

**B. TECH.**  
**(SEM VII) THEORY EXAMINATION 2018-19**  
**TOTAL QUALITY MANAGEMENT**

Time: 3 Hours

Total Marks: 100

Note: Attempt all Sections. If require any missing data; then choose suitably.

## SECTION A

**Q.1 Attempt all the parts.****10 x 2 = 20**

- a) State the dimensions of Quality?
- b) What do you mean by review of design?
- c) What is strategic sourcing?
- d) How claim analysis is done?
- e) What is the difference of reliability and maintainability?
- f) What do you mean by control chart for variables and attributes?
- g) What is the use of Ishikawa diagram and Pareto chart?
- h) Differentiate between MTTR and MTTF.
- i) What do you understand by Quality Audit?
- j) Explain ISO-14000 Quality management system.

## SECTION B

**Q.2 Attempt any three.****3 x 10 = 30**

- a) Explain the procurement procedure in detail with the help of flowchart.
- b) What is TQM? Explain objectives of TQM.
- c) What is control chart? Discuss application of various charts. Write down the advantages also.
- d) Discuss the factors to be considered for organizational structure for Quality management.
- e) A production manager at a tire manufacturing plant has inspected the number of defective tires in twenty random samples with twenty observations each. Following are the number of defective tires found in each sample:

Sample Number	Number of defective tires	Number of observations sampled
1	3	20
2	2	20
3	1	20
4	2	20
5	1	20
6	3	20
7	3	20
8	2	20
9	1	20
10	2	20
11	3	20
12	2	20
13	2	20
14	1	20
15	1	20
16	2	20
17	4	20
18	3	20
19	1	20
20	1	20

Construct a three-sigma control chart ( $z=3$ ) or p-chart with this information.

### SECTION C

- Q.3 Attempt any one.** **1 x 10=10**
- Explain Quality circles in detail.
  - Human factor is the most important element in Quality of a product. Justify.
- Q.4 Attempt any one.** **1 x 10=10**
- What are the factors affecting reliability? Explain the evaluation of reliability. Discuss building reliability in the product.
  - Draw total product cost versus product reliability curve (bathtub curve). Explain in detail.
- Q.5 Attempt any one.** **1 x 10=10**
- What is ISO? Explain Quality system ISO:9000.
  - State the objectives and challenges of JIT in detail.
- Q.6 Attempt any one.** **1 x 10=10**
- Explain the objectives and steps of Taguchi method.
  - Discuss in detail the operating characteristics of Quality curves.
- Q.7 Attempt any one.** **1 x 10=10**
- How the evaluation of supplier is done? Explain.
  - What do you understand by Quality functions? Explain in detail.

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