**CE101 Engineering Drawing July- Nov 2019**

**Indian Institute of Technology Guwahati**

**Lab Sheet-2 Curves and Conics Tuesday Morning**

**Max Marks: 90 + 10 (overall neatness) Date: 13.08.2019**

1. Draw the involute of a circle of diameter 50 mm. Divide the circle into 12 equal divisions. **[20]**
2. A motorcycle wheel has a diameter of 0.5 m. For one complete revolution of the wheel, draw the locus of a point **P**, on the circumference of the wheel, as the motorcycle passes over an arched culvert of radius 1.5 m. Consider the initial location of point **P** to be touching the surface of the culvert. **[25]**
3. Construct a parabola whose focus is located at a distance of 50 mm from the directrix. Draw the tangent and normal at a point P lying on the parabola, and located at a distance of 60mm from the directrix. **[25]**
4. A plot of ground is in the shape of parallelogram of 120 mm by 80 mm. The angle between the two sides is 50°. Inscribe an elliptical flower garden in the plot of land. **[20]**