

INDIAN INSTITUTE OF TECHNOLOGY PATNA

CE 111: Engineering Drawing
Mid Semester Examination 2016-17

Maximum Time: 120 Minutes

Maximum Marks: 50

Instructions

- Read the questions carefully before answering.
- Drawing should be only on one side of the page.
- All students should bring their own drawing equipments.
- Numbers in the parenthesis at the end of each question indicate Maximum Marks.
- All dimensions are in **mm** (unless specified otherwise).
- Solution of each question should be demarked by thick continuous lines.
- All sheets should have border line, standard sized title block and write your name and roll number and other details clearly in it.
- Students may use more than one sheet only if necessary.
- Answer the questions on the provided drawing sheet itself.
- Clearly mention the scale used for each answer.

Questions

1. Draw projection of an isosceles triangle $\triangle ABC$ kept on the HP on its base BC such that the projection on the horizontal plane has half the area of the actual triangle. Given that side BC is parallel to the XY line. $AB = 90$ mm, $AC = 90$ mm, $BC = 50$ mm. **(15)**
2. A line PQ contains a point O on it such that the ratio of the distance of the PO: OQ is 1:2. The end P is 20 mm above H.P. and it is in 1st quadrant. And the other end Q is in V.P. The point O is 35 mm above H.P. The line is inclined with the H.P. at an angle 30° . The elevation length of the line PQ is 70 mm. Draw the projections of the line PQ. **(15)**
3. Draw a cycloid of two diametrically opposite points on the circumference of the circle of diameter 50 mm rolling on a horizontal plane. **(15)**

Note: 05 marks are awarded for neatness, presentation and following the instructions precisely.