THE UNITED REPUBLIC OF TANZANIA
NATIONAL EXAMINATIONS COUNCIL
CERTIFICATE OF SECONDARY EDUCATION EXAMINATION

097

MECHANICAL DRAUGHTING
(For Both School and Private Candidates)

Time: 3 Hours **Thursday, 03rd November 2016 p.m.**

Instructions

1. This paper consists of **six (6)** questions.
2. Answer question **number 1** and any other **three (3)** questions.
3. Question number 1 carries 40 marks while the others carry 20 marks each.
4. Calculators and Cellular phones are **not** allowed in the examination room.
5. Write your **Examination Number** on every page of your answer booklet(s).

1. Figure 1 shows the details of a V-block, a clamp and a screw. Assemble the parts and draw a partial sectional front elevation of the given area. **(40 marks)**

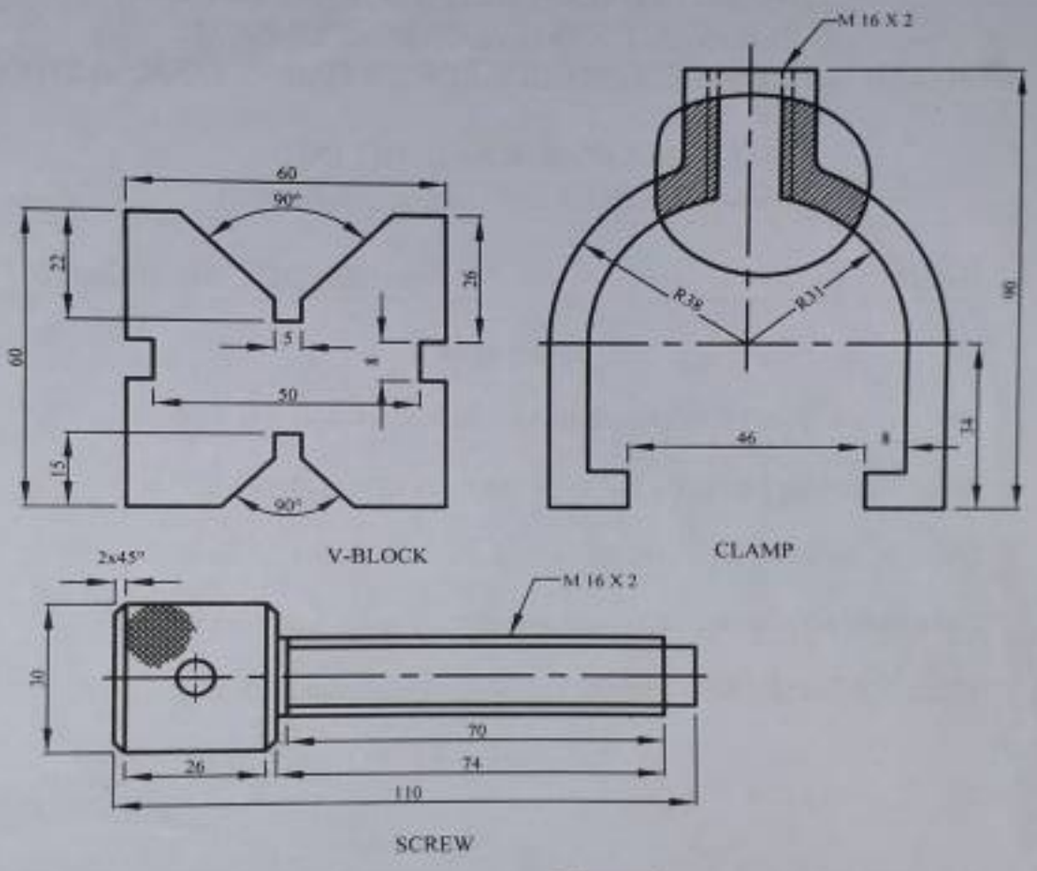

Figure 1

2. Figure 2 shows the elevation of crane hook. Draw the elevation showing clearly the various constructions used to position the centre of arcs. **(20 marks)**

