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

788

TECHNICAL DRAWING

Time: 3 Hours ***Thursday, May 5, 2005 a.m.***

Instructions

1. This paper consists of ***six (6)*** questions.
2. Answer ***four (4)*** questions including question number 1.
3. Question number 1 carries 40 marks and the rest carry 20 marks each.
4. Cellular phones 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. Figure 1 shows the elevation and plan of a machined casting. Draw full size in first angle projection the following views:

   (a) The elevation as shown.

   (b) The sectional plan, the section being taken on the line BB.

   (c) The sectional elevation taken on the line AA, looking in the direction of arrows. Hidden details need not be included in the sectional views.

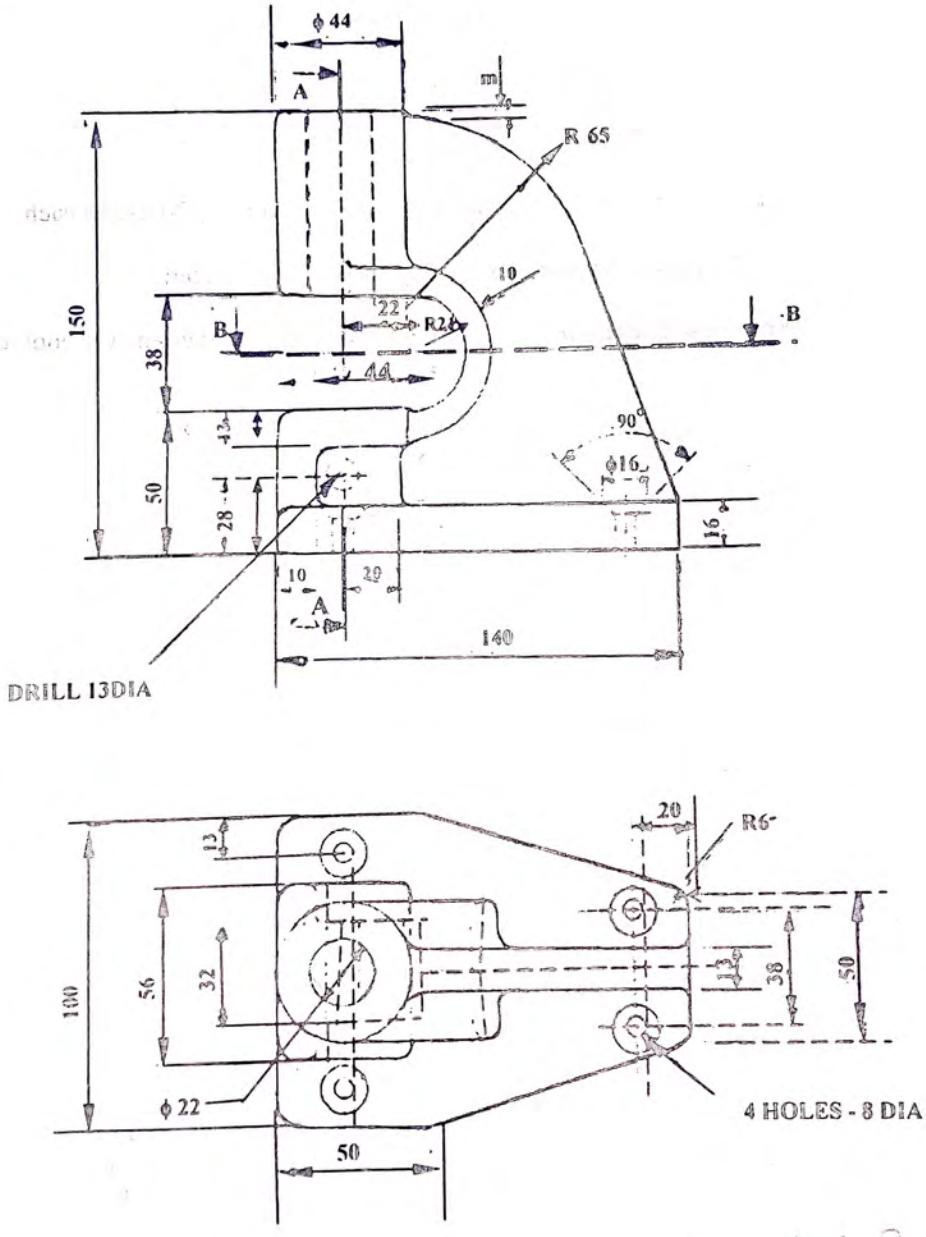


Fig. 1

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2. Draw the development of the square pipe turned diagonally as shown in figure 2 below. Include an end elevation in the direction of the arrow.

