R20 Regulation *Subject code:* 3E1AE

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A' Grade)

B.Tech I Semester Regular Examinations, July 2021

Engineering Graphics

(Common to CE ,ME,CSE, CSE(AI&ML),CSE(DS) &IT)

Maximum Marks: 70 Date:20.07.2021 Duration: 3 hours

Note: 1. It consists of 5 Units. Answer any one full question from each unit which carries 14M.
2. Each question carries 14 marks and may have a, b, c, d as sub questions.

Answer All the following questions. (14MX 5=70Marks)

1 The directrix of a hyperbola is 65mm from its focus. Draw the curve if the eccentricity is $\frac{3}{2}$ .Draw normal and a tangent at a point on the curve, 75mm from the directrix. [14M]

OR

2 A circle of 50 mm diameter rolls on the circumference of another circle of 175mm diameter and outside it. Trace the locus of a point on the circumference of the rolling circle for one complete revolution. Name the curve. Draw a tangent and a normal to the curve at a point 125mm from the centre of the directing circle. [14M]

3 (A) Draw the projections of the following points on the same ground line, keeping the projectors 25mm apart.
A- In the H.P and 20mm behind the V.P
B- 40mm above the H.P and 25mm in front of the V.P [7M]
(B) A line AB, 65mm long, has its end A 20mm above the H.P and 25mm in front of the V.P. The end B is 40mm above the H.P and 65mm in front of the V.P. Draw the projections of AB and show its inclinations with the H.P and V.P [7M]

OR

4 A circular plate of negligible thickness and 50mm diameter appears as an ellipse in front view, having its major axis 50mm long and minor axis 30 mm long .Draw its top view when the major axis of the ellipse is horizontal. [14M]

5 Draw the projections of a cone, base 45mm diameter and axis 50mm long ,when it is resting on the ground on a point on its base circle with the axis making an angle of 30° with the H.P and 45° with the V.P.[14M]

OR

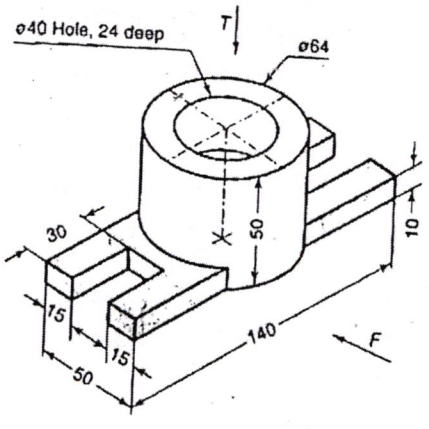
6 A pentagonal pyramid, base 25mm side and axis 50mm long has one of its triangular faces in the V.P and the edge of the base contained by that face makes an angle of 30° with the H.P. Draw its projections. [14M]

7 A pentagonal pyramid, base 30mm side and axis 65mm long, has its base horizontal and an edge of the base parallel to the V.P. A horizontal section plane cuts it at a distance of 25mm above the base. Draw its front view and sectional top view. [14M]

OR

8 Draw the development of the lateral surface of the lower portion of a cone of base diameter 50 mm and axis height 70 mm. The solid is cut by a section plane inclined at 40° to HP and perpendicular to VP, passing through the midpoint of the axis. [14M]

9 Draw the Orthographic views of the following object. [14M]



OR

10 Projection of a casting is given in the figure below. Draw the isometric view. [14M]