

To Scan

1704/104
CARPENTRY AND CONSTRUCTION
MATERIALS I
Oct./Nov. 2018
Time: 3 hours



THE KENYA NATIONAL EXAMINATIONS COUNCIL
CRAFT CERTIFICATE IN BUILDING TECHNOLOGY

MODULE I

CARPENTRY AND CONSTRUCTION MATERIALS I

3 hours



INSTRUCTIONS TO CANDIDATES

You should have the following this examination:

Answer booklet;

Scientific calculator/Mathematical tables;

Drawing instruments.

This paper consists of EIGHT questions in TWO sections; A and B.

Answer FIVE questions choosing THREE questions from section A and TWO questions from section B.

All questions carry equal marks.

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

Candidates should answer the questions in English.

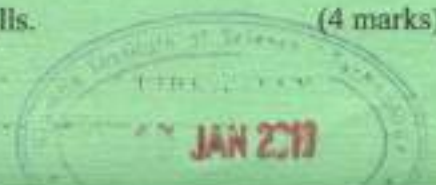
This paper consists of 4 printed pages.

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

SECTION A: CARPENTRY (60 marks)

Answer any THREE questions from this section.

1. (a) (i) State the specific uses of the following tools:
(I) router;
(II) gauge.
(ii) State **four** safety precautions that should be observed when using a hammer. (12 marks)
- (b) Sketch the following types of joints and state where each is used:
(i) butt joint single cleat;
(ii) simple scarf joint. (8 marks)
2. (a) With aid of sketches explain each of the following terminologies in wood work:
(i) beam pocket;
(ii) herringbone tracing. (8 marks)
- (b) State **four** disadvantages of creosote as a wood preservative. (4 marks)
- (c) Explain **four** types of temporary structure in construction sites. (8 marks)
3. (a) Differentiate between 'flat roof' and pitched roof. (2 marks)
- (b) State **three** functional requirements of a roof. (6 marks)
- (c) State **three** factors considered when choosing type of floor finish. (6 marks)
- (d) With the aid of a sketch show how secret nailing is achieved in a tongue and groove floor boarding. (6 marks)
4. (a) State **four** safety precautions to be observed when using a machine. (8 marks)
- (b) State **two** main tasks performed by a hand feed planing machine. (4 marks)
- (c) State **four** sources of power when using a portable powered hand tools. (4 marks)
- (d) Outline **four** factors considered when using power drills. (4 marks)



5. (a) List **four** materials used for eaves gutter and rain water goods. (2 marks)
- (b) With the aid of a sketch show how a down pipe is connected to a rain water shoe. (10 marks)
- (c) State **four** factors to be considered when choosing the types of fencing material. (8 marks)

SECTION B: CONSTRUCTION MATERIALS I (40 marks)

Answer TWO questions from this section.

6. (a) Describe the formation of the following types of rocks:
- (i) sedimentary rocks;
 - (ii) igneous rocks;
 - (iii) metamorphic rocks.
- (6 marks)
- (b) Explain **two** methods of seasoning timber. (4 marks)
- (c) Distinguish between 'hard wood' and 'soft wood'. (10 marks)
7. (a) Explain in brief the following types of concrete tests:
- (i) concrete slump test;
 - (ii) concrete compression test.
- (4 marks)
- (b) With the aid of a flow diagram describe the process of concreting. (8 marks)
- (c) Explain the role of the following ad mixtures in concrete:
- (i) retarders;
 - (ii) accelerators.
- (4 marks)
- (d) State **two** advantages of pumping concrete in a construction site. (4 marks)



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