

1301/313

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**SITE AND WORKSHOP MANAGEMENT**

**March/April 2023**

**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;*

*This paper consists of **EIGHT** questions.*

*Answer **FIVE** 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 **three** uses of guards mounted on machines. (3 marks)
- (b) Outline **four** health factors considered when designing a workshop. (6 marks)
- (c) Outline **four** fraternal functions of a trade union. (6 marks)
- (d) State **five** activities performed during preparation for works on a proposed construction site. (5 marks)
2. (a) Define the term contract. (2 marks)
- (b) Explain the **two** contract documents that deal with specifications of a building. (6 marks)
- (c) Outline **three** roles of a structural engineer during implementation of building project. (6 marks)
- (d) Explain the objectives of preliminary items in a construction site. (6 marks)
3. (a) Using a labelled sketch, show the storage of pipes in a construction site. (4 marks)
- (b) Explain **three** ways in which computerized technology has impacted the construction industry. (6 marks)  
*Man power*  
*Time managed*  
*Reduced*
- (c) Describe **two** voluntary deductions from wages and salaries. (4 marks)
- (d) (i) Define the term communication.
- (ii) Name **four** features of a memorandum. (6 marks)
4. (a) Explain **four** methods used to control materials on a construction site. (8 marks)
- (b) Explain the importance of **three** essential services for a workshop. (6 marks)
- (c) Outline **four** objectives of incentives in an organization. (6 marks)
5. (a) Describe the procedure of procuring materials in a construction site. (6 marks)
- (b) State **two** advantages and **two** disadvantages of open tendering methods. (4 marks)
- (c) Illustrate a day worksheet format. (4 marks)
- (d) Outline **four** advantages of using mechanical plants in construction. (6 marks)

6. **Table 1** shows activities and duration in weeks of a construction project. Prepare an analysis sheet and determine the following:

- (i) the network diagram;
- (ii) show critical path and the durations;
- (iii) earliest start time;
- (iv) earliest finish time;
- (v) latest start time;
- (vi) latest finish time.

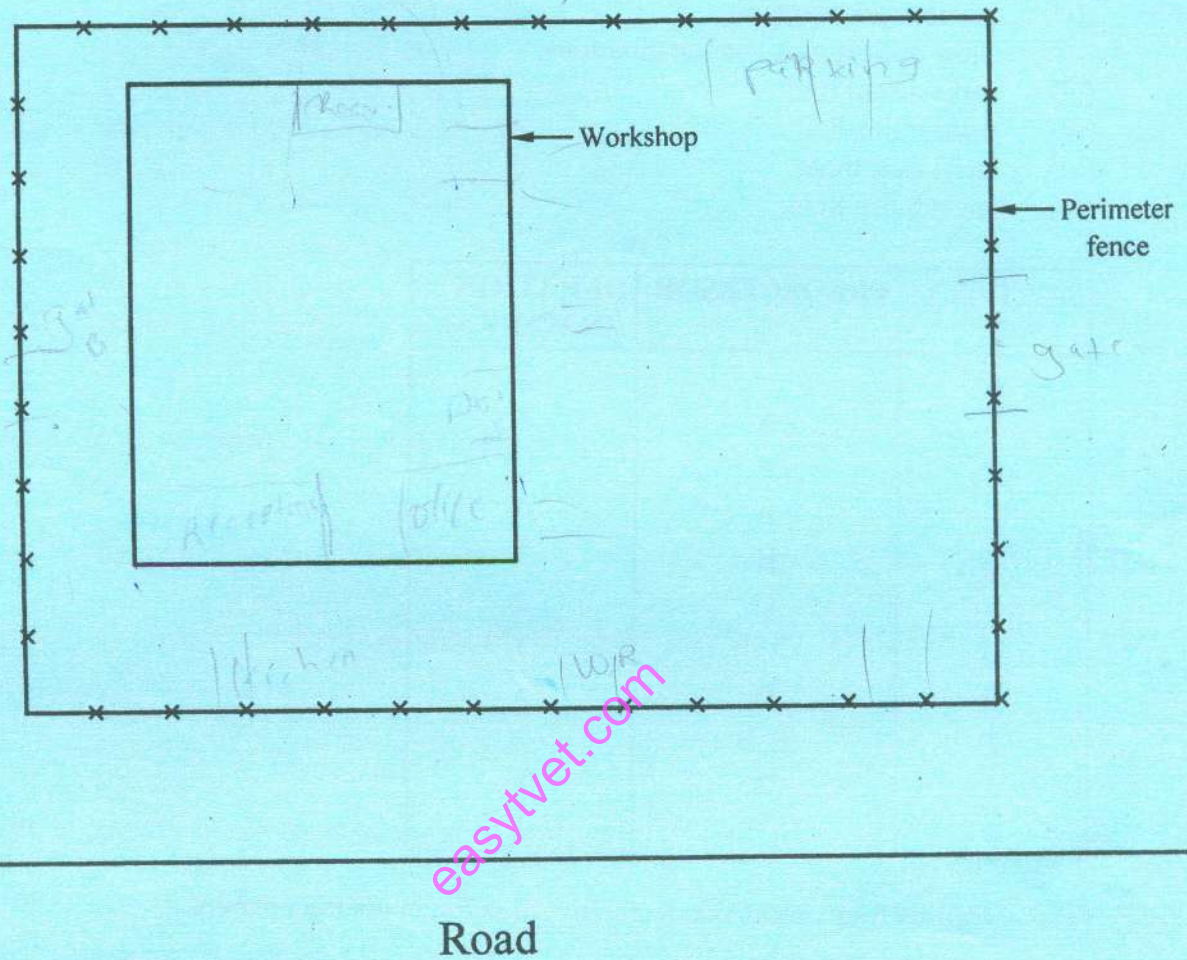
(20 marks)

ACTIVITY	PREDECESSOR	DURATION (IN WEEKS)
A	—	2
B	A	8
C	A	10
D	B	6
E	B	3
F	C	3
G	C	7
H	D	5
I	E, F	2
J	G	8
K	H, I, J	3

7. (a) Outline **four** objectives of site investigation in contract planning. (6 marks)
- (b) Explain **four** duties of an employer. (6 marks)
- (c) Explain **two** causes of accidents in a construction site. (4 marks)
- (d) State **four** qualities of a good leader. (4 marks)



8. (a) **Figure 1** shows a floor plan of a proposed plumbing workshop. Copy the given figure and indicate the work points and amenities. (12 marks)



**Fig. 1**

Note: Drawing not to scale

- (b) Describe **two** reasons for discharging a legal contract. (4 marks)
- (c) Define each of the following terms in relation to a building contract:
- (i) arbitration;
  - (ii) prime cost. (4 marks)

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