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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

Monday, October 24, 2005 a.m.

Instructions

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



CPE

This paper consists of 4 printed pages.

Draw twice full size (2 : 1) in first angle projection the following views of the brush holder with the screw fitted to it. Show also the portion of the clamped shaft. Hidden details and dimensions are not required.

- [illegible]

Figure 1

2. The plan and elevation of a hexagonal distance piece are shown in figure 2. Draw these views, full size and project an auxiliary elevation on X_1, Y_1 . Show all hidden details.

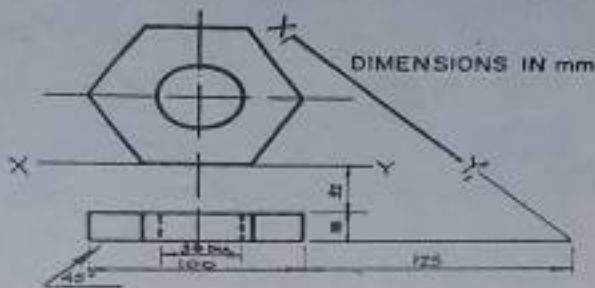


Figure 2

3. Draw the involute on a base circle of 50 mm diameter.
4. Figure 3 shows two views of a cast iron hinge block. Make an oblique drawing of this object, with face A towards you, omitting hidden detail.

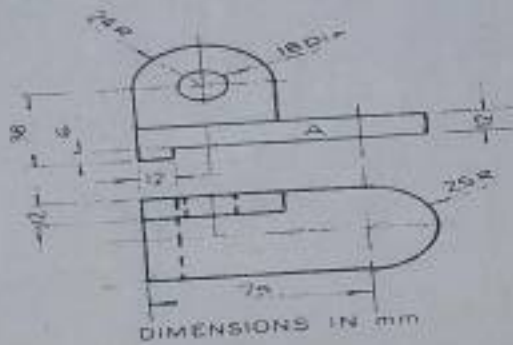


Figure 3

5. Two 25 mm square prisms C and D intersect as shown in figure 4. Draw the complete development of the surface of C.

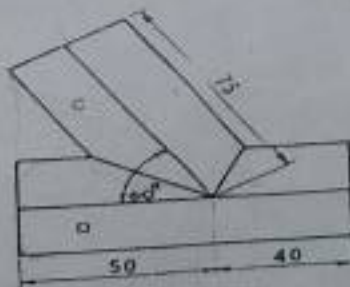


Figure 4



6 (a) Write definitions of the following terms:

- (i) Basic size
- (ii) Deviation
- (iii) Upper limit
- (iv) Lower limit
- (v) Tolerance.

(b) Draw the symbols of the following types of welds:

- (i) Square butt weld
- (ii) Single-V butt weld
- (iii) Double-V butt weld
- (iv) Single-V butt weld with broad root face
- (v) Single-U butt weld.