



MAASAI MARA UNIVERSITY

**REGULAR UNIVERSITY EXAMINATIONS
2023/2024 ACADEMIC YEAR
THIRD YEAR FIRST SEMESTER**

**SCHOOL OF BUSINESS AND ECONOMICS
BACHELOR OF COMMERCE**

**COURSE CODE: BCM 3149-1
COURSE TITLE: LOGISTICS SYSTEMS**

DATE: 7/12/2023

TIME: 1100-1300 HRS

INSTRUCTIONS TO CANDIDATES

- 1. Answer Question ONE and any other TWO questions**
- 2. Do NOT write on this Question paper**

QUESTION ONE

Ralph Janaro simply does not have time to analyze all the items in his company's inventory. As a young Manager, he has more important things to do. The following is a table of six items in inventory along with the unit cost and the demand in units.

Identification Code	Unit Cost (\$)	Demand in Units
XX1	5.84	1200
B66	5.40	1110
3CPO	1.12	896
R2D2	2.00	1104
RM5	2.08	961

Using the **ABC** technique of inventory management, assist Ralph Janaro in the preparation and arrangement of the inventory of his organization into three categories of **A,B** and **C**.

- a) Classification of **A** item(s). **(5 marks)**
- b) Classification of **B** item(s). **(5 marks)**
- c) Classification of **C** item(s). **(5 marks)**
- d) Discuss Five benefits of using **Just-In-Time** Technique in Inventory management of an organization **(5 marks)**

QUESTION TWO

- a) Logistics system is about creating value for customers and supplies of the firm and value for the firms stakeholders. Explain five reasons why logistics systems is becoming an increasingly value added process of business organization in the world today **(5 marks)**

b) Describe five factors of logistical components which affect the choice and mode of transportation system in supply chain management of an organization **(5 marks)**

c) In the entire supply chain, logistics systems packaging is not as costly as transportation, but 10% of the total integrated logistics can be attributed to packaging. Explain five reasons why a product packaging expense shall be incurred by an organization in logistics and supply chain management of an organization. **(5 marks)**

QUESTION THREE

a) Logistical handling occurs throughout the supply chain. A fundamental difference exists in the handling bulk materials and major cartons. There are several basic principles to guide the selection of handling processes and technologies. Describe five principles of material handling in supply chain logistics operations of an organization. **(5 marks)**

b) Explain five reasons why the concept of logistics is based on the system approach in supply chain logistics operations management of an organization. **(5 marks)**

c) Evaluate five advantages of logistics information System in supply chain logistics of operations of an organization. **(5 marks)**

QUESTION FOUR

a. Historical demand for a product is as follows:

MONTHS	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
DEMAND IN UNITS	75	60	90	75	95	88

- i. Using a simple four-month moving average, calculate a forecast for October. **(2 marks)**
 - ii. Using single exponential smoothing with $\alpha=0.1$ and a September forecast= 80, calculate a forecast for October. **(2 marks)**
 - iii. Using simple regression, calculate the trend line for historical data. Say the **X** axis is **April=1, May=2**, and so on, while the **Y** axis is demand. **(5 marks)**
 - iv. Calculate a forecast for October using your regression formula **(1mark).**
- b. Describe five factors which have influenced the development of logistics system in supply chain management. **(5 marks)**

QUESTION FIVE

- a. The demand for highly customized service has transformed distribution warehouses into facilities that specialize in performing Value Added Services (VAS). A value added service is any work that creates a greater value for customers. Describe any five value added services provided by warehousing in supply chain logistics operations of an organization. **(5 marks)**
- b. Explain five uses of the economic order Quantity technique in materials management of supply chain of an organization. **(5 marks)**
- c. Describe five roles of logistics systems in the success of a firm's supply chain management of an organization. **(5 marks)**

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