



**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) – 2021

April - 2024

**BMGTE 3035 – Total Quality Management**

No of questions: 09 (nine)

Time: 03 Hours

**Answer four (4) questions selecting at least one question from each part.**

Start your answer to each question on a new page.

Each question is worth the same number of marks.

Strictly adhere to the special instructions provided with the questions.

**Part I**

**Question No. 01**

- a) Compare and contrast the traditional approach to management with the Total Quality Management (TQM) approach.

**Utilise the table below to determine the factors that distinguish the two approaches. Please note that lengthy answers are not necessary. Use only a few sentences.**

No	Factor	Traditional Approach	TQM Approach
1	Focus on Quality		
2	Management Style		
3	Customer Orientation		

4	Continuous Improvement		
5	Decision Making		
6	Measurement and Feedback		
7	Training and Development		
8	Supplier Relationships		
9	Employee Morale and Motivation		
10	Risk Management		

(10 marks)

b) Compare and contrast the key principles of Kaizen with other continuous improvement methodologies such as Six Sigma or Lean Management. Analyze how each approach addresses process improvement and organizational culture.

(15 marks)

**(Total 25 Marks)**

### Question No. 02

"It has been argued that defining product quality as 'fitness for use' is more likely to contribute to commercial success compared to a definition like 'conformance to specification.'"

Based on the above statement, answer the following questions.

- a) Examine both definitions, their theoretical foundations, and their impact on the business.
- b) Explore the implications of these alternative definitions for the Quality Control function within a manufacturing enterprise."

(15 marks)

(10 marks)

**(Total 25 Marks)**

**Question N. 03**

**Dr. W. Edwards Deming recognized seven issues, which he called the "Seven Deadly Diseases," that affect organizational effectiveness and quality achievement.**

- a) Name and describe one of Deming's "Seven Deadly Diseases".  
(5 marks)
- b) Provide an example you mentioned this disease can negatively impact an organization  
(5 marks)
- c) Suggest preventive measures to overcome the above-mentioned disease.  
(15 marks)
- (Total 25 Marks)**

**Part II**

**Question No. 04**

**Workplace Accidents in Sri Lanka:**

<b>Accident Cause</b>	<b>No of accidents</b>	<b>Estimated Loss of Production per accident (SLRS ,000)</b>
Machinery	160	190
Transport	80	30
Falls from Heights >6'	16	100
Tripping	3	10
Striking Against Objects	9	7
All other accidents	250	2
Falling Objects	7	20
Handling Goods	27	255
Hand Tools	7	65
Burns (including chemical)	55	15
cutting action	2	3

- a) Generate a Pareto curve/s using pertinent data.  
(10 marks)

- b) Enumerate the “**Most Significant Issues**” (05 marks)
- c) Formulate a conclusion/s based on your analytical findings. (10 marks)
- (Total 25 Marks)**

**Question No. 05**

- a) Explain the principles of Shewhart control charts for sample mean and sample range. (05 marks)
- b) Statistical Quality Control (SQC) charts may be classified under two broad headings, ‘variables’ and ‘attributes’. Compare these two categories and indicate when each one is most appropriate. (05 marks)
- c) How does implementing Statistical Quality Control (SQC) techniques assist organisations in managing risks and making informed decisions? Offer examples demonstrating how SQC methodologies aid in mitigating quality-related risks. (15 marks)
- (Total 25 Marks)**

**Question No. 06**

- a) You are a management consultant in a manufacturing company where 5% of the workforce comprises final product inspectors. Presently, a proportion of 20% of the company's production necessitates being discarded or undergoing reworking. Compose a comprehensive report addressed to the managing director explaining the underlying factors contributing to this condition and proposing viable measures that can be implemented to enhance the situation. (10 marks)
- b) Explain the steps required to plot a frequency histogram for the provided data. (05 marks)

- c) Plot a frequency histogram using the plate thicknesses provided and analyse the distribution patterns observed. Comment on any significant deviations and the overall quality of the steel plates based on the histogram. **(Use eight classes)**

**Plate thicknesses (cm)**

.2968	.2921	.2943	.3000	.2935	.3019	.2991	.2969	.2946	.2965	.2917
.3008	.3036	.3004	.2967	.2955	.2959	.2937	.2961	.3037	.2847	.2907
.2986	.2956	.2875	.2950	.2981	.1971	.3009	.2985	.3005	.3127	.2918
.2900	.3029	.3031	.3047	.2901	.2976	.3016	.2975	.2932	.3065	.3006
.3011	.3027	.2909	.2949	.3089	.2997	.3058	.2911	.2993	.2978	.2972
			.2919	.2996	.2995	.3014	.2999			

(10 marks)

**(Total 25 marks)**

**Part III**

**Question No. 07**

**“The statistical principle behind Six Sigma is based on reducing variation and minimising defects in a process.”**

- a) How does Six Sigma impact customer satisfaction, cost reduction, and profit increase within organizations?  
(Provide separate explanations for each factor, outlining the specific contributions of Six Sigma methodologies.)

(15 marks)

- b) "You have been assigned the role of operations director for a manufacturing and service company with a negative reputation regarding the quality of its products and services." Over the past decade, several efforts have been made to enhance this, such as implementing quality circles, ISO9000-based quality systems, and SQC. These initiatives have achieved limited success and have overwhelmed the organization with successive waves of management actions, leaving it disoriented and exhausted.

Compose a report for the company's board of directors outlining the components of a six-sigma methodology for addressing issues, elucidating the distinctions from prior endeavours.

(10 marks)

**(Total 25 Marks)**

**Question No. 08**

- a) Compare and contrast benchmarking and Business Process Reengineering (BPR) as improvement methodologies in organisational management. Provide a comparative analysis using the factors listed in the table below.

**"Please note that lengthy answers are not necessary. Use only a few sentences."**

No	Factors for Comparison:	Benchmarking	Business Process Reengineering (BPR)
1	Definition		
2	Purpose		
3	Approach		
4	Scope of Change		
5	Focus		
6	Data Collection		
7	Data Analysis		

(15 marks)

- b) **Top management plays a pivotal role in the successful implementation of Total Quality Management (TQM) initiatives. It is critically influential for the success or failure of the new initiatives.** Discuss the leadership role in traditional management settings and TQM settings, and how the role of leadership is critical for TQM initiatives

(10 marks)

**(Total 25 Marks)**

**Question No. 09**

- a) Write a short note elucidating the purpose of the awards and the evaluation criteria of the Sri Lanka National Quality Award (SLNQA).  
(05 marks)
- b) List the six criteria by which organizations are evaluated under the Malcolm Baldrige Award criteria.  
(05 marks)
- c) What role does the Malcolm Baldrige National Quality Award play in fostering continuous organizational improvement? Briefly explain.  
(05 marks)
- d) **"Marketing promotions often oversimplify the benefits of ISO 9000 certification, leading to stakeholder misconceptions"**. Do you agree or disagree with this statement? Provide reasons to support your argument. (It is mandatory to state the reasons for the argument and provide an explanation.)

(10 marks)

**(Total 25 Marks)**