

**073206T4BLD**

**BUILDING TECNICIAN LEVEL 6**

**CON/OS/BUT/CC/02/6/A**

**PREPARE AND INTERPRET TECHNICAL DRAWINGS**

**July/ August 2024**



**TVET CURRICULUM DEVELOPMENT, ASSESSMENT AND CERTIFICATION  
COUNCIL (TVET CDACC)**

**WRITTEN ASSESSMENT**

**TIME: 3 HOURS**

**INSTRUCTIONS TO CANDIDATE**

1. This paper has **TWO** sections **A** and **B**. Attempt questions in each section as per instructions given in the section.
2. You are provided with a separate answer booklet.
3. Marks for each question are indicated in the brackets.
4. Do not write on the question paper.

**This paper consists of FIVE (5) printed papers.**

**Candidates should check the question paper to ascertain that all pages are printed as indicated and that no pages are missing.**

**SECTION A: (40 MARKS)**

*Attempt all questions in this section.*

1. There are various types of 3-D diagrams used in technical drawings to represent an object in real life. List any three types of 3-D diagrams in technical drawing. (3 marks)
2. Draw the convectional symbol of a broken round rod. (3 marks)
3. Drawing is essential to communicate ideas in construction. List any four drawing papers indicating their sizes. (5 marks)
4. Describe the uses of the following types of lines in technical drawing. (4 marks)
  - a. Continuous bold lines.
  - b. Hidden Lines.
5. Construct a hexagon of 40mm across flats. (4 marks)
6. Highlight any three parts of a circle. (3 marks)
7. Differentiate between a compass and a divider as instruments used in technical drawing. (4 marks)
8. Escribe a circle along line BC on a triangle ABC whose base AB is 60mm, line AC is 50mm and BC is 40mm. (5 marks)
9. Using only a compass and ruler produce a 30° angle. (4 marks)
10. Construct an involute to an equilateral triangle of sides 20mm. (5 marks)

**SECTION B: (60 MARKS)**

*This section consists of four (4) questions.*

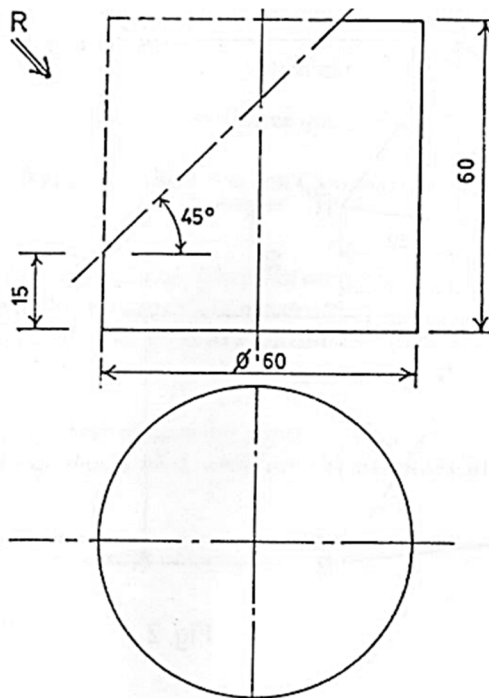
*Attempt any **THREE (3)** questions. All questions carry equal marks.*

11.

- a. Construct a square of equal area to a rectangle whose sides are  $AD = BC = 80\text{mm}$ ,  $AB = CD = 40\text{mm}$ . (8 marks)
- b. In a slider crank mechanism, the crank rod  $OC$  rotates anticlockwise about  $O$ , while the connecting rod  $CP$  is constrained at the end  $P$  to move horizontally through  $O$ . Trace the locus of a point  $B$  along the connecting rod  $CP$ , if  $OC$  is  $30\text{mm}$ ,  $CP$  is  $95\text{mm}$  and  $BP = 20\text{mm}$  (for one revolution). (12 marks)

12.

