

Candidate's examination number.....

SMZ

ZANZIBAR EXAMINATIONS COUNCIL

FORM THREE ENTRANCE EXAMINATION

056

WORK SHOP TECHNOLOGY

TIME: 2:30 HOURS

FRIDAY, 07TH 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.

FOR EXAMINER'S USE ONLY					
Question number	Marks	Signature	Question number	Marks	Signature
1			9		
2			10		
3			11		
4			12		
5			13		
6			14		
7					
8					
TOTAL					

This paper consist of 8 printed pages

SECTION A: (10 marks)

Attempt all questions

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

- i) The essentials to start fire are
 - A. kerosene and heat
 - B. Oxygen and heat
 - C. Fuel and oxygen
 - D. Oxygen, fuel, Kerosene and water
 - E. Fuel, oxygen and heat
- ii) What do we use for holding and manipulating hot metals?
 - A. Vice
 - B. hammer
 - C. Tongs
 - D. Gloves
 - E. Plier
- iii) The main product obtained from pig iron is
 - A. Bars, rods and wires
 - B. Iron ore and coke
 - C. Cast iron, wrought iron and steel
 - D. tool steel
 - E. None of the above.
- iv) The accuracy of metric vernier caliper is
 - A. 0.5 or 0.2mm
 - B. 0.05 or 0.02mm
 - C. 0.005 or 0.002mm
 - D. 0.005 or 0.22mm
 - E. 0.5 or 0.212mm
- v) Machine vice is used for
 - A. Drilling operations
 - B. Holding work pieces
 - C. Cleaning workpieces
 - D. Chopping work pieces
 - E. Filing work pieces
- vi) The suitable mill for cold rolling is
 - A. 3-high mills
 - B. 2-high mills
 - C. 4-high mills
 - D. One -high mills
 - E. Single high mill.

- vii) Dividers are used for
 A. Dividing lines B. Scribing circle C. Stainless steel
 D. Scribing circle and centering E. Scribing arcs.
- viii) Open hearth furnace is used to produce
 A. Aluminium B. zinc
 C. Steel D. wrought iron E. Cast iron
- ix) The furnace used to produce large amount of steel
 A. An electric arc furnace B. Pudlling furnace
 C. Open hearth furnace D. Cupola furnace
 E. Bessemer converter furnace
- x) Hematite, magnetite, taconite and limonite may be used to produce
 A. Sulphur B. cast iron C. pig iron
 D. rubber E. mild steel

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

SECTION B: (30 marks)

Attempt all questions

2. a) Name three (3)types of plain carbon steel.

- b) State two uses of each of the plain carbon steel you have named in (a) above.

3. Distinguish between plasticity and elasticity.

4. What kind of materials are used to make

- i) Car bodies

- ii) Bolts and nuts

- iii) Nails.

5. List down six (6) principal materials used to alloy steels.

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6. Enumerate three examples of non ferrous metals.

7. Define the following terms.

i) Hot rolling

ii) Cold rolling.

8. Write down three (3) advantages of alloy steel.

9. Name any three (3) common types of fire extinguishers.

10. Give three (3) mechanical properties of steel.

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11. a) Define hardening.

- b) What changes occurs when a piece of steel is hardened?

SECTION C: (60 marks)

Attempt all questions.

12. a) Describe the function(s) performed by each of the raw materials used in production of pig iron.

b) State the carbon content in the following materials,

- i) low carbon steel
- ii) medium carbon steel
- iii) high carbon steel

c) Write down the application (s) of

- i) Medium carbon steel

- ii) High carbon steel

13. a) Why alloy steel is produced by electrical method?

- b) Why limestone is used in steel industry?

- c) Identify the important constituents of thermosetting plastics

14. a) Why is it necessary to temper steel after hardening?

- b) Give description on how a piece of steel can be annealed.
