THE UNITED REPUBLIC OF TANZANIA
NATIONAL EXAMINATIONS COUNCIL OF TANZANIA
DIPLOMA IN TECHNICAL EDUCATION EXAMINATION

788 **TECHNICAL DRAWING**

Time: 3 Hours **Thursday, 09th May 2019 a.m.**

Instructions

1. This paper consists of **six (6)** questions.
2. Answer question number **one (1)** and any other **three (3)** questions.
3. Question **one (1)** carries **forty (40)** marks and the rest carry **twenty (20)** marks each.
4. Programmable calculators, cellular phones and any unauthorized materials are **not** allowed in the examination room.
5. Write your **Examination Number** on every page of your answer booklet(s).

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1. A cast iron bearing block is shown in Figure 1. Draw the following views of the block.

(a) An elevation in the direction of arrow A.

(b) A view in the direction of arrow B.

(c) A plan.

Choose first angle projection

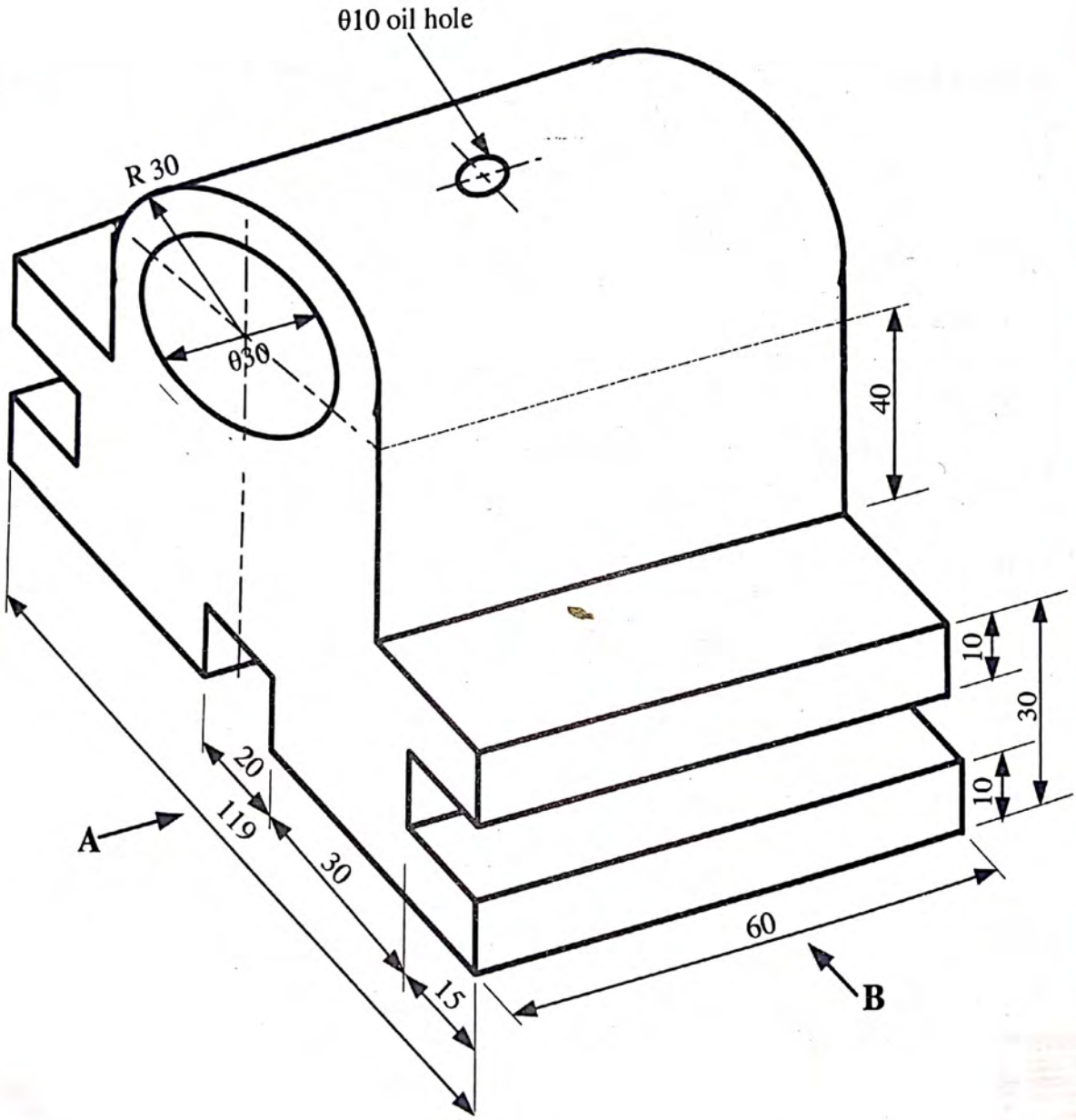


Figure 1

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2. In the mechanism shown in Figure 2, crank PQ rotates about P and the rod AB is connected to the crank PQ at Q. The rod AB slides in the same vertical plane on the current surface of the solid cylinder of diameter 36 mm (with centre R). Trace the locus of the end A and B which is 25 mm beyond QA for one complete revolution of PQ.

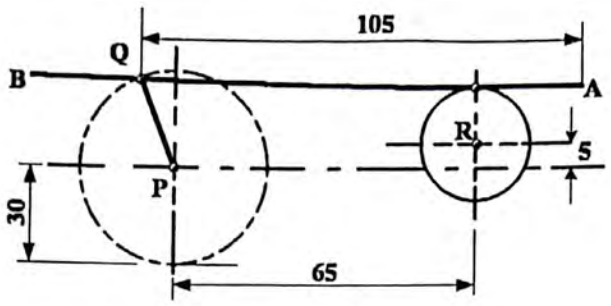


Figure 2

3. Figure 3 shows an object drawn in isometric projection. Sketch by free hand the following views in orthographic projection. Mark the dimension by a free hand.

