

Reg No.: \_\_\_\_\_

Name: \_\_\_\_\_

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**

Fifth Trimester MBA Degree Regular and Supplementary Examination April 2021

**Course Code: OM-T5-12****Course Name: SIX SIGMA AND TOTAL QUALITY MANAGEMENT**

Max. Marks: 60

Duration: 3 Hours

**PART A***Answer all questions. Each question carries 2 marks*

- 1 What are the benefits of Six Sigma?
- 2 What is Cost of Quality?
- 3 What is Taguchi's QF?
- 4 What are the uses of Cause and Effect diagram?
- 5 What is role of Global Six Sigma Council?

(5x2 marks = 10 marks)

**PART B***Answer any 3 questions. Each question carries 10 marks*

- 6 a) Discuss the uses of Scatter Diagram. (2)
- b) Explain the methodologies used in an organization to implement Six Sigma. (8)
- 7 a) Explain the phases of Strategic Quality Management. (5)
- b) Describe the various acceptance sampling techniques used in quality control. (5)
- 8 a) Discuss Juran's Quality trilogy Process. (3)
- b) Explain the various pillars of TPM. (7)
- 9 Elaborate the criteria to evaluate any organization for Malcom Baldrige National Quality award. (10)
- 10 Explain the process involved in getting an organization ISO certified. (10)

(3x10 marks = 30 marks)

**PART C***Compulsory question, the question carries 20 marks*

- 11 In the early 1980s, Xerox found itself increasingly vulnerable to intense competition from both the US and Japanese competitors. According to analysts, Xerox's management failed to give the company strategic direction. It ignored

new entrants (Ricoh, Canon, and Sevin) who were consolidating their positions in the lower-end market and in niche segments. The company's operating cost (and therefore, the prices of its products) was high and its products were of relatively inferior quality in comparison to its competitors.

Xerox also suffered from its highly centralized decision-making processes. As a result of this, return on assets fell to less than 8% and market share in copiers came down sharply from 86% in 1974 to just 17% in 1984. Between 1980 and 1984, Xerox's profits decreased from \$ 1.15 billion to \$ 290 million

In 1982, David T. Kearns (Kearns) took over as the CEO. He discovered that the average manufacturing cost of copiers in Japanese companies was 40-50% of that of Xerox. As a result, Japanese companies were able to undercut Xerox's prices effortlessly. Kearns quickly began emphasizing reduction of manufacturing costs and gave new thrust to quality control by launching a program that was popularly referred to as 'Leadership Through Quality.' As part of this quality program, Xerox implemented the benchmarking program. These initiatives played a major role in pulling Xerox out of trouble in the years to come. The company even went on to become one of the best examples of the successful implementation of benchmarking.

- (a) Define benchmarking and discuss the various types of benchmarking. (5)
- (b) Explain a framework for implementing the benchmarking program in Xerox (7)
- (c) What benefits did Xerox derive from the implementation of benchmarking practices? (4)
- (d) Explain how you would go about ensuring the success of the benchmarking initiatives undertaken by the company. (4)

(20 marks)

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