Hall Ticket Number:

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Code No. : 11022 S(B)

VASAVI COLLEGE OF ENGINEERING (Autonomous), HYDERABAD
B.E. (CBCS) I-Semester Supplementary (New/Old) Examinations, June/July-2019

Engineering Graphics-I
(Civil, EEE & Mech. Engg.)

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. Sketch the symbolic representation for a centre line and section line.

2. List out the basic information necessary for construct of a scale.

3. Define cycloid curves.

4. Draw the involute of a regular square of side 20mm.

5. Sketch the symbolic representation of first angle projection and third angle projection.

6. A straight line AB 40mm long is parallel to HP and inclined at 30^0 to VP. Its end A is 10mm above HP and 15mm infront of VP. Draw the projections of the line AB.

7. A square plane of side 30mm is parallel to and 20mm above HP. Draw projections of the plane, when one of its sides is inclined at 30^0 to VP.

8. Sketch and locate the traces of a circular disc of diameter 50mm, perpendicular to both the reference planes.

9. Define the term polyhedron.

10. Draw the projections of a cylinder of 50mm diameter and 65mm long axis is lying on HP with axis perpendicular to VP.

Part-B (5 × 8 = 40 Marks)

11. a) List out at least 4 general guide lines for dimensioning. [3]

    b) An area covered by a triangle of base 12 cm and altitude 24 cm; represent an area of 36sq.km. Determine the scale factor and construct a diagonal scale to read kilometers, hectometers and decameters. Mark the distances of 1.05km and 4.82km on it. [5]

12. a) Two fixed points A and B are 100 mm apart. Trace the complete path of the point P moving in such a way that the sum of its distances from A and B is always the same and equal to 125mm. Name the curve and draw a tangent and normal at any point on the curve. [3]

    b) Draw hypo-cycloid curve where the diameter of the directing circle is twice that of the generating circle. Take diameter of the generating circle is 50mm. [5]

13. a) An electric switch and bulb fixed on a wall are 5m apart and the distance between them, measured parallel to the floor is 4m. If the switch is 1.5m above the floor, determine the height of the bulb. [3]

    b) A line AB of 70mm long has its end A, 20mm above HP and 15mm in front of VP. The line is inclined at 30^0 to HP and 60^0 to VP. Draw projections of the straight line AB and locate the traces. [5]

14. a) Draw the projections of a triangular plate 30mm side, with one of its side in VP and its   [3]
surface inclined at 60^0 to VP.

    b) A rhombus has its diagonals 100 mm and 60 mm long. Draw the projections of the   [5]
rhombus, when it is so placed that its top view appears to be square of diagonal 60mm
long and the vertical plane through the longer diagonal makes 30^0 with VP.

15. a) A triangular pyramid with edge of the base 30mm and axis 65mm long is resting on its   [3]
base with an edge of the base parallel to VP and 20mm away from it. Draw the
projections of the pyramid.

    b) A hexagonal prism has one of its rectangular faces parallel to the H.P. its axis is   [5]
perpendicular to the V.P. and 35mm above the ground. Draw its projections when the
nearer end is 20mm in front of V.P. side of base is 25mm long. Axis is 50mm long.

16. a) Construct a plain scale of 1:5 to show decimeters and centimeters and to read up to 1m.   [3]
Show the length of 6.7 decimeters on it.

    b) A ball thrown up in the air reaches a maximum height of 45m and travels a horizontal   [5]
distance of 75m. Trace the path of ball and name the curve.

17. Answer any *two* of the following:

    a) A line AB is inclined at 40^0 to HP. Its one end A is 25mm above HP and 30mm in front   [4]
of VP. The top view of the line is 70mm and inclined at 30^0 to xy. Draw projections of
the line and determine its true length and its inclination with VP.

    b) The top view of a six sided plain lamina appears as a regular hexagon of 20 mm sides.   [4]
The front view is a straight inclined at 40^0 with xy line. Find true shape of the lamina
and also obtain draw side view of the lamina.

    c) A tetrahedron of 50mm long edges is resting on the H.P. on one of its faces with an edge   [4]
of that face parallel to the V.P. Draw the projections and measure the distance of its
apex from the ground.

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