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

071

BUILDING CONSTRUCTION

Time: 3 Hours

14 November 2002 a.m.

Instructions

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

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.
 - (i) Bearing capacity of soil means
 - A the load to a subsoil at a point near the ground
 - B the load to a subsoil some distance below the ground floor
 - C the load that the soil can safely carry with appreciable settlement
 - D deformation of soil due to imposed loads
 - E the force to be resisted by a foundation.
 - Sleeper walls are constructed with open spaces (honey combed) between the bricks with the aim of
 - A becoming quicker to build
 - B allowing air to circulate under the floor
 - C reducing the cost of bricks
 - D giving a good appearance
 - E allowing people to pass through.
 - (iii) The cement commonly used in ordinary works is
 - A rapid hardening portland cement
 - B high alumina cement
 - C white and coloured cement
 - D ordinary portland cement
 - E extra rapid hardening portland cement.
 - (iv) A chimney is defined as
 - A a shaft projecting above the roof to carry off the smoke and gases from the fire place
 - B passage for conveying the discharge of an appliance
 - C brickwork surrounding the passage from the appliance to convey the gases
 - D a tall breast standing chimney
 - E a structure supporting the construction hearth.
 - (v) A wall which separates two dwellings is called
 - A separating wall
 - B fender wall
 - C partition wall



- D party wall
- E scrpentine wall.
- (vi) The main functions of windows are to
 - A admit daylight and ventilation
 - B allow people to pass through
 - C admit people, daylight and ventilation
 - D weatherproof buildings and admittance of people and their goods
 - E allow wind escaping from it.
- (vii) A communication pipe is
 - A that pipe used for communication between the water main and owner
 - B part of service pipe between company's main and boundary stop cock
 - C pipe connected at the point where a storage tank is installed
 - D part of service pipe between boundary stop cock and point of draw off in the building
 - E pipe obtaining water from a storage tank.
- (viii) The following are the operations in the construction of a short bored piled foundation except
 - A une clearance
 - B boring the holes for piles
 - C forming the shuttering for the reinforced concrete beams or excavating the trenches to serve as shuttering
 - 3 D casting the piles
 - 4 E casting the beams.
- (ix) The traditional method of providing heating in domestic buildings is
 - A the open convectors
 - B the open fireplaces
 - C the room heaters
 - D the back boiler
 - E independent boilers.
- (x) The following are the functional requirements of a floor except
 - A durability
 - B exclusion of wind and rain
 - C strength
 - D fire resistance
 - E transmission of sound.

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Match the items in List A with the responses in List B by writing the letter of the correct response beside the item number.

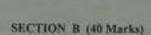
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- The workability of concrete (i)
- The total load of a building and the nature of the bearing capacity of the subsoil (ii)
- Made up ground is unsuitable for foundation of a building (iii)
- A material used to reduce the consistency of paint (iv)
- Actual means of ascending or descending from one level to another (v)
- Common rafter (vi)
- A structural member used to receive the load from beams and transmit it to the foundation (vii)
- The process of preventing twisting or buckling of floor joists (viii)
- The term used to describe the hardware used in construction (ix)
- The method of preventing foul gases from the drain entering a building (x)

LIST B

- Provision of traps
- Thinners B
- Individual wedge shaped bricks in an arch
- Walls constructed to enclose the concrete and hardcore of a ground floor hearth of a fireplace D
- B
- The ease at which concrete can be worked (transporting, placing and compacting) 算
- The factors on which the choice of type of foundation depend G
- Has low bearing capacity to its nature H
- Gives a good thermal insulation, keeps the building warm in winter and cool in summer
- As hip rafter but forming an internal angle
- The nature of the ground K
- Main load bearing member of a roof spanning between wall plate and ridge piece
- A wall constructed to enclose space M
- A column N
- Provision of barrier to passage of moisture into the building 0
- Strutting
- Iron mongery Q
- Kerosine R
- Non-return valve S
- Newel post

