



TECHNICAL UNIVERSITY OF MOMBASA
**Faculty of Engineering &
Technology**

DEPARTMENT OF BUILDING & CIVIL ENGINEERING
UNIVERSITY EXAMINATION FOR BACHELOR OF SCIENCE IN CIVIL
ENGINEERING (BSCE 10 & 11B)

ECE 2403: TRAFFIC ENGINEERING I

SPECIAL/SUPPLEMENTARY EXAMINATION

SERIES: MARCH 2014

TIME ALLOWED: 2 HOURS

Instructions to Candidates:

You should have the following for this examination

- *Answer Booklet*

This paper consists of **FIVE** questions.

Answer question **ONE (COMPULSORY)** in section **A** and any other **TWO** questions from section **B**

Maximum marks for each part of a question are as shown

This paper consists of **TWO** printed pages

SECTION A

Question One (Compulsory)

a) Briefly describe how the following factors relating to drivers affect the safety of all road users in Kenyan roads:-

(i) Vision

(ii) Driver training

(iii) Use of alcoholic drinks

(iv) Field of vision

(10 marks)

b) Describe the SIX steps that are recommended in any detailed accident study

(15 marks)

- c) Differentiate between a zebra crossing and a segregated crossing (5 marks)

SECTION B (Attempt any TWO questions)

Question Two

- a) Briefly explain the **TWO** types of speed limits in general use (8 marks)
- b) In relation to safety in roadways describe **THREE** types of crash barriers that are used to increase the safety of road users (12 marks)

Question Three

- a) Briefly describe the 'Tidal flow operations' used to manage traffic in urban areas during peak periods. (10 marks)
- b) Describe the measure used to drain and control the reversible lanes for safety and efficiency of tidal flow. (10 marks)

Question Four

- a) In relation to traffic management briefly describe the following:
(i) Advisory signs
(ii) Pedestrian channeling (8 marks)
- b) Name and briefly, explain the **THREE** types of traffic signs that are commonly used in roadways (9 marks)
- c) State **THREE** advantages and **THREE** disadvantages of one way streets (3 marks)

Question Five

- a) In relation to traffic management describe one way street systems (6 marks)
- b) Briefly describe how one way street system affect:
(i) Capacity
(ii) Safety
(iii) Amenity (6 marks)
- c) Briefly describe the **TWO** types of materials used in road delineators. (8 marks)