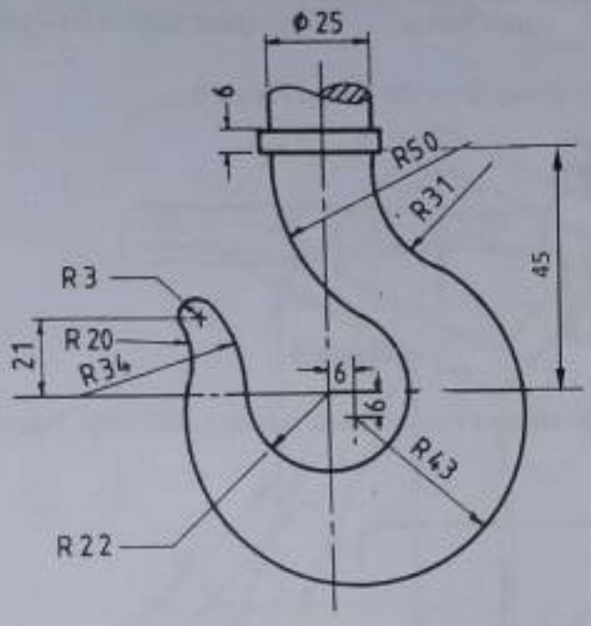

Figure 2

3. Two views of lamina given in first angle projection are shown in Figure 3. Draw the true shape of lamina using front elevation. **(20 marks)**

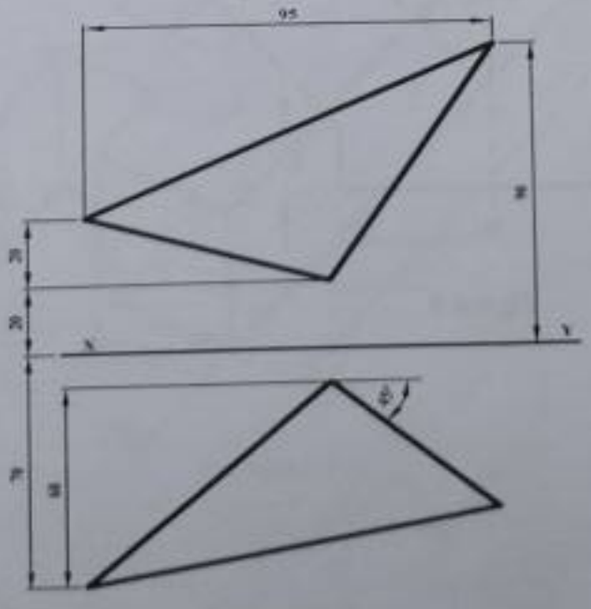

Figure 3

4. (a) Define the following terms as applied in mechanical draughting:
(i) Circle (ii) Obtuse angle (iii) Ellipse (iv) Circumference (v) Projection.

(b) Draw a circle of 50 mm diameter and show the following elements:
(i) Segment (ii) Sector (iii) Quadrant (iv) Tangent (v) Chord.

(c) By freehand sketching, draw the tool in Figure 4.

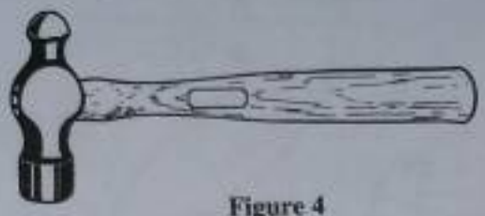

Figure 4

(20 marks)

5. Figure 5 shows an elevation of two cylinders meeting obliquely. Trace the line of intersection.

(20 marks)

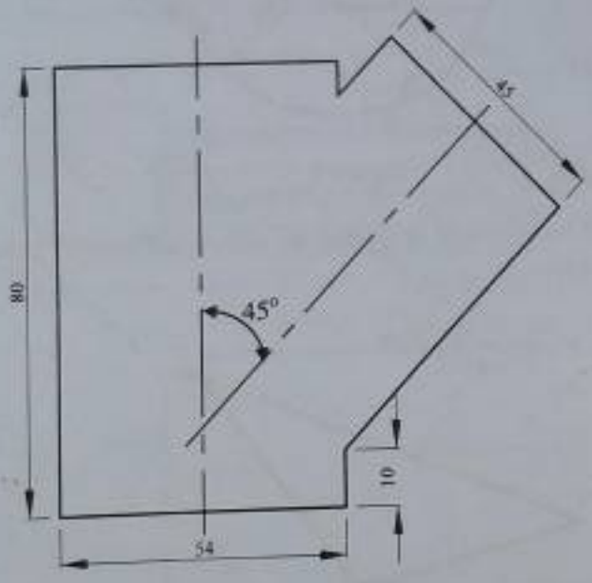

Figure 5

6. Figure 6 shows a pictorial drawing in isometric projection. Draw in full scale the following views in third angle projection:

