



ZIMBABWE EZEKIEL GUTI UNIVERSITY

FACULTY OF LAW, BUSINESS INTELLIGENCE AND ECONOMICS

DEPARTMENT OF ECONOMICS, MARKETING AND ENTREPRENEURSHIP

EXAMINATION PAPER

MODULE CODE : CBM 414  
MODULE TITLE : PRODUCTION AND OPERATIONS  
MANAGEMENT  
DURATION : 3 Hours  
LEVEL : 4.1  
DATE : 29 JUL 2025

**INSTRUCTIONS TO CANDIDATES:**

1. No cell phones are allowed in the examination venue.
2. Use of silent, non-programmable calculators is allowed
3. Answer question number **one (1)** in Section A (Compulsory) and any other **three (3)** questions in Section B.
4. Begin each question on a new page.
5. The number of marks for each question or part question is shown in brackets [ ]
6. Show all workings, where applicable.

## SECTION A

### **QUESTION 1: Case Study: Vardhman Textile Ltd and its Focus on Quality Management**

This home-grown textile manufacturer is a leading player in the textile industry, known for its technologically advanced facilities and vertically integrated business model. The company has established rigorous quality standards for its products, and it has incorporated this objective into its manufacturing procedures, sourcing of materials, and training of its management team.

Vardhman Textile Ltd is based in India. The company was founded in 1965, it is now one of the biggest textile manufacturers which has incorporated a vertical integration system, in the country. This business model offers various benefits to consumers, involving flexibility as all materials and processes are managed internally by the company itself.

Vardhman utilizes around 245 million kgs of cotton annually, and Vardhman relies on US cotton due to its uniform fibers and lack of contamination. This plays a crucial role in the company's overall efforts toward quality management and contamination control. As a customer service-oriented company, Vardhman is committed to being one the best by providing proper quality. The company is experiencing an increasing need for upland cotton of higher grade, as it has long staple fibers. This cotton is generally used by the company for 60's count and the company consumes around 6,000 tons of Upland cotton which it imports from the US, annually.

Vardhman conducts 100% testing on the cotton it imports. It has good relationships with its suppliers, ensuring quality control from fiber to finished fabric. It guarantees cotton

quality until the last bale of the lot is consumed. Six factories of the company are exclusively designated for the purpose of eliminating contamination from seed cotton prior to its processing in ginning mills.

Vardhman's vertical integration allows them to offer comprehensive quality management throughout the entire supply chain, from fiber to finished fabric. It also ensures complete transparency of the whole supply chain for the fabric they intend to purchase.

Overall, Vardhman's focus on quality management has enabled it to become a leading player in the textile industry. The company's commitment to customer service and quality, along with its technologically advanced facilities and vertically integrated business model, has helped it to maintain its position as a top textile manufacturer.

#### **QUESTION 1**

ai) From the case study, how does Vardhman ensure quality standards for its product?

**[3 marks]**

ii) 'Total Quality Management is customer driven concept'. Briefly define the concept with the aid of information from the case study.

**[4 marks]**

b) Explain how Vertical Intergration Business Model can help Vardhman to ensure quality management.

**[8 marks]**

c) Discuss the benefits of producing quality products to a business like Vardhman.

**[10 marks]**

## SECTION B

### Essay Questions

#### QUESTION 2

Make use of two reputable relevant companies in Zimbabwe to assess the difference between manufacturing and servicing, citing practical examples. **[25 marks]**

#### QUESTION 3

a) A new foreign investor jets in to explore investment opportunity in Zimbabwe. His interest lies in building a sugar processing plant. Advise him on the most appropriate factors to consider before making this mega investment. **[10 marks]**

b) A manufacturing organization wishes to build a centralized warehouse system that will serve a number of production facilities in Southern Africa. The expected demand and relative grid references of the facility are given below:

Location	Demand (Units/year)	Relative grid reference
Zimbabwe	40 000	( 3: 7)
Zambia	20 000	(1: 4)
Namibia	35 000	(3: 2)
Botswana	70 000	(4: 1)
South Africa	45 000	(6: 5)
Mozambique	110 000	(5: 6)

At what location, in terms of centre of gravity, should the warehouse be located? Justify your answer. **[15 marks]**

#### QUESTION 4

Examine the relevance of the following modern operations management Systems in building sustainable business enterprise:

- a) Six Sigma. **[5 marks]**
- b) Disruptive Technology. **[5 marks]**
- c) World Class Manufacturing. **[5 marks]**
- d) Supply Chain Management. **[10 marks]**

**QUESTION 5**

With the aid of relevant diagrammatic illustration, examine the key principles and concepts to be considered in integrated waste management by manufacturing enterprises. **[25 marks]**

**END OF PAPER**

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