



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

QUALIFICATION CODE : 071606T4MCT
QUALIFICATION : Mechatronic Technician Level 6
UNIT CODE : ENG/OS/MC/CC/03/6/A
UNIT OF COMPETENCY : Perform Workshop Processes and Practices

WRITTEN ASSESSMENT

INSTRUCTIONS TO CANDIDATES

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. You are provided with a separate answer booklet

SECTION A (40 marks)

Answer all questions in this section

1. List two functions of a tailstock as used on a lathe machine. (2 Marks)
2. What does the following terms mean as used in filing? (4 Marks)
 - (i) Straight Filing.
 - (ii) Draw-Filing
3. Soldering flux plays an important role in soldering process. Which are the three functions of soldering flux? (3 Marks)
4. State any two types of maintenance done to workshop tools and equipment (2 Marks)
5. Explain the following drilling operations (4 Marks)
 - (i) Reaming
 - (ii) Boring
6. List four safety measures when using wrenches in workshop. (4 Marks)
7. Differentiate between dead centre and live centre as used in lathe machine. (4 Marks)
8. Draw a Vernier calliper scale to show a reading of 7.05 cm. (4 Marks)
9. Which four activities are carried out during workshop housekeeping? (4 Marks)
10. Which are the three main types of taps used for generating threads? (3 Marks)
11. State three importance of a technical drawing a workshop (3 Marks)
12. List any three types of inspections that are done in a workshop? (3 Marks)

SECTION B (60 marks)

(Answer any three questions in this section)

13.

- a) Explain the following operations as used on a drilling machine. (10 Marks)
- (i) Trepanning
 - (ii) Counter boring
 - (iii) Counter sinking
 - (iv) Reaming
 - (v) Boring
- b) With a well labelled sketch, show a pillar drilling machine. (6 Marks)
- c) What is the function of each of the following on a pillar drilling machine? (4 Marks)
- i. Column
 - ii. Spindle

14.

- a) With five good points, discuss how does good housekeeping help in a workshop? (10 Marks)
- b) With the aid of well labelled sketches, show five operations that can be done by Lathe machine. (10 Marks)

15.

- a) Compare between DC and AC welding machines (10 Marks)
- b) Suppose you are the head of department on a mechanical workshop and you have organized a meeting on personal safety. Discuss **four** points you are likely on your speech. (4 Marks)
- c) Discuss the following surface finishing processes as used in workshop processes and practices (6 Marks)
- (i) Deburring
 - (ii) Tumbling
 - (iii) Painting

16.

- a) You are to use a hacksaw to do cutting of materials in a workshop, what are the safety precautions that you will observe? (5 marks)
- b) What are the factors to consider when purchasing a chisel to be used in the workshop processes? (5 Marks)

- c) You are a technician in a workshop and you are to perform a welding process. Differentiate between Horizontal welding position and Vertical welding position, giving a recommendation. (6marks)
- d) Since metal combines with oxygen more rapidly at higher temperatures it is reheated to soldering temperature to prevent reforming and formation of metal oxide. What are requirements of a good soldering flux? (4marks)

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