Candidate's Examination Number.....

SMZ

ZANZIBAR EXAMINATIONS COUNCIL

FORM THREE ENTRANCE EXAMINATION

072 WELDING AND METALIC FABRICATION

TIME: 2:30 HOURS WEDNESDAY 30TH DECEMBER 2020 A.M

NSTRUCTIONS TO CANDIDATES

1. This paper consists of THREE (3) sections A, B and C.
2. Answer ALL questions in sections A and B and ANY TWO (2) questions from section C.
3. Write your examination number on every page of this booklet.
4. Write all answers in the space provided.
5. Use a blue or black pen in writing. Diagrams must be in pencil.
6. Calculators, cellular phones and unauthorized materials are not allowed in the examination room.

FOR EXAMINER'S USE ONLY					
QUESTION NUMBER	MARKS	SIGNATURE	QUESTION NUMBER	MARKS	SIGNATURE
1			8		
2			9		
3			10		
4			11		
5			12		
6			13		
7			14		
TOTAL					

This paper consists of 12 printed pages

Candidate's Examination Number.....

SECTION A: (10 Marks)

Attempt ALL questions from this section.

1. 1. Choose the correct answer and write its letter in the table provided below.

i) In an electric arc welding the electrode works through

A. Wire rod B. Electric cable

C. Electric holder D. Earth cable E. Electrode coat

ii) The electric arc welding the machines are designated as

A. AC and AF machines B. AD and BC machines

C. KW and KWA machines D. AC and DC machines

E. AP and DC machines

iii) An AC welding transformer is

A. Expensive and difficult to maintain

B. Heavy and fixed on floor

C. Cheaper and simple in operation

D. Rough and complex in operation

E. Smooth and attractive to hold

iv) The gap between two pieces to be joined is filled by

A. Base metal B. Filler metal C. Nonmetal

D. Ferrous metal E. White metal

v) The acetylene gas that is used in gas welding is manufactured

A. Laboratory B. Domestically C. Commercially

D. UnfortunatelyE. Abnormally

vi) It is easy to strike an arc in

A. The DC machines

B. The AC machines

C. The Oxy-acetylene machines

D. The Soldering machines

E. The fuel machines

vii) In straight polarity the electrode is having

A. Negative terminal while work piece connected to positive terminal from power source.

B. Positive terminal while work piece connected to negative terminal from power source.

C. Alternative terminal while work piece connected to direct terminal from machine.

D. Straight terminal while work piece connected to close terminal from generator.

E. Direct current while work piece disconnected from power source.

viii) The carbide to water generator is the method used to produce

A. Oxygen gas B. Acetylene gas C. Propane gas

D. Carbon dioxide gas E. Hydrogen gas

ix) One of the following equipment is useful in the electrical arc welding

A. Blow pipe B. Nozzle C. Gas hose

D. Earthing clamp E. Hose clips

x) The color painted on oxygen cylinder is

A: White B: Red C: Blue D: Black E: Magenta

Answers

i	ii	iii	iv	v	vi	vii	viii	ix	x

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SECTION B: (60 Marks)

Attempt ALL questions from this section.

2. a) Define the term "Welding"

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b) Name five (5) most common welding processes.

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3. a) Mention three (3) items that use welding in their manufacture.

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b) List down three (3) equipments which are used for gas welding.

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4. Briefly describe three (3) types of welding flame in terms of their ratio.

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5. a) What are the three (3) functions of electrode coating?

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b) Enumerate three (3) purposes of flux.

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6. List down four (4) methods of electric arc welding.

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7. a) Name three (3) joining processes based in composition.

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b) State the meaning of the following abbreviation.

i) TIG ii) MIG

iii) GMAW iv) MMAW

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8. a) Mention the methods used to produce oxygen commercially.

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b) Briefly explain any one (1) method of producing oxygen.

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9. a) Briefly explain how acetylene gas is produced.

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b) Write down the chemical reaction for producing acetylene.

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10. Enumerate any six (6) precautions in an arc welding.

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11. a) State the functions of the following arc welding equipment:

i) Electrode holder ii) Chipping hammer

iii) Electrode iv) Wire brush

i) _____

ii) _____

iii) _____

iv) _____

b) Why is an electric arc welding mostly used?

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SECTION C: (30 Marks)

Attempt ANY TWO (2) questions from this section.

12. a) Give brief explanation on resistance welding.

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b) Mention three (3) factors that lead to the successful resistance welding.

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c) What are the four (4) advantages of resistance welding?

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13. a) Write short explanation on

i) High pressure system in an Oxy acetylene welding.

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ii) Low pressure system in Oxy acetylene welding.

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b) Make a sketch showing oxyacetylene equipment ready for operation.

14. a) Fill the table below

	Gas	**Chemical formula**	**Approximate flame temperature**
1	Hydrogen		
2	Acetylene		
3	Propane		
4	Propylene		

b) Describe any five (5) advantages of gas welding.

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c) State any two (2) applications of gas welding.

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