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**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**

B.Tech S1 (Special Improvement) Examination January 2021 (2019 scheme)

**Course Code: EST110**

**Course Name: ENGINEERING GRAPHICS**

**(2019-Scheme)**

Max. Marks: 100

Duration: 3 Hours

**Instructions: Retain Construction lines. Show necessary dimensions. Answer any ONE question from each module. Each question carries 20 marks.**

**Module-I**

- 1 A line AB 60 mm long has its end A 30 mm above HP and 25 mm in front of VP. The top view and front view have lengths of 40 mm and 55 mm respectively. Draw its projections and find the true inclinations of the line with HP and VP. Also locate its traces.
- 2 The projectors drawn from VT and end A of line AB are 40 mm apart. End A is 15 mm above HP and 25 mm in front of VP. VT of line is 10 mm below HP. If line is 75 mm long, draw its projections and find inclinations with HP and VP.

**Module-II**

- 3 A square pyramid side of base 35 mm and altitude 65 mm is kept with a side of base parallel to VP and the triangular face containing that side of base being vertical. Draw the projections of the pyramid such that the base is visible in the front view.
- 4 A pentagonal prism base side 20mm and height 60mm is resting on one of the base edges in such a way that the base makes an angle of  $30^\circ$  with HP and the edge on which the prism rests makes an angle  $30^\circ$  with the VP. Draw its projections.

**Module-III**

- 5 A pentagonal pyramid having base with 30 mm side and axis 70 mm long is resting on its base in the HP with an edge of the base nearer to the VP and parallel to it. A vertical section plane inclined at  $45^\circ$  to the VP cuts the pyramid at a distance of 8 mm from the axis. Draw its sectional front view, top view and true shape of the section.

- 6 A cone with 50 mm base diameter and 70 mm long axis rests on its base on the HP. Draw the development of its lateral surface when it is cut by an auxiliary inclined plane bisecting the axis and inclined at  $45^{\circ}$  to the HP.

**Module-IV**

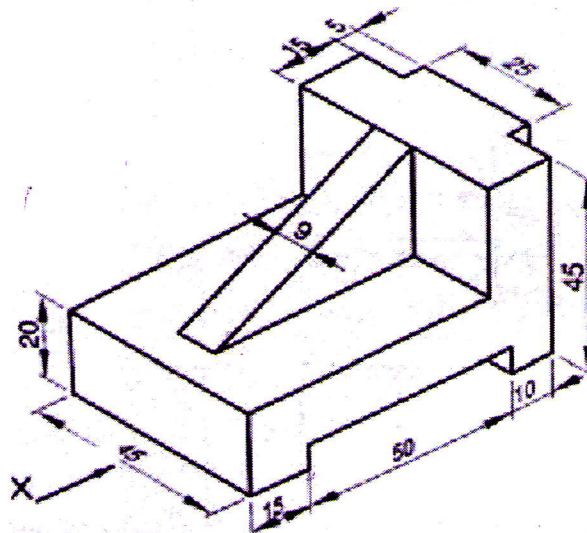
- 7 A cylinder 50mm base diameter and axis 60mm long is resting on its base on the HP. It is surmounted centrally by a sphere of 40 mm diameter. Draw the isometric view of the solids.

- 8 A hemisphere of diameter 80mm is resting on the ground with its flat surface facing upwards. A square pyramid having side of base 40mm and axis 60mm is resting on its base centrally on the top of the flat face of the hemisphere. Draw the isometric view of the combination of the solids.

**Module-V**

- 9 A hexagonal prism 25 mm side and 50mm long is lying on one of its rectangular face on the ground plane. The station point is 80 mm in front of the picture plane, 65mm above the ground plane and lies in a central plane which is 70 mm to the right of the axis of the prism. Draw the perspective view of the prism if one of the hexagonal faces of the prism is on the picture plane.

- 10 Draw the top view, front view and any one side view of the figure shown below. The front view direction is marked as X. Any missing dimension may be suitably assumed.



(5x20=100 Marks)

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