Reg. No. : | | | | | | | | | | | |

M 2173

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2008.

Eighth Semester

Civil Engineering

GE 406 — TOTAL QUALITY MANAGEMENT

(Common to all branches of B.E./B.Tech.)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — ($10 \times 2 = 20$ marks)

1. Define quality.

2. Define Total Quality Management.

3. What is meant by empowerment?

4. Differentiate between internal and external customers.

5. Give any two applications of normal distribution.

6. Name any two measures of central tendency.

7. List any two reasons to Benchmark.

8. List any two advantages of QFD.

9. List any two benefits of ISO 14000.

10. What is meant by quality auditing?

PART B — (5 × 16 = 80 marks)

11. (a) (i) Select any service organization and discuss how Garvin's eight dimensions of quality can apply. (8)

(ii) Explain prevention and appraisal costs by giving examples. (8)

Or

(b) (i) Explain Deming' s philosophy. (8)

(ii) Explain quality council. In general describe its composition and duties. (8)

12. (a) (i) Explain Juran's trilogy. (8)

(ii) List and explain the six most important factors that influence consumer purchases. (8)

Or

(b) (i) List the five levels in Maslow's hierarchy of needs and describe each. (8)

(ii) Explain the conditions for selecting and evaluating the suppliers. (8)

13. (a) (i) Explain Interrelationship diagraphs by giving examples. (8)

(ii) The following data give the number of nonconforming ROM chips in samples of size 200. Construct a P-chart for these data. Assume that any values beyond the control limits have an assignable cause and revise the control limits as appropriate. (8)

Sample number :	1	2	3	4	5	6	7	8	9	10	11	12
Non-conforming :	14	37	18	17	21	16	16	23	14	14	21	24

Or

(b) (i) With the help of examples explain matrix diagram. (8)

(ii) A process fills boxes with corn flakes. The manufacturer is interested in the weight of the contents of each box. Develop the $\overline{X}$ and R charts for the process. Historical data are as follows : (8)

Sample :	1	2	3	4	5	6	7	8
$\overline{X}$:	16.2	16.1	16.12	15.93	16.02	16.18	15.87	15.80
R :	0.4	0.38	0.42	0.15	0.08	0.23	0.36	0.42

14. (a) (i) Explain how the Taguchi loss function differs from the traditional loss function assumed from specifications and tolerances. (8)

(ii) Explain FMEA with an example. (8)

Or

(b) (i) Explain the six major losses of TPM. (8)

(ii) Explain the House of Quality. (8)

15. (a) (i) Write short notes on ISO 14000. (8)

(ii) What is documentation? Explain the documents that are needed to be prepared while implementing ISO 9000 in companies. (8)

Or

(b) (i) Write short notes on QS 9000. (8)

(ii) What are the advantages and limitations of ISO 9000? (8)