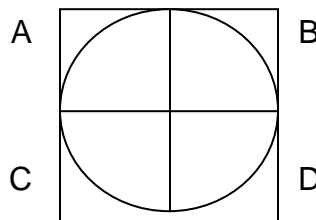


**FACULTY OF ENGINEERING****B.E. I-Year (Backlog) Examination, March / April 2021****Subject : Engineering Graphics****Time: 2 Hours****Max. Marks:100****Missing data, if any may be suitably assumed.****PART – A****Note: Answer any Six Questions.****(6x6= 36 Marks)**

1. What is the difference between Plain Scale and Diagonal Scale?
2. Draw the involute of a triangle of length 40 mm
3. State the difference between First Angle and Third Angle Projection.
4. Draw the projections of the following points on a common reference line keeping the distance between their projectors 25mm apart.
  - a) A, in the H.P. and 25mm in front of V.P.
  - b) B, in the V.P. and 40mm above H.P.
  - c) C, 15 mm above the H.P. and 50mm behind V.P.
  - d) D, in both the H.P. and V.P.
5. Draw the projection of a pentagon having 40 mm side such that it is placed with one of its edges on H.P.
6. Define Frustum and Truncated Solids.
7. Draw the projections of a triangular prism, base 50mm side and axis 60mm long, resting on one of its bases on the H.P. with a vertical face perpendicular to the V.P.
8. A cube of 60mm long edges is resting on the H.P. with its vertical faces equally inclined to the V.P. Draw its projections
9. Define isometric axes and isometric planes.
10. The front view of a circle of radius 25mm whose surface is parallel to the V.P. is given in the fig. below Draw the isometric view of the circle.



**PART – B****Note: Answer any Four Questions****(4x16= 64 Marks)**

11. a) Construct a scale of 1:40 to show metres and decimetres and long enough to measure up to 6 metres. Mark on it a distance of 5.7 dm  
b) Draw an ellipse of major axis 50mm and minor axis 30 mm by concentric circle method. Also show the normal and tangent to the ellipse
12. A 80 mm long line PQ, is inclined at  $60^\circ$  to the H.P. and  $30^\circ$  to the V.P. the end P is 20mm above H.P. and 40 mm in front of V.P. Draw its projections
13. Draw the projections of 50 mm diameter resting in the H.P. on a point A on the circumference, its plane inclined at  $45^\circ$  to the H.P. and the diameter AB making  $30^\circ$  angle with the V.P.
14. A cylinder with a 50 mm base diameter and a 70 mm long axis, has a generator in the V.P. and is inclined at  $45^\circ$  to the H.P. Draw its projections.
15. A cone, base 75 mm diameter and axis 80 mm long is resting on its base on the H.P. It is cut by a section plane perpendicular to the V.P., inclined at  $45^\circ$  to the H.P. and cutting the axis at a point 40 mm from the apex. Draw its front view, sectional top view and true shape of the section.
16. Draw the development of lateral surface of a square pyramid with a 40 mm base side and a 60mm long axis which is resting on its base in the H.P. when all the sides of the base are equally inclined to the V.P.
17. Draw an isometric view of a cylinder, with a 50 mm base diameter and 70mm long axis (a) when its axis is vertical and (b) when its axis is horizontal.

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