



**R18 Regulation**

**TKR COLLEGE OF ENGINEERING AND TECHNOLOGY**

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

**Subject code: 2E2AK**

**B.Tech II Semester Supplementary Examinations, January 2024**

**Engineering Graphics**

(Common to ECE & CSE)

**Maximum Marks: 70**

**Date: 31.01.2024 Duration: 3 hours**

Answer All the following questions.

**(14M X 5=70Marks)**

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| 1 | a) Construct an ellipse, with distance of the focus from the directrix as 60 mm and eccentricity as $\frac{2}{3}$ . [7M]<br>b) Draw a hypocycloid for a rolling circle of diameter 75 mm and a base circle of 250 mm diameter [7M] |
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OR

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| 2 | An inelastic string of length 100 mm is wound around a circle of diameter 26 mm. Draw the path traced by the end of the string. Draw also normal and tangent at any point on the curve. [14M] |
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| 3 | a) A line AB, 90 mm long, is inclined at $30^\circ$ to the H.P. Its end A is 12 mm above the H.P and 20 mm in front of the V.P. Its front view measures 65 mm. Draw the top view of AB and determine its inclination with the V.P. [7M]<br>b) A point P is 25mm above H.P and 40mm in front of V.P. Another point Q is 30mm above H.P and 50 mm behind V.P. Draw its projections and also join their front views and top views. [7M] |
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OR

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| 4 | Draw the projections of a circle of 75 mm diameter having the end A of the diameter AB in the H.P, the end B in the V.P., and the surface inclined at $30^\circ$ to the H.P. and at $60^\circ$ to the V.P. [14M] |
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| 5 | A hexagonal prism of base side 20mm, axis height 60mm is resting on HP on one of its base corners with its base inclined at $35^\circ$ to HP and parallel to VP. Draw the projections of the prism. [14M] |
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OR

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| 6 | A square pyramid of base side 35mm, axis height 70mm is resting on HP on one of its base corners with its axis inclined at $50^\circ$ to HP and parallel to VP. Draw its projections when the base sides containing the resting corners are equally inclined to HP. [14M] |
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| 7 | A pentagonal pyramid with side of base 30mm and axis 60mm long, is resting on its base on HP and one of the edges of base perpendicular to VP. It is cut by a sectional plane, parallel to HP and passing through the axis at a point 35mm above the base. Draw the projections of the section. [14M] |
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	OR	
8	A cone of base 50 mm diameter and axis 75 mm long, is lying on the H.P. on one of its generators with the axis parallel to the V.P. A section plane which is parallel to the V.P. cuts the cone at an angle of $45^\circ$ bisecting the axis. Draw its true shape and development of the surface of the remaining portion of the cone. [14M]	
9	Draw the isometric view of the following object [14M]	
	OR	
10	Draw an isometric diagram from given orthographic projection views shown in figure below. [14M]	