



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

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

ECE 2507: LOGISTICS & SYSTEM ANALYSIS IN TRANSPORTATION

SPECIAL/SUPPLEMENTARY EXAMINATION

SERIES: MARCH 2014

TIME ALLOWED: 2 HOURS

Instructions to Candidates:

You should have the following for this examination

- *Answer Booklet*
- *Pocket calculator*

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 the **TWO** channels of distribution used in logistics **(8 marks)**
- b) State the **THREE** important issues that are concerned with the development of a suitable logistics strategy **(3 marks)**
- c) Explain the role of depots and warehouses in the physical distribution of commodities **(10 marks)**

- d) With the aid of a flow chart briefly describe the logistics management and organizational structures. **(9 marks)**

SECTION B (Attempt any TWO questions)

Question Two

In relation to logistics describe the **FOUR** main problems that are encountered in vehicle routing and scheduling. **(20 marks)**

Question Three

- a) Name and briefly describe the role played by a logistics manager. **(9 marks)**
- b) Explain how the following can affect the income from logistics operations and support your explanation with a hypothetical example:
- (i) Vehicle utilization
 - (ii) Vehicle capacity **(11 marks)**

Question Four

- a) Briefly describe the factors that dictate the design of warehouses and handling systems and outline the steps involved in the design process. **(10 marks)**
- b) Describe the following types of lifting equipment:
- (i) Reach stack
 - (ii) Gripper lift **(10 marks)**

Question Five

- a) State **FIVE** elements of logistics and distribution and outline the important factors that are considered for each element. **(10 marks)**
- b) Briefly describe the following equipment used in logistics operations:
- (i) Swap body
 - (ii) Road reiler trailers **(10 marks)**