



R20 Regulation

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY  
(Autonomous, Accredited by NAAC with 'A' Grade)

Subject code: 3E1AE

## B.Tech I Semester Supplementary Examinations, March/April 2023

### Engineering Graphics

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

Maximum Marks: 70

Date: 12.04.2023

Duration: 3 hours

Answer all the questions

5X14M=70M

1. A circle of 40 mm diameter rolls on a straight line for Half revolution and for the remaining Half on vertical line draw the curve traced by a point P on circumference of the circle taking the top most point on the revolving circle as the initial position of the generating point. [14M]

(OR)

2. A Fixed point is at a distance of 50mm from fixed straight line trace the path of the curve if  $e = 3/2$ . Draw tangent and normal to it at a distance of 40mm from directrix. [14M]

3. The Front view and Top view of a straight line PQ measures 50mm and 65mm respectively. the point P is in the HP and 20mm in front of VP, and the front view of the line is inclined at  $45^\circ$  to XY. Determine the true length and true angle. [14M]

(OR)

4. Draw the projections for the following points keeping the distance between the projectors as 25mm on the same reference line. [14M]

i) A point K on HP and 30mm in front of VP

ii) B 50mm below HP 30mm behind VP

iii) C 35mm below HP on VP

iv) D 50mm below HP 20 in front of VP

v) E on HP 30mm above 50mm behind VP

vi) F on VP and 30 above HP

5. A Pentagonal Plane of side 30mm is inclined to HP at  $30^\circ$  and its surface is inclined to VP at  $45^\circ$ . Draw its Projections draw its projections when one of the side is perpendicular to HP. [14M]

(OR)

6. A Pentagonal Prism of side 30mm axis length 70mm has its axis inclined to HP at  $30^\circ$  and its edge inclined to VP at  $45^\circ$ . Draw its projections. [14M]
7. Draw the development of a cone of diameter 40mm axis length 65mm is sectioned by a plane inclined at  $35^\circ$  to HP and passing through midpoint of the axis of the cone. [14M]

(OR)

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8. A Pentagonal Pyramid of side 30mm axis length 60mm is resting on its base on the HP with an edge of the base parallel to VP. It is cut by a sectional plane perpendicular to VP and inclined at  $60^\circ$  to the HP and bisecting the axis. Draw its front view and sectional top view. [14M]
9. Draw the isometric view of frustum of a hexagonal prism of side 25mm axis length 65mm sectioned at 30mm above HP. [14M]

(OR)

10. Draw front View top view and side view for the following figure:

