# THE UNITED REPUBLIC OF TANZANIA NATIONAL EXAMINATIONS COUNCIL CERTIFICATE OF SECONDARY EDUCATION EXAMINATION

071

## BUILDING CONSTRUCTION

(For Both School and Private Candidates)

TIME: 3 Hours

Monday morning 29/10/2007

#### Instructions

- 1. This paper consists of sections A, B and C.
- 2. Answer all questions in sections A and B and two (2) questions in section C.
- 3. Section A carries 20 marks while section B and C carry 40 marks each.
- 4. Cellular phones are not allowed in the examination room.
- 5. Write your Examination Number on every page of your answer booklet(s).

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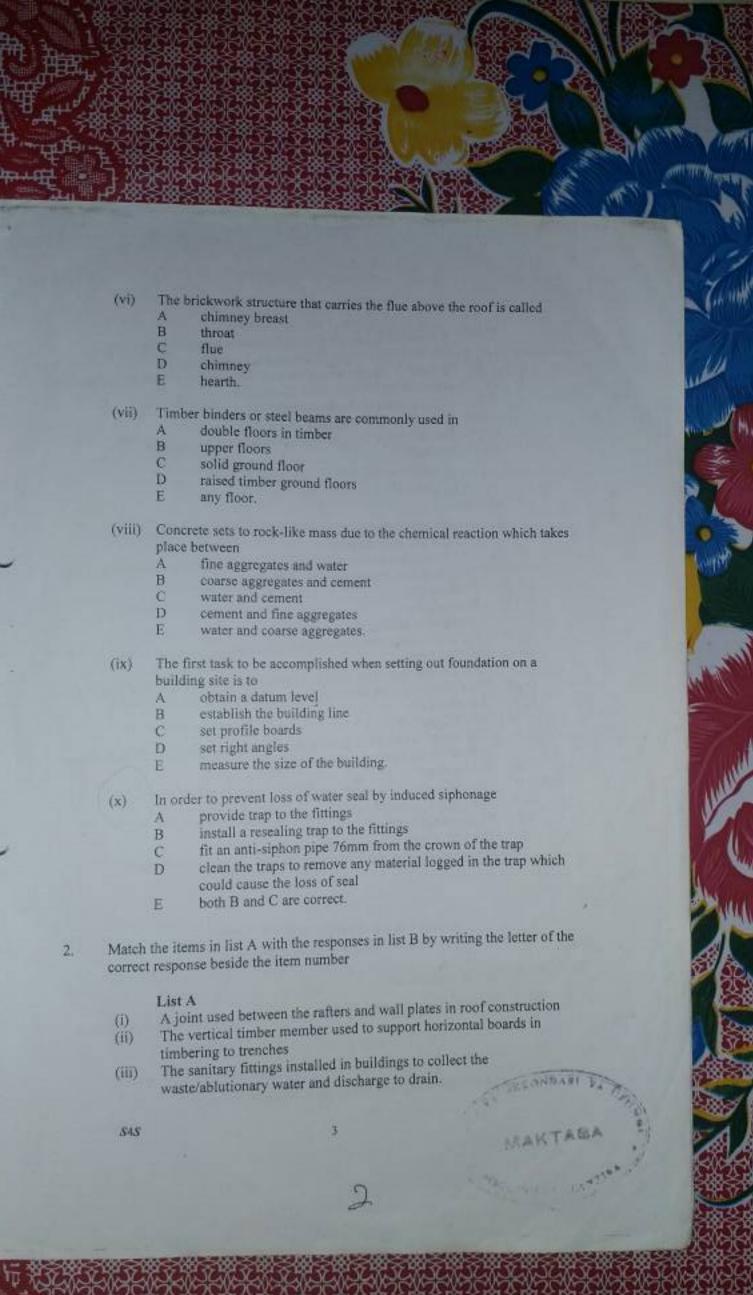
This paper consists of 6 printed pages

