



**JARAMOGI OGINGA ODINGA UNIVERSITY OF
SCIENCE AND TECHNOLOGY
EXAMINATIONS 2021/2022**

**FIRST YEAR FIRST SEMESTER EXAMINATION FOR THE
DEGREE OF MASTER SCIENCE IN LOGISTICS AND SUPPLY
CHAIN MANAGEMENT**

KISUMU CAMPUS

COURSE TITLE: MLM 5113

COURSE CODE: OPERATIONS MANAGEMENT I: INVENTORY

DATE: 20/12/2022

SESSION: 9.00-12.00NOON

INSTRUCTIONS:

TIME: 3HOURS

- 1). Attempt any other FOUR questions**
- 2). ALL Question carry 15 marks each.**

QUESTION 1

- a) In any business or organization, all functions are interlinked and connected to each other and are often overlapping. Some key aspects like supply chain management, logistics and inventory form the backbone of the business delivery function. Therefore these functions are extremely important to marketing managers as well as finance controllers. How is inventory and its Management important as mentioned? (10mks)
- b) Inventory can be in complete state or incomplete state. Discuss.(5mks)

QUESTION 2

CASE: DELL

DELL has manufacturing facilities all over the world. They follow a concept of Build to Order where in the manufacturing or assembly of laptop is done only when the customer places a firm order on the web and confirms payment. Dell buys parts and accessories from various vendors.

DELL has taken the initiative to work with third party service providers to set up warehouses adjacent to their plants and manage the inventories on behalf of DELL's suppliers. The 3PL - third party service provider receives the consignments and holds inventory of parts on behalf of Dell's suppliers. The 3PL warehouse houses inventories of all of DELL's suppliers, which might number to more than two hundred suppliers.

When DELL receives a confirmed order for a Laptop, the system generates a Bill of material, which is downloaded at the 3PL, processed and materials are arranged in the cage as per assembly process and delivered to the manufacturing floor directly. At this point of transfer, the recognition of sale happens from the Vendor to Dell. Until then the supplier himself at his expense holds the inventory.

- a) What benefits of Vendor Managed Inventory(VMI) accrue to Suppliers of DELL? (10mks)
- b) What benefits of VMI accrue to both Dell as well as its suppliers? Discuss. (5mks)

QUESTION 3

Inventory is a necessary evil that every organization would have to maintain for various purposes. Optimum inventory management is the goal of every inventory planner. Over inventory or under inventory both cause financial impact and health of the business as well as effect business opportunities. Inventory holding is resorted to by organizations as hedge against various external and internal factors.

What reasons necessitate holding of Raw Material Inventory by organizations. Analyze. (15mks)

QUESTION 4

- a) Inventory procurement, storage and management is associated with huge costs associated with each these functions. Categorize these inventory costs(10mks)
- b) Inventory Management deals essentially with balancing the inventory levels. Inventory is categorized into two types based on the demand pattern, which creates the need for inventory. The two types of demand are Independent Demand and Dependant Demand for inventories. Compare and Contrast these two types of inventory (5mks)

QUESTION 5

Inventory in any organization can run in thousands of part numbers or classifications and millions of part numbers in quantity. Therefore inventory is required to be classified with some logic to be able to manage the same. In most of the organizations inventory is categorized according to ABC Classification Method, which is based on Pareto Principle. Which are the other forms of inventory classification for multiple inventory? (15mks)

QUESTION 6

- a) Inventory management uses several methodologies to keep the right amount of goods on hand to fulfill customer demand and operate profitably. This task is particularly complex when organizations need to deal with thousands of stock-keeping units (SKUs) that can span multiple warehouses. Critically examine any five of the methodologies applied in inventory management (10mks).
- b) Discuss the EOQ model as applied in inventory planning and management (5mks)