

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

PAPER ID : 0408

Roll No.

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B. Tech.

(SEM. VII) ODD SEMESTER THEORY EXAMINATION
2010-11

TOTAL QUALITY MANAGEMENT (TQM)

Time : 3 Hours

Total Marks : 100

Note : (1) Attempt all questions.

(2) Assume missing data suitably, if any.

1. Attempt any **three** parts : (7×3=21)
 - (a) How has the concept of Quality evolved with time, discuss various phases of Quality control along with their characteristics.
 - (b) How does 'quality of design' differ from 'quality of conformance' ?
 - (c) What is service quality ? What are internal and external measures of service quality ?
 - (d) Draw and discuss a typical 'Process control network' used to ensure quality of end product.

2. Attempt any **two** parts of the following : (10×2=20)
 - (a) What are the various categories of cost of Quality and their constituents ?
 - (b) Using a schematic diagram, explain the various steps in the construction of the QFD house of quality.
 - (c) What are the causes of operator's errors ? Discuss the corrective measures.

3. Attempt any **four** parts : (5×4=20)
- (a) Explain the difference between attribute control charts and variable control charts.
 - (b) Under what circumstances should c-charts be used instead of p-charts ?
 - (c) What are the 'natural limits' of a process ? How do they relate to product specification limits ?
 - (d) Explain the different information provided by the process capability ratio and the process capability index.
 - (e) Enumerate the advantages and disadvantages of cusum charts.
 - (f) What is average run length (ARL) ?
4. Attempt any **three** of the following : (7×3=21)
- (a) What is failure rate for reliability 0.95 and hours 400 ? What will be reliability after 100 hours ?
 - (b) Explain how to compute the reliability of series and parallel systems.
 - (c) Discuss technique for reliability analysis.
 - (d) Write a note on maintainability.
5. Attempt any **three** of the following : (6×3=18)
- (a) What is Taguchi's loss function ? Discuss.
 - (b) What is ISO ? What is ISO 9000 quality system ?
 - (c) Explain the rules of switching between normal, tightened, and reduced inspection for acceptance sampling by ISO 2859—1 : 1999.
 - (d) Discuss types of Quality Audits.