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

071 BUILDING CONSTRUCTION

Time: 3 Hours *Friday*, **October 21, 2005 a.m.**

Instructions

1. This paper consists of sections A, B and C.
2. Answer **all** questions from sections A and B and **two (2)** questions from section C.
3. Electronic calculators are **not** allowed in the examination room.
4. Cellular phones are **not** allowed in the examination room.
5. Write your **Examination Number** on every page of your answer booklet(s).



SECTION A (20 marks)

Answer **all** questions from this section.

1. For each of the items (i) - (x) choose the correct answer from among the given alternatives and write its letter beside the item number.

(i) The purpose of a sole plate as used in shoring work is to

A distribute the load evenly over a large area
B provide a fixing point for the various components
C allow the shores to be easily levelled
D keep the bottom of the shores in line
E resist the load between the walls.

(ii) The term "in situ" concrete refers to concrete that has been cast

A at the factory B in a mould box C in its location
D in large units E in small units.

(iii) The materials for damp proof course must be

A able to stop any expected settlement to a building
B in comparatively thick sheets
C completely impervious
D replaced from time to time
E adequately permeable

(iv) Figure 1 below represents a

A cowley level staff B profile board C boning rod
D sighting board E sighting square.

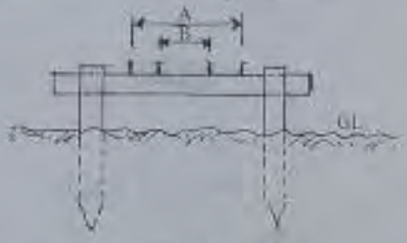


Fig. 1

(v) The name given to the intermediate vertical members of a window frame is

A Muntins B Mullions C Jambs D Stiles
E Rails

(vi) The chimney should be built as vertical as is practicable in order to give

A minimum flue gas flow B maximum flue gas flow
C maximum retention of heat D maximum reflection of heat to the room
E efficient use of fuel.

(vii) One of the disadvantages of the direct system of cold water supply distribution is as follows:

A less water is obtainable during peak periods
B a large number of pipes is used
C there is a likelihood of contamination of water at the storage tanks
D no water is obtainable at the mains
E causes failure of water mains to function efficiently

(viii) The pitch line on stain construction

A is measured horizontally between the two end uses
B is the accumulation of steps along one flight
C separates stain flights
D connects all nosings of treads in a flight
E spans the same as stain headroom

(ix) The type of hinge used to fix battened (or matchboarded) doors to frames is

A parliamentary hinge B tee hinge C y hinge D butt hinge
E skew butt hinge.

(x) The roofing member used in pitched roofs and laid over rafters to support the tiles is known as

A Purlin B Jack rafter C Batten D Verge E Principal rafter

2 Match the terms or phrases in **List A** with the responses in **List B** by writing the letter of the correct response beside the item number.

	LIST A
(i)	Blinding.
(ii)	Glazing without beads.
(iii)	Roof covering materials.
(iv)	A structural member used to receive the load from the beam and transmit it to the foundation.
(v)	The term used to describe the hardware used in construction.
(vi)	A wooden member around door and window openings provided to hide the joint between frame and opening and give good appearance.
(vii)	The platform of a fireplace upon which the fuel is directly placed on.
(viii)	The lowest part of the structure on watch the building rests.
(ix)	Horizontal joint between two consecutive courses.
(x)	To allow access for inspection and rodding of drains.

	LIST B
A	English bond.
B	The total load on the foundation.
C	Bed joint.
D	A thin layer of mortar applied to the walls to fill or blind the open pores on the wall.
E	Ironmongery.
F	Foundation.
G	Floor screed.
H	A layer of stonedust laid over hardcore before oversite concrete is spread over it.
I	Skirting.
J	Mitred pieces of wood are used as moulding to fix the glasses.
K	Architrave.
L	Fireplace opening.
M	Shingles.
N	Putty is used to fix the glasses.
O	Superimposed hearth.
P	Inspection chambers are constructed at change of direction and gradient.
Q	An upper floor.
R	Common rafter.
S	Materials used to make nails, screws and bolts.
T	Beam.

SECTION B (40 marks)

Answer **all** questions in this section.

3. Define the following terms as used in fireplaces:

   (a) Fireplace. (b) Chimney. (c) Flue. (d) Throat.

4. Define the following:

   (a) Shallow foundations. (b) Deep foundations.

5. Define the following terms:

   (a) Water main.
   (b) Service pipe.
   (c) Distribution pipe.
   (d) Drainage.

6. List down **four (4)** purposes of providing hardcore in concrete ground floors.

7. What are the primary functions of windows?

8. Sketch a putlog scaffold and label the following:

   (a) Standard. (b) Puting. (c) Ledger.

9. Differentsate a flat roof from a pitched roof.

10. Explain the difference between a lock and a latch.

11. What is the difference between the following as related to stairs?

   (a) The rise and riser. (b) Going of a step and going of a stair's flight.

12. List down **four (4)** functional requirements of walls.

SECTION C (40 marks)

Answer **two (2)** questions from this section.

13. (a) Describe how to lay floor screed finish to floors.

   (b) What advantages do concrete floors have over other types of floors?

   (c) Draw a simple sketch of a stair and show the following:

   (i) Tread. (ii) Nosing. (iii) Stringer. (iv) Pitch line.

14. (a) What is meant by the term bearing capacity of soil?

   (b) (i) Explain the meaning of the term "curing of concrete".

   (ii) List down **four (4)** methods of curing of concrete.

(c) Show by sketches the following types of roofs:

(i) Double lean to roof. (ii) Collar roof. (iii) Couple roof.

15. (a) Show with sketches the difference between a lintel and an arch.

(b) (i) What is the major disadvantage of a hollow core flush door as compared to a solid core flush door?

(ii) Show by sketch a solid core flush door.

(c) What is pointing and how does it differ from painting?

(d) Sketch the following bricks:

(i) Queen closer.

(ii) King closer.