

GUJARAT TECHNOLOGICAL UNIVERSITY

Diploma in Architectural Assistantship

Semester: I

Subject Name: **Architectural Drawing-I**

Subject Code: **310003**

Teaching Scheme				Evaluation Scheme		
Theory	Tutorial	Practical	Total	University Exam (Theory) (E)	Mid Sem Exam (Theory) (M)	Internal Assessment (I)
0	0	8	4	0	0	100

Rationale:

Architectural drawing is a subject which imparts fundamental knowledge about using the drawing instruments which ultimately is useful for all subjects which are drawing oriented .It also gives idea of using various types of Architectural letters, Gothic letters and different types of lines, quality of lines. This skill can be developed and perfected by drawing various geometrical constructions, drawing signs and symbols used at various levels in drawing plans, elevations and sections of the building. Orthographic projection is a topic which clears terminology like plan, elevation, side elevation, drawing in first angle method and of projection by drawing plans, elevations and side elevations of plane, geometrical and complex objects. This skill ultimately can be utilized in drawing the building drawings.

- 1) Isometric & Axo.
- 2) Sciography.
- 3) Developing sketch.

Topic No.	Name of Topic	No. of Hours		
		Lect.	Pract.	Total
1.	Practice of drafting Techniques by different drafting instruments.	—	16	16
2.	Gothic letters	—	16	16
3.	Signs and symbols.	—	16	16
4.	Geometrical construction		24	24
5.	Orthographic projections		40	40
				112

T.R.S. & EO's**T.R.S**

1. Trace building drawing using pencil & ink.

EO's

- 1.1.1 Manuplate various drafting instruments.
- 1.1.2 Use different drawing materials.
- 1.1.3 Fix the drawing sheet, tracing paper & prepare drawings sheets properly on drawing board.

T.R.s

- 2.1 Draw the isometric, axonometric and perspective of the given building.

EO's

- 2.2.1 Write free hand & Gothic letters
- 2.2.2 Prepare drawings of the geometrical construction.
- 2.2.3 Prepare drawings related to orthographic projections.
- 2.2.4 Draw isometric views of the given object.
- 2.2.5 Prepare drawings of the projections of points, lines planes & solids.

THEORY

Sr. No.	Course Content:
1.	Topic -1 PRACTICE OF DRAFTING TECHNIQUES BY DIFFERENT DRAFTING INSTRUMENTS: (A) Practice the use of Drawing Board, Tee-Squares, Compass (whole set), different grade of pencils, rubber, clips, sand paper, clutch pencils, scales, stencils, inking pens, circle templates ,French curves, templates, drafting machine etc.
2.	Topic-2 GOTHIC LETTERS: (A) Study of Gothic letters with different proportions of letters 6 : 4. (B) FREE HAND LETTERING: Lettering composition and styles of letters in free hand.
3.	Topic-3 SIGNS & SYMBOLS: Conventional graphical presentation of different building materials, doors and windows, electrical fittings, water supply & Sanitary fittings, furniture, vehicles, shrubs, trees, parking etc.
4.	Topic- 4 GEOMETRICAL CONSTRUCTION: (A) Draw a perpendicular to a given line with different conditions. (B) Draw a line through a given point parallel to a given straight line. (C) Divide a given straight line into any number of equal parts by various methods.

	(D) Trisect the given right angle. (E) Construction of different types of regular polygons given the length of a side. (F) Inscribe circles in polygons with different conditions. (G) Inscribe different regular polygons in a circle. (H) Draw circles outside the polygon touching the sides. (I) Construct an ellipse by concentric method, arcs of circles method, oblong method, loop & thread method. (J) Construct a parabola given base and axis by rectangle and tangent method. (K) Construct a cycloid on a straight line and circumference of the given generating circle. (L) Draw an involute of a given circle and square. (M) Construct an Archimedean Spiral of convolutions given the greatest and shortest radii.
5.	Topic-5 ORTHOGRAPHIC PROJECTIONS: (A) Theory of projections such as object projectors, planes of projections (views), direction of vision. (B) Given the position of the object in relation with reference line, identify the quadrant, in which the object is situated. (C) Understand the projection of points, lines when placed in various positions with respect to H.P., V.P. & X.Y. Line - line parallel to both the planes - perpendicular to one plane & parallel to other. - parallel to one plane and inclined to other. (D) Understand the projection of planes when placed in various position with respect to H.P., V.P. & X.Y. line. - parallel to one plane and perpendicular to other. - perpendicular to one plane and inclined to other. - perpendicular to both H.P. and V.P. (E) Given a pictorial (isometric view) view draw the orthographic projections in first angle method only. Students must be aware of third angle method also.

Term Work:

- Drafting techniques
- Lettering
 - One Gothic A size
 - One Free hand lettering.
- Signs & Symbols - 3 sheets A size.
- Geometrical Construction -- 4 Sheets A size.
- Orthographic projection –
 - Point and line -- One sheet
 - Planes -- One Sheet
 - Orthographic views -- Two Sheets with minimum 4 problems in each along with isometric view.

Instructional Strategies and Key Resources:

Sr. No	T.R.S	E.O.	Instructional Strategy	Key Resources
1	2.8	2.8.1 2.8.2 2.8.3 2.8.4	Studio Ex. & Pr. Feedback, Studio Ex. & Pr. Feedback, Studio Ex. & Pr. Feedback, Studio Ex. & Pr. Feedback,	
2	2.13	2.13.1 2.13.2 2.13.3 2.13.4 2.13.5 2.13.6 2.13.7 2.13.8 2.13.9 2.13.10 2.13.11	Studio Ex. & Pr. Feedback Studio Ex. & Pr. feedback. Input cum discussion followed by practice feedback. Studio Ex. & Pr. feedback. Input cum discussion followed by practice feedback. Studio Ex. & Pr. feedback. Input cum discussion followed by practice feedback. Studio Ex. & Pr. feedback. Input cum discussion followed by practice feedback. Studio Ex. & Pr. feedback. Input cum discussion followed by practice feedback. Studio Ex. & Pr. Feedback Studio Ex. & Pr. feedback Studio Ex. & Pr. feedback Studio Ex. & Pr. feedback Studio Ex. & Pr. feedback. Input cum discussion followed by practice feedback	

Reference Books:

1. Architectural drafting and design - Helper and Vallach.
2. Architectural Abbreviations Dictionary
3. Elementary Engineering Drawing - N.D.Bhatt
4. Architectural Drawing - Harvey W. Waffle
5. Astrology in House Building.