



(University of Choice)

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

**MAIN CAMPUS
UNIVERSITY EXAMINATIONS
2021/2022 ACADEMIC YEAR**

SECOND YEAR SECOND SEMESTER EXAMINATIONS

FOR THE

DIPLOMA

IN

CIVIL ENGINEERING

COURSE CODE: DCE 078

COURSE TITLE: TRANSPORTATION ENGINEERING

DATE: FRIDAY 29TH APRIL 2022 TIME: 8.00 AM – 10.00AM

INSTRUCTIONS :

- Answer question **ONE** and any other **THREE** questions
- Marks for each question are indicated in the parenthesis.
- Examination duration is **2 Hours**

MMUST observes **ZERO** tolerance to examination cheating

This Paper Consists of 2 Printed Pages. Please Turn Over.

Question One – Compulsory (20 Marks)

- a) Briefly explain THREE reasons employees motivate workers (9 Marks)
- b) Describe the “monetary incentive scheme” and give FOUR examples. (6 Marks)
- c) Briefly explain why civil engineering firms take keen interest in materials management (5 Marks)

Question Two (20 Marks)

- a) Explain the term “Selective tendering” and give two reasons where it would be preferred (7 Marks)
- b) Define the term “Book keeping” as used in civil engineering. (3 Marks)
- c) Outline FIVE objectives of book keeping (10 Marks)

Question Three (20 Marks)

- a) Explain the following project delivery methods (8 Marks)
 - i. Construction Manager at-Risk:
 - ii. Design-Bid-Build
 - iii. Design-Build:
 - iv. Integrated Project Delivery:
- b) Outline FIVE typical mistakes that can be made when coming up with the estimate of a particular civil engineering contract (10 Marks)
- c) Explain the role of the project manager in the delivery of civil engineering contracts (2 Marks)

Question Four (20 Marks)

- a) Explain the term “Cost control” (5 Marks)
- b) A project is sometimes converted to a “TENDER” as the development proceeds. Explain the features of a tender (3 Marks)
- c) Briefly outline FIVE FIDIC conditions a contractor should observe when providing access routes for engineering project (10 Marks)
- d) Define the term “VARIATION” (2 Marks)

Question Five (20 Marks)

- a) Midland Emporium won a tender to construct Khayega market. You are the Site engineer for the consultant who designed the project. During construction, the workers un-earth a 2 kg stone of gold just when you are passing by. Advice the contractor (10 Marks)
- b) Discuss FIVE factors that govern the choice of construction plant in civil engineering contracts (10 Marks)