VASAVI COLLEGE OF ENGINEERING *(Autonomous)*, HYDERABAD
B.E. (CBCS) I-Semester Main Examinations, December-2017
Engineering Drawing-I
(Common to CSE, ECE & IT)

Time: **3** hours

Max. Marks: **60**

*Note: Answer **ALL** questions in **Part-A** and any **FIVE** from **Part-B***

Part-A *(10 × 2=20 Marks)*

1. Differentiate between Enlarging scale and Reducing scale.

2. Explain in detail about two significant instruments you have use in Engineering drawing.

3. What are conic sections?

4. Define terms i) focus and ii) directrix.

5. What are orthographic projections.

6. Draw the projections of point 'P' whose top view is 20mm above XY and front view is 25mm below the XY line.

7. Draw the projections of a circle of diameter 50mm which is perpendicular to both the planes H.P and V.P.

8. Sketch the traces of a plane parallel to and 40mm away from V.P.

9. What is meant by truncated solid?

10. What is meant by polyhedron? Give examples.

Part-B *(5 × 8 = 40 Marks)*

11. a) What is R.F? Write the classification of scales based on R.F. value.   [2]

    b) Construct a diagonal scale to measure upto 400mm, choosing suitable R.F, show 91m and 348m on it.   [6]

12. a) Construct a regular heptagon of side 20mm.   [3]

    b) Construct an ellipse whose major and minor axes are 90mm and 60mm. Draw a tangent and normal to the curve at 30 mm from focus of the curve.   [5]

13. a) A point 'A' is 20mm above H.P and 30mm in front of V.P and point 'B' is 25mm below H.P and 50mm behind V.P., the end projectors of these points are 60mm apart. Draw the projections of the points and join their top views and front views.   [3]

    b) The end 'A' of the straight line is in V.P and 40mm above H.P, while the other end 'B' is 80mm above H.P and 50mm in front of V.P. The length of the straight line is 90mm. Draw the projections, find its inclination with H.P and V.P and also locate its traces.   [5]

14. a) Top view of a square plane is a line of 40mm and parallel to and 20 mm away from XY. Draw its Front view.   [2]

    b) A semicircular lamina of 50mm diameter resting on its straight edge on V.P which makes an angle of 45° to the H.P. Its surface is inclined at 30° to the V.P. Draw its projections.   [6]

15. a) Sketch projections of a cube 50mm side resting on H.P such that its vertical faces equally inclined to V.P.   [2]

    b) A right circular cone of 40mm diameter and base 60mm long axis is resting on H.P such That its apex is in V.P and its axis makes an angle of 45° with the V.P. Draw the projections.   [6]

16. a) Draw a vernier scale of R.F=1/40 to read meters, decimeters and centimeters and long [4]
    enough to read upto 8 meters. Mark on the scale a distance of 3.42m and 6.11m on it.

    b) Construct a parabola of base 60mm and height 40mm. Draw a tangent at a point [4]
    30mm from the base of the parabola.

17. Answer any **two** of the following:

    a) Draw the projections of a straight line AB of 50mm which is parallel to H.P. and [4]
    inclined at 30° to the V.P with its end 'A' in V.P and 20mm above H.P. Also locate its
    traces.

    b) A regular hexagonal plane of 30mm side as its one edge on H.P. The surface of the plane [4]
    is perpendicular to V.P and inclined at 45° to H.P. Draw the projections.

    c) A square pyramid of base 40mm side, axis 60mm long has its base in the V.P. one edge [4]
    of the base is inclined at 60° to the H.P and a corner contained by that edge is on the
    H.P. Draw its projections.

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