

Part-B (5 × 8 = 40 Marks)

11. a)	A pentagonal pyramid, base 30 mm side and axis 60 mm long is resting on its triangular face on the HP with the axis parallel to the VP. A vertical section plane whose HT bisects the top view of the axis and makes an angle of 30° with the reference line, cuts the pyramid, removing its top part. Draw the top view and sectional front view.	6	3	1	2
b)	Referring to the above question draw the true shape of the section.	2	3	1	2
12. a)	An ellipse of largest size is engraved in a plate, which is in the form of a rectangle with 120 mm and 80 mm sides. The plate is wrapped to form a vertical cylinder. Draw the cylinder and mark a curve on the front view showing the engraved ellipse of the plate.	6	5	2	2
b)	State the methods used for drawing the development of lateral surface of solids with examples.	2	1	2	1
13. a)	A right circular cylinder of 75mm diameter and 90mm, resting on its base in HP. It is completely penetrated by another cylinder of 50 mm diameter and 90 mm long, such that their axes bisect each other at right angles and are parallel to VP. Draw the projections of the solids showing lines of intersection in front view.	4	4	3	2
b)	Refer to the previous problem and draw the lines of intersection in top view.	2	4	3	2
14. a)	Draw the isometric view of a pentagon of 30 mm side in front and top view.	4	3	4	2
b)	A cube of 30 mm edge is placed centrally on top of a cylindrical block of 60mm diameter and 20 mm height. Draw the isometric view of the object.	4	4	4	2
15. a)	The following figure refers to an isometric view of an object. Draw the front view and side view of the given object. Refer fig 2.	5	3	5	2
<p>fig 2</p>					
b)	Referring to the above problem draw the top view of the object.	3	3	5	2

16. a)	A cone, diameter of the base 60 mm and axis 70 mm long is resting on its base on the HP. It is cut by an AIP so that true shape of the section is an Isosceles triangle having 50 mm base. Draw the top view, front view and angle of section plane.	5	1	1	2
b)	Referring to the above problem draw the development of surface of left over portion.	3	1	1	2
17.	Answer any two of the following:				
a)	A sphere of 50 mm diameter rests centrally over a cube of 30 mm side. Draw the isometric projection of the solid.	4	4	5	2
b)	Draw all the three views of the given isometric projection. Refer to fig 3.	4	3	4	2
c)	A cone with an 80 mm base diameter and 100 mm long axis is resting on its base on the HP. It is completely penetrated by a cylinder of 40 mm base diameter. The axes of the solids intersect each other at right angles, 30 mm above the base of the cone. Draw their projections and show curves of intersection.	4	4	3	4

M: Marks; L: Bloom's Taxonomy Level; CO: Course Outcome; PO: Programme Outcome

S. No.	Criteria for questions	Percentage
1	Fundamental knowledge (Level-1 & 2)	33
2	Knowledge on application and analysis (Level-3 & 4)	60
3	*Critical thinking and ability to design (Level-5 & 6) (*wherever applicable)	7