

Roll No.:.....

# National Institute of Technology, Delhi

Name of the Examination: B. Tech. - MID TERM March, 2019

Branch : ECE (G-II)

Semester : 1st 2<sup>nd</sup>

Title of the Course : Engineering Visualization

Course Code : MEB100

Time: 2 Hours

Maximum Marks: 25

**Note:** Use of pen/free hand curves for drawing sketches is forbidden.

**Q1.** On a map, a scale of versts is shown; where 150 versts are found to measure 15 cm. Construct a comparative scale (attached to each other) for the two units to measure up to 200 versts and 200 km respectively. (1 verst = 1.609 km).

(6)

**Q2.** Construct a hypocycloid when the diameter of the rolling circle is 50 mm and directing circle is 100 mm. Mention steps briefly.

(6)

**Q4.** PQRS is a rhombus having diagonal PR = 60 mm and QS = 40 mm and they are perpendicular to each other. The plane of the rhombus is inclined with HP such that the top view appears to be a square. The top view of PR makes  $30^\circ$  with the VP. Draw projections and determine inclination of the plane with the HP.

(6)

**Q5.** End projectors of line PQ are 80 mm apart. Point P is 20 mm above HP and 60 mm behind VP. Another point R on the line in the ratio (PQ:QR) of 3:5 lies in both the reference planes. Draw the projection of the line and determine true length and inclination with reference planes. Mention steps briefly.

(7)

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