

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
SCHOOL OF SCIENCE AND TECHNOLOGY EDUCATION
INDUSTRIAL AND TECHNOLOGY EDUCATION DEPARTMENT
FIRST SEMESTER EXAMINATION 2022/2023

COURSE CODE: ITE 312

COURSE TITLE: ENGINEERING DRAWING 1

**INSTRUCTION: ANSWER THREE QUESTIONS ONLY. QUESTION 1 IS
COMPULSORY**

1. The drawing in figure 1 shows the parts of machine in first angle projection with details of various parts. With the parts completely assembled, draw:
 - a. Section A-A
 - b. the plan
 - c. the left side view
2. A plate Cam rotating clockwise is to give an in-line point follower the following motion.
0°-120° lift 32mm with uniform velocity
120°-180° dwell
180°-360° fall 32mm with simple harmonic motion. Draw the Cam profile if the minimum Cam radius is 38mm and the camshaft diameter is 24mm.
3. Lay out twice full size five teeth of a spur gear with 35 teeth of involute form, module 5 and 20° pressure angle. Give a table showing the number of teeth, module, pressure angle, pitch circle diameter, circular pitch, addendum and dedendum.
4. Produce full size patterns for the cylinder in figure 2 using the shortest seam.