

2122  
B.E. (Mechanical Engineering)  
Seventh Semester  
MEC-704: Total Quality Management

Time allowed: 3 Hours

Max. Marks: 50

**NOTE:** Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.

x-x-x

1. (a) What do you mean by customer satisfaction?
- (b) Define policy implementation process.
- (c) Define total employees involvement.
- (d) What is process management?
- (e) Define just in time.
- (f) What do you mean by signal in Taguchi method?
- (g) Define Kanban system.
- (h) What is the importance of ISO 9000 system?
- (i) Name the tools of problem identification.
- (j) What is reward and recognition?

(10x1)

**UNIT - I**

2. Explain the registration procedure for ISO 9001. Also explain the benefits of ISO registration.
3. Discuss the various education and training programmes of employees in TEI
4. Write short notes on the following:
  - (i) Quality assurance
  - (ii) Quality control tools
  - (iii) Quality circles

(2x10)

**UNIT - II**

5. (i) Write the advantages and disadvantages of Total employees involvement?  
(ii) What steps are involved in complete planning of the process?
6. Raw material used in a chemical process contains some impurity. To ensure that the percentage of impurity does not become too large samples of size 3 are tested at regular intervals. When the process is running satisfactorily the mean percentage impurity was found to be 16.7 with standard deviation of 3.4
  - (i) Set up control charts for means and standard deviations.
  - (ii) What action, if any, would you recommend if the next sample was (a) 16.9, 19.3, 20.2 (b) 24.5, 25.6, 22 (c) 14.2, 19.1, 5.2 (d) 22.7, 19.3, 23.1 (e) 9.3, 12.2, 8.1
7. (i) Highlight the importance of 'observation and standardization' in problem solving.  
(ii) With diagrams, explain how histogram is more useful in problem solving than bar diagram.

(2x10)

x-x-x