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APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
FIRST SEMESTER B.TECH DEGREE EXAMINATION(2019 SCHEME), DECEMBER 2019

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 RS having length 90 mm is inclined 30° to HP and 45° to VP. The point R is 10 mm above HP and 15 mm in front of VP and the end S is in second quadrant. Draw the projections of the line.
- 2 A line AB inclined at 45° to VP has its ends 20 mm and 50 mm above HP. The length of its front view is 70 mm and its VT is 10 mm above HP. Draw its projections and find its true length, true inclination with HP and also locate its traces.

Module-II

- 3 A cone with base diameter 40 mm and axis 60 mm long touches the VP on a point of its base circle. The axis is inclined at 30° to VP and the front view of its axis inclined at 45° to XY line. Draw its projections.
- 4 A square pyramid of base edge 30 mm and the height 60 mm is resting on HP on its triangular face such that the square face edge on HP is inclined 30° to VP. Draw its projections

Module-III

- 5 A square prism having a base of 40 mm side and 60 mm long axis rests on its base on the HP such that one of the vertical faces makes an angle of 30° with the VP. A section plane perpendicular to the VP, inclined at 45° to the HP and passing through the axis at a point 20 mm from its top end, cuts the prism. Draw the front view, sectional top view and true shape of the section.
- 6 Draw the development of a right circular cone of base diameter 60 mm and height 64 mm resting on HP on its base. An insect moves from a point on the base circle and returns to the same point after travelling through the

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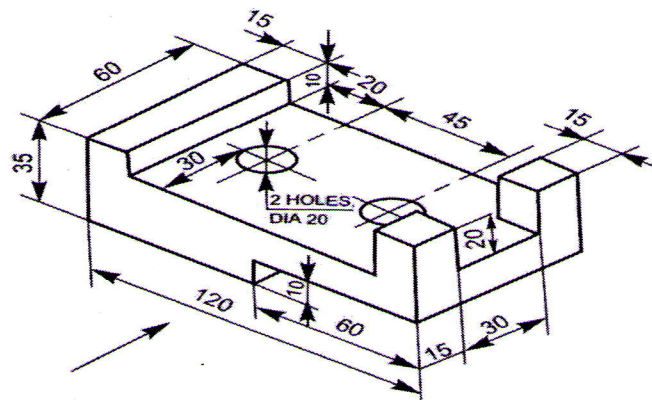
shortest path along the curved surface. Mark the shortest path in the front and top views of the cone.

Module-IV

- 7 A sphere of 20 mm radius is placed centrally over a hexagonal slab of side length 30 mm and thickness 20 mm. Draw the isometric view of the combination.
- 8 A hemisphere of diameter 30 mm rests centrally on its circular base on the top of a frustum of a cone of base diameter 60 mm, top diameter 30 mm and height 60 mm. Draw isometric view of the combination.

Module-V

- 9 A square prism side of base 40 mm and height 60 mm rests with its base on the ground such that one of its rectangular face is parallel to and 10 mm behind the picture plane. The station point is 50 mm in front of picture plane, 80 mm above ground plane 45 mm to the right of centre of the prism. Draw the perspective view.
- 10 Draw the top view, front view and any one side view of the figure shown below. The front view direction is marked with a long arrow. Any missing dimension may be suitably assumed.



20X5=100 marks
