

Candidate's examination number.....

**SMZ**

**ZANZIBAR EXAMINATIONS COUNCIL**

**FORM THREE ENTRANCE EXAMINATION**

**072**

**WELDING AND METALIC FABRICATION**

**TIME 2:30 HOURS**

**TUESDAY, 11<sup>TH</sup> DECEMBER 2018 pm**

**INSTRUCTIONS TO CANDIDATES**

1. This paper consists of sections A, B and C.
2. Answer all questions in sections A, B and C.
3. Answers for each question should be written in the space provided.
4. Calculators and cellular phones are not allowed in the examination room.
5. Write your examination number on every page of this booklet.

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

This paper consists of 12 printed pages

**SECTION A: (10 marks)**

Attempt all questions.

1. Choose the letter of the correct answer and write it below the item number in the table below.

- i) Solder is an alloy of
  - A) Tin and copper
  - B) lead and Tin
  - C) lead and copper
  - D) Copper and Zinc
  - E) Brass and Tin
- ii) For easy recognition, the acetylene cylinders are painted:
  - A) Black and its valves are screwed rightward
  - B) Green and its valves are screwed upward
  - C) Maroon and its valves are screwed left-hand
  - D) Blue and its valves are screwed downward
  - E) Yellow and its valves are screws horizontally.
- iii) Flux is used in soldering to prevent
  - A) Oxidation
  - B) Carburization
  - C) Dust
  - D) Distortion
  - E) Combustion
- iv) In an arc welding, the arc welding the temperature of arc is
  - A) 1000<sup>0</sup>C
  - B) below 1500<sup>0</sup>C
  - C) Below 2400<sup>0</sup>C
  - D) 2900<sup>0</sup>C
  - E) above 2500<sup>0</sup>C
- v) Base metal in welding means
  - A) a metal to be cut or welded
  - B) The metal that is used frequently
  - C) The metal contained in parent metal

- D) Composition of filler metal
- E) Alloy of that metal
- vi) The metal that is solidified in the joint is known as
- A) Weld pass                      B) weld head  
B) C)weld metal                  D) weld root                  E) weld arc
- vii) The joint obtained by joining two plates and are at right angle to each other
- A) Bull joint                      B) lap joint  
C) Edge joint                      D) tee joint  
E) Plate joint
- viii) The correct chemical formula for acetylene is
- A)  $C_2H_3$                       B)  $C_2H_2$   
C)  $AC_2H$                       D)  $C_3H_2$                       E)  $ACT_2$
- ix) The welding process is a
- A) Temporary method of joining  
B) Permanent method of joining  
C) Semi permanent method of joining  
D) Non permanent method of joining  
E) Natural method of joining
- x) the single movement of weld torch or electrode along the length of the joint is known as
- A) Paddle                      B) track weld  
B) C)weld pass                  D) Routine                      E) Slag

**ANSWERS**

Item number	i	ii	iii	iv	v	vi	vii	viii	ix	x

**SECTION B: (30 marks)**

Attempt all questions.

2. How can you distinguish corrosive from non corrosive fluxes?

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3. Mention the types of electrodes used in electric arc welding.

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4. Give out any three examples of welding applications.

6. Draw the welding symbols for the following welding joints

i) Single V-butt

i) Single U-butt

7. Name any three (3) nonferrous metals that can be joined by welding

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8. a) What do you understand by the term oxy-hydrogen welding.

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- b) Write down the appropriate temperature for ox hydrogen flame.

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9. Enumerate three (3) factors for the satisfaction of resistance welding.

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10. Identify the steps to be followed to ensure that good soldered joint is obtained.

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11. Identify the properties of welding rods.

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**SECTION C: (60 marks)**

Attempt all questions

12.   a) Describe the safety measures in an electric arc welding.  
      b) List down the electric welding equipments.  
      c) Explain the advantages and disadvantages of welding over other joining

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processes.

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14. a) Describe the process involved in the production of
- i) Oxygen
  - ii) Acetylene
- b) Write short explanation on welding position

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