

071504T4WLD

WELDING LEVEL 4

ENG/OS/WEF/CR/01/4/A

**PERFORM MANUAL ARC (STICK) WELDING IN ALL POSITIONS WITH
VARIOUS METAL WORK PIECES**

July/August 2024



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

WRITTEN ASSESSMENT

Time: 2 HOURS

INSTRUCTIONS TO THE CANDIDATE:

1. This paper has **TWO** sections: **A** and **B**;
2. Answer all questions in section **A** and **B**;
3. You are provided with a separate answer booklet;
4. Marks for each question are as indicated;
5. Do not write on the question paper.

**This paper consists of FIVE (5) printed pages with TWENTY TWO (22) questions.
Candidates should check the question paper to ascertain that all pages are printed as
indicated and that no questions are missing.**

Turn Over

SECTION A: (10 MARKS)

Answer ALL questions in this section. Each question carries ONE Mark.

1. The primary purpose of the electrode holder is to;
 - A. Provide electrical insulation
 - B. Hold and control the electrode during welding
 - C. Cool the electrode
 - D. Generate the electric arc
2. Manual metal arc welding is a type of _____ process.
 - A. Fusion welding
 - B. Solid state welding
 - C. Pressure welding
 - D. Gas welding
3. Hand tools, welding equipment and materials that have been used after welding should be;
 - A. Stored in damp corner of the workshop
 - B. Stored in a designated moisture-free area of the workshop
 - C. Put in open space in the store
 - D. Left on the welding table
4. The tool that is used to measure voltage during manual arc welding process is a;
 - A. Vernier caliper
 - B. Tachometer
 - C. Multi meter
 - D. Welding gauge
5. Ground clamp in manual arc (stick)welding is used to;
 - A. Hold the welding electrode
 - B. Secure the work piece to the welding table
 - C. Measure the amperage during welding
 - D. Provide a path for the welding current to return to the power source

Turn Over

6. Safety measures implemented to prevent electrical hazards in a welding workshop include;
 - A. Regular inspection of electrical cords and plugs for damages.
 - B. Using extension cords with low amperage rating
 - C. Keeping water sources close to electrical outlets
 - D. Using electrical equipment with exposed wiring
7. In case of an accident at the workplace, one should;
 - A. Talk to the person involved
 - B. Tell the supervisor
 - C. Ignore it because it is none of their business
 - D. Feel sorry for the person
8. The type of joint shown in figure 1 below is;

- A. Edge joint
- B. Butt joint
- C. Lap joint
- D. Corner joint

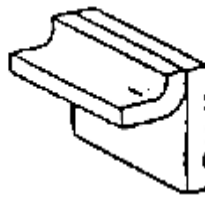


Figure 1

9. Functions of electrode coating include;
 - A. Preventing rusting
 - B. Increasing welding current
 - C. Stabilizing the arc
 - D. Controlling arc temperature
10. Identify the task shown in figure 2 below.

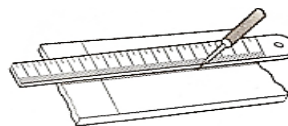


Figure 2

- A. Showing cutting edges on a material
- B. Measuring a metal plate
- C. Making holes in a sheet metal
- D. Scribing a line on a flat material

Turn Over

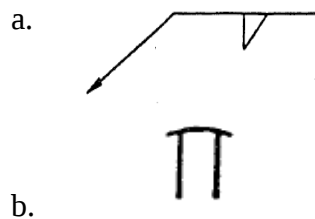
SECTION B: (40 MARKS)

Answer ALL questions in this section.

11. Different parts are normally assembled to make up a machine. Name FOUR parts that are associated with a welding machine. (4 Marks)
12. Identify TWO types of welding machines with respect to current. (2 Marks)
13. Personal protective equipment, commonly referred to as "PPEs", is equipment worn to minimize exposure to hazards that cause workplace injuries and illnesses. Name FIVE Personal Protective Equipment (PPEs) used during manual arc (stick) welding. (5 Marks)
14. Outline THREE common applications of manual arc (stick) welding. (3 Marks)
- 15.

- a. Welding defects are imperfections that occur in welded parts. List FOUR welding defects that can develop during a welding process. (2 Marks)
- b. Sketch TWO types of weld defects. (4 Marks)

16. Identify the following weld symbols.



(2 Marks)
s)

17. Highlight the meaning of the following welding positions as applied to manual arc (stick) welding.
 - a. 1G
 - b. 2F
 - c. 3G
 - d. 4F

(4 Marks)

18. Electrodes are classified with respect to how they are used. List TWO classifications of welding electrodes. (2 Marks)

19. Manual arc (stick) welding requires specific tools and equipment to ensure precision and safety. List FOUR hand tools used during manual arc (stick) welding process. (4 Marks)
20. Outline THREE hazards that are likely to occur in a welding workshop. (3 Marks)
21. Highlight TWO methods of striking an arc in manual arc (stick) welding (2 Marks)
22. Welding electrodes are available in different forms depending on materials used to manufacture them. Identify THREE types of materials that can be used in making welding electrodes. (3 Marks)

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