



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

Qualification Code : 071606T4MCT
Qualification : Mechatronics Technician Level 6
Unit Code : ENG/OS/MC/CC/01/6
Unit of Competency : Prepare and Interpret Technical Drawing

WRITTEN ASSESSMENT

INSTRUCTIONS TO CANDIDATE

1. You have **THREE** hours to answer all the questions.
2. Marks for each question are indicated in the brackets.
3. The paper consists of **TWO** sections: A and B.
4. Do not write on the question paper.
5. A separate answer booklet will be provided.

This paper consists of SIX (6) printed pages

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

SECTION A: (40 MARKS)

1. Using a ruler and a pair of compasses only, construct a perpendicular line from a point
(2 marks)
2. Using a ruler and a pair of compasses only, construct 60° (2 Marks)
3. Define the following terms (4 Marks)
 - i. A scalene triangle
 - ii. An isosceles triangle
 - iii. An equilateral triangle
 - iv. A right-angled triangle
4. Illustrate using diagrams the difference between aligned and unidirectional system dimensioning (4 Marks)
5. Outline four basic tools a draftsman needs during draw (4 Marks)
6. Identify using standard symbols the differences between first angle and third angle of projection (4 Marks)
7. List four types of lines used in drawing and give one purpose for each? (4 Marks)
8. State three information that is contained in the bill of materials used for identification and interpretation of a drawing. (3 Marks)
9. Outline the steps of constructing the circumference of a circle, given the diameter (4 Marks)
10. State two features of oblique projection (2 Marks)
11. Outline three classification of oblique projections (3 Marks)
12. List four types of section views in technical drawing (4 Marks)

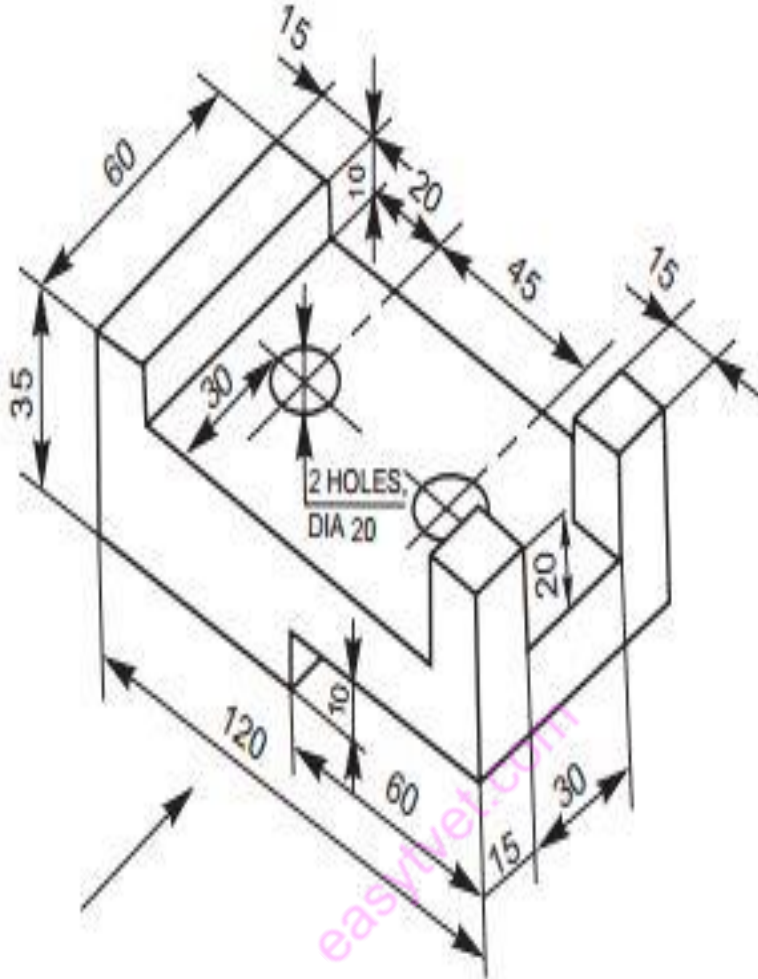
SECTION B: (60 MARKS)

