

Date: 31/05/2017  
Evening New

**GANPAT UNIVERSITY**  
**B.Tech. Sem-I & II (All Branch)**  
**CBCS (New) Regular & Remedial Examination April – June 2017**  
**Subject: 2ME102 Engineering Graphics**

**Time: 3 Hours**  
**Instruction**

**Total Marks: 60**

- Attempt all questions.
- Make suitable assumption wherever necessary.
- Figures to the right indicate full marks.
- Don't rub construction/ projection lines after completion of drawing.
- All dimensions are in mm.

**SECTION-I**

Que.1. Draw an ellipse having major axis 130 mm and minor axis 90 mm by using half ellipse by oblong method and other half by concentric circle method. 10

**OR**

Que.1. In offset slider crank chain mechanism. The crank OA 30 mm long rotates in clockwise direction about the center O. The connecting rod AB 130 mm long is attached with the crank at the point A and the other end B is fixed in a slider EF 25 mm below the horizontal line passing through the point O, & the connecting rod AB is extended in the direction BA at the point L 25 mm from the point A. Draw the loci points L & M; M is midpoint of the connecting rod AB for one complete revolution of the crank. 10

Que.2. Projection of Straight Lines – A line YZ, 65 mm long, has its end Y 20 mm below HP and 25 mm behind VP. The end Z is 50 mm below HP and 65 mm behind VP. Draw the projections of line YZ and find its inclinations with HP and VP. 10

**OR**

Que.2. Projection of Planes – An isosceles triangle plate ABC having its base 40 mm and altitude 80 mm resting on H.P. on its base. The isosceles triangle is inclined at an angle  $40^\circ$  to the H.P. And the altitude in the top view is inclined at the angle  $60^\circ$  to the V.P. Draw the projections. 10

Que.3. Draw orthographic projection of given object using first angle projection system. Ref. Figure No.1. 10

- (i) Front View from X direction
- (ii) Top View
- (iii) Right Hand Side View



## SECTION-II

- Que.4. A pentagonal pyramid has height 60 mm and the side of a base 30 mm. The pyramid rests on one of its sides of the base on the H.P. such that the triangular face containing that side is perpendicular to the H.P. and makes an angle of  $45^\circ$  with the V.P. Draw its projections. 10

OR

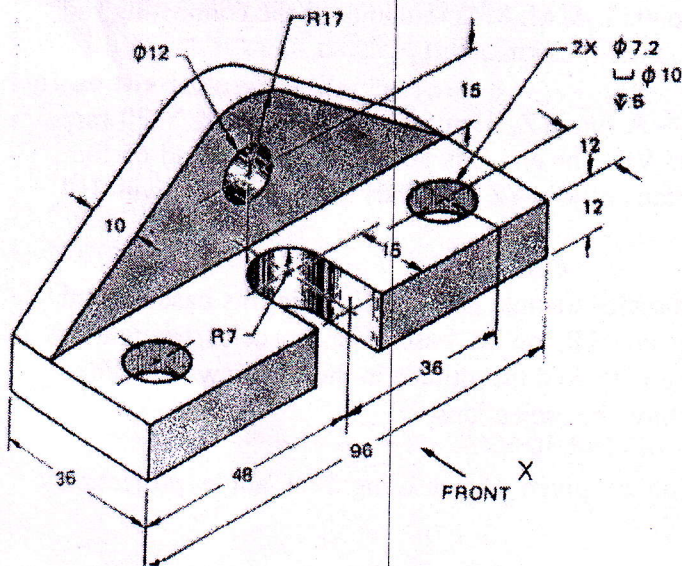
- Que.4. A cone of base 80 mm diameter and height 100 mm lies with one of its generators on HP and the axis appears to be inclined to VP at an angle of  $40^\circ$  in the top view. Draw its projection. 10

- Que.5. A cube of 50 mm long edges has its vertical faces equally inclined to VP. It is cut by a section plane perpendicular to VP so that the true shape of the section is a regular hexagon. Determine the inclination of the cutting plane with the HP and draw the sectional top view and true shape of the section 10

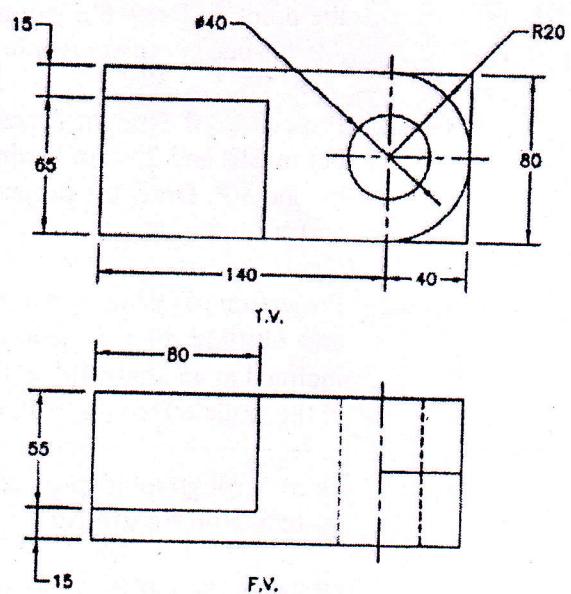
OR

- Que.5. Draw the Isometric projection using given two view of object 10  
Ref. Figure No.2

- Que.6. A cylinder of diameter of base 60 mm and axis height 110 mm is resting on its base on H.P. It is cut by a cutting plane perpendicular to V.P. and inclined at an angle  $60^\circ$  with the H.P. and passing through the distance of 20 mm from the top end of the cylinder and on the axis. Draw the develop the lateral surface of the cylinder. 10



Ref. Figure No.1



Ref. Figure No.2.

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