MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT
(AN AUTONOMOUS INSTITUTION)
(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
Accredited by NBA and NAAC with 'A' Grade & Recognized Under Section2(f) & 12(B)of the UGC act,1956

I B.Tech I Sem Supply Examination, December 2021
ENGINEERING GRAPHICS
(CIVIL, MECH & ECE)

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

Note: 1. This question paper contains two parts A and B.
      2. Part- A is Compulsory. Answer all Questions which carries 20 marks.
      3. Part – B consists 5 units. Answer any one question from each unit. Each question
        carries 10 marks and may have a, b as sub questions.

PART- A

(10*2 Marks=20Marks)

1.	a)	List out the types of Scales used in the engineering graphics.	2M	CO1	BL1
	b)	Describe the Representative Fraction	2M	CO2	BL2
	c)	Describe the Pictorial Projections and Orthographic Projection	2M	CO1	BL2
	d)	Differentiate the First Angle and third Angel of Projections	2M	CO2	BL3
	e)	Describe the types of Auxiliary Views	2M	CO1	BL 1
	f)	What is Regular Polyhedra and mentioned any two types.	2M	CO2	BL2
	g)	What is the importance of the intersection of solids	2M	CO1	BL2
	h)	What is meant by development of surface	2M	CO2	BL3
	i)	Differentiate Isometric planes and Non-Isometric planes	2M	CO1	BL2
	j)	To draw the isometric projection of a square plane	2M	CO2	BL3

PART - B

(5*10 Marks=50Marks)

UNIT-I

2	a)	On a plan, a line of 22 cm long represents a distance of 440 m. Draw a diagonal scale for the plan to read upto a single metre. Measure and mark a distance of 187m on the scale.	5M	CO 2	BL 3
	b)	To draw a parabola with the distance of the focus from the directrix at 50mm	5M	CO 1	BL 2

OR

3	a)	Draw a hyperbola with eccentricity equal to 3/2 , the focus from the directrix at 50mm	5M	CO2	BL3
	b)	Draw an epicycloid of rolling circle of diameter 40 mm which rolls outside another circle (base circle) of 150 mm diameter for one revolution..	5M	CO2	BL3

UNIT-II

| 4 | a) | A line AB, 50mm long, has its end A in both the H.P. and the V.P. It is inclined at 30_0 to the H.P. and at 45_0 to the V.P. Draw its projections. | 5M | CO2 | BL3 |
| | b) | Projections of a pentagonal plane ABCDE, inclined at ~ to H.P and perpendicular to V.P and resting on one of its edges on H.P. | 5M | CO2 | BL3 |

OR

| 5 | a) | A line AB, 90 mm long, is inclined at 30_0 to the H.P. Its end A is 12 mm above the H.P. and 20 mm in front of the V.P. Its front view measures 65 mm. Draw the top view of AB and determine its inclination with the V.P. | 5M | CO 2 | BL 3 |
| | b) | Draw the orthographic projections of the following points.
(a.) Point Pis 30 mm. above H.P and 40 mm. in front of VP
(b.) Point Q is 25 mm. above H.P and 35 mm. behind VP
(c.) Point R is 32 mm. below H.P and 45 mm behind VP
(d.) Point Sis 35 mm. below H.P and 42 mm in front of VP
(e.) Point T is in H.P and 30 mm. is behind VP | 5M | CO 2 | BL 3 |

UNIT-III

| 6 | a) | A hexagonal prism of base 25mm and .J5mm long is positioned with one of its base edges on HP such that the axis is inclined at 300 to HP. and 45° to V.P. Draw its projections. | 10M | CO 2 | BL 5 |

OR

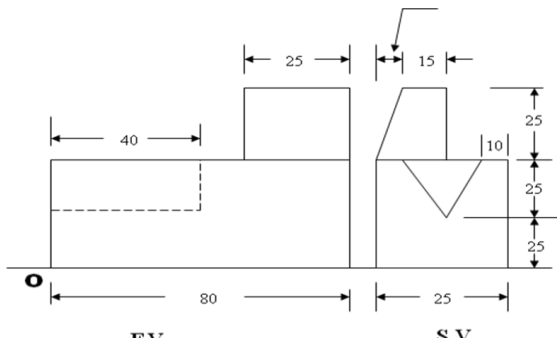| 7 | a) | A square pyramind with side of base 30mm and axis 50mm long is resting with itsbase on HP. Draw the projections of the pyramid when one of its base edges is parallel tov.P. The axis of the pyramid is 30mm in front of V.P. | 5M | CO 2 | BL 5 |
| | b) | Draw the projection of a cone of base 40mm diameter, axis 60mm long when it is resting with its base on H.P. | 5M | CO2 | BL3 |

UNIT-IV

| 8 | a) | A hexagonal prism of side of base 30 mm and axis 70 mm long is resting on its base on HP. such that a rectangular face is parallel to V.P. It is cut by a section plane perpendicular to v.p and inclined at 300 to HP. The section plane is passing through the top end of an extreme lateral edge of the prism. Draw the development of the lateral surface of the cut prism. | 10M | CO 2 | BL 5 |

OR

| 9 | a) | A cone of diameter of base ./5 mm and height 60 mm is cut by horizontal cutting plane at 20 mm from the apex. Draw the development of the truncated cone. | 5M | CO 2 | BL 5 |
| | b) | square prism of base side 60 mm rests on one of its ends on the HP with the base sides equally inclined to the VP. It is penetrated fully by another square prism of base side 45 mm with the base side equally inclined to the HP. The axes intersect at right angles. The axis of the penetrating prism is parallel to both the HP and the VP. Draw the projections of the prisms and show the lines of intersection. | 5M | CO 2 | BL 3 |

UNIT-V

| 10 | a) | Draw the Isometric view of the given orthographic views. Mark all dimensions neatly. | 5M | CO 2 | BL 6 |

OR

| 11 | a) | A hexagonal prism of base of side 30mm and height 60mm is resting on its base on H.P. Draw the isometric drawing of the prism. | 5M | CO 2 | BL 3 |
| | b) | Draw the isometric view of a pentagonal plane of 30mm side when one of its sides is parallel to H.P, (a) When it is horizontal and (b)vertical. | 5M | CO 2 | BL 3 |

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