

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
FIRST SEMESTER B.TECH DEGREE EXAMINATION DEC 2015
BE110 ENGINEERING GRAPHICS

Maximum Marks : 50

Duration of Exam: 2 Hours

Part		Marks
A	<p><u>Module 1</u> <u>Answer any one question</u></p> <p>1. A room measures 8m long, 5m wide and 4m high. An electric bulb hangs in the center of the ceiling and 1m below it. There is a black spot on the bulb surface. When the bulb is switched on the image of the black spot falls on one of the corner of the room at a height of 1.25m above the floor. Neglecting the size of the bulb, draw the projections of the line connecting the black spot on the bulb and its image formed on the wall, also determine the true length of the line connecting the black spot and the its image and the slope it makes with the floor. [8 marks]</p> <p>2. Three vertical poles AB, CD, and EF are respectively 2m, 4m, and 8m long and standing on the floor. There ends B, D and F are on the floor and are the corners of an equilateral triangle of side 5m. Determine the distances between the top ends of the poles, i.e., AC, CE and AE. Find also their inclination to the floor. [8 marks]</p>	11
B	<p><u>Module 2, 3, 5 &6</u> -4 questions - answer any 3 – 13 Marks each</p> <p>3.</p> <p>a. A square pyramid of base 30 mm and height 60 mm rests with one of its base edges on HP. The axis of the pyramid makes an angle of 45° with the HP. Draw its projections[6 marks]</p> <p>b. Arrow indicates the direction to obtain the view from the front. Figure shows the isometric views of a machine component with all dimensions. Draw its view from the front, the view from above and the view from the right. [7 marks]</p> <div style="text-align: center;"> </div> <p>4. A square pyramid with side of base 30 mm, and axis 50 mm long is resting on its base on HP with an edge of the base parallel to VP. It is cut by a section plane perpendicular to VP and inclined at 45° to HP. The section plane is passing through the midpoint of the axis. Draw the true shape of the section. Draw also the development of the surface of the retained solid [14 marks]</p>	39

	<p>5. A rectangular prism $25\text{mm} \times 30\text{mm}$ side and 50mm long is lying on the ground plane on one of its rectangular faces in such a way that one of its square faces is parallel to and 10mm behind the picture plane. The central plane is 60mm away from the axis of the prism towards the left. Draw the perspective view of the prism if the station point is located 55mm in front of the picture plane and 40mm above the ground plane. The prism is resting on the ground plane on its $50\text{mm} \times 25\text{mm}$ rectangular face. ? [14 marks]</p> <p>6. A square prism of base side 60mm 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 45mm 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. [14 marks]</p>	
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