GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER– I & II (SPFU) EXAMINATION – WINTER 2019

Subject Code: ENG002   **Date: 31/12/2019**
Subject Name: Engineering Graphics
Time: 10:30 AM TO 01:30 PM   **Total Marks: 70**

Instructions:
1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

Q.1	**(a)**	(i) Construct a plain scale RF of 1:50 to represent meters and decimeters and Long enough to measure up to 8 meter. Indicate 6.7 m distance on scale.	**04**
		(ii) Explain in brief dimensioning methods used in engineering drawing.	**03**
	(b)	Construct an Ellipse by Concentric circle method. Take Major axis 90 mm and minor axis 60 mm.	**07**

Q.2	**(a)**	Draw the projection of points, the position of as per data given below:	**07**

(i) Point 'P' 25 mm above H.P. and 20 mm behind V.P.
(ii) Point 'Q' 20 mm below H.P. and 25 mm behind V.P.
(iii) Point 'R' 25 mm below H.P. and 20 mm in front of V.P.
(iv) Point 'S' 20 mm above H.P. and 25 mm in front of V.P.
(v) Point 'T on H.P. and 25 mm in front of V.P.
(vi) Point 'U' on H.P. and 25 mm behind V.P.

	(b)	A circle of 40 mm diameter rolls along a straight line without slipping. Draw the curve traced out by point P on the periphery of the circle. Take the initial position of the point at the bottom on the vertical center line of the circle. Name the curve.	**07**

Q.3	**(a)**	Draw an involute of a circle having 30 mm diameter.	**07**
	(b)	Construct a parabola by rectangle method with the base dimension 120 mm and height 80 mm.	**07**

Q.4	**(a)**	A regular pentagonal plane of 30 mm sides is resting on HP on one of its corners. The surface of the plane 45^0 inclined to HP. Draw its projections when the side opposite to the corner on which it rest on HP makes 30^0 to VP.	**07**
	(b)	A line AB, 80 mm long, is inclined to HP by 45° and inclined to VP by 30°. The line is in first quadrant with point A 20 mm above HP and 30mm in front of VP. Draw the projection of line AB.	**07**

Q.5	**(a)**	Define Solids. Explain classification of solids with neat sketch.	**07**
	(b)	A pentagonal prism of side of base equal to 40 mm and axis height 110 mm rests on one of its corner of its base on H.P. such that the axis is inclined at an angle of 40° with H.P. Draw its projection.	**07**

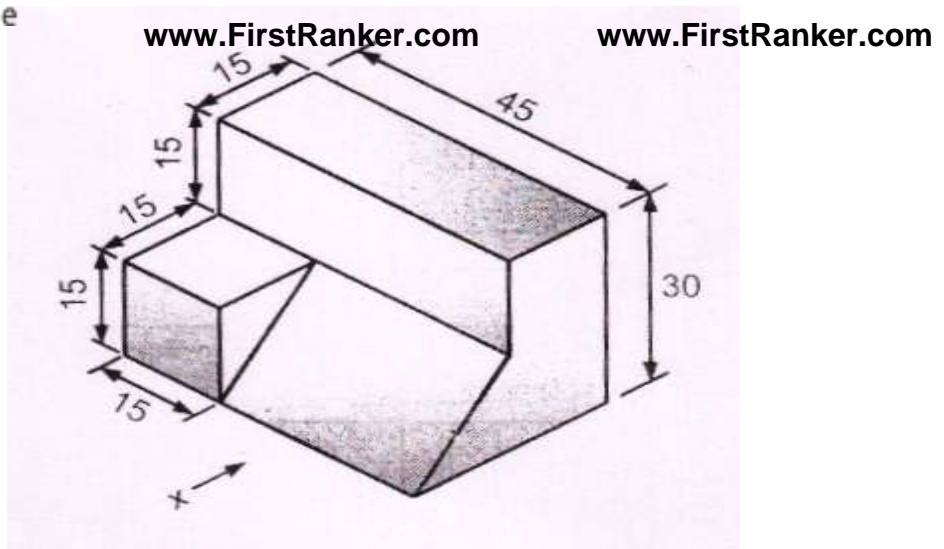|			
Q.6	**(a)**	Using the first angle projection method, draw the following view for the Fig.1.	**14**

(i)   F.V looking from X
(ii)   RHSV
(iii) T.V

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Fig.1

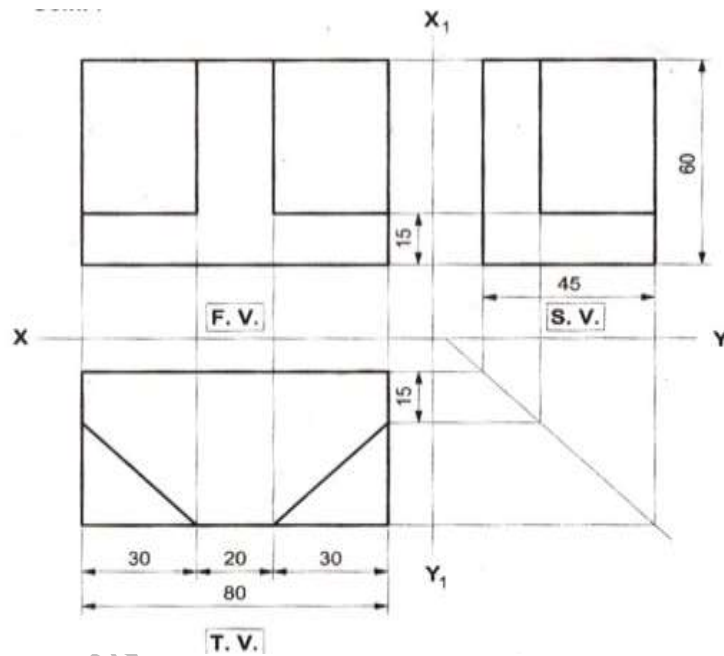**Q.7** **(a)** The orthographic view of an object is shown in the Fig.2. Draw the isometric **14** projection.

Fig.2

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