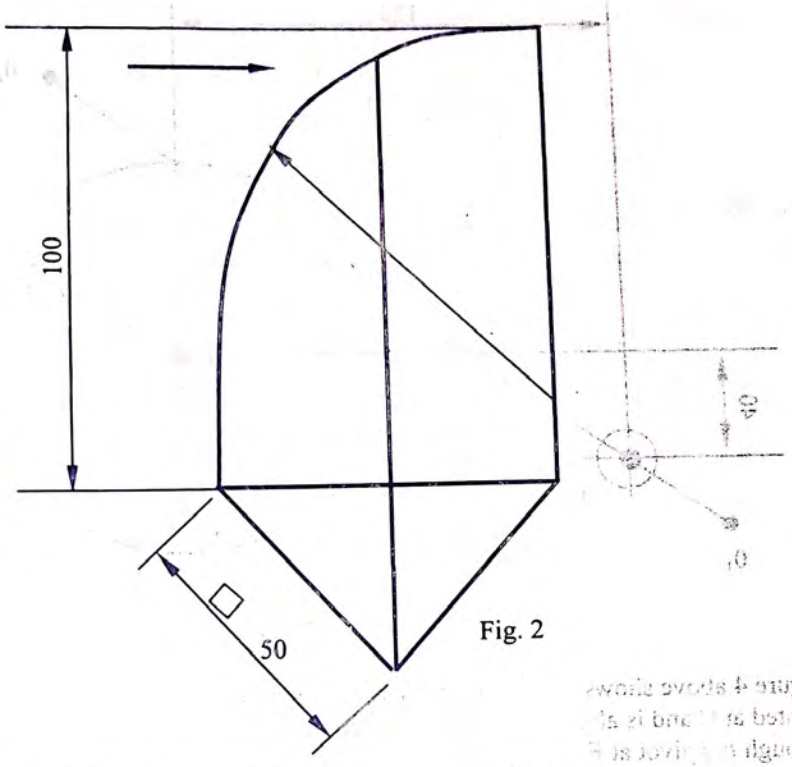


Fig. 2

3. Draw an auxiliary view at 30° of the front elevation as shown in figure 3 below.

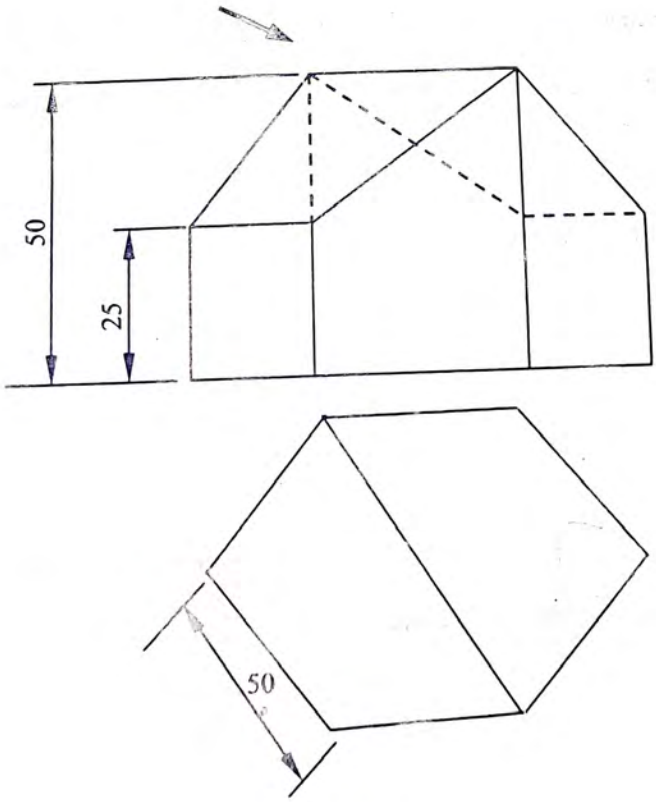


Fig. 3

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4.

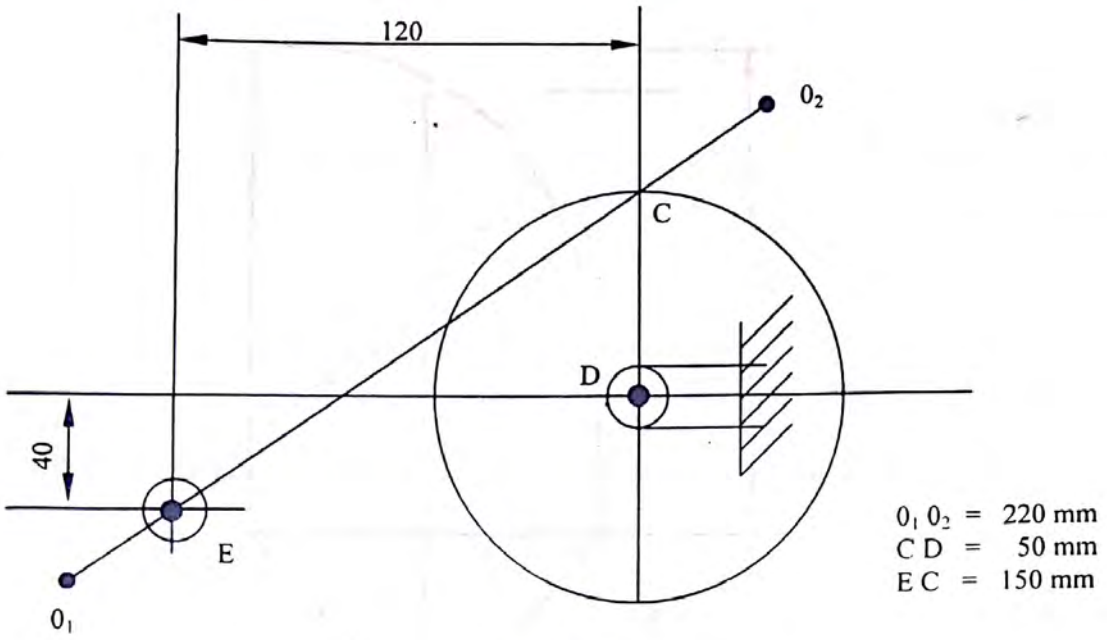


Fig. 4

Figure 4 above shows a mechanism by which crank CD rotates about centre D. The rod $0_1 0_2$ is pin-jointed at C and is also pivoted at E. This means that the rod can move freely, as long as it passes through the pivot at E.

Draw, either the loans of the point 0_1 or 0_2 when the crank CD makes one complete revolution.

5. The circumference of a circle is 160 mm. Find its diameter by the graphical method.

6. (a) If a thick continuous line is used to represent the visible outlines of the object, what will the following lines represent?

   (i) A thin continuous line.

   (ii) A short thin line of dashes.

   (iii) Long chain thin line.

   (iv) A ruled line with zig-zag.

   (b) Write down **four** (4) methods of development of objects used in sheet metal work.

   (c) Name **three** (3) methods used in the drawing of isometric circles.

   (d) State the main advantages of oblique projection over isometric projection.

   (e) Give the definition of the following terms:

   (i) Epicycloid.

   (ii) Helix.

   (iii) Tolerance.

   (iv) Blue print.

QU
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