

Q 6514

M.B.A. DEGREE EXAMINATION, MAY/JUNE 2006.

Second Semester

BA 1656 — QUALITY MANAGEMENT

Time : Three hours

Maximum : 100 marks

Use of normal distribution tables permitted.

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What do you mean by quality of design?
2. What is external failure cost? Give two examples.
3. What is SMED?
4. What is a Quality circle?
5. Define Process capability.
6. Define Business Process Re-engineering.
7. What are the objectives of QFD?
8. What is a Severity in FMEA?
9. What is a process audit?
10. State any four duties of a Quality Council.

PART B — (5 × 16 = 80 marks)

11. (i) What are the similarities and differences between Deming, Juran and Crosby? (10)
- (ii) What are the problems with the Quality Circle? (6)

12. (a) (i) What is vision, mission and policy statement? Give examples for each. (4 + 4 + 4 = 12)
- (ii) Enumerate the Barriers to TQM implementation. (4)

Or

- (b) (i) Discuss customer perception of quality. (8)
- (ii) What are the limitations of PAF model? Explain the process model for quality costing? (2 + 6 = 8)
13. (a) The following data are obtained from an automatic filling process of certain chemical delivered into each container. The specification of the mass delivered is 50 ± 4 grams. Ten samples of size 5 are taken from the above process and are shown in table below :

	Samples									
	1	2	3	4	5	6	7	8	9	10
Observation	51	52	51	48	53	51	52	54	53	50
	50	53	52	49	49	49	53	52	53	52
	52	52	52	52	49	49	47	51	52	52
	49	54	51	49	54	50	52	53	54	53

- (i) Determine the control limits for \bar{X} and R -charts. (3 + 3 = 6)
- (ii) Plot the charts and comment on the process. Does the machine capable of meeting the specification? (3 + 3 = 6)
- (iii) Calculate the percent defective, if any. (4)

Or

- (b) (i) Discuss the six sigma concept of process capability. (6)
- (ii) Describe the various steps involved in the re-engineering process. (10)
14. (a) (i) What are the benefits of QFD? (4)
- (ii) Explain the design FMEA procedure to enhance the reliability of a product. (12)

Or

- (b) (i) Write a short note on PDPC method with an example. (4)
- (ii) There are two types of adhesives S_1 and S_2 , which cost Rs. 50 and Rs. 60 per unit weight. The lower specification limit Δ is 5 kgf for the breaking force. Out of specification will cost Rs. 70/unit. 16 units of each type are tested and the data is given below. The annual production rate is 50000 units. Compare the quality levels of S_1 and S_2 .

Type of adhesive	Breaking force (kgf)							
S_1	14.6	19.7	4.9	6.1	15.0	4.5	4.8	16.5
	10.2	5.8	5.0	4.7	16.8	9.4	4.0	10.1
S_2	7.0	13.7	7.0	10.0	11.8	13.7	8.3	10.6
	7.6	10.1	6.8	12.8	8.6	11.2	1.8	10.4

15. (a) (i) What is the need for ISO 9000 and other quality management system? (2)
- (ii) What are the elements of ISO 9001 : 2000 quality management system? Explain each element very briefly. (14)

Or

- (b) Write short notes on the following : (4 × 4 = 16)
- (i) Empowerment
- (ii) Employee involvement
- (iii) Internet
- (iv) Information quality.