Division & Roll No.: _____ Enrolment No.: _____

Darshan Institute of Engineering & Technology

B.E. Semester – I ● Pre GTU-Examination – February 2021

Subject Code : 3110013 **Date:** 19/02/2021

Subject Name : Engineering Graphics and Design

Time : 11.30 am to 01:30 pm **Total Marks :** 56

Instructions :
1. Attempt any **FOUR** out of **SEVEN** questions.
2. Figure to the right indicate full marks.
3. Don't do any kind of rough work or calculation in Question Paper.

Q. 1	**(A)**	Draw a diagonal scale of R.F, 1:5 showing decimeters, centimeters and millimeters and long enough to measure up to 8 decimeters. Show a distance of 5.35 dm.	**07**
	(C)	In the mechanism shown in Figure-1, the connecting rod is constrained to pass through the trunnion at D. Trace the locus of the end C and a point P on BC for one complete clockwise revolution of the crank. In Figure-1 consider AB as 30 mm.	**07**
Q. 2	**(A)**	Differentiate between aligned system and unidirectional system of dimensioning.	**03**
	(B)	A regular pentagonal plate of 30 mm sides is resting on one of its edges on H.P. such that the surface is inclined at 45º to H.P. Draw the projections of the pentagonal surface.	**04**
	(C)	A six hit by virat attain maximum height of 42 meter before it cross and fall outside the boundary 66 meter away from batting crease, draw the path of ball and name the curve.	**07**
Q. 3	**(A)**	What is difference between plain scale and Diagonal scale? Explain it.	**03**
	(B)	Draw projection of following points: **(i)** Point R is 10 mm behind V.P. & 20 mm above H.P. **(ii)** Point S is in H.P. & 22 mm in front of V.P. **(iii)** Point T is 15 mm in front of V.P & 25 mm below H.P.	**04**
	(C)	A regular hexagonal pyramid, side of base 30 mm side and height 60 mm is resting on H.P. on one of its edge of the base. The axis of the pyramid is inclined by 30° with HP and the edge on which it rest is inclined by 45° to the VP. Draw the projections of solid.	**07**
Q. 4	**(A)**	Draw symbol of third angle projection method with usual dimension.	**02**
	(B)	Draw front view, top view and left-hand side view of the object shown in Figure-2 in first angle projection method.	**12**
Q. 5	**(A)**	Give the difference between prism and pyramid.	**03**
	(B)	Draw an involute of triangle by taking side 25 mm.	**04**
	(C)	A line AB, 65 mm long has its end A 20 mm above H.P. and 25mm in front of VP. The end B is 40 mm above H.P. and 65 mm in front of V.P. Draw the projections of AB and shows its inclination with H.P. and V.P.	**07**

Q. 6 **(A)** Classify basic engineering curves. **03**

(B) A line AB, 50 mm long, is inclined to the HP at 30° and to the VP at 45°. The point A is 20mm above the HP and 35mm in front of the VP. Draw the projections of the line. **04**

(C) The front view and top view of a line MN is inclined at an angle of 30° and 40° respectively. The front view of line MN measures 50 mm. Point M is 15 mm above HP and 10 mm in front of VP Draw the projections of line MN and find the true length of line MN. **07**

Q. 7 **(A)** List the drawing instruments used in drawing and write the application of any two. **03**

(B) The vertex of a hyperbola is 65mm from its focus. Draw the curve if the eccentricity is 3:2. **04**

(C) An isosceles triangular plate of 50mm base and 75mm altitude appears as an equilateral triangle of side 50mm in top view. Draw the projections of the plate if its altitude inclined at 45° to the VP. **07**

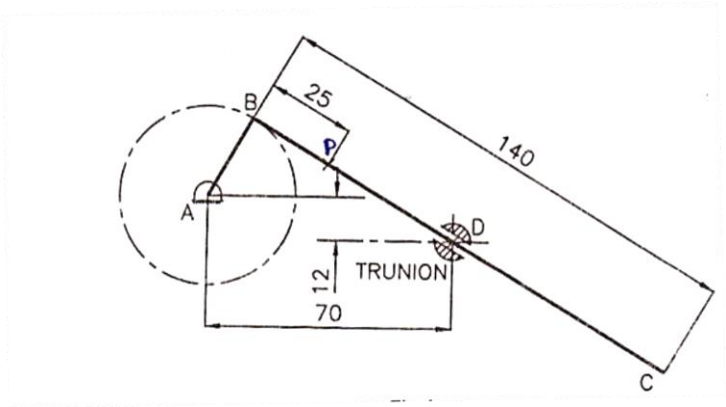

Figure-1

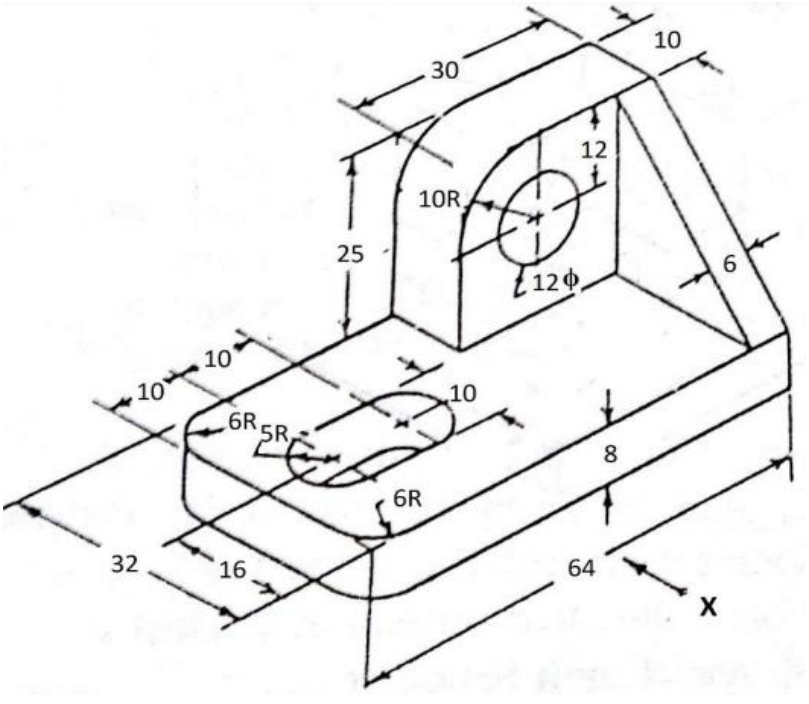

Figure-2

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