(a) The front view in the direction of the arrow.

(b) The top view.

(c) The left hand side view.

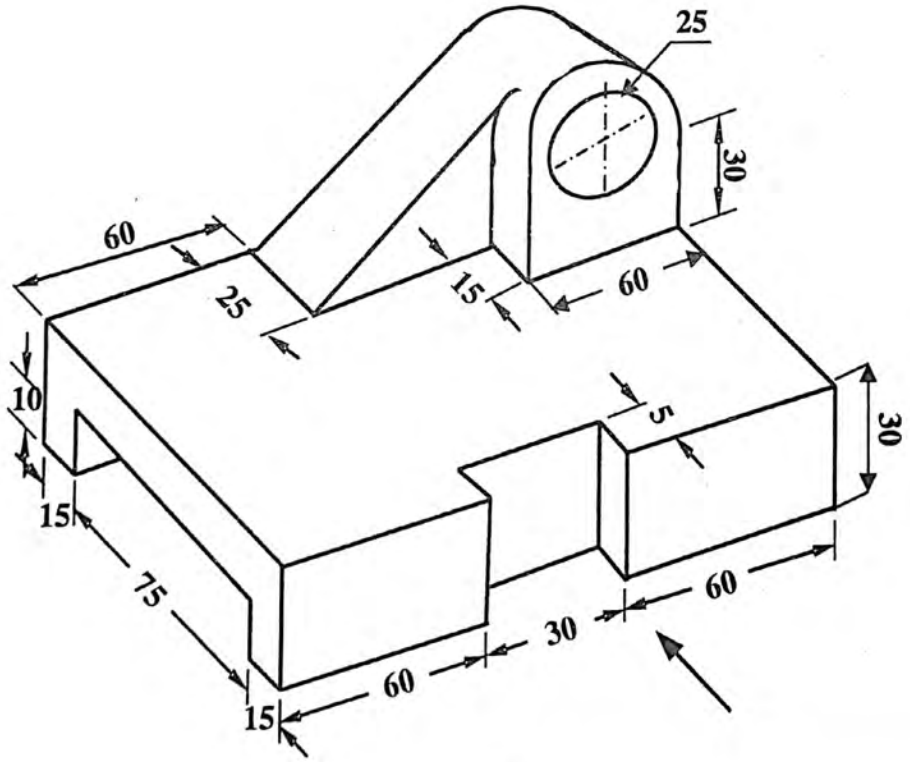


Figure 3

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4. (a) Explain the following types of threads.

(i) Square thread
(ii) Acame thread
(iii) Buttress thread
(iv) British Standard Whitworth.

(b) Differentiate between right hand thread and left hand thread.

(c) Draw the isometric view from the orthographic views given in Figure 4.

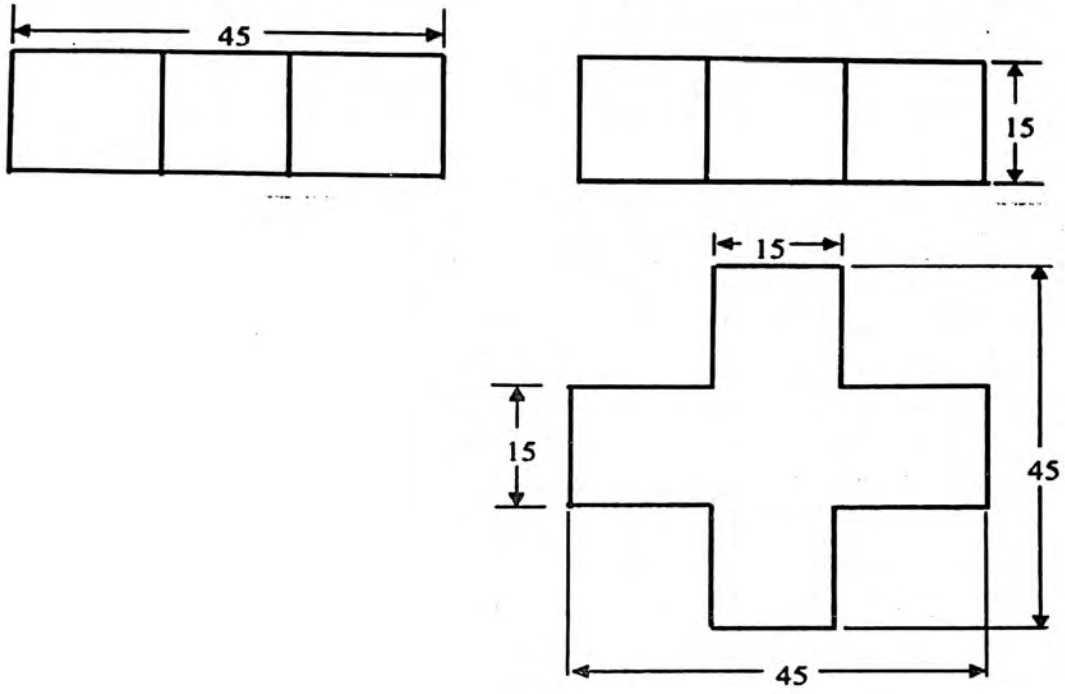


Figure 4

5. Construct a square equal in area to a rectangle of 30 mm by 50 mm.

6. (a) Differentiate the following terms:
(i) Bolt and stud
(ii) Lead and pitch
(iii) Single start and mult-start thread.

(b) Mention eight types of locking devices.

(c) What is the meaning of the following?
(i) Acute angle
(ii) Reflex angle

(d) Differentiate between eccentric circles and concentric circles.

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