

GUJARAT TECHNOLOGICAL UNIVERSITY

DI -1 SEMESTER – OLD PAPER – W24 TO S25 – QUESTION BANK(English)

Subject Name & Code:

Engineering Graphics- DI01000111

Unit 1: Introduction to Engineering Graphics

Repeated Questions:

1. **List the instruments used in engineering drawing.**
 - Appeared in: W24 (Q1a, 03 marks)
2. **Enlist the types of lines used in engineering drawing with their application. / Explain any three types of lines with their uses in Engineering Drawing.**
 - Appeared in: W24 (Q1b, 04 marks), S25 (Q1a, 03 marks)
3. **List different methods of dimensioning with simple drawing.**
 - Appeared in: S25 (Q4a, 03 marks)

Other Important Questions:

1. **Draw a heptagon of 30 mm side length.**
 - Appeared in: S25 (Q1b, 04 marks)
2. **Construct a regular hexagon of side 35 mm.**
 - Appeared in: W24 (Q1c, 07 marks)
3. **Construct a regular pentagon of side 45 mm.**
 - Appeared in: W24 (Q1c-OR, 07 marks)

Unit 2: Engineering Curves

Repeated Questions:

1. **Draw an involute of a pentagon.**
 - Appeared in: S25 (Q2b, 04 marks), W24 (Q2a-OR, 03 marks)
2. **Draw a cycloid for a circular disc for one complete revolution.**
 - Appeared in: S25 (Q2c-OR, 07 marks), W24 (Q2c-OR, 07 marks)
3. **Construct an Archimedian spiral.**
 - Appeared in: S25 (Q2b-OR, 04 marks), W24 (Q2b-OR, 04 marks)

Other Important Questions:

1. State uses of Parabola.
 - Appeared in: S25 (Q2a, 03 marks)
2. List types of Engineering Curves.
 - Appeared in: S25 (Q2a-OR, 03 marks)
3. Construct an ellipse. The major axis and minor axis of ellipse are 125 mm and 75 mm respectively.
 - Appeared in: S25 (Q2c, 07 marks)
4. Draw a parabola of base 100 mm and axis is 70 mm.
 - Appeared in: W24 (Q2a, 03 marks)
5. Draw an ellipse of major axis is 120 mm and minor axis is 70 mm.
 - Appeared in: W24 (Q2b, 04 marks)
6. The distance of the focus from the directrix is 45 mm and the eccentricity is $\frac{5}{4}$. Draw the curve and name it.
 - Appeared in: W24 (Q2c, 07 marks)

Unit 3: Projections of Points and Lines

Repeated Questions:

1. **Draw the projections of points located in different quadrants.**
 - Appeared in: S25 (Q3b, 04 marks), S25 (Q3b-OR, 04 marks), W24 (Q3a, 03 marks)
2. **A line has its ends in different quadrants. Draw its projections and find true length and/or inclinations.**
 - Appeared in: S25 (Q2c, 07 marks), W24 (Q3c, 07 marks)

Other Important Questions:

1. Explain Horizontal Plane (H.P.) and Vertical Plane (V.P.)
 - Appeared in: S25 (Q3a, 03 marks)
2. List types of principal Reference Planes.
 - Appeared in: S25 (Q3a-OR, 03 marks)
3. A line 'PQ', 65 mm long has its end 'P' in the H.P. and 30 mm in front of V.P. If the line is 30° inclined to H.P. and 45° inclined to V.P., draw the projections of the line 'PQ'.
 - Appeared in: S25 (Q2c-OR, 07 marks)
4. A line AB 80 mm long is inclined 45° to H.P and 30° to V.P. Its end A is 10 mm above H.P and 30 mm in front of V.P. draw the projection of line AB.
 - Appeared in: W24 (Q3a-OR, 03 marks)
5. An equilateral triangular plate of side 25 mm lies with one of its edge on H.P such that the surface of the plate is inclined to H.P at 60° , the edge on which it rest is inclined to V.P at 60° draw the projection of plate.
 - Appeared in: W24 (Q3b-OR, 04 marks)
6. A line MN 100 mm long has its front view inclined at 45° to XY and measure 60 mm the end M is in V.P and 25 mm above H.P. Draw the projection of line.
 - Appeared in: W24 (Q3c-OR, 07 marks)

Unit 4: Projections of Planes

Repeated Questions:

1. **Draw the projections of a circular/hexagonal/rectangular plane inclined to both reference planes.**
 - Appeared in: S25 (Q3c, 07 marks), S25 (Q3c-OR, 07 marks), W24 (Q3b, 04 marks)

Other Important Questions:

1. Draw the projections of Circular plane of 50 mm diameter resting in H.P. on a point 'A' on the circumference, its diameter 'AB' inclined at 45° to the H.P and the top view of the diameter 'AB' making 30° angle with V.P.
 - Appeared in: S25 (Q3c, 07 marks)
2. Draw the projections of regular hexagonal plane of 25 mm side, having one of its side in the H.P. and inclined at 60° to the V.P., and its surface making an angle of 45° with the H.P.
 - Appeared in: S25 (Q3c-OR, 07 marks)
3. A rectangular plate of 30 X 50 mm side has shorter side on the V.P and inclined at 60° to the V.P. Draw the projection of plate if it is inclined at 45° to H.P.
 - Appeared in: W24 (Q3b, 04 marks)

Unit 5: Orthographic Projections

Repeated Questions:

1. **Differentiate between First Angle Projection method and Third Angle Projection method.**
 - Appeared in: S25 (Q4b, 04 marks)
2. **Draw symbols for first angle projection method and third angle projection method.**
 - Appeared in: S25 (Q4a-OR, 03 marks)
3. **A figure (pictorial view) is given. Draw its Front View and Top View using First Angle or Third Angle projection.**
 - Appeared in: S25 (Q4c, 07 marks), S25 (Q4c-OR, 07 marks), W24 (Q4a,b,c, 03+04+07 marks), W24 (Q4a,b,c-OR, 03+04+07 marks)

Other Important Questions:

1. **Explain Four Quadrants for Orthographic Projection system with a sketch.**
 - Appeared in: S25 (Q4b-OR, 04 marks)
2. **Draw the position of all the views in first and third angle projection methods.**
 - Appeared in: W24 (Q5c-OR, 07 marks)

Unit 6: Isometric View

Repeated Questions:

1. **Draw the isometric view of standard solids (Cylinder, Cone) or a given object.**
 - Appeared in: S25 (Q5b, 04 marks), S25 (Q5b-OR, 04 marks), W24 (Q5a, 03 marks), W24 (Q5b, 04 marks), W24 (Q5b-OR, 04 marks)

Other Important Questions:

1. Explain Isometric Axis, Lines and Planes with a suitable example.
 - Appeared in: S25 (Q5a, 03 marks)
2. Explain Isometric Scale with an example drawing.
 - Appeared in: S25 (Q5a-OR, 03 marks)
3. A figure (two orthographic views) is given. Draw its Isometric View and show necessary dimensions.
 - Appeared in: S25 (Q5c, 07 marks), S25 (Q5c-OR, 07 marks), W24 (Q5c, 07 marks)
4. Draw the isometric projection of a rectangular plate of size 40 X 60 mm.
 - Appeared in: W24 (Q5a-OR, 03 marks)
