



**MASINDE MULIRO UNIVERSITY OF  
SCIENCE AND TECHNOLOGY  
(MMUST)**

**MAIN CAMPUS**

**UNIVERSITY EXAMINATIONS  
2022/2023 ACADEMIC YEAR**

**THIRD YEAR FIRST SEMESTER EXAMINATIONS**

**FOR THE DEGREE  
OF  
BACHELOR OF SCIENCE IN BUILDING TECHNOLOGY**

**COURSE CODE: BTB 321**

**COURSE TITLE: CONSTRUCTION PLANT AND EQUIPMENT**

**DATE: 20<sup>TH</sup> DECEMBER 2022**

**TIME: 8 – 10 A.M**

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**INSTRUCTIONS:**

1. This paper contains **TWO** sections
2. Answer question **ONE** and **any TWO** from section **B**
3. Marks for each question are indicated in the parenthesis.
4. Examination duration is **2 Hours**

MMUST observes **ZERO** tolerance to examination cheating

This Paper Consists of 3 Printed Pages. Please Turn Over.

**QUESTION ONE (COMPULSORY -40MKS)**

- a) Define the following terms as applied in construction industry
  - i) Construction Plant (2marks)
  - ii) Construction Equipment (2marks)
  - iii) Hand Tools (2marks)
- b) State at least five classes of hand tools giving an example in each stated class. (8marks)
- c) With aid of sketches, describe the use of the following hand tools in masonry trade.
  - i) Brick Trowel (2marks)
  - ii) Steel Float (2marks)
  - iii) Plumb Bob (2marks)
- d) With aid of sketches, describe the use of the following hand tools in carpentry and joinery trade.
  - i) Claw hammer (2marks)
  - ii) Wooden Mallet (2marks)
  - iii) Hand saw (2marks)
- e) With aid of sketches, describe the use of the following hand tools in plumbing trade.
  - i) Pipe Wrench (2marks)
  - ii) Hack saw (2marks)
  - iii) Die Stock (2marks)
- f) Give an account on the application of the following small compaction power operated tools.
  - i) Tamping Rammer (2marks)
  - ii) Forward plate compactor (2marks)
  - iii) Ride-on Roller (2marks)
  - iv) Excavator Vibrating Plate Attachment (2marks)

**Attempt ANY 2 Questions from this section (30MKS)**

**QUESTION TWO**

- a) Explain the meaning of dumpers as applied in construction industry. (3marks)
- b) Distinguish between the following
  - i) Dumpers and Dumping trucks (3marks)
  - ii) Dumping trucks and Tippers (3marks)
- c) What is a dumper system? Explain its common uses. (6marks)

**QUESTION THREE**

- a) Describe what is access equipment in construction. (4marks)
- b) Discuss the following access equipment
  - i) Aerial work platform (3marks)
  - ii) Telescopic boom lifts (3marks)
- c) Discuss what is meant by mobile access tower (5marks)

**QUESTION FOUR**

- a) Define the term Earth mover's equipment? (2marks)
- b) Describe the following Earth mover's equipment.
  - i) Excavator (2marks)
  - ii) Wheel loader (2marks)
  - iii) Bull dozer (2marks)
  - iv) Scraper (2marks)
- c) Describe the work of a dragline in construction (5marks)

**QUESTION FIVE**

- a) What is the importance of investing in/purchasing new equipment in a construction firm? (3marks)
- b) Discuss four methods of acquiring equipment for a construction firm(12marks)