M.B.A. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2006.

Second Semester

BA 1656 — QUALITY MANAGEMENT

(Regulation 2005)

Time : Three hours   Maximum : 100 marks

Answer ALL the questions.

PART A — (10 × 2 = 20 marks)

1.   What are the benefits of TQM? — 1

2.   What are the dimensions of service quality? — 1

3.   What is quality, according to tagnchi? — 2

4.   What are the benefits of quality circle? — 2

5.   List the different types of control charts for attributes. — 3

6.   Define reliability. — 3

7.   What are the benefits of QFD? — 4

8.   Define FMEA. — 4

9.   What do you mean by leadership? — 5

10. What is empowerment? — 5

PART B — (5 × 16 = 80 marks)

11. (a) Describe vision, mission and policy statements with respect to quality. Also give example for each of the above statements. — 1   (12 + 4 = 16)

Or

(b) (i) Explain why and how we should retain the customers using an established model. — 1   (10)

     (ii) What are internal failure cost? Give examples. — 1   (6)

12. (a) (i) Comment on the seven deadly diseases associated with traditional management practices in industry. (8)

(ii) Describe briefly, the contributions of shingo. (8)

Or

(b) What is 5S? Explain each S with a suitable example. Do you think that the concept of 5S can be successfully implemented in India? Justify your answer. $(2 + 10 + 4 = 16)$

13. (a) A soft drink is sold in bottles marked 325ml. The bottles are filled by an automatic machine. Samples of 5 bottles taken every 15 minutes of production during the first shift produced the results show in table below. The measurement X is the number of milliliters over 300. The range is in milliliters. For a sample of 5, the factors A_1, A_2, B_3, B_4, D_3 and D_4 are 1.60, 0.58, 0, 2.09, 0 and 2.11 respectively.

Table-Sampling Data

Sample No	$\overline{X}$	R	Sample No	$\overline{X}$	R	Sample No	$\overline{X}$	R
1	29.0	11	11	23.9	3	21	27.0	5
2	25.0	8	12	24.1	5	22	26.0	5
3	26.0	5	13	27.0	4	23	28.0	3
4	25.2	5	14	26.8	6	24	26.4	6
5	25.4	3	15	26.4	2	25	27.3	4
6	28.0	4	16	23.8	4	26	24.0	4
7	26.0	5	17	27.0	5	27	22.6	2
8	27.0	4	18	28.4	3	28	28.0	6
9	24.8	7	19	25.4	7	29	24.4	5
10	21.4	4	20	26.2	6	30	26.4	3

(i) Determine trial control limits for $\overline{X}$ and R-charts. $(3 + 3 = 6)$

(ii) Plot the charts and comment on the process. $(2 + 2 = 4)$

(iii) Revise the chart, and determine the control limits for monitoring period. $(3 + 3 = 6)$

Or

(b) Explain the SIX BIG Losses which are acting as stumbling blocks on the road to higher equipment effectiveness. Also explain how those losses can be minimised or eliminated through TPM programme. $(8 + 8 = 16)$

14. (a) A lawn mover manufacturer spent time and money redesigning a control for their most popular mover, only to find that customers were insensitive to the modification. So, when they began planning to redesign another of their models they wanted to be sure that this time round they would make changes the customer actually wanted. The company carried out market research and listed the following customer priorities : quiet operation, works with wet grass, cuts long grass, reliable, light to carry, compact for storage and safe. The company also identified the technical priorities as follows : motor drive chain, blades, handle, controls and grass collection. Develop a house of quality using the information given above and conduct QFD analysis. Assume necessary data. (16)

Or

(b) (i) Compute the average loss for a process that produces sted shafts. The target value is 6.40 mm and the coefficient is 9500. Eight samples give, 6.36, 6.40, 6.38, 6.39, 6.43, 6.39, 6.46 and 6.42. (6)

(ii) Using the existing design, the lives of three batteries are 20, 22 and 21 hours. An experimental design produces batteries with values of 17, 21 and 25 hours. If larger is the better, which design you will choose and what will be your next step? (10)

15. (a) Assuming that you are working as a quality manager in a manufacturing company in India. Recently you have initiated and implemented TQM in your organization. Change in culture was felt and you have taken the steps required to fullfil the TQM culture. Now, the problem is sustaining the change. Describe what measures you will take to sustain the change to a quality culture. (16)

Or

(b) What do you think are the main reasons for people quitting organizations and taking up job elsewhere? Is money the main reason? Explain the approach to generating commitment. General question (16)