R22 Regulation *Subject code:4E1DD*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech I Semester, Regular Examinations, March/April 2023

Computer Aided Engineering Graphics

(CSE(AI&ML))

Maximum Marks: 60 **Date:15.04.2023 Duration:** 3 hours

Note: 1.This question paper contains two parts A and B.
2. Part A is compulsory which carries 10 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks (10x1M=10 Marks)

1. a What is eccentricity of an ellipse?
   b What is cycloid path?
   c Differentiate between first angle and third angle projection.
   d A point 'D' is 35 mm below HP and 25 mm behind VP. Draw its projections.
   e Draw the front view of a cone 30mm base, 50mm height standing of the HP.
   f What do you understand by a right regular solid?
   g What are the types of surface development?
   h Which method is used to develop the lateral surface of cylinder?
   i What is the relation between true length and isometric length?
   j What is isometric scale.

Part-B

Answer All the following questions. (10M X 5=50Marks)

2 Construct a hyperbola, with the distance between the focus and the directrix as 50 mm and eccentricity as 3/2. [10M]

OR

3 Construct a Diagonal scale of RF = 3:200 showing meters, decimeters and centimeters. The scale should measure up to 6 meters. Show a distance of 4.56 meters. [10M]

4 a) A point 'S' is on both HP and VP. Another point 'T' is 35mm above HP and 40 mm in front of VP. Draw its projections when the line joining their top views is 70mm. Also draw and measure the line joining their front views. [5M]

b) A 100mm long line is parallel to and 40mm above the H.P. Its two ends are 25mm and 50mm in front of the V.P. respectively. Draw it projections and find its inclination with the V.P. [5M]

OR

5 a) The top view of a 75mm long line AB measures 65mm, while the length of its front view is 50mm. Its one end A is in the H.P. and 12mm in front of the V.P. Draw the projections of AB and determines its inclinations with the H.P. and the V.P. locate the traces. [5M]

b) A line measuring 60 mm long has one of its end 40 mm above H.P and 30 mm in front of VP. The other end is 25 mm above HP and in front VP. The front view of the line is 55 mm long. Draw the top view. [5M]

6 A pentagonal pyramid of base 30mm and height 60mm rests with one of its base edges on HP. The axis of the pyramid makes an angle of 45^0 with HP. Draw its projections. [10M]

OR

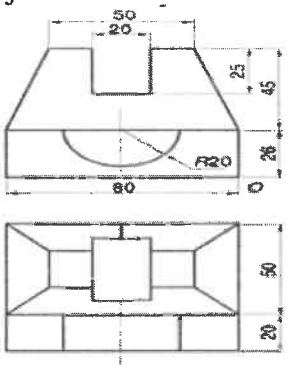
7 A hexagonal prism, base 30 mm side and axis 75 mm long, has an edge of the base parallel to the H.P. and inclined at 45° to the V.P. Its axis makes an angle of 60°with the H.P. Draw its projections. [10M]

8 Draw the development of lateral surface of a square pyramid with a 40 mm base side and a 60 mm long axis which is resting on its base in the HP. (cutting axis makes 30°) [10M]

OR

9 A hexagonal prism of base side 30 mm and height 70 mm, is resting on its base on the HP with a side of the base perpendicular to the VP. The prism has a cylindrical hole of diameter 40 mm, drilled centrally such that the axis of hole is perpendicular to the VP. Draw the development of the internal surface of the prism. [10M]

10 Fig. below shows the FV and TV of the objects. Draw their isometric projection. [10M]



OR

11 Draw the following views for the object shown in figure. All dimensions are in mm.
a)Front view b)Top view c) Left Side view [4M+3M+3M]