

**Printed Pages : 3**



**EPI801**

**(Following Paper ID and Roll No. to be filled in your Answer Book)**

**PAPER ID : 144801**

**Roll No.**

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**B. Tech.**

**(SEM. VIII) THEORY EXAMINATION, 2014-15**

**QUALITY CONTROL**

**Time : 3 Hours]**

**[Total Marks : 100**

- Note :**
- (1) Attempt all questions.
  - (2) Be precise in your answer.
  - (3) Assume suitable value for missing data, if any.
  - (4) Use of standard normal distribution table and tables for control charts is permitted.

**1 Attempt any four parts: 4×5=20**

- (a) Compare Accuracy, Precision and Reliability.
- (b) What are the rules for the Geometric Dimensioning and Tolerancing Standard ?
- (c) Write a note on types of Gauges.
- (d) Explain different types of fits.
- (e) Write a note on concept and evolution of quality control.
- (f) Write a note on inspection methods.

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**1**

**[ Contd...**

- 2 Answer any two parts of the following: **10×2=20**
- (a) Enumerate the differences between control charts for attributes and variables. List and explain different methods used for statistical quality control.
  - (b) Describe the salient features of "R" type control chart. Explain how "R" type control charts are used.
  - (c) Elaborate the construction of "P" type control charts. How are "C" type control charts helpful in quality control?
- 3 Attempt any two parts: **10×2=20**
- (a) What is an ideal OC curve? Explain producer's and consumer's risk.
  - (b) What are AOQ and ATI ? Derive their expressions for single sampling plan for attributes.
  - (c) Write short notes on :
    - (i) Sequential sampling plan
    - (ii) Chain sampling plan
    - (iii) Continuous sampling plan
    - (iv) Ship-lot sampling plan.
- 4 Answer any two parts of the following: **10×2=20**
- (a) What is the significance of reliability? Draw and explain the Bath Tub curve; also list its usefulness.
  - (b) Discuss the various causes of failure. List various means to control failure. What is MTBF? How is MTBF calculated?

- (c) What are the various factors which describe value of a product? List different elements of analysis performed to obtain the value of a product; also describe the techniques used to perform value analysis.

5 Attempt any two parts: **10×2=20**

- (a) Summarize different elements of quality costs and graphically illustrate relationship between quality costs and quality of conformance. Find optimum quality.
- (b) Contrast and compare Six Sigma with Total Quality Management (TQM).
- (c) Write short notes on :
- (i) Human factors influencing Quality
  - (ii) Taguchi's concept of Quality.

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