

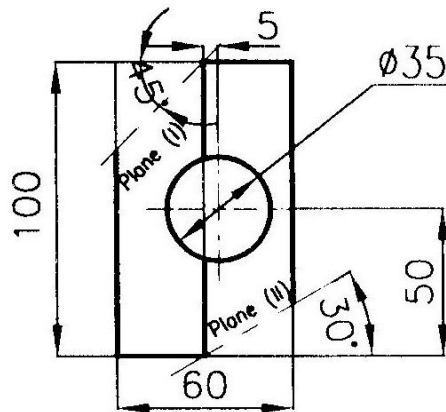
GUJARAT TECHNOLOGICAL UNIVERSITY
BE SEMESTER 1st / 2nd (OLD) EXAMINATION WINTER 2016

Subject Code: 110013**Date: 01/02/2017****Subject Name: Engineering Graphics****Time: 10:30 AM TO 1:30 PM****Total Marks: 70****Instructions:**

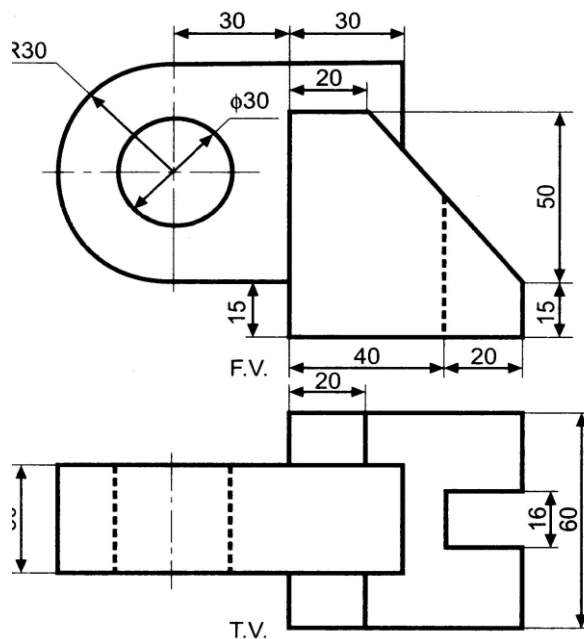
1. Attempt any five questions.
2. Retain construction lines faint. Make suitable assumptions wherever necessary.
3. Figures to the right indicate marks of sub questions.
4. Drawing work must be according to BIS-SP46 code.

- Q.1 (a)** 1. What is the importance of scale in engineering drawing? State the different types of scales used in engineering drawing. **03**
2. Define engineering graphics and state the various applications of it in different engineering branches. **04**
- (b)** A simple slider crank chain has a crank of 40 cm and connecting rod of length 200 cm. The crank rotates in clockwise direction. Draw the locus of the points - midpoint of connecting rod and a point, which is at distance of 60 mm from crank pin. **07**
- Q.2 (a)** A line AB measures 75 mm and is in Ist quadrant. The elevation and plan of line are inclined at 45° to XY. It's end A is 30 mm above H.P. and 20 mm in front of V.P. Draw the projections of a line and find the true angle of inclinations of line AB with H.P. and V.P. **07**
- (b)** A square pyramid of sides of the base 70 mm and length of the axis 100 mm is placed with one of its triangular faces on the HP with axis parallel to the VP. It is cut by AVP passing through the C.G. of the solid and inclined at 30° to VP and removing the apex Draw sectional elevation, plan and true shape of the section.. **07**
- Q.3 (a)** A line AB 100 mm long has its front view inclined at 45° to XY line and appears to be 60 mm in elevation. It's end A is 25 mm above H.P. and in the V.P. Draw the projections of a line AB and find the true angle of inclinations with H.P. and V.P. **07**
- (b)** A pentagonal plate having 50 mm side is resting on one of its edges in the HP with that edge making 50° with V.P. The plane is inclined at 30° to H.P. Draw its projections. **07**

- Q.4 (a)** An equilateral prism of base 60 mm is resting in the HP with one of its rectangular faces parallel to the VP. It is cut by two different planes and also has a circular hole as shown figure below. Draw the development of lateral surfaces.



- (b)** Draw an isometric view of an object from the below given orthographic views. **08**



- Q.5 (a)** A square prism, having base 35 mm side and axis 55 mm long, has its axis inclined at 45° to the H.P. and has an edge of its base on the H.P. and inclined at 30° to the V.P. Draw the projections of the given solid. **07**
- (b)** A regular hexagon plate of 25 mm size has one of its edges in the H.P and inclined at 60° to the VP. Its surface is making an angle of 40° with the H.P. Draw its projections. **07**
- Q.6 (a)** A pentagonal pyramid, base 25 mm side and axis 60 mm long, has edge of the base parallel to the H.P and inclined at 45° to the V.P. its axis inclined at 60° to the V.P. Draw the projections of the given solid. **07**

- (b) Draw the hypocycloid curve (for one complete revolution of rolling circle) the following given data: 07

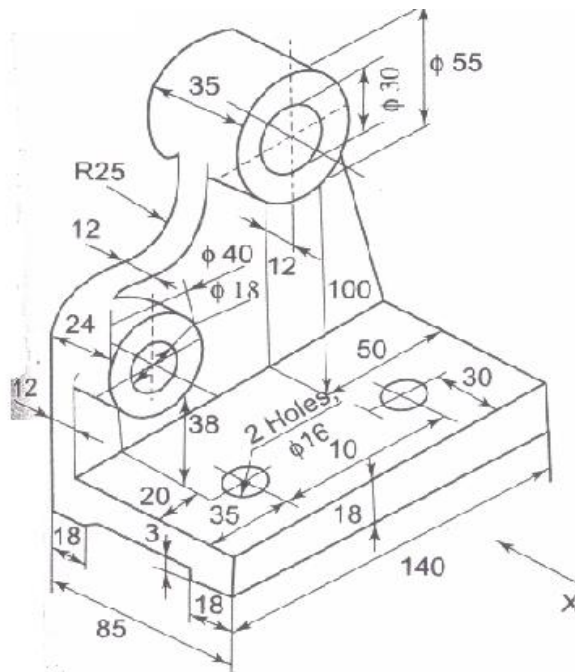
Diameter of directing circle = 150 mm

Diameter of rolling/generating circle = 75 mm

- Q.7 (a) Describe the following points for first angle projection method and third angle projection method:- 04

(i) Location of object (ii) position of plan, elevation, RH side view and LH side view (iii) symbol.

- (b) Draw the plan, front view and LH side view of a below given object using first angle projection method. 10



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