Seat No.: _____   Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER–1/2 EXAMINATION – WINTER 2017

Subject Code: 110013   **Date: 10/01/2018**

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)** Draw a parabola, when the distance of the focus from the directrix is 50 mm. **07**

(b) A line AB,50 mm long, has its end A in both the H.P. and the V.P. It is inclined at 30° to the H.P. and at 45° to the V.P. Draw its projections. **07**

Q.2 **(a)** Explain the difference between Ist angle and IIIrd angle orthographic projection and also explain BIS SP-46 engineering drawing standard. **07**

(b) Engineering graphics is a language of all persons involved in engineering activities. Discuss the statement. **07**

Q.3 **(a)** Construct three convolutions of the involute of 10 mm long line. **07**

(b) Draw the projections of a pentagonal pyramid base edge 30 mm and axis 50 mm long, having its base on the ground and an edge of the base parallel to the V.P. Also draw its side view. **07**

Q.4 **(a)** Construct an Archimedean spiral of one and half convolutions given the greatest and shortest radii. **07**

(b) A square ABCD of 50mm side has its corner A on the ground, its diagonal AC inclined 30° to the H.P. and diagonal BD inclined at 45° to the V.P. and parallel to the H.P.. Draw the projections. **07**

Q.5 **(a)** A line AB 90 mm long is inclined at 30° to the HP. Its A is 12 mm below the H.P. and 20 mm behind the V.P. Its front view measures 65 mm. Draw the top view of AB and determine its inclination with the V.P. **07**

(b) A regular pentagon of 25mm side has one side on the ground.Its plane is inclined at 45° at the H.P. and perpendicular to the the V.P. Draw its projections and show its traces. **07**

Q.6 **(a)** Figure 1. shows elevation and plan of a bracket, draw isometric projection of the bracket. **07**

(b) Figure 2. shows pictorial view of an object. Draw the following views using first angle projection method. **07**
 (1) Top view (2) Right hand side view

Q.7 **(a)** A triangular prism ,base 40 mm side and height 65 mm is resting on the ground on one of its rectangular faces with the axis parallel to the V.P. Draw its projections. **07**

(b) Draw the projections of a hexagonal pyramid, base 40 mm side and axis 65 mm, having its base on the ground and one of the base inclined at 45° to the V.P. **07**

Figure 1 .Question 6(A)
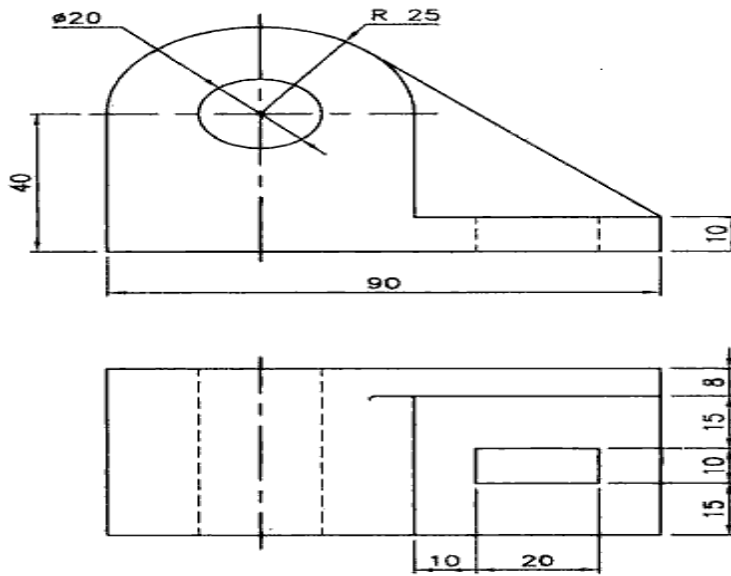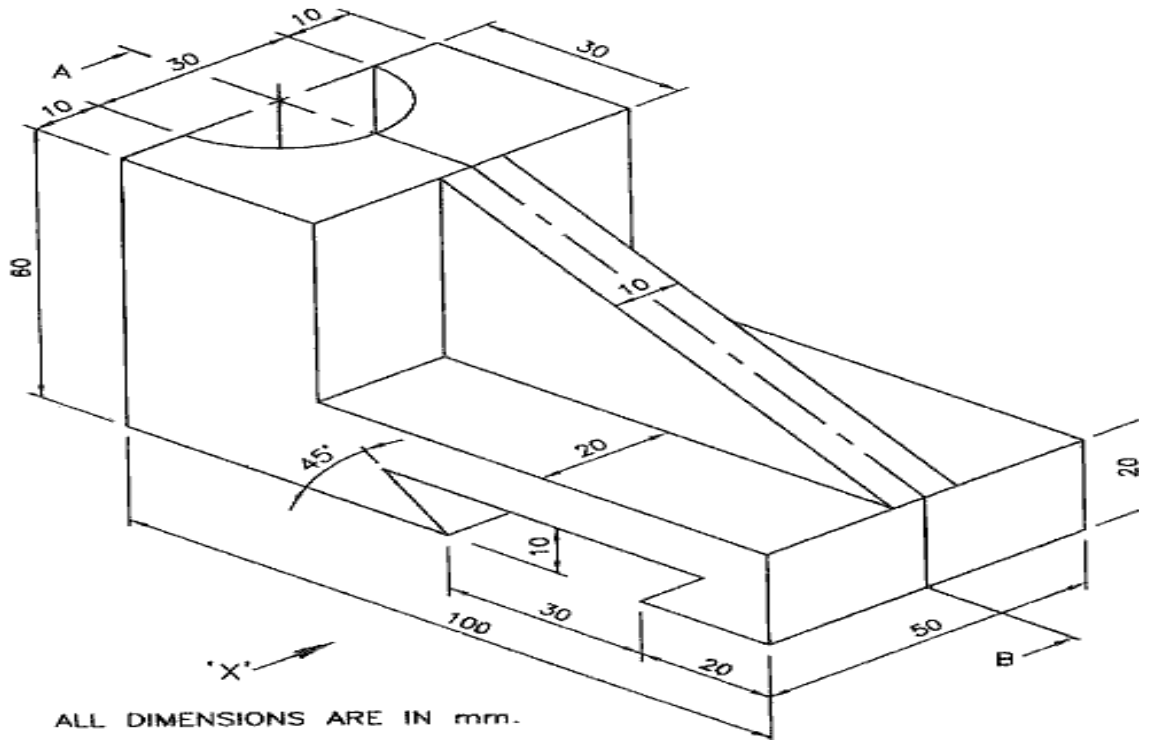
ALL DIMENSIONS ARE IN mm.

Figure 2 .Question 6(B)

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