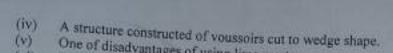


# SECTION A (20 marks) Answer all questions in this section

- For each of the items (i) (x), choose the correct answer from among the given alternatives and write its letter beside the item number.
  - The main poles used in a putlog scaffold are
    - flying raker, brace, putlog, standard
    - brace, putlog, walling board, standard B
    - standard, putlog, braces, ledger C
    - putlog, poling board, false work, standard D
    - transom, poling board, brace, putlog.
  - The client's representative on construction sites who records the daily (ii) activities at the site is known as
    - Quantity surveyor A
    - Clerk of works B
    - Site foreman C
    - Site agent D
    - Sub-contractor.
  - The timber framework which is inserted into an opening of wall where the (iii) door shutter is hung is
    - stile A
    - jamb B
    - door lining C
    - cill D
    - transom. E
  - The type of bond that consists of alternate bricks laid as headers and (iv) stretchers in each course is called
    - flemish bond
    - english bond B
    - stretcher bond C
    - english garden wall bond D
    - flemish garden wall bond.
  - The type of single pitched roof consisting of a pair of rafters sloping down in two directions from the ridge and their feet supported on wall plate is known as
    - closed couple roof
    - double roof B
    - collar roof C
    - couple roof D
    - mono-pitch roof.

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One of disadvantages of using lime mortar (vi) In order to prevent smoke through the chimney as well as seal possible cracks in the chimney brick/block joints.

Particle size and shape of aggregates (vii) (viii)

The main role of the client The difference between a mortise lock and a rim lock (ix)

(x) Nosing.

### List B

- A Sewer
- B It has low setting time thus allowing enough time to work on it

Tongue and grooved joint

D The former is fixed on the internal surface of the wall while the latter is fitted in a hole cut into the edge of the door E

Birds mouth

Waste fittings

Segregation placing and compacting G

The part of tread that project beyond the riser H

Walling board

The internal face of the chimney should be lined with suitable flue liners To estimate the cost of the project K

L Rough arches

Soil fittings

The former is fitted in a hole cut into the edge of the door while the latter N is fixed on the internal surface of the door

0 Poling board

- P Gauged arch
- The internal face of he chimney should be pointed Q

R To finance the project

- The part of stair that supports the balustrade S
- Elements affecting the workability of concrete.

## SECTION B

Answer all questions in this section.

- (a) Define foundation.
  - State two factors upon which the choice of a type of foundation depends.
- 4. (a) What are cavity walls?
  - List two advantages of cavity walls in construction. (b)

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- (a) Why is the top soil removed before digging the foundations?
  - (b) When does it become necessary to perform dewatering when excavating foundation trenches?
- List four principal root covering materials to pitched roofs
- 7. (a) What is portable water?
  - (b) Who carries out the taping of main pipes and laying the communication pipe when installing service pipes to buildings?
- Explain briefly the difference between a common stairway and a private stairway.
- 9. What is meant by the following terms?
  - (a) Fine aggregates
  - (b) Coarse aggregates
  - (c) All-in aggregates
  - (d) Clearing the site
- 10. Define the following terms:
  - (a) Angle of repose
  - (b) Glazing
- 11. (a) What is meant by in-situ floor finishes?
  - (b) Give two examples of the in-situ floor finishes.
- Sketch a framed ledged braced and battened door and label any 2 parts.

## SECTION C

Answer two (2) questions from this section.

- (a) Differentiate between load bearing walls and non load bearing walls and for each give two examples.
  - · (b) What is the difference between an arch and a lintel?
  - · (c) Describe the procedure of laying terrazzo floor finish.
  - . (d) Sketch weather struck joints as used in pointing.

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- Define the following terms: 14. (a)
  - Architrave (i)
  - Skirting (ii)
  - Building line (iii)
  - Strutting (iv)
  - Stair (v)
  - Where are intercepting traps used? (b)
  - Design and draw a fully labelled diagram of a septic tank for a family of (0) five (5) people.
- Describe briefly the following types of stairs: 15. (a)
  - Straight flight stairs (i)
  - Dog legged stairs (ii)
  - Newel post stairs (iii)
  - Show by sketches the difference between strip foundation and deep strip (b) foundation.
  - With the aid of a sketch, explain where the following failures are likely to occur when a simply supported beam is loaded from the top. (c)
    - Maximum bending failure
    - Maximum shear failure (ii)