



# Machakos University College

(A Constituent College of Kenyatta University)

University Examinations 2013/2014

SCHOOL OF ENGINEERING

DEPARTMENT OF BUILDING AND CIVIL ENGINEERING

## Certificate in Carpentry and Joinery

Year 2

Carpentry and Joinery Theory

Date: 25/3/2014

Time: 3 Hours

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### ***INSTRUCTIONS TO CANDIDATES***

- (i) Answer any five of the eight questions on this question paper
- (ii) All questions carry equal marks
- (iii) Maximum marks for each part of question are shown

1. (a) Explain four functional requirements of a timber formwork. (4 marks)

(i) Explain the following terms:-

(a) Formwork

(b) Scaffolding

(c) Putlog scaffold

(6 marks)

(b) Draw a well labeled sketch of a put log scaffold and name its members. (10 marks)

2. (a) (i) Define the following terms:-

(a) Centres

(b) Arches

(ii) Name two types of centers commonly constructed in a building site. (4 marks)

(b) Explain with aid of drawings what a dead shore is. (12 marks)

3. (a) Explain the following terms:-

(i) Laggings

(ii) Ribs

- (iii) Turning piece (6 marks)
- (b) Draw a suspended beam formwork and label all its members. (14 marks)
4. (a) Draw an independent scaffold indicate all the members plus their sizes. (16 marks)
- (b) Define the following terms
- (i) Stairs
- (ii) Ballusters (4 marks)
5. Draw a private flight of stairs with two Risers and three treads and indicate the following parts plus their dimensions.
- (i) Rise
- (ii) Going
- (iii) Number of steps
- (iv) Headroom
- (v) Entire length of stair
- Note: Maximum rise of private stair is 190 mm
6. (a) Explain the meaning of the term seasoning and why it is so crucial to timber before use. (6 marks)
- (b) What are the methods used when seasoning timber, Name two of the methods. (4 marks)
- (c) Draw a sectional view of a timber drying kiln and label different areas and structures that form it. (10 marks)
7. (a) Discuss Blue Stain in timber and explain how it can be prevented. (10 marks)
- (b) There are two types of insects or beetles that are destructive to timber name them. (4 marks)
- (c) Explain three factors that are considered when selecting the type of glue to use. (6 marks)
8. (a) Name five types of manufactured boards that are commonly used by carpenters and joiners in the present day construction and give two uses. (10 marks)
- (b) Explain how plywood is manufactured in the workshops. By giving the two steps followed. (10 marks)