9. Draw the isometric projection of a square prism, with side of base 40 mm and length of axis 70mm, when its axis is parallel to vertical and one of the rectangular face is parallel to V.P. **(CO4 K3) 15M**

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

VELAGAPUDI RAMAKRISHNA

SIDDHARTHA ENGINEERING COLLEGE

(AUTONOMOUS)

I/IV B.Tech. DEGREE EXAMINATION, JUNE - 2024

Second Semester

23ES2105 ENGINEERING GRAPHICS

(AI&DS, CSE(AI&ML))

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. Divide a line of 80 mm long into 10 equal parts. **(CO1 K2)**

   b. Define representative factor? **(CO1 K2)**

   c. Draw the projection of a point 'D' 25 mm below H.P. and 25 mm behind the V.P. **(CO2 K2)**

   d. A square ABCD of 40 mm side has a corner on the H.P. and 20 mm in front of the V.P. All the sides of the square are equally inclined to the H.P. and parallel to the V.P. Draw its projections. **(CO3 K2)**

   e. Draw the isometric axis. **(CO4 K2)**

PART-B

4 x 15 = 60M

UNIT-I

2. a. Construct a regular polygon of eight sides, with the length of the side as 40 mm by any one method. **(CO1 K2) 7M**

   b. Construct a scale of 1.5 inches = 1 foot to show inches and long enough to measure upto 4 feet. **(CO1 K2) 8M**

(or)

3. a. Draw the involute of an equilateral triangle of side 20 mm. **(CO1 K2) 5M**

   b. Construct a diagonal scale of R.F =1/32 showing yards, feet and inches and to measure upto 4 yards. **(CO1 K2) 10M**

UNIT-II

4. a. Draw the projections of following points:
   i) Draw the projections of a point A is 35 mm above H.P and 55mm infront of V.P.
   ii) Draw the projection of a point B is 35 mm below H.P and 25mm behind V.P. **(CO2 K2) 8M**

   b. A line PQ 40 mm long is parallel to V.P and inclined at an angle of 30^0 to H.P . The lower end P is 15 mm above HP and 20 mm in front of V.P .Draw the projections of the line. **(CO2 K2) 7M**

(or)

5. A square ABCD of 50 mm side has its corner A in the H.P. , its diagonal AC inclined at 30^0 to the H.P. and the diagonal BD inclined at 45^0 to the V.P. and parallel to the H.P. Draw its projections. **(CO2 K2) 15M**

UNIT-III

6. Draw the projections of a cone of base 75 mm diameter and axis 100 mm long lying on H.P on one of its generators with the axis parallel to the V.P. **(CO3 K3) 15M**

(or)

7. A hexagonal prism edge of base 20 mm and axis 50 mm long rests with its base on the H.P such that one of its rectangular faces parallel to V.P. It is cut by a section plane perpendicular to V.P and inclined at 45 degree to H.P passing through right corner of the top face of prism. Draw the development of lateral surface of the truncated prism. **(CO3 K3) 15M**

UNIT-IV

8. A square prism, base 40 mm side axis 80 mm long has its base on the H.P and its faces equally inclined to the V.P. It is cut by a plane perpendicular to the V.P.,inclined at 60° to H.P and passing through a point on the axis, 55 mm above the HP. Draw its front view and sectional top view . **(CO4 K3) 15M**

(or)