Question Paper Code : 44034

M.B.A. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2017

First Semester

BA 7104-TOTAL QUALITY MANAGEMENT

(Regulations 2013)

Time : Three Hours   Maximum : 100 Marks

(Use of statistical tables are allowed)

Answer ALL questions

PART – A   (10×2=20 Marks)

1. Define quality.

2. Define service quality.

3. Define parameter design.

4. What are the principles of Feigenbaum ?

5. What is process capability ?

6. List out the limitations of re-engineering.

7. Define Benchmarking.

8. When do you use POKA YOKE ?

9. What is third-party audit ?

10. What are the benefits of ISO 9000 ?

PART – B   (5×13=65 Marks)

11. a) Enumerate the dimensions of product and service quality.

(OR)

b) Discuss the vision, mission and policy statements of quality . Show the importance of customer perception and customer retention of quality.

12. a) Explain the fourteen principles of Deming with an example.

(OR)

b) Describe the principles of Juran Trilogy, PDSA cycle and 5S ?

13. a) Explain the construction of control charts for attributes ?

(OR)

b) Describe the TPM methodology in detail.

14. a) Describe the procedure adopted in the development of QFD methodology ?

(OR)

b) Discuss the procedure adopted in FMEA Process.

15. a) Explain the emerging role of ISO 9000 standards in the global economy and also explain the various clauses used in ISO 9000 implementation ?

(OR)

b) Write short notes on the following :
   i) Employee Involvement and Empowerment. (4)
   ii) Quality Auditing. (4)
   iii) Leadership and Motivation. (5)

PART – C   (1×15=15 Marks)

16. a) The length of machined part is known to have a normal distribution with a mean of 100 mm and a standard deviation of 2 mm.
   i) What proportion of the output will be between 98.5 mm and 102.0 mm ? (3)
   ii) What proportion of the parts will be above 103.3 mm ? (4)
   iii) What proportion of the parts will be shorter than 96.5 mm ? (4)
   iv) It is important that not many of the parts exceed the desired length. If a manager stipulates that no more than 5% of the parts should be oversized. What specifications limit should be recommended ? (4)

(OR)

b) Light bulbs are tested for their luminance, with the intensity of brightness desired to be within a certain range. Random samples of 5 bulbs are chosen from the output and their luminance values measured the sample mean X and the standard deviations are found. After 30 samples, the following summary information is obtained;

$$\sum_{i=1}^{30} \overline{X}_i = 2550 \qquad \sum_{i=1}^{30} S_i = 195$$

the specifications are 90 ± 15 lumens.
   i) Find the control limits for the X and S charts. (4)
   ii) Assuming that the process is in control, estimate the process mean and process standard deviation. (3)
   iii) Find the process capability indices C_p and C_{pk} and comment on their values. (4)
   iv) If the target value is 90 lumens, find the capability index C_{pm}. (4)

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