ACE Engineering College
(with a Difference in Excellence)
An AUTONOMOUS Institution

ACE-R20

Question Paper Code: ME104ES

Semester End Examination
I B. Tech- I Semester- JULY- 2021
Engineering Graphics
Branch: ECE

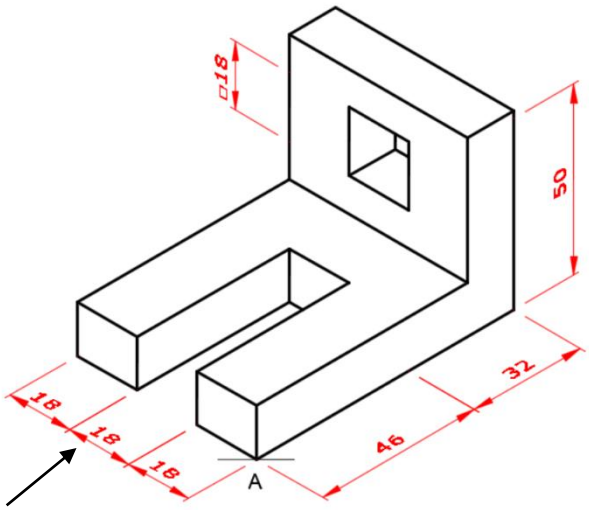
Time: 3 Hours **Max. Marks: 70**

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 conic when the distance of its focus from the directrix is equal to 60 mm and its eccentricity is 2/3. Measure its major and minor axes. Draw a tangent at any point on the curve.	**7**	**1&2**	**1,2,3,10**
b)	A cricket ball thrown reaches a maximum height of 9 m and falls on the ground at a distance of 25 m from the point of projection. Draw the path of the ball.	**7**	**1&2**	**1,2,3,10**
2. a)	A point A is 40 above H.P. and 25 in front of V.P. Another point B is 20 behind V.P. and 30 below H.P. The horizontal distance between the points is 100mm. Draw the projections of the points A and B	**7**	**1&2**	**1,2,3,10**
b)	The distance between two stations by road is 200 km and it is represented on a certain map by a 5 cm long line. Find the R.F. and construct a diagonal scale showing a single kilometer and long enough to measure up to 600 km. Show a distance of 467 km on this scale.	**7**	**1&2**	**1,2,3,10**
3.	A line PQ has the end P at 10 mm above the H.P. and 15 mm in front of the V.P. The lengths of its front and top views are 60 mm and 50 mm respectively. If the top view of the line is inclined at 30^O to the reference line, draw its projections. Determine its true length and inclination with the principal planes.	**14**	**1&2**	**1,2,3,10**
4.	Draw an epicycloid of rolling circle of diameter 40 mm which rolls outside another circle (base circle) of 150 mm diameter for one revolution. Draw a tangent and normal at any point an curve.	**14**	**1&2**	**1,2,3,10**
5.	A square prism 30 mm sides of base and 60mm axis length rests on H.P on one of its corners of the base such that the two base edges containing the corner on which it rests make equal inclination with H.P. Draw the projections of the prism when the axis of the prism is inclined to H.P at 40^0 and appears to be inclined to V.P at 45^0.	**14**	**1&2**	**1,2,3,10**
6.	A hexagonal prism, edge of base 20 mm and axis 50 mm long, rests with its base on HP such that one of its rectangular faces is parallel to VP. It is cut by a plane perpendicular to VP, inclined at 45° to HP and passing through the right corner of the top face of the prism. (i) Draw	**14**	**1&2**	**1,2,3,10**

	the sectional top view. (ii)Develop the lateral surfaces of the truncated prism.			
7.	A Vertical square prism 30 mm base sides and 70mm axis is completely penetrated by another square prism of 25 mm sides and 70 mm axis, horizontally. Both axes Intersects & bisect each other. All faces of prisms are equally inclined to V.P. Draw projections showing curves of intersections	**14**	**1&2**	**1,2,3,10**
8.	Draw the orthographic views of the component shown fig1.  Fig1	**14**	**1&2,3**	**1,3,5**