Total No. of Questions : 8] *[Total No. of Printed Pages : 2*

Roll No .....

MMPD/MMIE - 202

M.E./M.Tech., II Semester

Examination, December 2015

Reliability Engineering and Quality Management

Time : Three Hours

Maximum Marks : 70

Note : i) Attempt any five questions.
ii) All questions carry equal marks.

1. a) What are various probability distributions? Classify them and explain in brief.
   b) What are the objectives of life testing? Classify and explain various methods of life testing.

2. a) Explain quality, quality assurance and total quality control.
   b) What do you mean by inspection? Write the difference between inspections and quality control.

3. a) How is statistical process control different from acceptance sampling? What are Type I and Type II errors.
   b) What are the control charts for variables and attributes? Explain different types of control charts for variables and attributes.

4. a) What is Acceptance Sampling? Explain different sampling plans with suitable example.
   b) Using a flowchart, explain the operation of a double sampling plan by attributes. What are the advantages and disadvantages of double sampling plans in comparison to single sampling plans?

5. a) Discuss Deming's 14 points in industrial engineering context.
   b) Enumerate the 4 absolutes of quality management given by Philip Crosby. Also mention his 14 steps to quality improvement.

6. a) What is Kaoru Ishikawa's contribution to TQM? Compare his saying with those of Deming and Juran.
   b) What is statistical process control? How do control charts help in controlling the operations process?

7. a) What is 5S in TQM? How does it help in improving the quality of products or services?
   b) Discuss the different types of maintenance strategies, with their advantages and disadvantages.

8. Write short notes on the followings (Any Four) :
   a) Weibull distribution
   b) Taguchi loss function
   c) Quality assurance
   d) Six sigma concept
   e) Quality awards
   f) Life cycle casting

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