B 1315

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2006.

Eighth Semester

Civil Engineering

GE 406 — TOTAL QUALITY MANAGEMENT

(Common to all Branches)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What do you mean by total cost of quality?

2. Name any two popular awards for quality.

3. What is the use of performance appraisal?

4. What are the benefits of 5s?

5. Distinguish between defect and defective.

6. Define the term process capability.

7. What are the objectives of QFD?

8. Why TPM is required?

9. What is the need for documentation?

10. What are the main elements of ISO 14000?

PART B — (5 × 16 = 80 marks)

11. Explain the fourteen steps of Deming's philosophy for improving quality, productivity and competitiveness. (16)

12. (a) (i) What are the customer perceptions of quality? Explain. (8)

(ii) Explain the service quality with its characteristics and expectations. (8)

Or

(b) (i) Explain the basic techniques used for measuring performance. (10)

(ii) If the Deming wheel rotates, improvement is assured. Explain Deming wheel. (6)

13. (a) (i) Explain the tree diagram and arrow diagram. (8)

(ii) Explain the stages of six sigma in process improvement. (8)

Or

(b) In the manufacture of connecting rod assembly, the number of defectives found in the inspection of 15 samples of 50 items in each sample are given in the following table.

Sample No. :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
No. of defectives :	8	7	5	4	8	7	9	21	12	10	9	8	16	15	17

(i) Determine the trial control limits, construct the np chart and state whether the process is in control. (8)

(ii) If any point goes outside the control limits, determine the revised control limits eliminating that point. (8)

14. (a) Explain Quality Function Deployment (QFD) with a suitable example. (16)

Or

(b) Write short notes on :

(i) Benchmarking process. (8)

(ii) FMEA. (8)

15. (a) Explain the steps to be followed in implementing Quality System ISO 9001 : 2000. (16)

Or

(b) (i) Contrast between internal audit and external audit. (6)

(ii) What are the requirements of ISO 14000? Explain them briefly. (10)
