

24481

B. Tech. 7th Semester (ME) F. Scheme

Examination, December-2017

QUALITY ENGINEERING

Paper- ME-417-F

Time allowed : 3 hours]

[Maximum marks : 100

Note : Attempt any five questions from eight questions. At least one question from each unit. Q. No. 1 is compulsory.

1. Explain the following : 4×5
- (a) Quality assurance
 - (b) Statistical aspect of control charting
 - (c) Principle of acceptance sampling
 - (d) Taguchi quality loss function TPM

Section-A

2. What is Quality ? Discuss in detail the fundamental factor affecting quality and explain its importance and scope in the engineering industry. 20
3. Explain the concept of Pareto Analysis, Cost reduction programs and ISO 9000 system quality standards. 20

Section-B

4. Define quality control and SQC. What are the aims of SQC ? What are the advantages of SQC ? And also discuss the probability distribution in detail. 20

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5. (a) Discuss the specification limits and process capability ratio analysis. 10
(b) Discuss statistical tools in quality control. Also discuss the X and R and X and S with example. 10

Section-C

6. Explain the following in brief in connection with Dodge-Romig sampling plan : 20
(a) Single sampling lot tolerance tables.
(b) Double sampling lot tolerance tables.
(c) Single sampling AOQL tables.
(d) Double sampling AOQL tables.
7. Explain the Poisson and Normal distribution with practical examples. 20

Section-D

8. What do you mean by quality circle with its objective, structure and techniques. Explain and how it is useful in industry. 20
9. Discuss the QFD and lean manufacturing system. 20