

Reg No.: \_\_\_\_\_

Name: \_\_\_\_\_

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**  
FIRST/SECOND SEMESTER B.TECH DEGREE EXAMINATION, APRIL 2018

**Course Code: BE110**

**Course Name: ENGINEERING GRAPHICS**

Max. Marks: 50

Duration: 3 Hours

**PART A**

*Answer any 2 full questions, each carries 10 marks.*

- 1 The plan pq of a straight line PQ is 70mm long and makes an angle of  $45^\circ$  with XY. (10)  
The end P is in VP and 15mm above HP. The end Q is 30mm above HP and the whole line lies in the first quadrant. Draw the projections and obtain: -  
i) True length ii) Elevation length iii) Inclination to reference planes iv) Traces
- 2 The top view of a 75mm line measures 65mm while the length of its front view is 50mm. Its one end is on the HP and 15mm in front of VP. Draw the projections and find its inclinations. (10)
- 3 A cone having base 50mm diameter and 65mm long axis has one of its generators in the HP and is inclined at  $50^\circ$  to the VP. Draw its projections when its apex being nearer to the VP. (10)

**PART B**

*Answer any 3 full questions, each carries 10 marks.*

- 4 A sphere with 60mm diameter is surmounted centrally on the top of a square block with 70mm side and 20mm height. Draw the isometric view of the combination of solids. (10)
- 5 A cone of base diameter 40mm and axis length 50mm is kept on HP on its base. It is cut by a vertical section plane which is parallel to VP and 10mm in front of the axis of the cone. Draw the sectional front view, top view and true shape of the section. (10)
- 6 A cylinder having base diameter 50mm and axis length 70mm has its base in HP. A square hole of side 25mm is drilled centrally having its sides equally inclined with HP, its axis being perpendicular to VP and bisecting the axis of the cylinder. Draw the development of the cylinder with the hole. (10)
- 7 A cube of 25mm side is placed vertically with one of its edges touching the picture plane and the vertical edge formed by the two adjacent rectangular faces, which are inclined at  $45^\circ$  to the picture plane. Draw the perspective view of the cube, if the station point is 70mm in front of the picture plane, lies in a central, containing the center of the cube and 50mm above the ground. (10)
- 8 A vertical hexagonal prism, side of base 40mm and 80mm long is completely penetrated by a horizontal square prism of 35mm side and 100 mm length. The axis of the horizontal prism is parallel to VP. If one of the rectangular face of the hexagonal prism is parallel to VP and all the faces of the square prism are equally inclined to HP, draw the projections of the prisms showing the lines of intersection. (10)

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