

1704/204
BUILDING SERVICES, JOINERY
AND CONSTRUCTION MATERIALS II
Oct./Nov. 2022
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;

Drawing instruments.

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

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

All questions carry equal marks.

Maximum marks for each part of a question are 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 pages are printed as indicated and that no questions are missing.

SECTION A: BUILDING SERVICES

Answer **TWO** questions from this section.

1. (a) Define the following terms used in welding and fabrication:
- (i) base metal;
 - (ii) arc voltage;
 - (iii) embossing.
- (6 marks)
- (b) State **four** personal safety precautions to be observed during gas welding process.
- (4 marks)
- (c) With the aid of a sketch, describe an indirect hot water system.
- (10 marks)
2. (a) Explain the functions of the following in drainage:
- (i) interceptor;
 - (ii) gully.
- (4 marks)
- (b) With the aid of a sketch describe a single stack drainage system in a two storey building.
- (8 marks)
- (c) Differentiate between a cesspool and a septic tank.
- (4 marks)
- (d) State **two** methods used to detect LPG gas leakage.
- (4 marks)
3. (a) Explain **three** methods used to ventilate a building.
- (6 marks)
- (b) Explain **four** methods of fire fighting in a building.
- (8 marks)
- (c) State **three** factors to be considered when selecting materials for electric wiring in a building.
- (6 marks)

SECTION B: JOINERY

Answer *TWO* questions from this section.

4. (a) Describe the following types of fastening devices:
- (i) tacks;
 - (ii) box nails;
 - (iii) domed head screw.
- (6 marks)
- (b) State **three** causes of deterioration of timber in joinery works. (6 marks)
- (c) State **four** disadvantages of medium density fibre board (MDF) in comparison with block board. (8 marks)
5. (a) State **three** qualities that would make an ideal material for stair treads. (6 marks)
- (b) Sketch the following types of joints used in joinery works and state where each is used:
- (i) tongue and trench joint;
 - (ii) corner pin.
- (8 marks)
- (c) State **three** functional requirements for a party wall. (6 marks)
6. (a) With the aid of sketches differentiate between a transom and a jamb in a window frame construction. (6 marks)
- (b) Sketch a ledged and braced door. (6 marks)
- (c) Calculate the cost of an architrave fitted on 2 No standard door lining if the cost of timber is Ksh 150 per metre run. (8 marks)

SECTION C: CONSTRUCTION MATERIALS II

Answer *ONE* question from this section.

7. (a) (i) List **six** methods used in manufacture of plastics.
- (ii) distinguish between thermoplastic and thermosetting plastics. (9 marks)
- (b) State **four** uses of rubber in construction. (4 marks)

- (c) (i) Outline the **three** major steps in the manufacture of paints. (3 marks)
- (ii) State **four** precautions to be observed when working with paint. (4 marks)
8. (a) Outline the **six** stages of manufacture of glass. (6 marks)
- (b) Describe the following:
- (i) cutback bitumen;
- (ii) fluxed bitumen;
- (iii) modified bitumen;
- (iv) asphalt. (8 marks)
- (c) (i) List **three** types of fibre in each of the following:
- (I) synthetic organic fibre;
- (II) synthetic inorganic fibre.
- (ii) State **three** major uses of fibrous materials. (6 marks)

easyvet.com

THIS IS THE LAST PRINTED PAGE.