

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 The distance between the end projectors through the end points of line AB is 60 mm. The end A is 20 mm above HP and 15 mm in front of VP. The end B is 45 mm in front of VP and above HP. Front view of the line measures 75 mm. Draw the projections of line AB and find its true length and true inclinations with HP and VP.
- 2 The top view of a line PQ is 70 mm long and makes an angle of 45° with XY. The end P is in VP and 15 mm above HP. The end Q is 30 mm above HP and the whole line is located in first quadrant. Draw its projections and find its true length, length of its elevation, inclinations with reference planes and also locate its traces.

Module-II

- 3 A pentagonal pyramid of base edge 30 mm and axis length 60 mm is resting on VP on one of its base edges. The axis of the pyramid is inclined at 35° to VP and the resting base edge is inclined at 45° to HP. Draw the projection of the pyramid.
- 4 A right circular cone, 40 mm base diameter and 60 mm long axis is resting on HP on one point of base circle such that its axis makes 45° inclination with HP and 40° inclination with VP. Draw its projections.

Module-III

- 5 A cylinder with a 60 mm base diameter and 70 mm axis is resting on its base in the HP. It is cut by an auxiliary inclined plane which makes an angle of 60° with the HP and perpendicular to VP and passes through the top end of the axis. Draw its front view, sectional top view and true shape of the section.
- 6 A pentagonal prism of base 30 mm and axis 60 mm long is kept with its base on HP with a base edge perpendicular to VP. It is cut by a plane inclined at 45° to

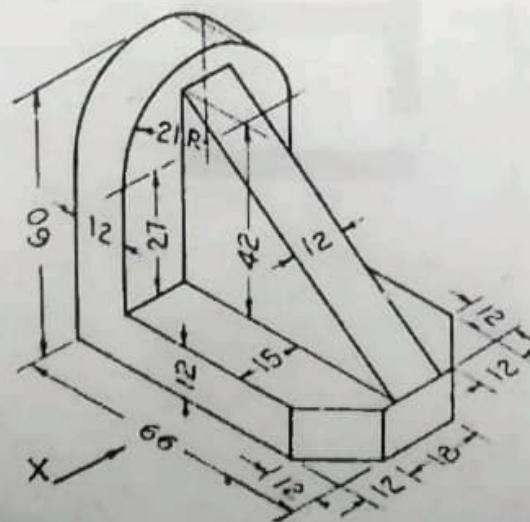
HP, perpendicular to VP and passing through the mid point of the axis. Draw the development showing the remaining portion of the solid.

Module-IV

- 7 A sphere of 50 mm diameter is placed centrally on the top of the frustum of a square pyramid of 30 mm base side, 20 mm top side and the axis 50 mm long. Draw the isometric projection of the solids.
- 8 A hexagonal pyramid of base edge 25 mm and height 60 mm is surmounted centrally over a square slab of 70 mm side and 30mm thickness lying with its square side on HP so that one side of the square slab and one base edge of the pyramid are parallel to VP. Draw the isometric view of the combination.

Module-V

- 9 A square pyramid of base sides 30 mm and height 45 mm rests on its base on the ground with two base edges parallel to the Picture Plane (PP). The nearest edge of the base is 20 mm behind PP. The station point is situated at a distance of 70 mm in front of the PP, 40 mm to the right of the axis of the pyramid, and 60 mm above the ground. Draw the perspective view of the pyramid.
- 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.



20X5=100 marks
