

07150554B

MECHANICAL PRODUCTION TECHNICIAN LEVEL 5

ENG/OS/ME/CC/01/5 Printed By: Technical And Vocational College **Prepare and**

Interpret Technical Drawing November/December 2025

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

WRITTEN ASSESSMENT

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INSTRUCT
IONS TO CANDIDATE

1. This paper consists of **TWO** sections: **A** and **B**.
2. Answer **ALL** questions in section A and **ANY THREE (3)**.
3. Answer **Question 11 and ANY OTHER TWO questions in section B**.
4. Marks for each question are indicated in the brackets.
5. Candidates are provided with a separate answer booklet.
6. **Do not write on the question paper.**

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This paper consists of FIVE (5) printed pages

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

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SECTION A (40 MARKS)

Answer ALL the questions in this section

1. Define the following used in technical drawing (4 Marks)
a. Orthographic projection Printed By: And Vocational College Date: 19.11.2025 11:51 AM
b. Isometric drawing
c. Sectional view
d. Dimensioning Printed By: And Vocational College Date: 19.11.2025 11:51 AM
2. Proper maintenance of drawing instruments ensures precision, safety, and durability during use. State FOUR ways of Maintaining them. (4 Marks)
3. Subdivide a line of 70 mm it into the ratio of 1: 2: 4 (4 Marks)
4. Using free hand sketching, draw a ball peen hammer used in a mechanical workshop. (4 Marks)
5. Construct a regular heptagon with each side equal to 30 mm. (4 Marks)
6. Using only a ruler and a pair of compasses, construct angles of 90° and 45° (4 Marks)

Date: 19.11.2025 11:51 AM In modern engineering and design, Computer-Aided Drawing (CAD) has become a preferred method compared to traditional manual drafting. State FOUR reasons for this.

(4 Marks)

8. Computer-Aided Drawing (CAD) software provide of tools that allow users to edit and improve existing drawings. Identify FOUR such tools. (4 Marks)
9. Outline the purpose of the following drawing instruments: (4 Marks)
a. French curves; Printed By: And Vocational College Date: 19.11.2025 11:51 AM
b. Set squares; Printed By: And Vocational College Date: 19.11.2025 11:51 AM
c. Compass; Printed By: And Vocational College Date: 19.11.2025 11:51 AM
d. T-squares Printed By: And Vocational College Date: 19.11.2025 11:51 AM
10. Draw an equilateral triangle of 40mm (4 Marks)
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SECTION B (60 MARKS)

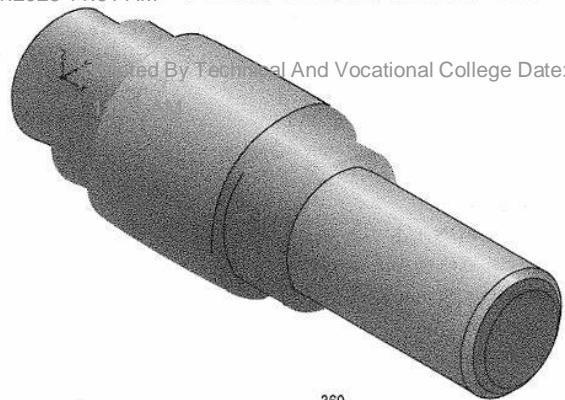
Answer Question 11 and TWO other Questions in This Section

11. Figure 1 below shows machined shaft designed to fit trailers. Draw the representation using AutoCAD software in 3D commands showing all the dimensions.

(20 Marks)

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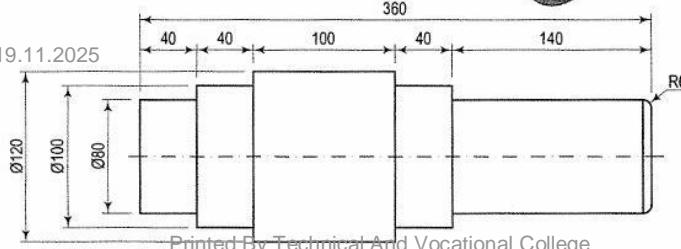


