GYANMANJARI INNOVATIVE UNIVERSITY

GYANMANJARI INSTITUTE OF TECHNOLOGY

B.Tech.-Mid Semester Examination (MSE)-2025

Enrollment No.:_____

Subject Code: BETME10301 **Date: 10-10-2025**

Subject Name: Engineering Graphics **Semester: 1st**

Time: 2:30 PM to 4:00 PM **Total Marks: 60**

Instructions:

1. **Question No. 1 is compulsory.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

			Marks
Q.1	(a)	What is dimension? List types of dimension and explain any one.	05
	(b)	Construct the involute of circle of 30 mm diameter for one turn.	05
	(c)	A 75 mm long line PQ, has its end P 25 mm above the H.P. and 25 mm in front of the V.P. The line is inclined at 45° to the H.P. and 30° to the V.P. Draw its projections.	10
Q.2	(a)	Construct the hyperbola if the distance between the focus and the directrix is 50 mm. The eccentricity is 3/2. (Focus directrix method)	05
	(b)	Construct a plain scale of 1:50 to measure a distance of 7 meters. Mark a distance 5.8 meters on it.	05
		OR	
	(b)	Construct a diagonal scale of R.F=1/36 to show Yard, foot and inch. Scale should be long enough to measure 5 yard. Show on it distance of 4 yard 2 foot and 9 inch.	05
	(c)	Draw an ellipse when the distance of its focus from its directrix is 50 mm and eccentricity is 2/3. Also, draw a tangent and a normal to the ellipse at a point 60 mm away from the directrix.	10
		OR	
	(c)	Draw a cycloid of a circle of diameter 50 mm for one revolution. Also, draw a tangent and a normal to the curve at a point 30 mm above the base line	10
Q.3	(a)	Construct a regular pentagon using general method having side 65 mm.	05
	(b)	Draw the projections of the following points on a common reference line, keeping the distance between their projectors 30 mm apart. (a) Point P is 25 mm above the H.P. and 60 mm in front of the V.P. (b) Point Q is in the V.P. and 40 mm below the H.P. (c) Point R is 35 mm above the H.P. and in the V.P. (d) Point S is in the H.P. and 45 mm behind the V.P. (e) Point T is 15 mm above the H.P. and 55 mm behind the V.P	05
	(c)	A hexagonal plane of side 25 mm has its surface parallel to and 20 mm in front of V.P. Draw its projections, when a side is (a) parallel to the H.P., (b) perpendicular to the H.P., (c) inclined at 45° to the H.P	10
		OR	

Q.3 (a) Draw a regular heptagon of 45 mm sides, using general method. 05

(b) Draw the projections of the following points on a common reference line, keeping the distance between their projectors 30 mm apart. 05

(a) Point A is 20 mm above the H.P. and 70 mm in front of the V.P.
(b) Point B is in the H.P. and 60 mm behind the V.P.
(c) Point C is in the V.P. and 25 mm below the H.P.
(d) Point D is 35 mm above the H.P. and in the V.P.
(e) Point E is 40 mm below the H.P. and 90 mm in front of the V.P

(c) A square plane of side 40 mm has its surface parallel to and 20 mm above the H.P. Draw its projections when 10

(a) a side is parallel to the V.P.,
(b) one side is inclined at 30° to the V.P. and
(c) all sides are equally inclined to the V.P