55

(University of Choice)

MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY (MMUST)

MAIN CAMPUS

UNIVERSITRY SUPPLEMNTARY/ SPECIAL EXAMINATIONS 2021/2022 ACADEMIC YEAR

FOR THE DEGREE OF BACHELOR OF SCIENCE IN CIVIL AND STRUCTURAL ENGINEERING

COURSE CODE: CSE 441

COURSE TITLE: TRANSPORTATION ENGINEERING

DATE: 3RD OCTOBER 2022 **TIME:** 9- 11 A.M

INSTRUCTIONS:

1. This paper contains **two** sections
2. Answer **all** questions in **section I** and **any four** from section **II**
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 4 Printed Pages. Please Turn Over.

SECTION I: ANSWER ALL QUESTIONS (30 MARKS)

1. Explain what a reconnaissance survey is, mention what it entails and some of the methods that can be used to carry it out as well as the outcome of the survey **(10 marks)**
2. (a) Falling weight deflectometer is one of the methods used to evaluate an existing pavement for overlay design. Briefly describe it **(6 marks)**

   (b) Differentiate between reactive and proactive approaches to road safety. Give examples in each case (**4 marks**)

3. When designing an urban side walk what are some of the features that should be designed to ensure the comfort and safety of the pedestrians. Name and explain any five **(10 marks**

SECTION II: ANSWER ANY FOUR QYESTIONS (40 MARKS)

1. Transport is a multidimensional activity. Briefly describe its importance in the various dimensions. **(10 marks).**
2. As part of road maintenance, pavement condition surveys have to be carried out. State and briefly explain some of the roadway and pavement features inspected as part of these surveys **(10 marks)**
3. Briefly describe any five major activities done during the final location survey of a route in rural areas. **(10 marks)**
4. As compared to road transport, rail transport is more constrained by physiography. These constraints are mainly technical, explain the issues involved. **(10 marks).**
5. Maintenance operations of highways are generally classified into three parts. State and describe them giving examples in each case. **(10 marks)**