INDUSTRIAL AND TECHNOLOGY EDUCATION DEPARTMENT
SCHOOL OF SCIENCE AND TECHNOLOGY EDUCATION
FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
FIRST SEMESTER EXAMINATION 2019/2020 ACADEMIC SESSION
COURSE TITLE: ENGINEERING DRAWING
COURSE CODE: ITE312
CREDIT UNIT: 2 CREDIT UNITS
TIME ALLOWED: 2 HOURS
INSTRUCTION: ANSWER QUESTION 1 (ONE) AND ANY OTHER TWO
NOTE: All dimensions are in millimeters
Assume unspecified dimensions
All solutions are to be drawn full size

(1) The diagram in figure 1 shows the details of a stationary engine drawn in third angle projection. With the parts completely assembled, draw:

(i) The front view

(ii) Section X – X

(iii) The right end view

(2) The cylindrical pipes A and B of unequal diameter intersect as shown in the diagram in figure 2. Draw:

(a) The given elevation

(b) The plan

(c) The curve of intersection of the two pipes in the front elevation

(d) Surface development of pipe B making X-X the seam

(3) The front and end elevation of a cone are shown in figure 3. Draw:

(a) Reproduce front and end elevation of a cone in figure 3.

(b) Draw an auxiliary plan looking in the direction of the arrow

(4) A plate cam rotating clockwise is to give an inline 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 minimum cam radius is 38mm and the camshaft diameter is 24mm.