



ACE
Engineering College
(with a Difference in Excellence)

An AUTONOMOUS Institution

ACE-R20

Question Paper Code:

ME204ES

Semester End Examination
I B. Tech- II Semester- September 2021
Engineering Graphics
Branch : CSE

Time: 3 Hours

Max. Marks: 70

H. T. No

Answer any five full questions from the following. All Questions carry equal marks.

M=Marks; CO=Course Outcomes; PO= Program Outcomes

Q.No	Question	M	CO	PO
1. a)	Draw an epicycloid generated by a rolling circle of 50 mm on the outside of another circle of diameter 150 mm without slipping. Draw the tangent and normal to the cycloid at a distance 90 mm from the centre of base circle.	7	1&2	1,2,3,10
b)	Construct a diagonal scale of R.F.=1:20 and capable of measuring 3m. Mark on it a distance of 2.54m.	7	1&2	1,2,3,10
2. a)	A line 'AB' 70 mm long has its end A is 15 mm above the HP and 20 mm in front of the VP. The inclinations of the line with HP and VP are 30° and 45° respectively. Draw its projections.	7	1&2	1,2,3,10
b)	A point P is on HP and 30mm in front of VP. Another point Q is on VP and 40mm above HP. The distance between their projectors parallel to XY line is 50mm. Find the distance between their front and top views of the points P and Q	7	1&2	1,2,3,10
3.	A thin circular plate of 70mm diameter is resting on its circumference on HP such that its plane is inclined at 60° to HP and 30° to VP. Draw the projections of the plate.	14	1&2	1,2,3,10
4.(a)	An area of 144sq.cm on a map represents an area of 36sq.km on the field. Find the RF of the scale of the map and draw a diagonal scale to show Km, hectometers and decameters and to measure up to 10km. Indicate on the scale a distance 7km, 5hectometers and 6decametres.	7	1&2	1,2,3,10
4(b)	A line AB measuring 70mm has its end A 15mm in front of VP and 20mm above HP and the other end B is 60mm in front of VP and 50mm above HP. Draw the projections of the line and find the inclinations of the line with both the reference planes of projections.	7	1&2	1,2,3,10
5.	A hexagonal prism with a side of base 25mm and axis 60mm long is resting on one of its rectangular faces on H.P. Draw the projections of the prism when it is inclined at 45° to V.P.	14	1&2	1,2,3,10
6.	Draw the development of a lateral surface of the frustum of a square pyramid which is cut by a section plane perpendicular to VP and inclined to HP at 45° and passing through the bottom extreme right corner. The pyramid has side of 35mm and height of 60 mm resting on its base on HP.	14	1&2	1,2,3,10
7.	A Pentagonal Pyramid, sides of base 25mm and height 65mm is placed centrally on a cylindrical slab of diameter 100mm and thickness of 30mm. Draw the Isometric Projection of the combination.	14	1&2	1,2,3,10

8. Illustrate the elevation, top view and side view of the following objects shown in Fig.1 below. All dimensions are in mm.

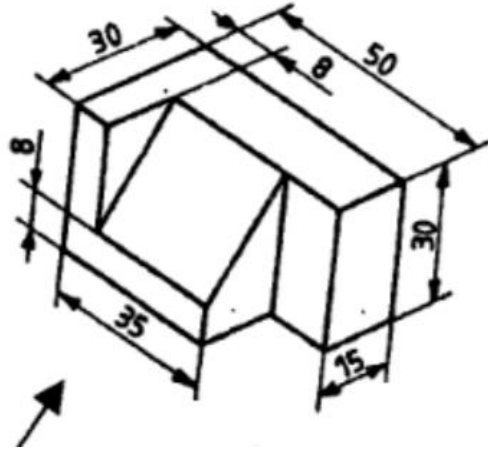


Fig.1

14

1&2,3

1,3