Specific Outcomes (PSOs)

PSOs are a statement that describes what students are expected to know and be able to do in a specialized area of discipline upon graduation from a program. Program may specify 2-4 program specific outcomes, if required.

These are the statements, which are specific to the particular 11 program. They are beyond POs. Program Curriculum and other activities during the program must help in the achievement of PSOs along with POs.