Answer ONLY three questions in this section

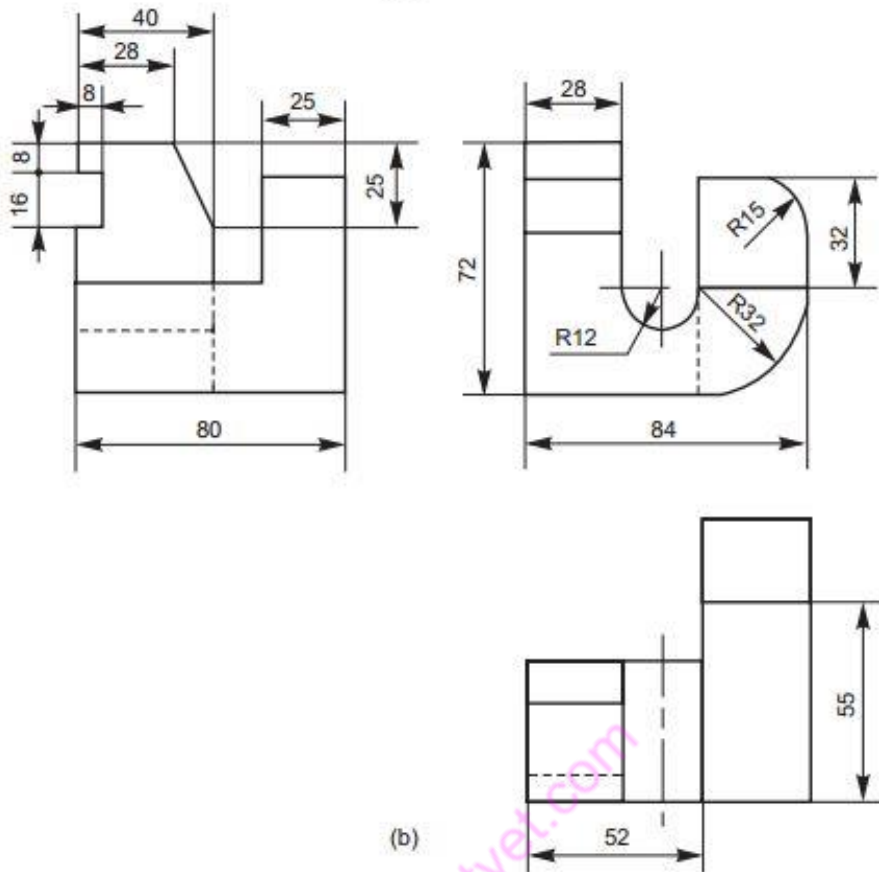
- 13.
- a. Describe the procedure and construct an isosceles triangle given the perimeter and the altitude (10 Marks)

 - b. Describe the procedure and construct a regular octagon within a given square (10 Marks)
14. On A3 size drawing paper, using drawing instruments draw in first angle projection the views of the block given in figure below as follows: (20 Marks)
- a) Front elevation in the direction of arrow E;
 - b) End elevation in the direction of arrow H;
 - c) Plan.

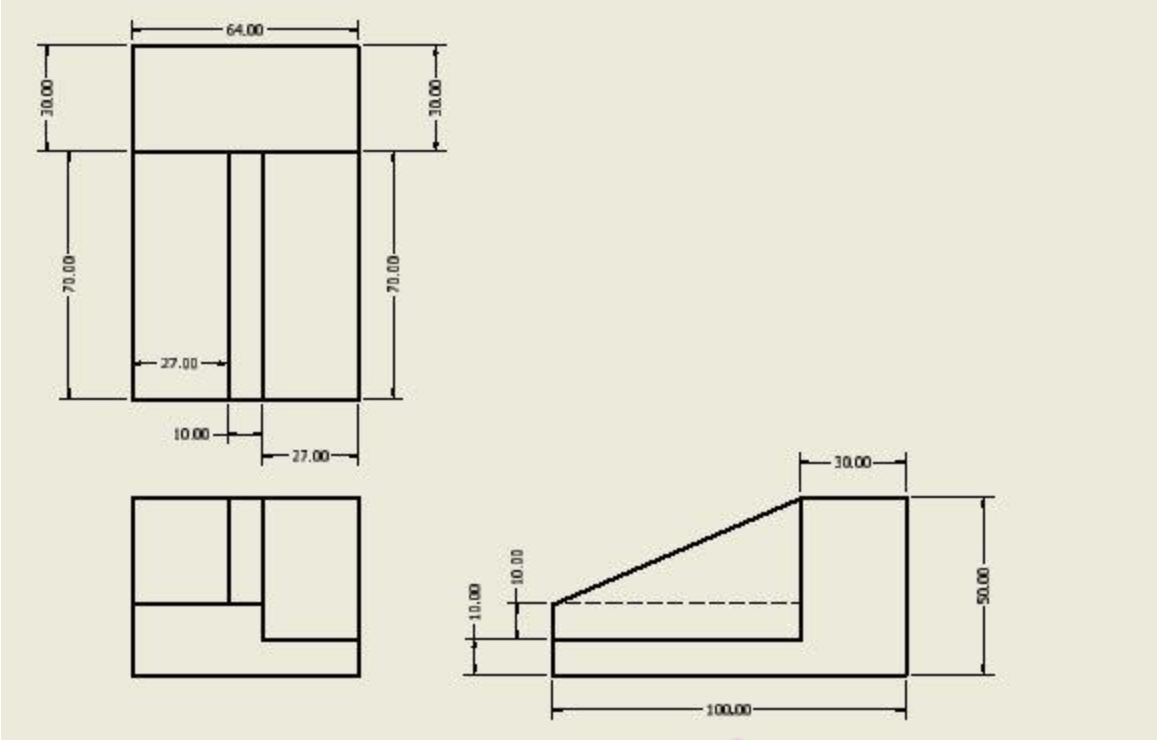
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15. The figure below shows the three views of a shaped block. On A3 size drawing paper and using drawing instruments draw the block in oblique and give 5 major dimensions. (20 marks)



16. The figure below shows the three views of a shaped block. On A3 size drawing paper and using drawing instruments draw the block in isometric projection and give 5 major dimensions. (20 Marks)



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