

B.E. / B.Tech. (Model Curriculum) Semester - I & II
ESC102 - Engineering Graphics & Design

P. Pages : 2

Time : Four Hours



GUG/S/23/13168

Max. Marks : 80

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- Notes :
1. All questions carry equal marks.
 2. Due credit will be given to neatness and adequate dimensions.
 3. Assume suitable data wherever necessary.
 4. Illustrate your answers wherever necessary with the help of neat sketches.
 5. Solve Q. 1 or Q. 2, Q.3. Or Q. 4, Q. 5 or Q. 6, Q. 7 or Q. 8, Q. 9 or Q. 10.
 6. Retain the construction lines.

1. a) An inelastic string 100 mm long has its one end attached to the circumference of a circular disc of 40 mm diameter. Draw the curve traced out by other end of the string when it is completely wound around the disc, keeping the string always tight. **8**
- b) A line AB 125 mm long is so placed that its top view measures 100 mm and front view measures 75 mm. Its end A is 10 mm above HP and 15 mm in front of VP. Draw the projection of line and find its inclination with HP and VP. **8**

OR

2. a) Draw the locus of a point moving in such a way that the product of its distance from two fixed lines, at right angle to each other is constant. If point on the curve is 20 and 45 mm from lines. Name the curve and fixed lines. **8**
- b) The projector distance between ends of line AB is 60 mm. The end A is 20 mm above HP and 18 mm in front of VP and the end B is 60 mm above HP and 75 mm in front of VP. Draw the projections and find true length, inclination with HP and VP of line. **8**
3. a) A regular hexagonal lamina of 40 mm side is resting on one of its sides on the HP, and is inclined at 40° to VP. The surface of lamina is inclined at 45° to HP. Draw the projections. **8**
- b) A thin Circular plate of 60 mm diameter is resting on point on its circumference on HP, such that it's plane is inclined at 60° to HP & 30° to V. P. Draw the projections. **8**

OR

4. Draw the three views of cube of solid diagonal 80 mm such that solid diagonal is parallel to HP and perpendicular to VP. **16**
5. A pentagonal pyramid, base 40 mm side and height 75 mm rests on one edge of its base on the ground so that the highest point of the base is 25 mm above the ground. Draw another front view on a reference line inclined at 30° to the edge on which it is resting. **16**

OR

6. A cone, diameter of base 50 mm and axis 50 mm long is resting on ground with the axis making 60° with the ground. It is cut by a section plane such that true shape of the section is an isosceles triangle, the base of which is equal to 40 mm. Draw the projections and the true shape of cut section. Also draw the development of lateral surfaces of the retained part of cut solid. **16**

