THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATIONS COUNCIL OF TANZANIA

FORM TWO NATIONAL ASSESSMENT

071 BUILDING AND CONSTRUCTIONS

Time: 2:30 Hours **Year: 2022**

Instructions

1. This paper consists of sections **A, B** and **C** with a total of **ten (10)** questions**.**
2. Answer **all** questions.
3. Section **A** and **C** carry **fifteen (15)** marks each, section **B** carries **seventy (70)** marks.
4. Cellular phones and any unathorized materials are **not** allowed in the assessmenmt room.
5. Write your **Assessment Number** at the top right hand corner of every page.

FOR ASSESSOR'S USE ONLY		
QUESTION NUMBER	**SCORE**	**ASSESSOR'S INITIALS**
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
TOTAL		
CHECKER'S INITIALS		

2 303041 100219

SECTION A (15 Marks)

Answer **all** questions in this section

1. Choose the correct answer from the given alternatives and write its letter in the box provided.

   i) While investigating the site, a thick layer of fairly firm clay over a deep layer of soft clay is encountered. Which type of foundation will you suggest to be used in this situation?

   A. Pile foundation
   B. Raft foundation
   C. Grillage foundation
   D. Strip foundation.

   ii) A client wants to make reinforced cement concrete. Which type of steel is best to use?

   A. Stainless steel
   B. High carbon steel
   C. Mild steel
   D. Wrought iron.

   iii) Which part of a building is constructed above the plinth level?

   A. Substructure.
   B. Basement.
   C. Foundation.
   D. Superstructure.

   iv) Suppose you are involved in setting a level of a residential building foundation trench. Which tool is required for the work?

   A. Ranging rod.
   B. Steel tape.
   C. Leveling staff.
   D. Boning rod.

v) Which type of wall is constructed to divide the space within an office building?

A. Boundary
C. Party
B. Fender
D. Partition

vi) What type of an arch is used for high class buildings where appearances is of prime importance?

A. Ashlar
B. Rubble
C. Gauged brick
D. Axed brick.

vii) Which one are essential sets of Personal Protective Equipment (PPE) for a technical secondary school workshop?

A. Goggles, sneakers, masks and overcoat
B. Short pants, overall, goggle and face shield
C. Face shield, goggles, overcoat, and sandals
D. Face shield, goggles, gloves and overcoats.

viii) Suppose a concrete ratio of 1:3:6 is used for constructing a ground floor slab. Calculate the percentage of fine aggregate?

A. 100
C. 30
B. 60
D. 10

ix) Identify the chemicals that are added to plastics during production so as to make it soft, flexible , and improve their toughness.

A. Powder filters
B. Plasticizers
C. Lubricants
D. Binders.

x) Suppose the intermediate building between party walls of two buildings has to

be demolished or rebuilt . What is the temporary support to be used ?

A. Underpinning

B. Dead shore

C. Flying shore

D. Scaffolding

2. Match the meaning of the bricks walls bonds in **List A** with the corresponding technical term in **List B** by writing the letter of the correct answer in the table provided.

LIST A	**LIST B**
i) The bond havinh healers snd strechers laid at laternate coursesand every cause started with $\frac{3}{4}$ brick-bat ii) The bond having all the bricks laid as streches in every course iii) The bond having all the bricks laid as headers in every corse of a wall. iv) The bond having headeers and stretchers laid alternately in the same course. v) The bond having headeers and stretchers laid alternate course.	A. Heading bond B. Flemish bond C. Dutch bond D. Zig Zag bond E. Facing vond F. Raking bond G. English bond H. Streching bond

ANSWERS

List A	**(i)**	**(ii)**	**(iii)**	**(iv)**	**(v)**
List B					

SECTION B (70 Marks)

Answer **all** questions from this section

3. Normally a big team of personel are involved in constrcutions of big building projects. Why is it neccesary to have the following team members?

    a) Client

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    b) Contract manager

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    c) Quantity surveyor

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    d) General foreman

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4. Describe the use of following tools to a concrete block manufacturer

    a) Wheelbarrow

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b) Plates

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c) Shovels

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d) Head pans

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e) Trowels

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5. Suppose an architect decide to use glass as a building material for the newly designed building.

a) What are the three adavantages and three disa advantages of using glasses as a building materials?

Advantages

(i) .....

(ii) .....

(iii) .....

Disadvantages

(i) .....

(ii) .....

(iii) .....

b) Mention four building components which are made of glass

(i) .....

(ii) .....

(iii) .....

(iv) .....

6. With the aid of single elevation, sketch the following parts of the bricks wall which is under construction

i) Header

ii) Stretcher

iii) Bed joints

iv) Vertical joints

v) Perpends

vi) Backing band

vii) Queen closer

7. (a) **S**uppose a construction has stopped because of missing deatails of cavity wall. Provide detailed section sketch at the following areas of a cavity walls so that the constructions can proceed:

i) At lintel

ii) At sill

(b) Briefly describe each of the following types wall

iii) Separating wall

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iv) A curtain wall

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v) Composite wall

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8. (a) The construction cannot start untill site clearence. Justify the statement by giving three advantages of site explorations

i) .....

ii) .....

iii) .....

(b) Desribe four operations involved during site clearence

i) .....

ii) .....

iii) .....

iv) .....

What precautions should be observed during the site clearence operations? Give two precaustions.

i) . .....

ii) .....

9. (a) why seasoning of timber is recommended before use? Give six reasons

i) . .....

ii) .....

iii) .....

iv) .....

v) .....

vi) .....

(b) Briefly describe two methods to season timber

i) . .....

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ii) .....

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SECTION C (15 Marks)

Answer **all** questions

10. (a) What are the three methods that can be adopted while digging foundations trenches in water lodged sites?

i) . .....

ii) .....

iii) .....

(b) With aid of neat and labeled diagram, exaplain timbering to strenches in the followin type of soil:

i) Firm soil

ii) Moderately firm soil

iii) Loose and waterlogged soil.