

GUJARAT TECHNOLOGICAL UNIVERSITY  
BE - SEMESTER- VII (New) EXAMINATION – WINTER 2019

**Subject Code: 2172507**

**Date: 26/11/2019**

**Subject Name: Quality Engineering & Management**

**Time: 10:30 AM TO 01:00 PM**

**Total Marks: 70**

**Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

**MARKS**

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|------------|-----|--|-----------|
| <b>Q.1</b> | (a) | Discuss strategic quality management as applied to manufacturing industries.   | <b>03</b> |
|            | (b) | Describe the process that organizations adopt for effectively implementing and improve QMSs for core business processes. | <b>04</b> |
|            | (c) | Describe Quality Management as essential building block of business practices and strategies.                            | <b>07</b> |
| <b>Q.2</b> | (a) | Describe your understanding of quality standards.  | <b>03</b> |
|            | (b) | Discuss how BIS has been successfully nurturing and promoting standards through various activities.                      | <b>04</b> |
|            | (c) | Discuss ISO. Describe benefits of the certification. Briefly describe the quality management standard ISO 9000.          | <b>07</b> |
|            |     | <b>OR</b>  |           |
|            | (c) | Discuss the environment management standards: The ISO 14000.   | <b>07</b> |
| <b>Q.3</b> | (a) | Explain characteristics of effective quality circles.  | <b>03</b> |
|            | (b) | Describe actions necessary in the organization for the successful Quality Circle programme.                              | <b>04</b> |
|            | (c) | Discuss benefits achievable out of successful implementation of Quality circles in a manufacturing organization.         | <b>07</b> |
|            |     | <b>OR</b>  |           |
| <b>Q.3</b> | (a) | Analyze Crosby's ideology of conformance to quality standards.   | <b>03</b> |
|            | (b) | Analyse Juran's approach to TQM into three main areas of management decisions.   | <b>04</b> |
|            | (c) | Explain quality auditing. Discuss conformance auditing with example  | <b>07</b> |
| <b>Q.4</b> | (a) | Explain cost of quality of services.   | <b>03</b> |
|            | (b) | Discuss internal and external cost of quality with a suitable example.   | <b>04</b> |
|            | (c) | Discuss Deming's philosophy of TQM, and the PDCA cycle.  | <b>07</b> |
|            |     | <b>OR</b>  |           |
| <b>Q.4</b> | (a) | Briefly describe six- sigma quality concept.   | <b>03</b> |
|            | (b) | Describe Ishikawa's contribution to TQM and fishbone diagram.  | <b>04</b> |
|            | (c) | Discuss Taguchi's method of experimental design.   | <b>07</b> |
| <b>Q.5</b> | (a) | Explain vendor rating.   | <b>03</b> |
|            | (b) | Discuss control charts for variables.  | <b>04</b> |
|            | (c) | Explain acceptance sampling. Describe single and multiple sampling plans.  | <b>07</b> |
|            |     | <b>OR</b>  |           |
| <b>Q.5</b> | (a) | Discuss salient points on IPR and patenting.   | <b>03</b> |
|            | (b) | Discuss QFD and its application.   | <b>04</b> |
|            | (c) | Describe construction and use of OC curve.   | <b>07</b> |

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