

**Candidate's Examination Number.....**

**SMZ**

**ZANZIBAR EXAMINATIONS COUNCIL**

**FORM THREE ENTRANCE EXAMINATION**

**055**

**BUILDING CONSTRUCTION**

**TIME 2:30 HOURS**

**MONDAY 8<sup>TH</sup> NOVEMBER, 2021 P.M**

**INSTRUCTIONS TO CANDIDATES**

1. This paper consists of THREE (3) sections A, B and C.
2. Answer ALL questions in section A, B and C.
3. All answers must be written in the space provided.
4. All working must be written in black or blue ink and diagrams must be in pencil.
5. Write your examination number on every page of the booklet.
6. Calculators, cellular phones and unauthorized materials are not allowed in the examination room.

<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>6</b>		
<b>2</b>			<b>7</b>		
<b>3</b>			<b>8</b>		
<b>4</b>			<b>9</b>		
<b>5</b>			<b>10</b>		
<b>TOTAL</b>					

**This paper consists of 12 printed pages**

**SECTION A: (15 Marks)**

**Answer ALL questions from this section.**

1. Choose the correct answer and write its letter below the item number in a table below.
  - i) Which dimension shows the face of brick laid in a stretcher face?
    - A. 215 X 102.5mm
    - B. 102.5 X 65mm
    - C. 215 X 65mm
    - D. 112.5 X 75mm
  - ii) When a brick is said to be laid in a header face?
    - A. If exposed face is 102.5 X 65mm
    - B. If exposed face is 215 X 65mm
    - C. If exposed face is 225 X 65mm
    - D. If exposed face is 112.5 X 75mm
  - iii) The reason for clay bricks to be thoroughly dried before burning is
    - A. To ensure even colour
    - B. To ensure easy handling
    - C. To ensure the crack is not occurring
    - D. To ensure the shrinkage is not occurring
  - iv) Indicate the size of sieve that fine aggregates will pass through it
    - A. 3mm
    - B. 5mm sieve
    - C. 7mm sieve
    - D. 10mm sieve
  - v) What are the components that should be included on a superstructure?
    - A. Artificial foundation, walls, roofs and floor
    - B. Foundation, roof, floors and walls
    - C. Walls, roofs, floors and natural foundation
    - D. Walls, roofs, floors and stairs
  - vi) What is the depth of trench which is considered as a shallow foundation?
    - A. 1.5 m to 3.0m deep
    - B. Below 2.5m deep
    - C. Over 3.0m deep
    - D. Up to 1.5m deep

- vii) What is the depth of trench which is considered as a deep foundation?
- A. 1.5 m to 3.0m deep
  - B. Below 2.5m deep
  - C. Over 3.0m deep
  - D. Up to 1.5m deep
- viii) The mix ratio which has the meaning of 1 part for cement, 2 parts for fine aggregates and 6 parts for coarse aggregates is
- A. 6:2:1
  - B. 2:1:6
  - C. 6:1:2
  - D. 1:2:6
- ix) What is the recommended position of DPC from the ground level?
- A. 100mm
  - B. 200mm
  - C. 150mm
  - D. 250mm
- x) The concrete surface will be cured in order to
- A. provide a smooth, cleaned surface
  - B. provide little crack which is easy to repair
  - C. reduces permeability and increase the durability of concrete
  - D. removes all soluble salts that contained in cement

**Answers**

i	ii	iii	iv	v	vi	vii	viii	ix	x

2. Match the meaning of building construction terms in column A with the corresponding term in column B by writing its letter below the item number in a given table.

<b>COLUMN A</b>	<b>COLUMN B</b>
i) A brick that is cut across the width	A. Arris
ii) A brick cut in half along its length	B. Quoin
iii) A complete layer of bricks including the motor	C. Closer
iv) A corner or external angle of a wall	D. Bat
v) Edge of brick	E. Course
	F. Face
	G. Bed joint
	H. Bed
	L. lap

**Answers**

i	ii	iii	iv	v

**SECTION B: (70 Marks)**

**Answer all questions from this section**

3. a) The top soil must be removed before the process of digging a foundation begins. As a qualified technician explain why the top soil must be removed before digging a foundation. (Give two reasons).

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- b) Briefly explain three (3) objectives of carrying out site exploration.

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4. You have been appointed to attend an interview prepared by XYZ BUILDING COMPANY. Give your responses on the following interview questions.

- a) What are the four (4) basic requirements of motor suitable for bricks and stone works?

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- b) Give three (3) applications for each of the following classes of bricks.

- i) Engineering bricks

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- ii) Facing bricks

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5. a) The labours excavate the trench at a water logged soil. List down any four (4) methods that can be used to ensure that the work is done without difficulty.

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- b) Explain why the building CONTRACTOR establish the fence around the whole site before the work commences. Give two (2) reasons.

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6. a) Suppose that you are supervising the masonry work at a certain site.

- i) Name any two (2) tools that will be used during the process.

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- ii) Explain the application of each of the tools named above.

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- b) With simple sketch show the construction of Masonry wall which is constructed by uncoursed random rubble.

7. While you were studying in a Central library, two students approached you and asked you to give them brief explanation on the following types of buildings.

- i) Residential buildings
- ii) Educational buildings
- iii) Assembly buildings
- iv) Mercantile buildings

Explain how you would help them.

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8. You are invited to make a presentation at a certain Technical school on the sub-topic "Scaffolding". In your presentation, give the detailed information on

a) The meaning of scaffold.

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b) Two (2) important requirements of scaffold.

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c) Any three (3) components parts of scaffold.

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d) Three (3) types of scaffolding.

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9. With neat sketches, show the following finishes shapes.
- i) Flash pointing
  - ii) Weathered pointing
  - iii) Rubbed pointing
  - iv) Struck pointing
  - v) V- pointing

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### SECTION C: (15 Marks)

**Answer ONE (1) question from this section.**

10. As a civil engineering technician, explain the procedure that you will follow in order to conduct a slump cone test.

[illegible]

[illegible]

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