



MACHAKOS UNIVERSITY

University Examination 2018/2019

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF BUILDING AND CIVIL ENGINEERING

FIRST YEAR SECOND SEMESTER EXAMINATION FOR

CERTIFICATE IN BUILDING TECHNOLOGY (T.I.V.E.T)

1704/105: SITE AND WORKSHOP MANAGEMENT.

DATE: 15/4/2019

TIME: 8:30 – 11:30 AM

INSTRUCTIONS

-This paper consists of FIVE questions

-Answer all FIVE questions.

1. a) List the five main reasons for introducing equipments and machines in a building site.
(10 marks)
 b) State five advantages of buying a plant and five advantages of hiring a plant.
(10 marks)
2. With aid of drawings show the following documents which are applicable in a building site
 - i)Material transfer form.
 - ii)Material delivery note.
 - iii)Inventory.
 - iv)Advice note.(20 marks)
3. a) Define the term preliminancy items and state three preliminary items that have to be considered before carrying out the works.(12 marks)
 b) Explain how water can be got in a building site.(4 marks)

Examination Irregularity is punishable by expulsion

- c) State two reasons why we need electricity in a site. (4 marks)
4. a) A young contractor intends to build a house for a client. Draw a site plan and indicate the following:
- i) Sand dump.
 - ii) Aggregate dumps.
 - iii) Building stones dumps.
 - iv) Workers Guts.
 - iv) Site offices.
 - v) Sentry box.
- (12 marks)
- b) List three essential services of a workshop (3 marks)
- c) Briefly explain the term measured type of a contract (5 marks)
5. a) State six safety rules observed in a carpentry workshop. (6 marks)
- b) State four factors which enhance efficiency in a workshop. (4 marks)
- c) Explain the meaning of the following terms in purchasing;
- i) contract
 - ii) tender
 - iii) purchasing order
 - iv) quotations
 - v) material requisition note
- (10 marks)



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CERTIFICATE IN BUILDING TECHNOLOGY (T.I.V.E.T)

FIRST YEAR SECOND TERM EXAMINATION FOR
CRAFT CERTIFICATE IN BUILDING TECHNOLOGY

1704/105 CP: CONSTRUCTION PLANT.

DATE: 18/4/2019

TIME: 2:30 – 5:30 AM

INSTRUCTIONS

-This paper consists of FIVE questions

-Answer all FIVE questions.

1.
 - a) State **FOUR** classifications of construction plant. (4 marks)
 - b) Determine the output of a construction plant considering the following;
 - container holding capacity 1m³
 - maximum cycles per hour 25
 - operator efficiency factor 0.8
 - machine efficiency factor 75% (6 marks)
 - c)
 - i) State any **TWO** reasons for having a pump on a construction site.
 - ii) With the aid of sketches explain how the following equipment works;
 - boring auger
 - drop hammer. (10 marks)
2.
 - a)
 - i) Explain the operations of a scraper.
 - ii) List **SIX** factors that influence the output of a scraper. (9 marks)

- b) i) List **TWO** types of construction plant that compact by;
 - rolling
 - vibration.
 - ii) Outline any **THREE** factors affecting compaction. (8 marks)
 - c) Explain **THREE** reasons for plant management in a construction site. (3 marks)
- 3. a) Explain the operation of central concrete mixing plant. (6 marks)
- b) Sketch and label a reversing drum mixer. (11 marks)
- c) Distinguish between a pan mixer and a tilting drum mixer. (3 marks)
- 4. a) i) List any **THREE** types of bitumen laying plant.
- ii) With the aid of a sketch explain the operation of any of the bitumen laying plant mentioned in 5.(a)(i) above. (10 marks)
- b) Explain the following operations of a low loader transporting plant truck;
 - i) loading
 - ii)hauling
 - iii)discharging. (6 marks)
- c) Describe the following types of plant maintenance;
 - i) corrective
 - ii) preventive
 - iii) planned. (4 marks)
- 5. a) Explain two reasons for using construction plants in a site. (4 marks)
- b) Explain the following types of construction equipments;
 - i) pumps
 - ii) concrete compacting equipment
 - iii) powered hammer (6 marks)

- c) Explain the following operations of concreting plants;
- i) batching
 - ii) mixing
 - iii) vibrating
- (6 marks)
- d) State four personnel safety precautions observed when concreting.
- (4 marks)

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