

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VIII (NEW) EXAMINATION – WINTER 2018****Subject Code: 2182003****Date: 19/11/2018****Subject Name: Quality Assurance & Reliability****Time: 02:30 PM TO 05:00 PM****Total Marks: 70****Instructions:**

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

- Q.1** (a) Explain Quality circle. **03**
(b) Define following terms. **04**
I) Quality
II) Inspection
III) Quality Assurance
IV) Sampling
(c) Explain Types of sampling and Importance, benefits and limitations. **07**
- Q.2** (a) Write short note on frequency Distribution curve and its types. **03**
(b) Explain different stages in Quality Assurance. **04**
(c) Define following terms. **07**
i) Failure Rate
ii) Failure density
iii) Mean time to failure
iv) Bayes Theorem
v) Hazard rate
vi) Probability of failure
- OR**
- (c) Explain Types of Audit. **07**
- Q.3** (a) Explain PDCA cycle. **03**
(b) Explain Deming's approach. **04**
(c) Explain principles of TQM and also Pillar of TQM. **07**
- OR**
- Q.3** (a) Explain Juran's Approach. **03**
(b) Write short note on ISO 9000. **04**
(c) Define JIT. Give Advantages, Limitation And Application JIT. **07**
- Q.4** (a) Explain Elements Of probability. **03**
(b) Write short note on Hazard Models. **04**
(c) Explain Six Sigma. **07**

- Q.4** (a) Define Multiplication Rule. **03**
(b) Explain Bayes theorem and Give example. **04**
(c) Explain Bathtub Curve. Give advantages, limitation and application. **07**

OR

- Q.5** (a) Explain benefits of ISO. **03**
(b) Write short note on Inspection Method. **04**
(c) Explain Reliability of series and parallel connected system. **07**

OR

- Q.5** (a) Explain Reliability Engineering Fundamentals. **03**
(b) Write short note on Elements of TQM. **04**
(c) Write short note on Element Redundancy, unit Redundancy and standby Redundancy. **07**

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