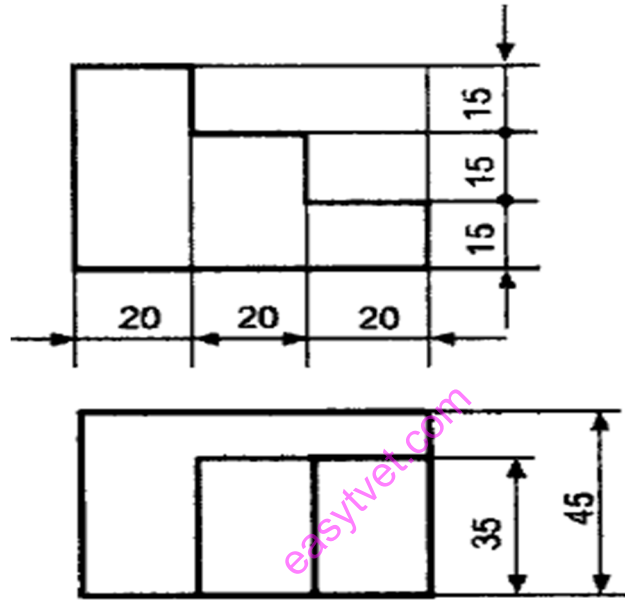
- a. Draw an isometric square ( $PQRS$ ) of sides  $60\text{mm}$  and inscribe an isometric circle inside it. (5 marks)
- b. You are presented with an orthographic projection of a truncated cylinder. Produce; (15 marks)
  - i. A complete plan
  - ii. An auxiliary view at  $45^\circ$



13.

a. Draw an internal tangent to two unequal circles of diameter 50mm and 30mm respectively, with a center-to-center distance of 80mm. (10 marks)

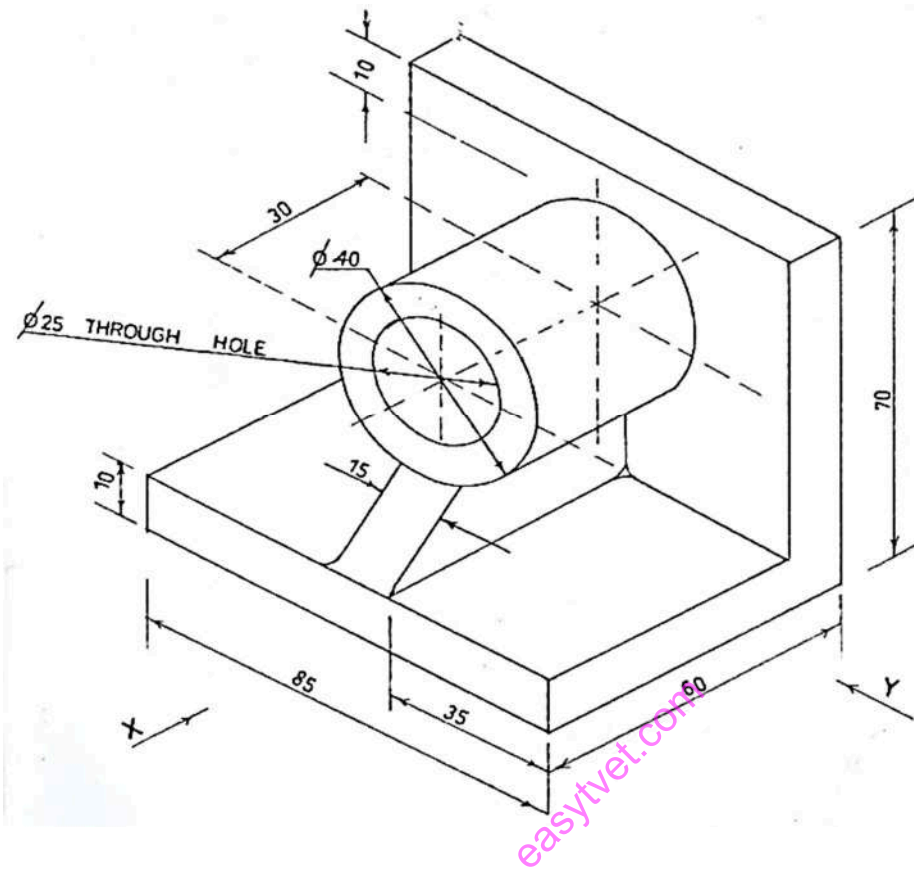
b. Draw an isometric drawing from the following orthographic views. (10 marks)



14.

a. With the aid of only a compass and ruler construct an octagon whose diameter is 120mm. (5 marks)

b. Produce a first orthographic projection of the figure below. The front elevation is indicated by arrow X. (15 marks)



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