**CE101 Engineering Drawing July- Nov 2019**

**Indian Institute of Technology Guwahati**

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

**Max Marks: 90 + 10 (overall neatness) Date: 16.08.2019**

1. Draw the involute of a scalene triangle ΔABC with sides AB = 50 mm, BC = 30 mm and AC = 20 mm. The triangle rests on the side AB. **[20]**
2. Construct a hypocycloid for one full revolution of a circle 60 mm diameter which rolls inside another circle of diameter 240 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 120 mm. If the length of the minor axis is 75 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 6 cm, and the eccentricity is 2. **[25]**