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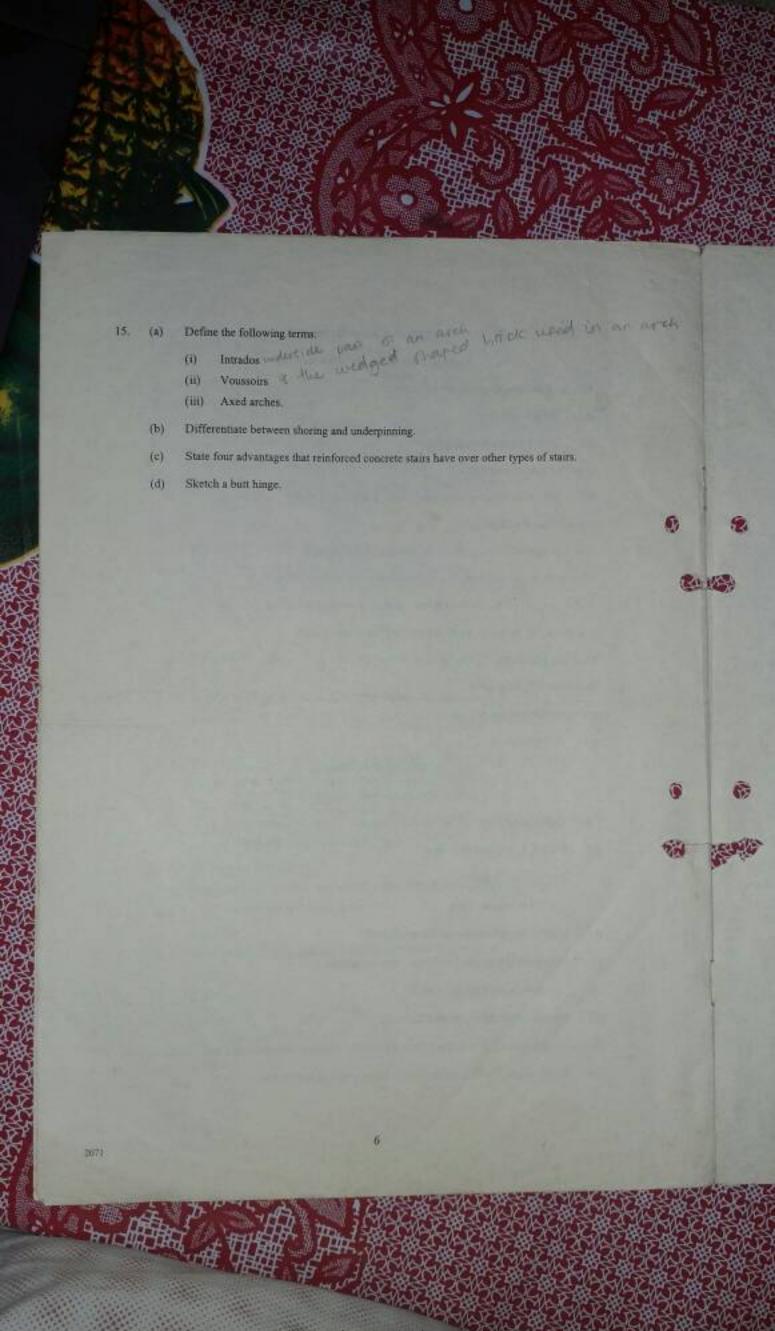
Answer ALL questions in this section.

- 3. State four functional requirements of walls.
- 4. (a) What is concrete?
 - (b) Why is concrete reinforced?
- 5. State two functions of fireback.
- 6. (a) Why is it necessary to provide openings in building walls?
 - (b) What is a threshold?
- State two aims of carrying out site exploration or investigation.
- What is the difference between a manhole and an inspection chamber?
- 9. State four types of shallow foundations commonly used in our country.
- 10. List down four factors on which the type of floor finish depends.
- 11. State two advantages of applying paints to wall surfaces.
- 12. Define the following terms:
 - (a) A communication pipe
 - (b) A supply pipe.

SECTION C (40 Marks)

Answer TWO questions from this section.

- 13. (a) Define paint.
 - (b) Explain briefly the following:
 - (i) Priming paints
 - (ii) Undercoat paints.
 - (c) Why is clay for making bricks weathered?
 - (d) Differentiate between a drain and a private sewer.
- (a) List down four functions of roofs.
 - (b) State disadvantages of timber flat roofs.
 - (c) Describe briefly how to lay a floor screed on a concrete floor to form a jointless floor finish.
 - (d) State two methods of ensuring safety when working in trenches.



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