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* CMR INSTITUTE OF TECHNOLOGY, BENGALURU.
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Internal Assesment Test – I

Sub: Engineering Visualization					Code: 21EV15
Date: 11/07/2022	Duration: 90 mins	Max Marks: 50	Sem: II	Branch (sections): I, J, K, L, M, N & O	

Answer any one from question no. 1 and 2 and question no. 3 is compulsory

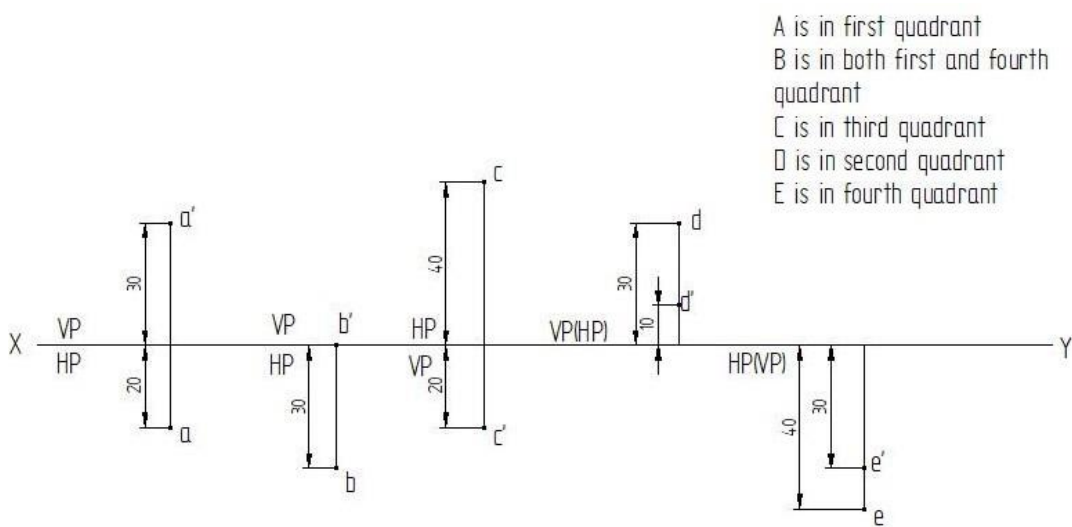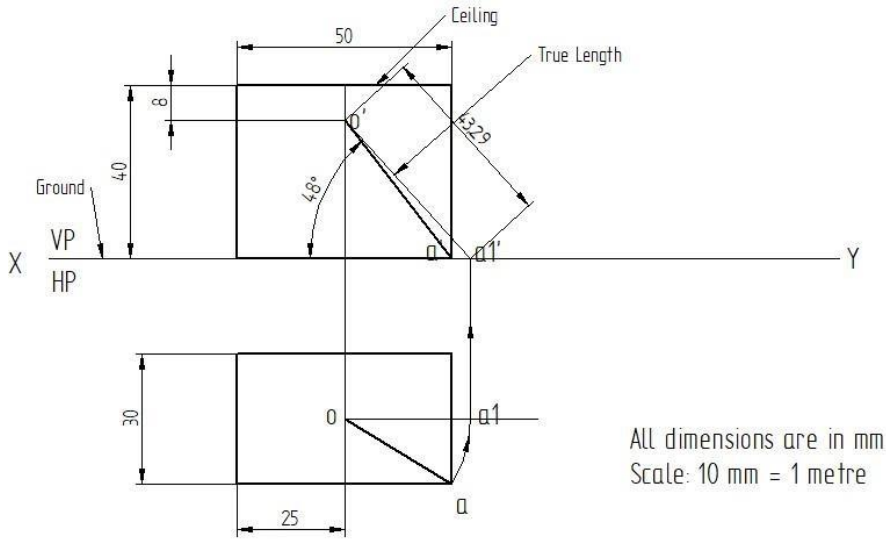| PART A	Marks	OBE	
		CO	RBT
1 a. Draw the three principal views of a point P lying 65 mm above HP, 70 mm in front of VP and 50 mm in front of the right plane.	[10]		
1 b. A line AB, 65 mm long, has its end A 20 mm above HP and 25 mm in front of VP. The end B is 40 mm above HP and 65 mm in front of VP. Draw the projections of AB and show its inclinations with HP and VP.	[15]	CO1	L2
2 a. Draw the projections of the following points on the same XY line and state in which quadrants they lie in. i. A is 20 mm in front of VP and 30 mm above HP. ii. B is 30 mm in front of VP and in HP. iii. C is 40 mm behind VP and 20 mm below HP. iv. D is 30 mm behind VP and 10 mm above HP v. E is 40 mm in front of VP and 30 mm below HP.	[10]	CO1	L2
2 b. A room is 5 m x 3 m x 4 m high. An electric lamp is suspended vertically from the center of the ceiling at a distance of 0.8 m from it. Find the distance of the lamp from any one of the ground corners and the slope angle of the connecting line with the ground.	[15]		
3. A pentagonal lamina of sides 30 mm is having a side both on HP and VP. The surface of the lamina is inclined at an angle of 60° to HP. Draw top and front views of the lamina. OR A regular hexagonal lamina of sides 30 mm rests on HP such that the diagonal line passing through the resting corner appears to be inclined at 45° to VP and the surface makes an angle of 30° to HP. Draw its projections.	[25]	CO2	L2