Figure 1 Date: 19.11.2025 11:51 AM

12. Figure 2 below shows a casting design for a given mechanical tool. Construct the figure

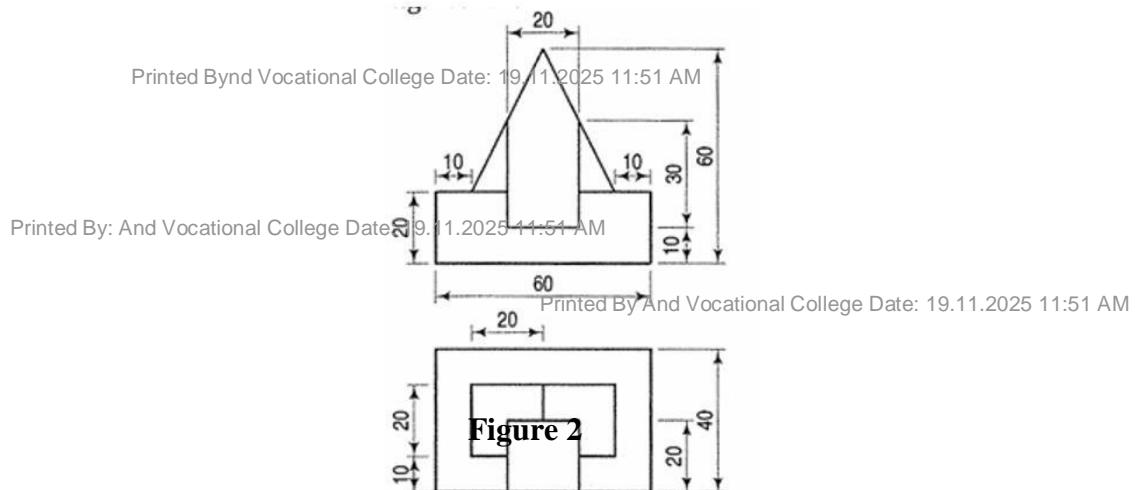
in isometric and include any FOUR major dimensions (Dimensions are in mm)
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(20 Marks)

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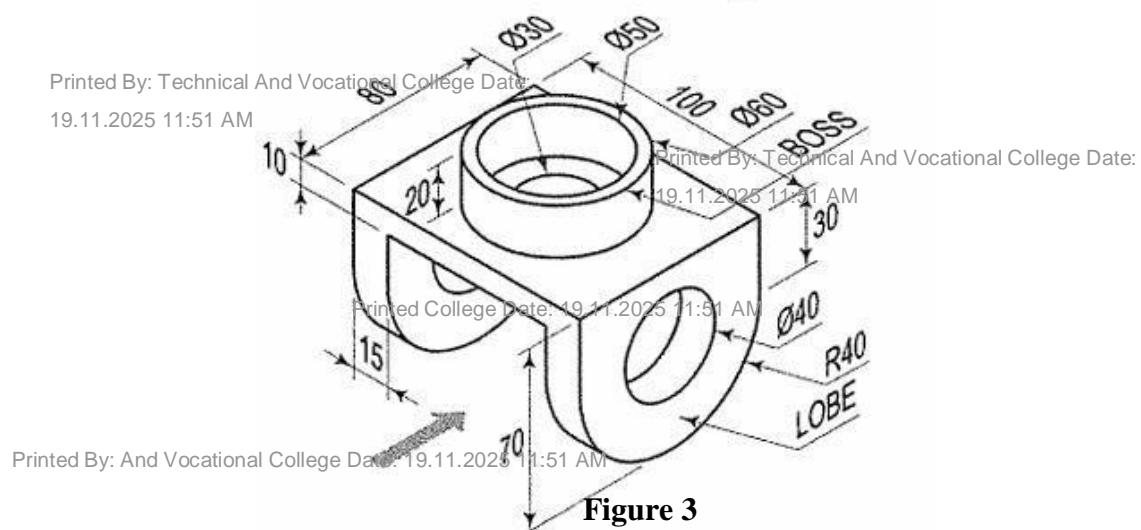
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13. Figure 3 below shows a machined bracket designed by a mechanical production trainee in the workshop. Draw the following views in first angle projection including 4 major

(20 Marks)

- i. Front elevation in the direction of the arrow
- ii. End elevation
- iii. Plan.



14. Figure 4 below represents an orthographic projection of a casting flange attached to suspension system of vehicle. Draw the oblique projection from the diagram given. (All dimensions are in mm) (20 Marks)

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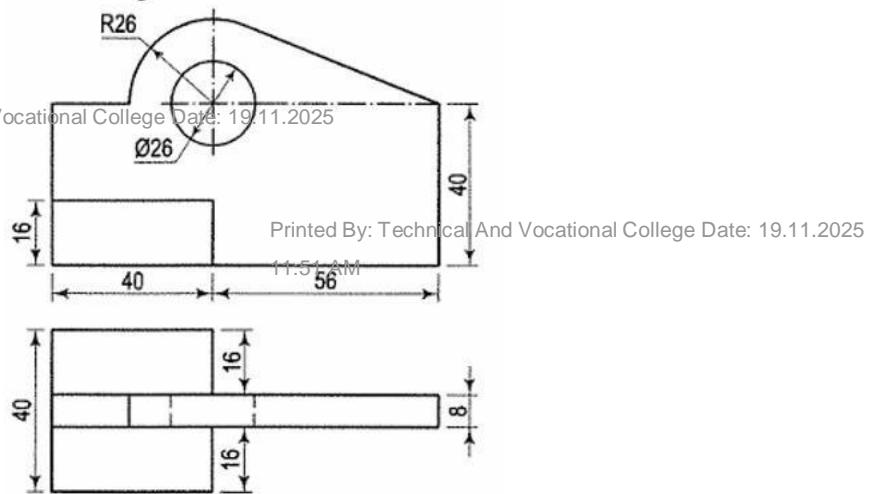


Figure 4