Roll No. ....

24481

B. Tech. 7th Sem. (ME)

Examination – May, 2015

QUALITY ENGINEERING

Paper : ME-417-F

Time : Three Hours] [Maximum Marks : 100

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt *five* questions. Question No. 1 is *compulsory* and attempt at least *one* question from each Section.

1. Explain the following : 5 × 4 = 20

   (a) Quality cost categories

   (b) QFD

   (c) Acceptance sampling by attributes.

   (d) Jit systems.

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SECTION – A

2. (a) What is pareto analysis and how is it used in analyzing quality cost data. 10

   (b) Discuss cost reduction programs and economics of quality. 10

3. What is the meaning and importance of quality in industry ? Explain it in detail with suitable examples. 20

SECTION – B

4. Discuss statistical tools in quality control. Also explain X and R, X and S and P, np charts with examples. 20

5. What is specifications and tolrances. Explain natural tolerance limits, specification limits and process capability ratio analysis. 20

SECTION – C

6. (a) Explain poisson and normal distribution with practical examples. 10

   (b) Explain acceptance sampling in detail. 10

7. (a) Explain Binomial distribution with suitable example. **10**

(b) Explain multiple and sequential sampling plans. **10**

SECTION – D

8. What is TQM ? Explain in detail five basic concepts of TQM in an industry. **20**

9. Explain the following :

(a) Taguchi loss function. **7**

(b) Lean manufacturing continuous improvement techniques. **7**

(c) Pareto diagrams. **6**

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