Printed Pages—2                                    **TME016**

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

**PAPER ID : 0408**   **Roll No.** [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

## 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.