

**EASTERN UNIVERSITY, SRI LANKA**  
**FACULTY OF COMMERCE AND MANAGEMENT**  
**Third Year Second Semester Examination in Bachelor of Business**  
**Administration Honours - 2021/2022 (August / September, 2024)**  
**Proper/Repeat**

**MGT – 3093 Operation and Quality Management**

**Answer all five questions.**

**Time: 03 Hours**

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**Q1. Read the following case study and answer the questions given below:**

**Case Study: Hightone Electronics, Inc.**

Charles Gonzales, Operations Director of Hightone Electronics, Inc., sat quietly at the conference table overlooking the lobby of the corporate headquarters office in Palo Alto, California. He reflected on the board meeting that had just adjourned, and the challenge that lay ahead for him. The Board had just announced their decision to start an Internet based division of HEI. Web based purchasing in the electronics industry had been growing rapidly. The Board felt that HE needed to offer on-line purchasing to their customers in order to maintain its competitive position. The Board Looked to George to outline the key operations management decisions that needed to be addressed in creating a successful Internet based business. The next board meeting was just a week away. He had his work cut for him.

Hightone Electronics Inc. was founded in Palo Alto, California over fifty years ago. Originally, the company provided radio components to small repair shops. Products were offered for sale through a catalogue that was mailed to prospective customers every four months. The company built its reputation on high quality and service. As time passed, HEI began supplying more than just radio parts, adding items such as fuses, transformers, computers, and electrical testing equipment. The expansion of the product line had been coupled with an increase in the number and type of customers the company served. While the traditional repair shops still remained a part of the company's market, technical schools, universities, and well known corporations in the Silicon Valley were added to the list of customers.

Today HEI operates the Palo Alto facility with the same dedication to supply quality products through catalogue sales that it had when it was first founded. Customer service remains the top priority. HEI stocks and sells over 22,000 different items. Most customers receive their orders within 48 hours of placing an order, and all components are warranted for a full year. Expanding HEI to include web based purchasing seemed to be a natural extension of catalogue sales that the company already does successfully. Charles Gonzales agreed that the company has no choice but to move in this competitive direction. However, Charles did not agree with the opinion of the Board that this would be "business as usual." He believed that there were many operations decisions that needed to be identified and addressed. As he stated in the meeting, "Having a slick web site is one thing, but making sure the right product is delivered to the right location is another. Operations is the key to making this happen." His

challenge for the next board meeting was to identify the key operations decision and persuade the Board that these issues needed serious consideration.

**Questions:**

- a. Explain why operations management is critical to the success of a business. (5 Marks)
- b. Why would developing of an Internet based business require different operations considerations for HEI? Is Charles Gonzales correct in his assessment that this would not be "business as usual"? (7 Marks)
- c. Recall that HEI wishes to continue its reputation of high quality and service. Identify key operations management decisions that need to be considered and explain, how different will these decisions be for the Internet business? (8 Marks)

**(Total 20 Marks)**

**Q2.**

- a. *"Operation managers must work closely with marketing in order to understand the competitive situation in the company's market before they can determine which competitive dimensions are important"*.

Describe any four competitive dimensions. (08 Marks)

- b. State any three historical milestones in operation management and explain, how have they influenced management. (06 Marks)

- c. *"The seven wastes, is a tool to further categorize "muda" and was originally developed by Toyota's Chief Engineer Taiichi Ohno as the core of the Toyota Production System, also known as Lean Manufacturing or Lean Thinking". To eliminate waste, it is important to understand exactly what waste is and where it exists.*

What are the 7 wastes in the Manufacturing system? (04 Marks)

**(Total 18 Marks)**

**Q3.**

- a. *"Robert Kaplan and David Norton in The Strategy Focused Organization have developed a generic strategy map template that helps executive team describe their strategies and dramatically improve the quality of their insights"*.

What are the four major perspectives in Kaplan and Norton's Generic Strategy Map? Explain any one perspective with its components. (07 Marks)

- b. *"Effective management of service encounters requires that managers understand customer perceptions as well as the technical features of service processes"*.

List out the Seven Characteristics of a well-designed service system. (07 Marks)

- c. *“The standard tool for service process design is the flowchart. Recently, the service gurus have begun calling the flowchart a service blueprint to emphasize the importance of process design”.*

Define Service blueprint and what are the four steps in Service blueprint?

(06 Marks)

**(Total 20 Marks)**

Q4.

- a. *“Cost of Quality can be termed as the process that measures and determines where and how organizations’ resources are utilized to maintain quality and prevent poor outputs”.*

Describe four costs of quality.

(08 Marks)

- b. *“Layout planning is deciding on the best physical arrangements of all resources that consume space within a facility”.*

Identify and describe different types of layouts.

(08 Marks)

- c. *“Quality control is essential for any company that manufactures products or provides a service. It helps improve customer satisfaction by consistently delivering quality products or services, reducing wastage of resources and increasing efficiency and profits for the company”.*

What do you understand by Quality Control in manufacturing industries? Briefly discuss.

(06 Marks)

**(Total 22 Marks)**

Q5.

- a. What are the primary activities of Supply Chain Management? (04 Marks)

- b. *“Just-in-time, or JIT, is an inventory management method in which goods are received from suppliers only as they are needed”.*

Discuss the benefits and challenges of the JIT Method.

(06 Marks)

- c. The Garment Company wants to find the most suitable method for forecasting the sales. Sales figures of garments (in units) for the past eight months are given in the following table.

| Month    | Sales (in units) |
|----------|------------------|
| January  | 400              |
| February | 350              |
| March    | 480              |

|        |     |
|--------|-----|
| April  | 550 |
| May    | 640 |
| June   | 690 |
| July   | 780 |
| August | 720 |

Answer the following questions:

- I. Use three-month simple moving average method to forecast the sales from April to August? (03 Marks)
- II. Use the three-month weighted moving average method to forecast the sales from April to August. Use weights 0.2, 0.3, and 0.5 giving more weight to the more recent data. (03 Marks)
- III. Forecast the sales from February to August by using the exponential smoothing method taking  $\alpha = 0.4$ . Assume the January forecast as 450 units. (04 Marks)

**(Total 20 Marks)**