

1704/204  
BUILDING SERVICES, JOINERY  
AND CONSTRUCTION MATERIALS II  
June/July 2018  
Time: 3 hours



THE KENYA NATIONAL EXAMINATIONS COUNCIL

**CRAFT CERTIFICATE IN BUILDING TECHNOLOGY  
MODULE II**

BUILDING SERVICES, JOINERY AND CONSTRUCTION MATERIALS II

**3 hours**

**INSTRUCTIONS TO CANDIDATES**

*You should have the following for this examination:*

*Answer booklet;*

*Scientific calculator/Mathematical tables;*

*Drawing instruments.*

*This paper consists of EIGHT questions in THREE sections; A, B and C.*

*Answer FIVE questions choosing TWO questions from Section A, TWO questions from section B and ONE question from section C.*

*All questions carry equal marks.*

*Maximum marks for each part of a question are as indicated.*

*Candidates should answer the questions in English.*

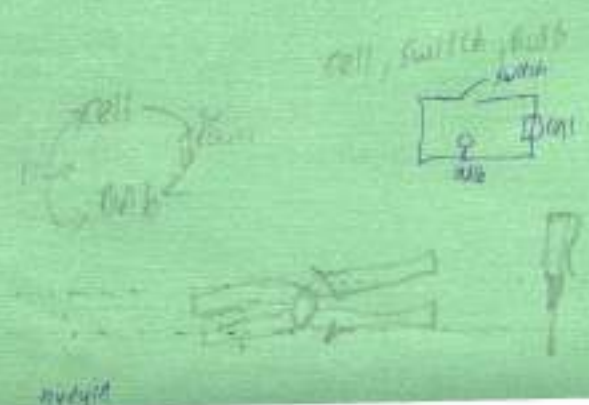
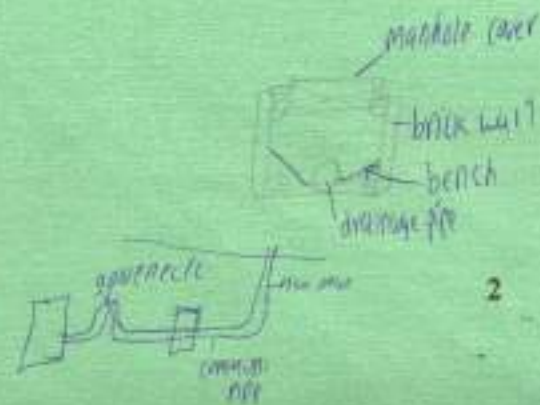
**This paper consists of 4 printed pages.**

**Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.**

**SECTION A: BUILDING SERVICES (40 marks)**

Answer **TWO** questions from this section.

1. (a) Outline **two** types of fire extinguishers and state the type of fire extinguished by each. (4 marks)
  - (b) (i) Differentiate between soldering and brazing.
  - (ii) Outline the **two** processes of welding. (6 marks)
  - (c) With the aid of a sketch, explain the gravitational method of water distribution. (5 marks)
  - (d) Sketch and label an indirect hot water supply system for a one storeyed building. (5 marks)
2. (a) (i) Explain the **two** types of drainage systems. *separate system* (10 marks)
  - (ii) With the aid of a sketch, explain the features of a manhole. (10 marks)
  - (b) Outline **two** methods of treating water from a river for drinking. (3 marks)
  - (c) (i) Distinguish ventilation from air conditioning.
  - (ii) State **six** purposes of ventilation. (7 marks)
3. (a) Outline **four** requirements of gas service pipes. (4 marks)
  - (b) Sketch and label an arrangement of a service pipe entry into a solid floor. (4 marks)
  - (c) Describe the ring circuit of power distribution system. (4 marks)
  - (d) With the aid of labelled sketch, explain each of the following electric hand tools and state where each is used: (8 marks)
    - (i) pliers
    - (ii) phase tester



## SECTION B: JOINERY (40 marks)

Answer **TWO** questions from this section.

4. (a) Explain **two** types of each of the following timber fasteners:
- (i) non metallic;
  - (ii) metallic. (8 marks)
- (b) Outline each of the following types of frame construction:
- (i) flat;
  - (ii) cabinet. (3 marks)
- (c) With the aid of a sketch, explain the procedure of constructing each of the following joints:
- (i) tee bridle joint;
  - (ii) dovetail tee joint. (9 marks)
5. (a) Highlight **two** factors that influence the size of furniture. (2 marks)
- (b) Sketch each of the following stating where each may be used:
- (i) lengthening joint;
  - (ii) widening joint. (7 marks)
- (c) (i) With the aid of labelled sketches, explain **two** types of noggings.
- (ii) Outline the procedure of constructing a timber partition to divide a room with a concrete floor. (11 marks)
6. (a) (i) State **two** rules governing the size of each of the following :
- (I) doors;
  - (II) windows.
- (ii) Sketch and label the front elevation of a casement windows. (10 marks)
- (b) (i) Outline **two** reasons for applying a surface finish to timber.
- (ii) Define each of the following:
- (I) bleaching;
  - (II) french polishing, (6 marks)
- (c) The material cost at the hardware for a piece of furniture is 900/=. Determine the cost price of an item made from the materials. (4 marks)

**SECTION C: CONSTRUCTION MATERIALS II (20 marks)**

*Answer ONE question from this section.*

7. (a) (i) Explain the **two** types of plastic.
- (ii) State **four** uses of plastics in building. (6 marks)
- (b) (i) Describe the constituent of glass.
- (ii) Explain **two** types of glass. (7 marks)
- (c) (i) Explain **two** properties of adhesives.
- (ii) State **three** advantages and **three** disadvantages of adhesives. (7 marks)
8. (a) (i) Explain **three** constituents of paint.
- (ii) Define distemper and state its **three** properties. (9 marks)
- (b) (i) Explain **two** forms of bitumen.
- (ii) State **four** uses of bitumen in buildings. (6 marks)
- (c) Explain **two** types of fibrous materials and state **one** use of each. (5 marks)

**THIS IS THE LAST PRINTED PAGE.**

Suda <sup>WMP</sup> potash lime