



DIPLOMA UNIVERSITY EXAMINATIONS
SCHOOL OF MANAGEMENT AND LEADERSHIP
DIPLOMA IN ENTREPRENEURSHIP

**DES 104: QUALITY PRODUCTION AND SERVICE IN
ENTREPRENEURSHIP**

DATE: 7TH APRIL 2026

DURATION: 2 HOURS

MAXIMUM MARKS: 70

INSTRUCTIONS:

1. Write your registration number on the answer booklet.
2. **DO NOT** write on this question paper.
3. This paper contains **SIX (6)** questions.
4. Question **ONE** is compulsory.
5. Answer any other **FOUR** questions.
6. Question **ONE** carries **30 MARKS** and the rest carry **10 MARKS** each.
7. **Write all your answers in the Examination answer booklet provided.**

QUESTION ONE

Read the case study below carefully and answer the questions that follow:

QUALITY AT ABC ENTERPRISES

ABC Enterprises, a growing manufacturing firm, has been experiencing significant challenges in maintaining consistent quality standards across its various product lines. Despite the company's growth, these quality issues have hindered their ability to maintain customer satisfaction and efficient production processes. The key issues identified by the management team include inconsistent product quality, increasing customer complaints about defects, and inefficiencies within the production line, all of which have led to decreased customer loyalty and increasing costs of rework and warranty claims. In response to these challenges, the management has acknowledged the urgent need to address quality control issues systematically. They have outlined a strategic approach to integrating quality management principles into their operations. The management has identified several strategies to resolve the quality issues, including Total Quality Management (TQM), Six Sigma, and Lean manufacturing. Each of these methodologies brings a unique approach to improving quality and operational efficiency.

Total Quality Management (TQM) is an approach focused on embedding quality into every aspect of the organization, from product design to customer service. The company plans to implement TQM by establishing a company-wide culture of quality, engaging all employees in the process of continuous improvement, and emphasizing leadership commitment. Management will also introduce regular quality audits, supplier evaluations, and feedback loops to ensure that quality is consistently maintained. Six Sigma which focuses on reducing defects and variation in processes, will be implemented to help ABC Enterprises identify and address the root causes of defects in the production process. By using data-driven techniques and statistical tools, the company aims to minimize process variation and improve overall product quality. Six Sigma will also facilitate targeted improvements in the manufacturing process, leading to more predictable

and efficient outcomes, and helping to meet customer expectations consistently.

Lean Manufacturing will be utilized to streamline operations and eliminate waste in the production process. By implementing lean principles, such as just-in-time production, continuous flow, and standardized work practices, ABC Enterprises seeks to reduce lead times, improve throughput, and minimize excess inventory. Lean techniques will enable the company to increase its production efficiency, reduce operational costs, and ensure that quality control is seamlessly integrated into each step of the manufacturing process.

By implementing these quality management strategies, ABC Enterprises aims to resolve its current quality issues, enhance operational efficiency, and improve customer satisfaction. The integration of TQM, Six Sigma, and Lean manufacturing will provide a comprehensive approach to continuous improvement, enabling the company to remain competitive in the market while delivering high-quality products that meet customer expectations. Through these efforts, the company expects to reduce defects, improve productivity, and foster a culture of quality that is aligned with the firm's long-term business objectives.

Required:

- a) Evaluate how Total Quality Management (TQM) and Six Sigma can help ABC Enterprises address its quality challenges.

(6 Marks)

- b) Discuss how the Voice of the Customer (VOC) and the Voice of the Market (VOM) can be used to enhance product and service quality at ABC Enterprises.

(6 Marks)

- c) Explain three quality control mechanisms that ABC Enterprises can implement to ensure continuous improvement.

(6 Marks)

- d) Discuss the role of technology in quality design and innovation. Support your answer with relevant real-world examples.

(6 Marks)

- e) Effective supplier quality management is critical in production. Analyze two techniques that ABC Enterprises can use to manage supplier quality in its supply chain.

(6 Marks)

QUESTION TWO

- a) Analyse service quality dimensions, highlighting their significance in quality management. **(5**

Marks)

- b) Strategic quality planning plays a crucial role in organizational success. Discuss five elements of strategic quality planning that an enterprise should focus on to enhance quality.

(5 Marks)

QUESTION THREE

- a) Designing products for quality is a key aspect of quality management. Evaluate five essential elements of a well-structured product.

(5 Marks)

- b) Quality and innovation go hand in hand in ensuring competitiveness. Critically analyze how innovation in production and process design influences quality.

(5 Marks)

QUESTION FOUR

- a) Quality function deployment (QFD) is a critical tool in designing quality products. Explain the key steps involved in the QFD process

and its importance in production.

(5 Marks)

- b) Statistically based quality improvement techniques are essential in quality control. Discuss five statistical techniques that can be applied to improve product and service quality.

(5 Marks)

QUESTION FIVE

- a) Managing quality improvement teams and projects is crucial for sustaining high standards. Explain five key strategies for effectively managing quality improvement teams.

(5 Marks)

- b) Six Sigma and Lean tools are widely used in quality management. Compare and contrast Six Sigma and Lean tools, highlighting their applications in improving operational efficiency.

(5 Marks)

QUESTION SIX

- a) Quality control mechanisms play a significant role in ensuring consistency in production. Analyze five quality control techniques used in manufacturing.

(5 Marks)

- b) Effective packaging techniques enhance product quality and marketability. Discuss five key packaging techniques and their impact on quality assurance.

(5 Marks)