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Code No. : 12038

VASAVI COLLEGE OF ENGINEERING (Autonomous), HYDERABAD**B.E. (CBCS) II-Semester Main Examinations, January-2021****Engineering Graphics-II**

(Common to Civil & Mech.)

Time: 2 hours

Max. Marks: 60

*Note: Answer any NINE questions from Part-A and any THREE from Part-B***Part-A (9 × 2 = 18 Marks)**

Q. No.	Stem of the question	M	L	CO	PO
1.	Illustrate a section plane or a cutting plane with help of a sketch.	2	1	1	1
2.	Explain section lines or hatching lines with help of a sketch.	2	2	1	1
3.	List out methods of Development of surfaces and their application to the type of solids	2	3	2	1
4.	Draw the lateral surface development of a square pyramid of base side 20mm and axis 40mm having axis perpendicular to HP with one edge of the base parallel to V.P.	2	4	2	1
5.	List out the practical applications of intersection of surfaces.	2	3	3	1
6.	Explain the cutting- plane method for obtaining the curves of intersection.	2	1	3	2
7.	Construct an isometric scale and measure isometric length of a 75mm true length.	2	2	4	2
8.	Explain the difference between isometric projection and isometric view.	2	1	4	1
9.	Sketch front view and top view of a combination of solids - sphere is centrally resting on a cube.	2	3	5	1
10.	Sketch front view and top view of the object shown in figure: 1	2	3	5	1
11.	What is a sectional view? Why sectional views are used in drawing?	2	1	1	1
12.	Draw the lateral development of a square prism side 20mm, axis 50mm resting on its base on the HP.	2	3	2	2
Part-B (3 × 14 = 42 Marks)					
13. a)	A square pyramid of base side 40mm and axis 60mm is resting on its base on the HP with all the sides of the base equally inclined to VP. The pyramid is cut by a section plane which is parallel to the HP and perpendicular to the VP, and bisecting the axis. Draw the front view and top sectional view.	6	3	1	2

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	<p>b) A square pyramid of base side 40mm and axis 60mm is resting on its base on the HP with all the sides of the base equally inclined to VP. The pyramid is cut by a section plane which is inclined at 45° to the HP and perpendicular to the VP, and bisecting the axis. Draw the front view, top sectional view and true shape of the section.</p>	8	3	1	2
14. a)	<p>A cylinder of base diameter 50mm and axis 70mm is resting on ground with its axis vertical. It is cut by a section plane perpendicular to the VP, inclined at 45° to the HP, passing through the top of an extreme generator and cuts all other generators. Draw the development of its lateral surface.</p>	6	2	2	2
	<p>b) A cone of base diameter 50mm and axis 60mm is resting on its base on the HP. A section plane perpendicular to VP and inclined at 45° HP, bisects the axis of the cone. Draw the development of its lateral surface.</p>	8	3	2	2
15. a)	<p>A cone of the base diameter 60mm and axis 70mm is resting on its base in the HP. It is penetrated by a cylinder of diameter 40mm and axis 100mm, such that their axes are parallel to each other and 7mm apart. The plane containing both the axes is parallel to the VP. Draw the projections showing the curves of intersection.</p>	6	3	3	2
	<p>b) A cylinder of base diameter 70mm and axis 80mm is resting on its base on the HP. It is penetrated by another cylinder of base diameter 60mm and axis 90mm, such that their axes bisect and intersect each other at right angles. Draw the projections of the combination and show the curves of intersection.</p>	8	3	3	2
16. a)	<p>Draw isometric projection of the frustum of a cone of base diameter 60mm, top diameter 30mm and height 55mm.</p>	6	4	4	1
	<p>b) A square pyramid of base side 25mm and axis 40mm rests centrally over a cylindrical block of base diameter 50mm and thickness 20mm. Draw the isometric view of the arrangement.</p>	8	3	4	2
17. a)	<p>Draw the front view, left side view and top view of an object shown in figure:2</p>	6	2	5	1
	<p>b) Draw the front view, right side view and top view of an object shown in figure: 3</p>	8	4	5	1
18. a)	<p>A cone of base diameter 50mm and axis 60mm is resting on its base on the HP. It is cut by an AIP inclined at 45° to the HP and passing through a point on the axis 20mm above the base. Draw its sectional top view and obtain the true shape.</p>	6	3	1	2
	<p>b) A hexagonal pyramid of base 40mm and axis 60mm is resting on its base on the HP with an edge of the base perpendicular to the VP. It is cut by an auxiliary inclined plane whose VT is inclined at 60° to the HP bisecting the axis. Draw the development of its lateral surface.</p>	8	3	2	2

19.	Answer any <i>two</i> of the following:				
a)	A cylinder of base diameter 70mm and axis 80mm is resting on its base on the HP. It is completely penetrated by another cylinder of same dimensions such that their axes bisect and intersect each other at right angles. Draw the projections of the combination and show the curves of intersection.	7	2	3	2
b)	A sphere of diameter 50mm is surmounted centrally on the top of a square block of side 60mm and thickness 20mm. Draw the isometric view of the arrangement.	7	3	4	2
c)	Draw three views of an object shown in figure:4	7	4	5	1

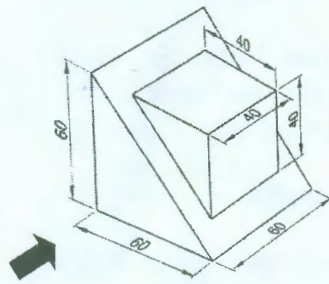


Figure: 1.

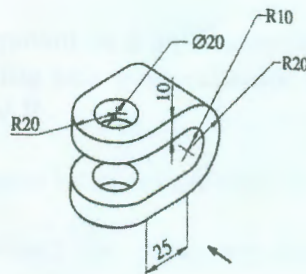


Figure: 2.

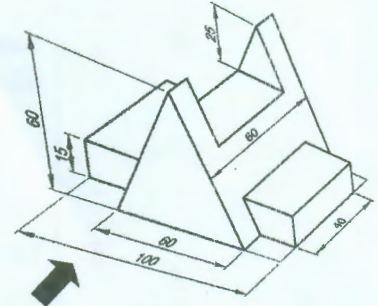


Figure: 3.

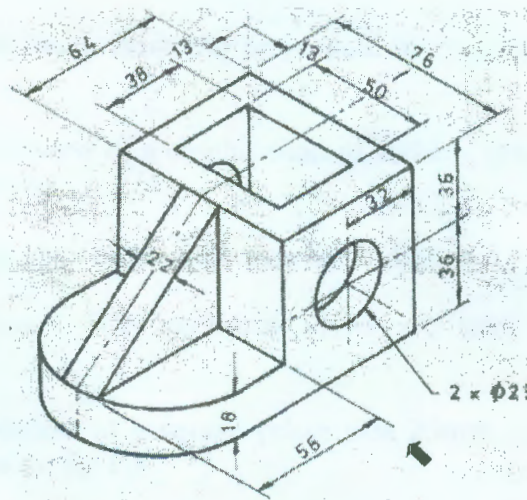


Figure: 4.

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)	24
2	Knowledge on application and analysis (Level-3 & 4)	76
3	*Critical thinking and ability to design (Level-5 & 6) (*wherever applicable)	0