(a) Sectional front elevation with cutting plane Y-Y.
(b) Sectional plan view.
(c) An end elevation with cutting plane X-X. **(20 marks)**

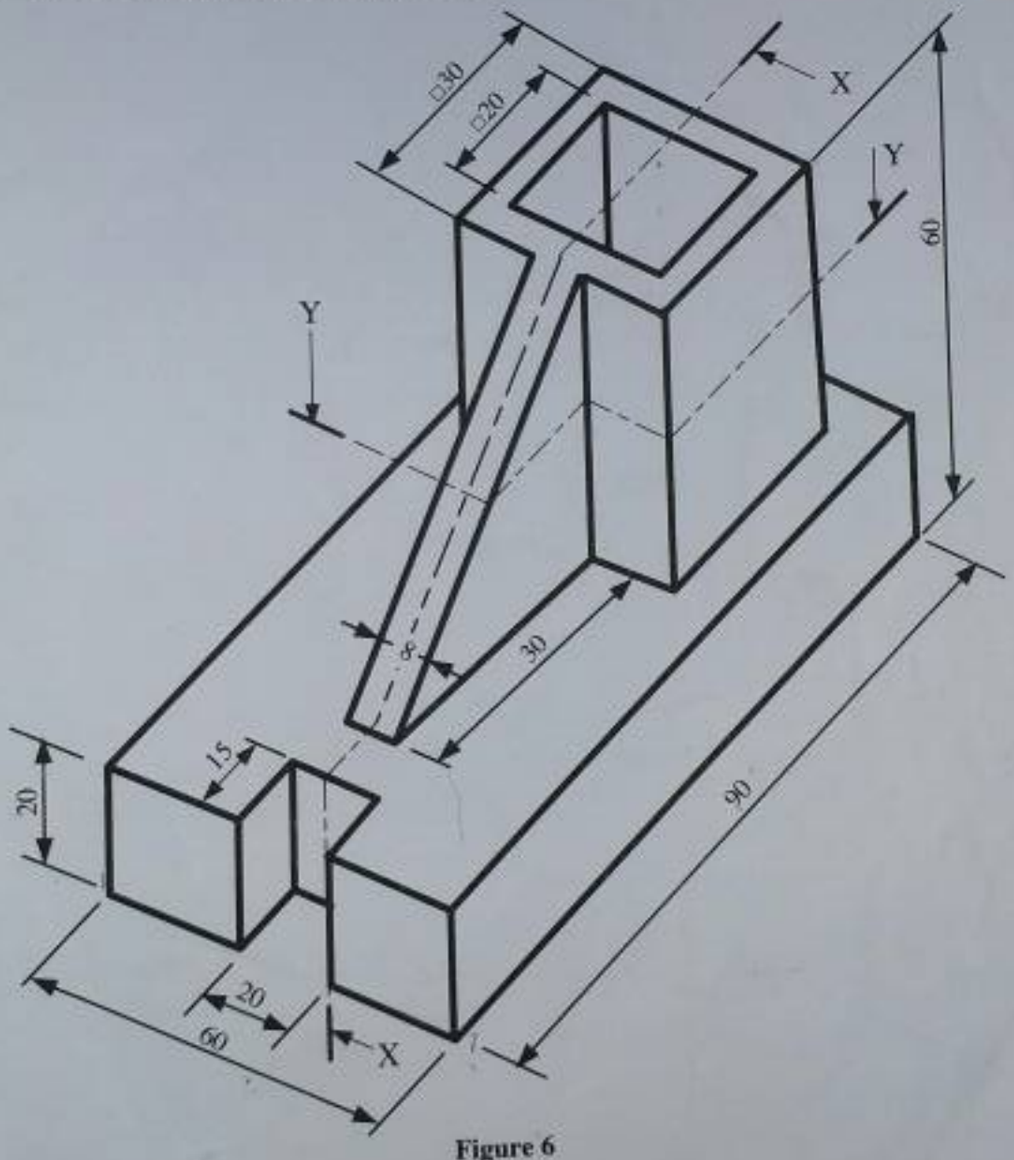

Figure 6