University of Kelaniya - Sri Lanka

Centre for Distance and Continuing Education

Faculty of Commerce & Management Studies

Bachelor of Business Management (General) Degree Third Examination (External) – 2022

March - 2025

BMGTE 3035 – Total Quality Management

Time: 03 Hours

Instructions

This question paper has three sections.

Total number of questions – Nine (09)

It is required to **answer four (04) questions in total.**

Make sure you choose at least one question from each section.

Each question is worth the same number of points.

Graph papers are provided.

Strictly adhere to the special instructions provided with the questions.

Part I

Question No. 01

a) Compare and contrast the philosophies of quality management proposed by W. Edwards Deming and Joseph Juran. How do their approaches differ in addressing quality issues? Explain.

(15 marks)

b) Imagine you are a quality manager at a manufacturing company. Describe how you would apply the PDCA (Plan-Do-Check-Act) cycle to improve the quality of a specific product.

(10 marks)

(Total 25 marks)

Question No. 02

You are tasked with implementing TQM in a service-based organization. Develop a step-by-step plan to integrate TQM principles into the organization's operations, ensuring customer satisfaction and continuous improvement.

(Total 25 marks)

Question No. 03

a) Analyze the contributions of **Kaoru Ishikawa, Genichi Taguchi**, and **Shigeo Shingo** to quality management.

(15 marks)

b) Explain the contributions of **Philip Crosby** and **Tom Peters** to quality management

(10 marks)

(Total 25 marks)

Part II

Question No. 04

How can the Pareto Principle be applied to improve time management and productivity in a corporate setting? Provide a case study or example to illustrate your answer.

(Total 25 marks)

Question No. 05

a) The Seven Quality Tools are essential for problem-solving and quality improvement in organizations.

List the Seven Quality Tools and briefly describe the purpose of each tool.

Quality Tool	Purpose
1	
2	
3	
4	
5	
6	
7	

(15 marks)

b) Select **three tools** from the Seven Quality Tools and explain how they can be used together to solve a complex quality problem in a manufacturing process. Provide a step-by-step explanation with examples.

(10 Marks)

(Total 25 marks)

Question No. 06

A retail company is analyzing the waiting times of customers at checkout counters to improve service quality. The company collected data on waiting times (in minutes) for 200 customers over a week. The data is as follows:

Waiting Time (Minutes)	Frequency
0–2	20
2–4	50
4–6	70
6–8	40
8–10	15
10–12	5

Question:

a) Construct a histogram to represent the waiting time data. Label the axes appropriately and provide a title for the histogram.

(5 Marks)

b) Based on the histogram, propose **two actionable recommendations** to improve customer waiting times. Justify your recommendations with reference to the histogram analysis.

(10 Marks)

c) Discuss how the use of a histogram contributes to quality improvement in this business setting. How does it help in identifying areas for improvement and measuring the impact of changes?

(10 Marks)

(Total 25 marks)

Part III

Question No. 07

Just-In-Time (JIT) is a production strategy that aims to reduce waste and improve efficiency by producing only what is needed, when it is needed, and in the quantity needed.

a) Explain the **key principles of JIT** and how they contribute to reducing waste and improving quality in a manufacturing process.

(15 Marks)

b) Discuss the challenges of implementing JIT in a global supply chain context, particularly in terms of supplier reliability and demand variability. How can these challenges be mitigated?

(10 Marks)

(Total 25 marks)

Question No. 08

Business Process Reengineering (BPR) involves the radical redesign of core business processes to achieve dramatic improvements in productivity, cycle times, and quality.

a) Explain the **key steps in the BPR process** and how they differ from incremental process improvement approaches like Kaizen.

(15 Marks)

b) Discuss the risks associated with BPR, such as employee resistance, high costs, and disruption to operations. How can these risks be managed during a BPR initiative?

(10 Marks)

(Total 25 marks)

Question No. 09

Lean is a systematic approach to identifying and eliminating waste through continuous improvement.

a) Explain the **seven types of waste (MUDA)** in Lean and provide examples of how each type manifests in a service-based organization (e.g., a hospital or bank).

(15 Marks)

b) What are **Lean tools and techniques** and how they can be applied to improve efficiency and reduce waste in a manufacturing process.

(10 Marks)

(Total 25 marks)