



THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

((A Constituent College of JKUAT)

(A Centre of Excellence)

Faculty of Engineering & Technology

DEPARTMENT OF BUILDING & CIVIL ENGINEERING

UNIVERSITY EXAMINATION FOR DEGREE IN BACHELOR OF SCIENCE IN
BUILDING & CIVIL ENGINEERING

ECE 2507: LOGISTICS & SYSTEM ANALYSIS IN TRANSPORTATION

SPECIAL/SUPPLEMENTARY EXAMINATION

SERIES: OCTOBER 2012

TIME: 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)** any other **TWO** questions

Maximum marks for each part of a question are as shown

This paper consists of **TWO** printed pages

SECTION A (COMPULSORY – 30 MARKS)

- a) (i) State **FIVE** elements of logistics and distribution and outline the important factors that are considered for each element. **(5 marks)**
- (ii) State **FIVE** elements of logistics and distribution and outline the important factors that are considered for each element. **(10 marks)**
- b) (i) Briefly describe the total logistics concept **(6 marks)**
- (ii) Differentiate between logistics and supply chain management. **(6 marks)**
- c) In respect to the East African countries, state **THREE** policy measures that affect logistics for cross-border transporters. **(3 marks)**
-

SECTION B (ANSWER ANY TWO QUESTIONS FROM THIS SECTION)

Question Two (20 marks)

- a) With the aid of an organizational chart, briefly describe logistics functional structure. **(8 marks)**
- b) (i) Describe the typical roles played by a logistics manager. **(6½ marks)**
- (ii) Briefly describe the **THREE** main logistics areas of responsibility. **(4 ½ marks)**

Question Three (20 marks)

- a) Briefly describe the steps that are followed by Logistics Company when hiring temporary staff from an employment agent. **(6 marks)**
- b) Using hypothetical example, explain how the following can affect the income from logistics operations.
- i) Vehicle capacity
 - ii) Vehicle utilization **(14 marks)**

Question Four (20 marks)

Briefly describe the **FOUR** main problems incurred in vehicle routing and scheduling. **(20 marks)**

Question Five (20 marks)

- a) Briefly describe the following:
- i) Swap body
 - ii) Road Teller trailers **(12 marks)**
- b) Briefly describe the following lifting equipment:
- i) Reach stack
 - ii) Gripper lift **(8 marks)**