071604T4AUT

AUTOMOTIVE TECHNOLOGY LEVEL 4

ENG/OS/AUT/CC/4/4/A

Perform Workshop Technology Applications

Mar/Apr 2025

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

WRITTEN ASSESSMENT

INSTRUCTIONS TO CANDIDATE

1. This paper consists of two sections; **A** and **B**
2. Attempt **ALL** questions in both sections.
3. Marks for each question are as indicated in the brackets
4. You are provided with a separate answer booklet to answer the questions
5. Do not write in this question paper

This paper consists of FIVE (5) printed pages.

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

SECTION A (10 MARKS)

Attempt all questions in this section. Each question carries one mark

1. _____is only used to measure the external dimensions of an object
   A. Vernier caliper
   B. Micrometer screw gauge
   C. Steel rule
   D. Combination set
2. Identify the standard commonly used in engineering drawings.
   A. ISO
   B. IEEE
   C. ASTM
   D. CE
3. The main purpose of a "combination set" in workshop operations is_____.
   A. To measure small components
   B. To measure angles and lengths
   C. To apply cutting forces
   D. To polish materials
4. Which of the following hand tool is used to mark precise points on metal surface?
   A. Dividers
   B. Centre punch
   C. Engineer's square
   D. File
5. _____process is used for joining metals by melting them together with a filler material**.**
   A. Riveting
   B. Soldering
   C. Welding
   D. Fastening
6. Which typical specification is included in technical drawings?
   A. Texture of the material
   B. Dimensions
   C. Handling instructions

D. Electrical properties

7. Select the correct method used to join metal parts by using a filler metal that has a melting point higher than 450°C.
   A. Riveting
   B. Soldering
   C. Brazing
   D. Welding (TIG/MIG)
8. Choose the process used to create a smooth surface finish on metal objects.
   A. Riveting
   B. Filing
   C. Welding
   D. Tapping
9. Which tool would you use to check the flatness of a surface during inspection?
   A. Surface plate
   B. Engineers square
   C. G-clamp
   D. Files
10. Which tool will you use to hold a work piece firmly while cutting, grinding, or machining?
    A. V-Block
    B. G-clamp
    C. Engineers square
    D. Bench vice

SECTION B (40 MARKS)

Attempt ALL questions in this section.

11. Define the term soldering as used in workshop technology practices. (2 Marks)
12. Give the use of each of the following hand tools in measuring and marking out of work pieces. (4 Marks)
    i. Scriber
    ii. Engineer's Square
    iii. Dividers
    iv. Taps and Dies
13. List TWO roles of tolerance in engineering specifications. (2 Marks)
14. State TWO functions of a V-block in a workshop. (2 Marks)
15. Identify THREE methods used to achieve a good surface finish on a complete work piece in a workshop. (3 Marks)
16. Interpret the reading on the Vernier caliper in Figure 1. (4 Marks)

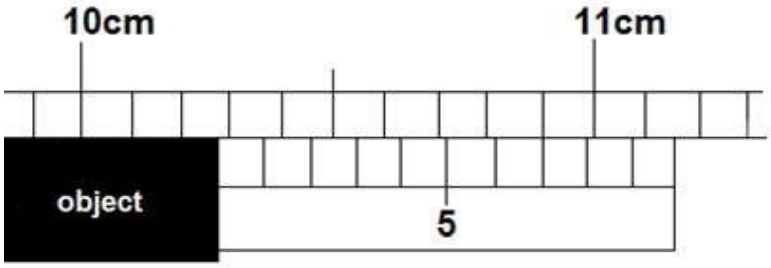

Figure 1

17. Identify THREE different types of specifications that can be included in technical drawings. (3 Marks)
18. Differentiate between "riveting" and "fastening" as used in joining of materials. (4 Marks)
19. Figure 2 shows a workshop tool used for precision measurements. Identify the parts labeled E, F, G and H. (4 Marks)

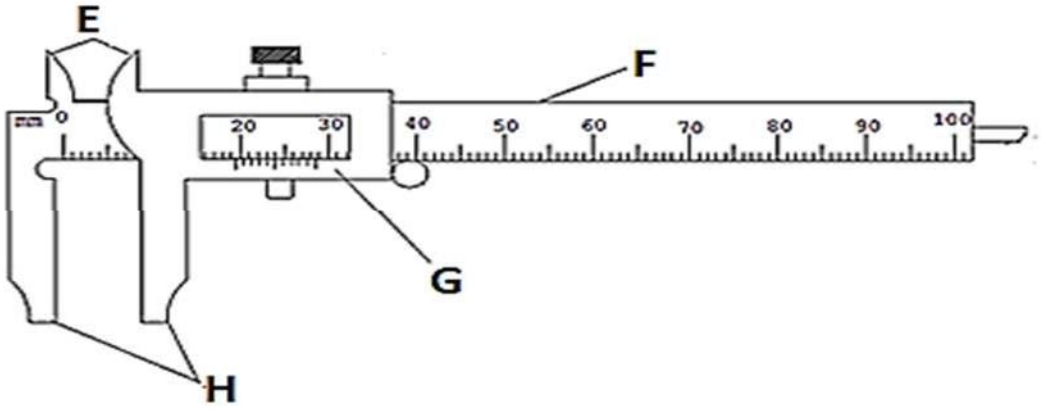

Figure 2

i. E-

ii. F-

iii. G-

iv. H-

20. State any THREE advantages of welding process. (3 Marks)

21. Give THREE steps to be followed when disposing hazardous materials in a workshop. (3 Marks)

22. Name THREE safety precautions to be followed when a machine failure occurs while in operation. (3 Marks)

23. List THREE benefits of maintaining