Reg. No: | | | | | | | | | | |

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech I Year II Semester Supplementary Examinations February-2022

ENGINEERING GRAPHICS

(Common to CE, EEE, ME & AGE)

Time: 3 hours Max. Marks: 60

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1	**a**	Draw an epi-cycloid of a circle of 40 diameter, which rolls on another circle of 120 diameter for one revolution clock wise. Draw a tangent and normal to it at a point 90 from the center of the directing circle.	**6M**
	b	Draw a hypo cycloid of circle of 40 diameter which rolls inside another circle of 160 diameters for one revolution counter clock wise. Draw a tangent and a normal to each at point 65 from the centre of the directing circle.	**6M**

OR

2	**a**	A thread of length 165 is wound round a circle of 40 diameter. Trace the path of end point of the thread.	**6M**
	b	Draw an involute of a triangle 20 side; draw a normal and a tangent at a point 60 from the centre of the triangle.	**6M**

UNIT-II

3	**a**	A point A is 15 mm above HP and 20 mm in front of VP. Another point B is 25mm behind VP and 40 mm below HP. Draw the projections of A and B, Keeping the distance between the projectors equal to 90 mm. Draw straight lines , joining their top views and front views.	**8M**
	b	A line AB of 100 mm long is inclined at an angle 300 to H.P and 450 to V.P. A point A is 15 mm above H.P and 20 mm in front of V.P .Draw the projections of the line.	**4M**

OR

4	**a**	A regular pentagon of 30 mm side is resting on one of its edges on H.P, which is inclined at 450 to V.P. Its surface is inclined at 300 to H.P. Draw its projections.	**7M**
	b	A line AB of 70 mm long, as its end A at 10 mm above H.P and 15 mm in front of V.P. Its front view and top view measures 50 mm and 60 mm. Draw the projections of the line and determine its inclination with H.P and V.P.	**5M**

UNIT-III

5	**a**	Draw the projections of a cylinder of 40 mm diameter and axis 60 mm long, when it is lying on H.P, with its axis inclined at 450 to H.P and parallel to V.P.	**6M**
	b	A pentagonal prism of edge of base 30 mm and 60 mm long, is resting on one of its faces on H.P. The axis of the prism is parallel to both H.P and V.P .It is cut by a section plane, inclined at 450 to H.P and passing through the axis at 10 mm from one base. Draw the projections and show the true shape of the section.	**6M**

OR

6	**a**	A hexagonal prism of side of base 25 mm and axis 60 mm long, is resting on its base on H.P such that ,an edge of the base parallel to V.P. It is cut by a section plane, inclined at 450 to V.P and 10 mm away from the axis. Draw the projections of the solid. Also, obtain auxiliary front view, showing true shape of the section.	**5M**
	b	A cone with base 60 mm diameter and axis 75 mm long, is resting on its base on H.P. It is cut by a section plane parallel to H.P and passing through the mid-point of the axis. Draw the projections of the cut solid.	**7M**

UNIT-IV

7	**a**	A hexagonal prism side of base 30 mm and axis 75 mm long ,is resting on its base on H.P such that, a rectangular face is parallel to V.P. It is cut by a section plane, perpendicular to V.P and inclined at 300 to H.P. The section plane is passing through the top end of an extreme lateral edge of the prism. Draw the development of the lateral surface of the cut prism.	**6M**
	b	A square pyramid with side of base 30 mm and axis 50 mm long ,is resting on its base on H.P with an edge of the base parallel to V.P.it is cut by a section plane, perpendicular to V.P and inclined at 450 to H.P. The section plane is passing through the mid- point of the axis. Draw the development of the surface of the cut pyramid.	**6M**

OR

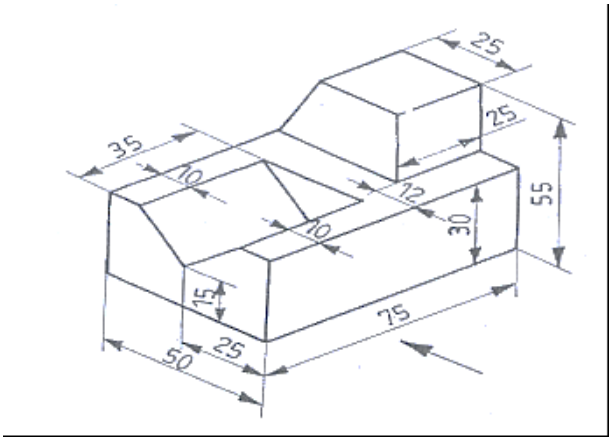
8	**a**	A cone of base 50 mm diameter and height 65 mm rests with its base on H.P.A section plane perpendicular to V.P and inclined at 300 to H.P bisects the axis of the cone. Draw the development of the lateral surface of the cone.	**6M**
	b	A vertical cylinder 60 mm diameter, is penetrated by another cylinder of 45 mm diameter. The axes of the two cylinders are intersecting at right angle. Draw the projections of the two cylinders, showing the lines (curves) of intersection.	**6M**

UNIT-V

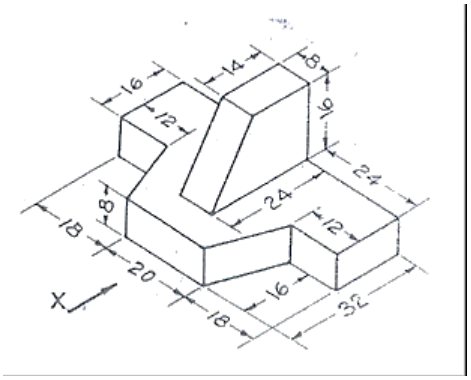
9	**a**	Draw the isometric view of a circular plane of 50 mm diameter whose surface is (i) Horizontal Plane (ii) Vertical Plane.	**6M**
	b	Draw the isometric view of a pentagonal prism of base side 30 mm and axis 60mm. The prism rests on its base on the HP with a vertical face perpendicular VP.	**6M**

OR

10	**a**	Draw three views of the blocks shown pictorially in figure according to first angle projection.	**6M**



	b	Draw three views of the blocks shown pictorially in figure according to first angle projection.	**6M**



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