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

072

ARCHITECTURAL DRAUGHTING
(For Both School and Private Candidates)

TIME: 3 Hours

Tuesday morning 30/10/2007

Instructions

1. This paper consists of sections A, B and C.
2. Answer **all** questions in sections A and B, and **two (2)** questions from section C.
3. 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).

S4S

This paper consists of 5 printed pages.

SECTION A (20 marks)

Answer all questions in 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 underground tank filled with stones to allow liquid to percolate into the surrounding subsoil in the drainage system is known as
- A septic tank
 - B man hole
 - C cesspool
 - D intercepting chamber
 - E soak away pit.
- (ii) Drawing is a
- A language for the introverts
 - B means of communication by lines
 - C subject for the dull pupils
 - D military language
 - E subject for technicians.
- (iii) A tee square is used to draw
- A horizontal lines
 - B vertical lines
 - C inclined lines
 - D centre lines
 - E short thin dash lines.
- (iv) A decorative moulding fixed or cut around doors to emphasise the opening is the
- A skirting
 - B architrave
 - C threshold
 - D head
 - E wood plug.
- (v) The type of drawing which shows the true picture of the building materials is the
- A ground plan
 - B rear elevation
 - C drainage layout
 - D section drawing
 - E vertical section drawing.

- (vi) The following are terminologies concerning the stairs, except
- A pitch line
 - B going
 - C riser
 - D voussoir
 - E tapered step.
- (vii) A full size scale means
- A 1:12
 - B 2:1
 - C 1:1
 - D 1:3
 - E 3:1.
- (viii) As far as roof design is concerned a span is
- A horizontal distance between two walls of a building
 - B vertical distance between the inclined part of the pitched roof
 - C inclined distance between two walls of building where the roof is placed
 - D horizontal distance between outer edge of the wall plates
 - E horizontal distance between inner edges of the wall plates
- (ix) A flue is define as a
- A void through which products of combustion enter
 - B fire place where heating takes place
 - C space through which smoke enters
 - D space through which gases from fireplace are kept
 - E space through which smoke and gases pass
- (x) Dead loads are loads caused by
- A a moving wind
 - B resting equipment
 - C moving bodies
 - D the static and non moving bodies
 - E non living things.

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

List A

- (i) The front view of the object
- (ii) ISO metric size of A₂ drawing paper
- (iii) Basic functions of building specifications
- (iv) Casement windows

List B

- A The part of the building foundation which rest on the ground and constructed first
- B Waste water
- C Geometric, open well, circular and straight flight stair
- D Pivoted window

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|---|---|
| (v) Sewage line | E A drawing which shows various plots |
| (vi) A slope of roof usually expressed as a ratio | F To maximize privacy at the living room |
| (vii) The strip on the door jambs against which the door closes | G Pitch |
| (viii) Footing | H 297mm x 420mm |
| (ix) Types of stair cases | I Door stop |
| (x) Block plan | J Section |
| | K Elevation |
| | L Heads and sills always extend across the full width of the frame |
| | M 594 mm x 420 mm |
| | N Roof over hang |
| | O Legal documents with written instructions used basically for estimating materials and costing |
| | P Assembly drawings |
| | Q Hinged window |
| | R Empirical measurement |
| | S Drainage disposal system |
| | T Detail of stair and ground plan |

SECTION B (40 marks)
Answer all questions in this section.

3. What is the purpose of North point on a drawing?
4. Mention two most common types of pictorial drawings.
5. Name two styles of lettering used in Architecture.
6. Draw a simple sketch of a bird's mouth and label it fully.
7. Name a suitable grade of pencil for the use in making freehand drawing
8. Draw a simple plan of a double-bed room.
9. What are working drawings?
10. What is meant by
 - (a) reducing scale?
 - (b) enlarging scale?
11. Write in long form the following terms:

(a) H.L.	(b) P.P.	(c) V.P.	(d) C.S.
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12. Define the following terms:

(a) An elevation	(b) A cross-section.
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SECTION C (40 marks)

Answer two (2) questions from this section.

13. Explain what should be shown in the following drawings and a suitable scale one each for
- | | |
|----------------------|------------------------|
| (a) Location drawing | (b) Floor plans |
| (b) Sections | (d) Component drawings |
| (e) Assembly drawing | |
14. (a) To a scale 1:20, draw a segmental arch spanning over 3500 mm opening. The rise of the arch is $\frac{1}{8}$ of span and the height of the arch is 450 mm.
- (b) From the figure drawn above (question 14 (a)) show the following:
- | | |
|-----------------|---------------------|
| (i) Extrados | (ii) Skew back |
| (iii) Key brick | (iv) Springing line |
15. The figure below is a floor plan of a two bed roomed semi-urban residential house. The scale used is 1:100. Copy the drawing by using a scale of 1:50. All necessary dimensions should be clearly shown.

