



## WEL – Advanced Welding

# T146

**Monday, 26/7/2021**

**08:30 – 11:30 AM**

**Names.**

**Index number**

**TVET NATIONAL EXAMINATIONS, RTQF LEVEL 5, 2020-2021**

# QUESTIONS and ANSWERS BOOKLET

OPTION/ TRADE : **WELDING**

**SUBJECT : ADVANCED WELDING**

ACADEMIC YEAR: **2020/2021**

Read carefully the instructions on page (i) & (ii).

**FOR EXAMINER'S USE ONLY**

[illegible]



# TVET NATIONAL EXAMINATION, RTQF LEVEL 5, 2020-2021

## **INSTRUCTIONS TO CANDIDATES: PART I (Answer Booklet)**

1. A candidate should fill in the actual names and the index number on the cover of this questions and answer booklet on the provided place (Black Box).
2. It is illegal for a candidate to write any of his/her names, index number or a school name inside the answer booklet.
3. A candidate should check if all pages of the answer booklet are complete. No candidate should remove or tear any pages or part of it from the answer booklet.
4. A candidate should answer in the language in which the examination is set. (See page **(ii)**)
5. A candidate should sign on the sitting plan when submitting the answer booklet. He/she has also to check if the answer booklet is well sealed.
6. No extra paper is allowed in the examinations room. If a candidate is caught with it his/her results will be nullified.
7. No candidate is allowed to write answers not related to the subject being sat for, otherwise it will be considered as a cheating case.
8. Write your answers on the 12 lined pages (From page 1 of 12 to page 12 of 12).
9. Use the last non-lined pages as draft.
10. Results for any candidate who is caught in examination malpractices are nullified. The cheating can be recognized during examinations administration, marking exercise or even thereafter.

# **TVET NATIONAL EXAMINATION, RTQF LEVEL 5, 2020-2021**

**OPTION/TRADE: WELDING**

**SUBJECT: Advanced Welding**

**DURATION: 3 hours**

## **INSTRUCTIONS TO CANDIDATES: PART II (Question Paper)**

The paper is composed of two (2) Sections as follows:

**Section I: Attempt all the Twelve (12) questions (60 marks)**

**Section II: Attempt any Four (4) questions out of Six (6) (40 marks)**

### **Allowed materials:**

- Ruler or square
- Calculator

### **Note:**

***Every candidate is required to carefully comply with the provided assessment instructions.***

**01.** Explain the following terms:

**(5marks)**

- a) Inert
- b) Gas
- c) Inert gas
- d) Tungsten
- e) Punching

**02.** Classify the following metals into ferrous and nonferrous metals:

**(5marks)**

- |                     |                     |
|---------------------|---------------------|
| a) Stain less steel | f) Bronze           |
| b) Wrought iron     | g) Lead             |
| c) Cast iron        | h) Alloy steel      |
| d) Tin              | i) Galvanized metal |
| e) Brass            | j) Aluminium        |

Ferrous metals	Nonferrous metals

**03.** Explain the following welding processes

**(5marks)**

- a. TIG welding process
- b. Tack welding

**04.** What is the use of the following in welding?

**(5marks)**

- a) TIG hoses
- b) Collet
- c) TIG welding pedal
- d) flow metal.

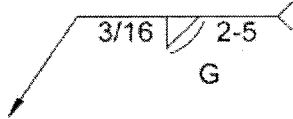
**05.** State any five (5) advantages of TIG Welding. **(5marks)**

**06.** Differentiate pressure regulator from flowmeter. **(5marks)**

**07.** Describe in details the following welding symbols

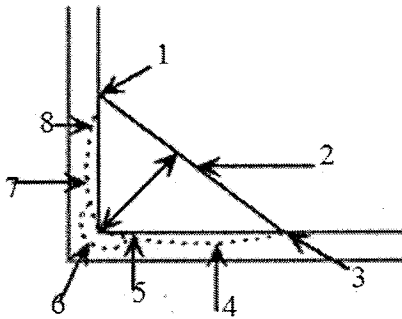
(all dimensions are in inch).

**(5marks)**



**08. a)** Fill the parts of the following fillet weld.

**(4marks)**



**b)** Enumerate any two (2) functions of shielding gas.

**(1mark)**

**09.** What is Flux Cored arc welding?

**(5marks)**

**10.** Enumerate five (5) advantages of gas cutting process.

**(5marks)**

**11.** Give at least five (5) advantages of Plasma Cutting.

**(5marks)**

**12. a)** What do the following terms stand for?

**(2marks)**

**i.** MIG

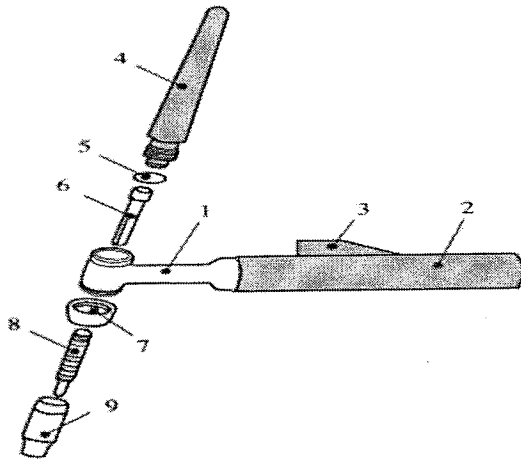
**ii.** MAG

**b)** Give the types of MIG/MAG Welding machines.

**(3marks)**

**Section II: Attempt any four (4) questions out of Six (6) (40 marks)**

**13. Complete the following Tig torch sketch: (10marks)**



**14. Describe the following types of welding joints: (10marks)**

- a. Butt joint
- b. Corner joints
- c. Edge joint
- d. Lap joint
- e. Tee joint

**15. (a) Write down AWS classification designator of FCAW cored carbon steel wire electrode and give one example. (5marks)**

**(b) State FCAW electrode manufacturing methods. (1mark)**

**(c) Differentiate the types of FCAW welding. (4marks)**

**16. Explain the types of welding current used for TIG Welding. (10marks)**

- 17. a) State two (2) defects in TIG welding. (2marks)**

- b) Mention the causes of defects stated in (a) and then propose the remedies. (8marks)**

- 18.** Name the parts of the following installation equipment. **(10marks)**

