**CE101 Engineering Drawing July- Nov 2019**

**Indian Institute of Technology Guwahati**

**Lab Sheet-2 Curves and Conics Monday Afternoon**

**Max Marks: 90 + 10 (overall neatness) Date: 14.08.2019**

1. Draw the involute of a scalene triangle ΔABC with sides AB = 30 mm, BC = 20 mm and AC = 25 mm. The triangle rests on the side AB. **[20]**
2. Construct a hypocycloid for one full revolution of a circle 40 mm diameter which rolls inside another circle of diameter 200 mm. Consider the initial contact of the Point **P** to be at the contact of the two circles. Draw the tangent and normal at any point of the hypocycloid belonging to the second half of the revolution. **[25]**
3. Consider any arbitrary point P moving in a plane such that the sum of its distance from the foci F1 and F2 remains constant to a value of 90 mm. If the length of the minor axis is 55 mm, then draw the conic using the arc of circle method. **[20]**
4. Construct a hyperbola when the distance between the focus and directrix is 5 cm, and the eccentricity is 2. **[25]**