CI   CCI   HOD

1. A

B

a'b' = 51.23 mm
ab = 61.85 mm
θ = 18°
φ = 38°
α = 23°
β = 40°

LOCUS OF B

LOCUS OF B

2. A

A is in first quadrant
B is in both first and fourth quadrant
C is in third quadrant
D is in second quadrant
E is in fourth quadrant

B

Ceiling

True Length

50

8

40

Ground

VP

X —— HP —— Y

48°

4.329

0'

a' a1'

30

0 a1

25 a

All dimensions are in mm
Scale: 10 mm = 1 metre
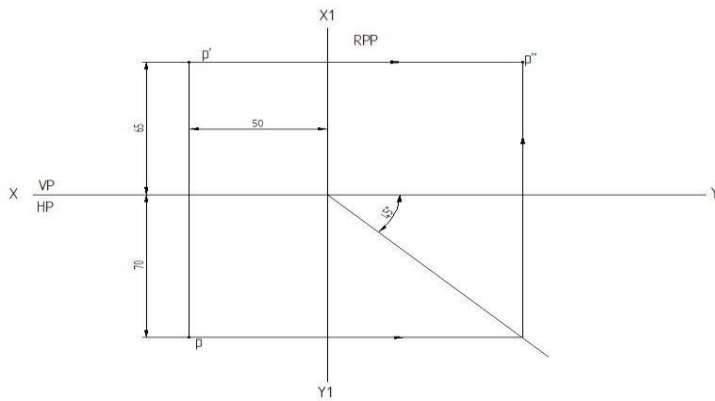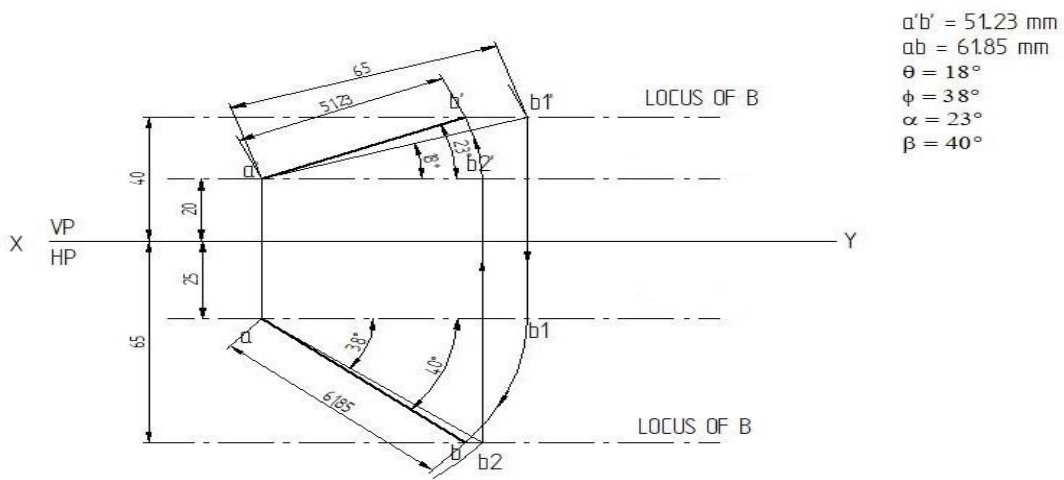
The lamp is 4.329 metres away from the ground corner as shown in the drawing.
The slope angle of the connecting Line with ground is 48°

3.