

INDUSTRIAL AND TECHNOLOGY EDUCATION DEPARTMENT

SCHOOL OF TECHNOLOGY EDUCATION

FEDERAL UNIVERSITY OF TECHNOLOGY MINNA 2012/2013 SESSION

**TC D 121 EXAM INSTRUCTION: ANSWER ALL QUESTIONS FROM SECTION (A)
AND ANY OTHER ONE FROM SECTION (B). TIME: 1 hr**

SECTION A

Q1. Construct an EPICYCLOID with a generating circle of 30mm diameter and a directing circle of 95mm such that the locus of a point on the circumference of a circle rolls around the outside of the larger circle without slippery.

Q2. Construct the INVOLUTE OF A CIRCLE 30mm diameter such that the path traced by the free end of a thread is unwound from the circle. Take $OP = 100\text{mm}$

SECTION B

Q3. Construct the PARABOLA with a given directrix DD 100mm such that the focus (F) on the Perpendicular axis to the directrix is 30mm.

Q4. Using the APPROXIMATE COMPASS METHOD construct an ellipse with major axis 70mm and minor axis 35mm.