Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

First Semester B.Tech Degree Regular and Supplementary Examination December 2023 (2019 scheme)

Course Code: EST 110

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 1

1 The elevation of a straight line CD is 65 mm long. C is 15 mm below HP and is 30 mm in front of VP. D is 55mm below HP and` is in third quadrant. Draw the projections of line CD if the line is inclined 30^o to HP. Find out its true length and true inclination with respect to VP.

2 The front view of a straight line MN which is 75 mm long is 70 mm and is inclined 40^o to x-y line. The end point M is 20 mm above HP and is 35 mm behind VP. The other end N is 25 mm below HP and is in the third quadrant. Find out the true length and true inclinations of the line with HP and VP.

MODULE 2

3 A pentagonal pyramid, base 30 mm side and height 80mm has a triangular face on the ground and the vertical plane containing the axis make an angle of 30^o with VP. Draw the projections of the solid.

4 A cone of base 50 mm diameter and axis 75mm long has one of its generators on the HP. A plane containing that generator and the axis is perpendicular to the HP and is inclined at 60^o to the VP. Draw the projections of the cone when the base is nearer to the VP than the apex.

MODULE 3

5 A square prism of base side 30mm and height 75 mm rests on the HP on its base with two of its rectangular faces equally inclined to VP. It is cut by a plane perpendicular to VP and inclined at 60^o to HP meeting the axis at 15 mm from top. Draw its elevation, sectional plan and true shape of section.

6 Draw the development of the lateral surfaces of the hexagonal pyramid of base of side 25 mm and altitude 60 mm which is resting vertically on its base on the ground with two of the sides of the base perpendicular to the VP.

MODULE 4

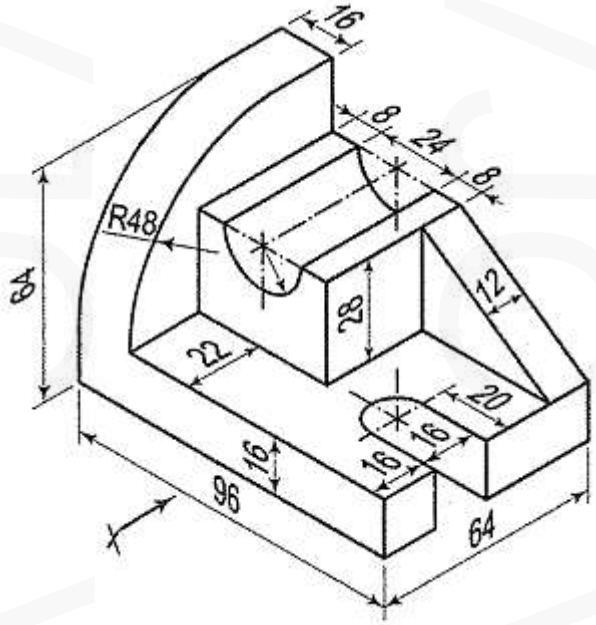
7 A cylindrical slab, 60 mm in diameter and 20 mm thick is surmounted by a cube of 30 mm side. The axes of the solids are in the same vertical line. Draw the isometric projection of the solids

8 A waste paper basket is in the form of a frustum of hexagonal pyramid with base 100 mm hexagon and top 150 mm hexagon. Draw the isometric view if its height is 40 cm.

MODULE 5

9 A rectangular prism of size 20 x 20 x 40 mm is lying on the ground plane on one of its largest faces. A vertical edge is in the Picture Plane (PP) and the longer face containing that edge makes an angle of 30^o with PP. The station point is 50 mm in front of the PP, 30 mm above the ground plane, and lies in a central plane which passes through the centre of the prism. Draw the perspective view of the prism.

10 Draw the front view, top view, and side view of the object given below. Front view should be drawn as seen in the direction of the arrow X.



(5 x 20 = 100 Marks)

****