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Reg. No: | | | | | | | | | | |

VELAGAPUDI RAMAKRISHNA

SIDDHARTHA ENGINEERING COLLEGE

(AUTONOMOUS)

I/IV B.Tech. DEGREE EXAMINATION, AUGUST, 2022

Second Semester

20ES2105 ENGINEERING GRAPHICS

(Regular Branches of CSE and AI&DS 2.00 PM to 5.00 PM)

Time: 3 hours ***Max. Marks: 70***

Part-A is compulsory

Answer One Question from each Unit of Part - B

Answer to any single question or its part shall be written at one place only

PART-A

5 x 2 = 10M

1. a. Construct a scale of 1/60, read meters, and decimeters and long enough to measure upto 4 m. Mark on it a distance of 2.3m.

   b. Draw the projections of the following points on the same ground line, keeping the Projectors 30 mm apart.
   i) Point M, 25 mm below the H.P. and 40 mm behind the V.P.
   ii) Point N, 20 mm above the H.P. and in the V.P.

   c. A rectangle of 60 x 40 mm is parallel to H.P. perpendicular to V.P. Draw its projections when one of its shorter side is Parallel to V.P.

   d. Draw the front view and top view of a cylinder of base 40 mm diameter and axis 60 mm long, resting on the V.P. on its respective bases.

   e. A cone with base 50 mm and axis 70 mm long, is resting on its base on H.P. It is cut by a sectional plane, parallel to H.P. and passing through the mid-point of the axis. Draw the projections of the cut solid.

PART-B

4 x 15 = 60M

UNIT-I

2. A fixed point is 75mm from a fixed straight line. Draw the locus of a point P moving such a way that its distance from the fixed straight line is twice its distance from the fixed point. Name the curve. **15M**

(or)

3. Construct a diagonal scale of 1/48, showing meters, decimeters, and centimeters and to measure upto 6m. Mark the following lengths i) 1.43 m, ii) 4.56 m, and iii) 5.67 m. **15M**

UNIT-II

4. a. A line AB 45 mm long is perpendicular to V.P. and parallel to H.P. Its end A is 10 mm in front of V.P. and the line is 20 mm above H.P. Draw the front view, top view, and side viewof the line. **7M**

   b. A line GH 45 mm long is in H.P. and inclined to V.P. The end G is 15 mm in front of V.P. The length of the front view is 35 mm. Draw the front view, top view, and side view of the line. Determine its inclination with V.P. **8M**

(or)

5. Draw the projections of a regular hexagon of 25 mm side, having one of its sides in the H.P. and inclined at 60^0 to the V.P. and its surface making an angle of 45^0 with the H.P. **15M**

UNIT-III

6. Draw the projections of a hexagonal prism of base 25 mm and axis 60 mm long, when it is resting on one of its corners of the base on H.P with the axis of the solid is inclined at 30^0 to H.P. **15M**

(or)

7. Draw the projections of a cone, base 40 mm diameter and axis 60 mm long, lying on the H.P. on one of its generators with the axis parallel to the V.P. **15M**

UNIT-IV

8. A hexagonal pyramid of side of base 30 mm and axis 60 mm long is resting on its base on H.P., with an edge of base perpendicular to V.P. It is cut by a sectional plane inclined at 30^0 to H.P. and passing through the axis at 20 mm from the base. Draw the three views of the solid and obtain the true shape of the section. **15M**

(or)

9. A square pyramid with side of base 30 mm and axis 50 mm long, is resting on its base on the H.P., with an edge of the base parallel to V.P. It is cut by a section plane, perpendicular to V.P. and inclined at 45^0 to H.P. The section plane is passing through the mid-point of the axis. Draw the development of the surface of the cut pyramid. **15M**

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