

**Total Quality Management  
(DE/ME-2.5/251, Dec 2006)**

Time: 3 Hrs

Max Marks: 60

**Note:** Section A is compulsory. Attempt any four questions from Section B and any two questions from Section-C

**Section-A**

1. (a) How do you understand the term quality?  
(b) What are the seven tools in total quality control?  
(c) What is Kanban system?  
(d) Define quality function deployment.  
(e) Write about 'Pareto' analysis.  
(f) What is business process Re-Engineering?  
(g) What is the basic principle of ISO 9000?  
(h) Flexibility is important tool in TQM. Explain the statement.  
(i) What is Taguchi approach to quality?  
(j) How a computer can be useful in controlling the quality of a product?

**Section-B**

2. Differentiate between off-line and on-line quality control. What are their relative merits and demerits?
3. Explain cause and effect diagram with suitable example.
4. Explain about redressal mechanism.
5. Explain the role of master production schedule and how it relates to the other elements of an MRP system?
6. Explain seven wastes [shigeo shingo] in JII.

**Section-C**

7. Each unit of end product X requires two units of subcomponent Z. The lead time for X is one week, the standard ordered quantity is 40 units, and current availability is 35 units. Gross requirements for the next six weeks are 25, 30, 20, 15, 15 and 20 units respectively. For item Z lead time is two weeks. Standard ordered quantity is 80 units, and current availability is 90 units. A scheduled receipt for 80 Z's is due in week one. Develop complete MRP records for X and Z.
8. (a) TQM ensures high quality at low price. How?  
(b) ISO 9000 certification is being widely used as a vehicle to achieve TQM. Explain.
9. (a) Derive the expression for Taguchi's loss function.  
(b) Explain the factors affecting process management.