



3055 BA SANGAM COLLEGE
PH: 6674003/9264117 E-mail: basangam@connect.com.fj



School: Ba Sangam College
Subject: Technical Drawing

Year/Level: 13
Week 7

Name: _____
Year: _____

Strand	Geometrical Drawing
Sub Strand	Epi-cycloid
Content Learning Outcome	Define different types of rolling wheels and state their application. Construct the rolling wheels.

Construction of an Epicycloid

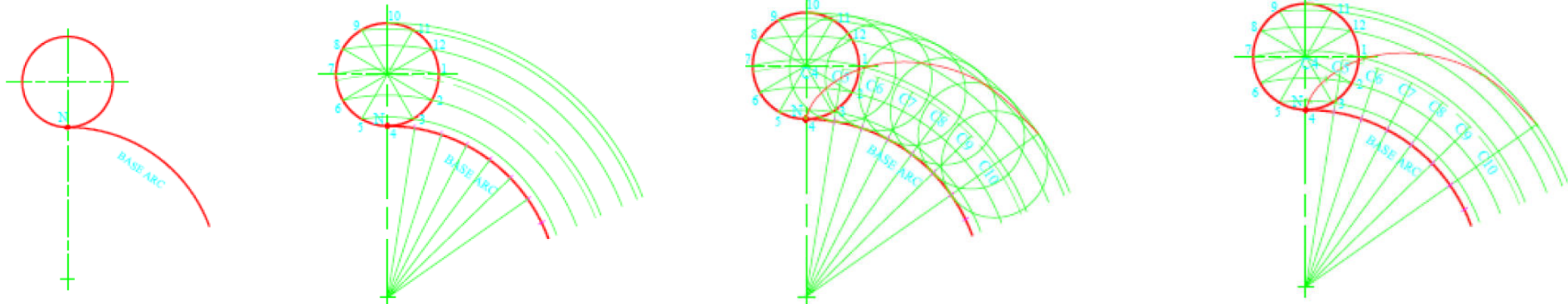
Below is a description of how to construct an **Epicycloid** for a point **N** on a circle as it rotates outside the base circle without slipping.

Step1: Draw the generating circle and the base arc from point **N** on the circumference of the generating circle.

Step 2: Divide the generating circle into 12 equal parts. Use $\frac{1}{12}$ of the generating circle to mark on the base arc. Draw lines from the centre of the base arc to all points on the base arc.

Step 3: Extend the lines from the centre of the base arc to the centre arc to locate **C1, C2, etc.** Set the compass to the radius of the generating circle and with centers as **C1, C2, C3, etc.** inscribe arcs on the arcs drawn from each point of the generating circle in its rolling direction.

Step 4: A locus of an epicycloid for point **N** is formed by joining these new points as it rotates on the base arc without slipping.

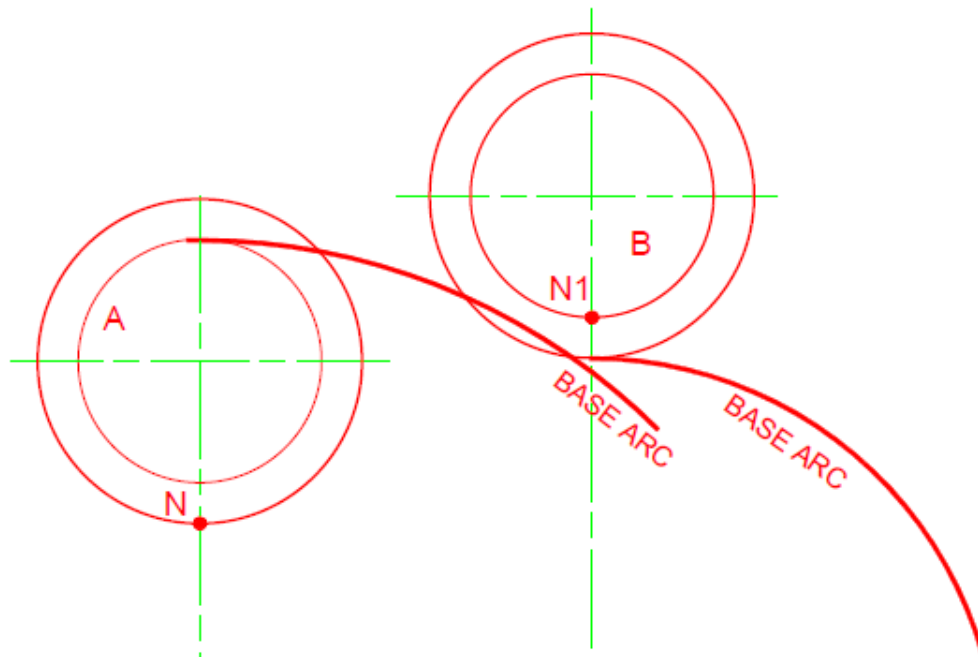


Given: A generating/rolling circle A & B, point N & N1 and a base circle/arc.

Required: a) Draw the locus of point N for Half revolution so that it reaches N1 and then draw the locus of point N1 for another Half revolution.

b) Name locus N: _____

c) Name locus N1: _____



10 marks