

July 2013

Bachelor of Business Administration (BBA) Examination

VI Semester

Total Quality Management

Time 3 Hours]

[Max. Marks 80

Note : Attempt any four questions (out of seven questions) from Section A. Each question of Section A carries 15 marks. Section B carries 20 marks. (A Case Compulsory)

Section A

1. (a) What do you understand by Quality? Explain different characteristics of quality.
(b) Explain the term quality of performance and quality of conformance and state the factors which control them.
2. (a) What do you understand by Total Quality Management (TQM)? Explain Demings Philosophy.
(b) What are the different elements of TQM? Explain strategic quality management.
3. (a) What do you understand by Kaizen? Explain various techniques of implementation of Kaizen.
(b) What is Benchmarking? Explain different elements and benefits of Benchmarking.
4. (a) What are the different elements of TQM and state guidelines for successful implementation of TQM?
(b) Define Quality Circle and state characteristics of quality circle.
5. What do you understand by Six Sigma? Explain process of six sigma implementation and DMAIC.
6. Define briefly ISO-9000 series standards and explain different clauses in ISO-9000 Model
7. (a) What do you understand by Quality Function Deployment (QFD)? Explain QFD process.
(b) What do you understand by Total Productive Maintenance? Explain different elements of TPM.

Section B

8. The following data were obtained over a 10 days period to initiate X and R control chart for a quality characteristic of certain manufactured

product that had required a substantial amount of rework. All the figures apply to product made a single machine by single operator The subgroup size was 5. Two subgroups were taken per day.

Sample No.	\bar{X}	R	Sample No.	\bar{X}	R
1	177.6	23	11	179.8	09
2	177.6	08	12	176.4	08
3	178.4	22	13	178.4	07
4	176.6	12	14	178.2	04
5	177.0	07	15	180.6	06
6	179.4	08	16	179.6	06
7	178.6	15	17	177.8	10
8	179.6	06	18	178.4	09
9	178.8	07	19	181.6	07
10	178.2	12	20	177.6	10

- (a) Determine trial control limit for \bar{X} and R chart.
- (b) What Preliminary conclusions can you draw about the statistical control from your observations and analysis of the data and the controlcharts ?
- (c) The specified requirements for a quality characteristics are given as 171 ± 11 . If a product falls below lower specification limit of 160, it must be scrapped, whereas if it falls above the upper specification limit of 182, it may be reworked. Because scraping an article is much more costly than rework, it is desired to hold scrap to a low figure without causing excessive rework. The process average can be shifted by a relatively simple machine adjustment What would you suggests the aimed at value for process centering in immediate future ? Why ?
- (d) The \bar{X} and R charts are to be continued. What would you recommend as the new limit on these charts ? Show your calculations and explain your reasoning.

$$\text{Take } d_2 = 2.326$$

$$A_2 = 0.58$$

$$D_4 = 2.11$$

□□□