ACE
Engineering College
(with a Difference in Excellence)

An AUTONOMOUS Institution

ACE-R20

Question Paper Code: | ME104ES

Supplementary Examination
I B. Tech- I Semester- November 2021
Engineering Graphics
(Common To CE,MECH,ECE,CSM,CSO)

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)	Construct a cycloid, given the diameter of the generating circle as 40. Draw tangent to the curve at a point 30 from the line.	7	1&2	1,2,3,10
b)	Construct a diagonal scale of R.F.=1:20 and capable of measuring 4m. Mark on it a distance of 3.45m.	7	1&2	1,2,3,10
2. a)	Two points A and B are on H.P; the point A is being 30 in front of V.P, while B is 45 behind V.P. The line joining their top views make an Angele of 45⁰ with xy. Find the horizontal distance between two points.	7	1&2	1,2,3,10
b)	A line measuring 80 mm long has one of its ends 60 mm above H.P and 20mm in front of V.P. The other end is 15mm above H.P and in front of V.P. The front view of the line is 60 mm long. Draw the top view.	7	1&2	1,2,3,10
3.	A regular pentagon of 30mm side, is resting on one of its edges on H.P, which is inclined 45⁰ to V.P. Its surface is inclined 30⁰ to H.P. Draw its projections.	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)	An equilateral triangular plane ABC of side 40 mm, has its plane parallel to V.P and 20mm away from it. Draw the projections of the plane when one of its sides is (i) perpendicular to H.P. (ii) parallel to H.P and (iii) inclined to H.P at an angle of 45⁰.	7	1&2	1,2,3,10
5.	A cylinder 40mm diameter and 50 mm axis is resting on one point of a base circle on VP while It's axis makes 45⁰ with VP and FV of the axis 35⁰ with HP. Draw the projections.	14	1&2	1,2,3,10
6.	A hexagonal prism, having a base with a 20mm side and 60mm height is resting on the base in HP such that one of the rectangular faces is parallel to the VP. It is cut by a plane perpendicular to VP and 60⁰ inclined to HP and cutting the midpoint of the axis of the solid. Draw development of lateral surface of the bottom part of the solid.	14	1&2	1,2,3,10
7.	Draw the isometric projection of a square prism having a side of base 40 mm and altitude 50 mm surmounting a sphere of diameter 60 mm.	14	1&2	1,2,3,10

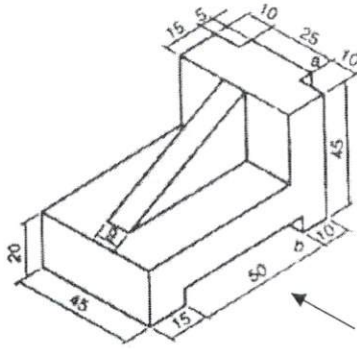| 8.	Illustrate the elevation, top view and side view of the following object shown in Fig.1 below. All dimensions are in mm.	14	1&2,3	1,3

Fig.1