Sub Code : BCE -121

B. Tech (CE), Year: 1st Semester-I

MINOR TEST EXAMINATION: 2025-26

Subject: Engineering Graphics

Time: 2 Hr. Max Marks: 20

Note: Attempt ALL questions. All questions carry equal marks.

Q1). Attempt any Two parts of the following:		Marks	CO	PO	PL Code
a)	Define R.F. of the scale. Construct a plain scale to show meters when 1centimeter represents 4meters (1cm = 4m) and long enough to measure up to 50 meters. Find the R.F. and mark on it a distance of 36 meters.	4	1	5	1.5.1
b)	What is scale ? Classify its different types What are the main uses of scale?	4	2	5	2.5.3
c)	What is lettering? Which lettering is recommended by Bureau of Indian Standards for use? Write the guidelines as related to IS recommendations.	4	1	7	1.7.1
Q2. Attempt any Two parts of the following:					
a)	Explain the following (i) Cycloid (ii) Epicycloid (iii) Involute	3	2	8	2.8.1
b)	What is meant by projection? Explain the principle of projection and differentiate between the first and third angle projection.	3	2	5	2.5.1
c)	Construct an ellipse when the distance of its focus from its directrix is 50 mm and the eccentricity is 2/3. Draw a tangent and a normal to the ellipse at a point which is 70 mm away from the directrix. Write the complete construction steps and show the figure with all necessary construction lines and labeling.	3	2	5	2.5.1

Q3. Attempt any Two parts of the following:					
a)	Write the classification of solids. Also write short notes on the following along with their classifications: i) Prism ii) Pyramid iii) Regular Polyhedron	3	2	5	2.5.1
b)	Draw the projections of the following point and line: i) A point P 25mm behind the vertical plane (VP) and 35mm above Horizontal plane (HP) ii) A point Q 28mm behind VP and 42mm below HP iii) A point P is 50mm from both the reference planes. Draw its projection in all possible positions.	3	2	5	2.5.4
c)	Define Engineering Graphics. What is the importance and what are the applications of Engineering Graphics?	3	1	3	1.3.1

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Roll No. 2025

B. Tech.
Year: I Semester: I
Odd Semester 2025-2026
Subject Name: Engineering Graphics

Time: 3 Hr. Max Marks: 50

Note: Attempt All questions.

		Marks	CO	BL	PO
Q1	**Attempt any five parts of the following.**				
a)	What are the main uses of engineering drawing in engineering practice?	2	1	1	1
b)	Write the difference between a plain scale and a diagonal scale with suitable examples.	2	2	1	1
c)	Draw the projections of a point A situated 25 mm above the HP and 30 mm in front of the VP. Indicate its position clearly with respect to the reference line (XY).	2	3	2	2
d)	A line AB 70 mm long is parallel to both HP and VP and lies 30 mm above HP and 25 mm in front of VP. Draw its projections.	2	3	2	2
e)	Define the following terms used in conic sections: Eccentricity Directrix Focus Axis	2	1	1	1
f)	Construct a regular pentagon of 40 mm side with horizontal.	2	3	3	2
g)	Differentiate between Cycloid, Epicycloid, and Involute based on their construction method and use.	2	1	1	2
Q2.	**Attempt any two parts of the following.**				
a)	Explain the different types of section planes used in engineering drawing for cutting solids. Illustrate each type with suitable examples.	5	1	2	2
b)	A square pyramid of base side 40 mm and axis 60 mm long rests on its base on the H.P. Draw its projections when (a) a side of the base is parallel to the V.P., (b) all the sides of the base are equally inclined to the V.P..	5	3	4	3
c)	State and explain the difference between a full section and a half section with the help of neat sketches. Also mention one suitable application of each type of sectional view.	5	4	2	1
Q3.	**Attempt any two parts of the following.**				
a)	A cube of 50 mm side rests with one of its edge on HP, such that the square face containing that edge are making equal inclination with HP. A horizontal section plane cuts the cube at a distance 18 mm below the horizontal edge nearer to the observer. Draw the sectional top view and front view of the cube.	5	5	5	2
b)	Explain the term Auxiliary View. Why is it used in Engineering Drawing? Also describe its importance in the Development of Surfaces.	5	5	1	2
c)	Explain the various types of prisms and pyramids commonly used in engineering drawing. Further, describe how a frustum is formed in a pyramid, prism, and cone with suitable sketches.	5	4	1	3
Q4.	**Attempt any two parts of the following.**				
a)	Define Isometric Projection. Why is it important in engineering drawing? Explain the following terms with diagrams: Isometric Axes Isometric Lines Non-Isometric Lines Isometric Plane	5	6	2	3