

SCAN

Name: \_\_\_\_\_ Index No: \_\_\_\_\_

1704/104  
CARPENTRY AND  
CONSTRUCTION MATERIALS I

Candidate's Signature: \_\_\_\_\_

June/July 2015

Date: \_\_\_\_\_

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

*Write your name and index number in the spaces provided above.**Sign and write the date of examination in the spaces provided above.**You should have a Scientific calculator/Mathematical tables and drawing instruments for this examination.**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 in the spaces provided in this question paper.**All questions carry equal marks.**Maximum marks for each part of a question are indicated.**Do NOT remove any pages from this booklet.**Candidates should answer the questions in English.*

## For Examiner's Use Only

Section	Question	Maximum Score	Candidate's Score
A	1	20	
	2	20	
	3	20	
	4	20	
	5	20	
B	6	20	
	7	20	
	8	20	
TOTAL SCORE			

This paper consists of 20 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

Answer any **THREE** questions from this section in the spaces provided.

1. (a) List:
- (i) any **four** items contained in a simple first aid box;
  - (ii) any **four** protective wear on a building site. (4 marks)
- (b) With the aid of a sketch describe any **two** methods of strengthening timber joints. (8 marks)
- (c) With the aid of sketches describe the following types of foundations:
- (i) strip;
  - (ii) pad. (8 marks)
2. (a) Sketch the following hand tools:
- (i) flat chisel;
  - (ii) hand saw. (6 marks)
- (b) State any **four** advantages of timber stud partitions over block partitions. (6 marks)
- (c) Draw and label timbering in firm soils. (8 marks)
3. (a) (i) List any **four** roof covering materials.
- (ii) Sketch and label a cross-section of a timber flat roof. (11 marks)
- (b) (i) State any **four** factors which influence choice of fencing type.
- (ii) With the aid of a sketch, describe a close boarded fence. (7 marks)
- (c) List **four** types of rain water goods. (2 marks)
4. (a) Differentiate between 'soldering' and 'welding'. (6 marks)
- (b) (i) List **four** timber floor finishes;
- (ii) State the procedure of painting a plastered wall. (14 marks)



5. (a) (i) List any **four** portable power tools in a carpentry and joinery workshop.  
 (ii) Explain any **four** maintenance requirements for power tools. (10 marks)
- (b) (i) List **four** functions of wood working machines;  
 (ii) State any **eight** safety precautions when working with wood machinery. (10 marks)

### SECTION B: CONSTRUCTION MATERIALS I

*Answer any TWO questions from this section in the spaces provided.*

6. (a) Differentiate between 'mineral' and 'organic' materials. (4 marks)
- (b) Explain the procedure of plywood manufacture. (8 marks)
- (c) (i) List any **four** types of clay products.  
 (ii) Describe the process of clay brick manufacture. (8 marks)
7. (a) List any **four** types of cement. (2 marks)
- (b) Describe the following heat treatment processes of carbon steels:  
 (i) hardening;  
 (ii) tempering. (7 marks)
- (c) State any **four** uses of:  
 (i) brass;  
 (ii) aluminium. (4 marks)
- (d) Describe the extraction process of iron. (7 marks)
8. (a) Outline **four** steps of quarrying stones. (8 marks)
- (b) Describe **four** materials used for manufacturing concrete. (8 marks)
- (c) List any **eight** timber boards. (4 marks)