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SITE AND WORKSHOP MANAGEMENT

June/ July 2022

Time: 3 hours



THE KENYA NATIONAL EXAMINATIONS COUNCIL

**CRAFT CERTIFICATE IN CARPENTRY AND JOINERY
CRAFT CERTIFICATE IN MASONRY
CRAFT CERTIFICATE IN PLUMBING**

SITE AND WORKSHOP MANAGEMENT

3 hours

INSTRUCTIONS TO CANDIDATES

You should have the following for this examination:

Answer booklet;

Scientific Calculator.

*Answer **FIVE** of the following **EIGHT** questions.*

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.

1. (a) State **four** aims of ensuring safety in the workshop. (4 marks)
- (b) Explain **five** factors to be considered when selecting a site to build a factory. (7 $\frac{1}{2}$ marks)
- (c) Sketching a site layout plan showing the location of a proposed building and indicate the appropriate locations of the following:
- (i) site office;
- (ii) store;
- (iii) sand;
- (iv) ballast;
- (v) security;
- (vi) sign board. (5 $\frac{1}{2}$ marks)
- (d) State three causes of wastage of materials in a construction site. (3 marks)
2. (a) State **five** reasons for using construction plant on a building site. (5 marks)
- (b) State **three** advantages of each of the following in a building project:
- (i) hiring a construction plant;
- (ii) buying a construction plant. (6 marks)
- (c) Explain **three** methods of construction plant maintenance. (9 marks)
3. (a) State **three** duties of each of the following parties in a building project:
- (i) quantity surveyor;
- (ii) clerk of works;
- (iii) main contract. (9 marks)
- (b) State **five** requirements necessary for a contract to be valid. (5 marks)
- (c) Describe the following contract documents:
- (i) contract drawings; *plans, elevations, pictures*
- (ii) specifications; *document written by architect to supplement serve*
- (iii) bill of quantities. *Entails items contain the bill*. (6 marks)
4. (a) States **six** general guidelines to be considered when disciplining an employee on a construction site. (6 marks)
- (b) Outline **three** types of organization structure relationship giving **one** example. (6 marks)

- (c) Explain **four** ways of motivating workers on a construction site. (8 marks)
5. (a) (i) List **six** essential office equipment required for a building contractor's office.
 (ii) Outline **three** systems of filing office documents stating **one** advantage of each. (9 marks)
- (b) State **three** duties of each of the following during a site meeting:
 (i) Chairman;
 (ii) Secretary. (3 marks)
- (c) Outline **four** forms of written communication used on construction sites. (8 marks)
6. (a) Define the term 'tender'. (2 marks)
- (b) Describe the following methods of tendering and state **two** advantages of each:
 (i) open tendering; - allows anyone to submit a tender to supply
 (ii) selective tendering. - goods in service (8 marks)
- (c) State **three** safety precautions that should be taken to reduce accidents in relation to the following:
 (i) plant and equipment; - cheap
 (ii) excavations - saves time. (6 marks)
- (d) State **four** causes of accidents in a construction site. (4 marks)
7. (a) Describe **four** documents used by the builder during the procurement of building materials. (8 marks)
- (b) State **three** storage requirements for each of the following materials in a building site:
 (i) bags of cement;
 (ii) timber. (6 marks)
- (c) Name the **two** types of deductions that are affected in an employee's salary. (1 mark)

(d) State **five** roles of trade unions in Kenya. (5 marks)

8. (a) Name **four** types of mechanical plant required by a building contractor for use on a large construction site. (2 marks)

(b) State **five** characteristics of a good contract programme for a construction project. (5 marks)

(c) **Table 1** shows the activities to be undertaken by a contractor.

(i) Draw the network diagram for the activities using the critical path method.

(ii) Identify the critical path.

(iii) Prepare an analysis sheet showing the earliest and latest start and finish times. (13 marks)

Table 1

Activity	Duration (weeks)
1 – 2	2
1 – 6	4
1 – 7	3
2 – 3	3
3 – 4	5
6 – 4	1
7 – 4	6
4 – 5	7

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