

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VI • EXAMINATION – WINTER • 2014****Subject Code: 160206****Date: 08-12-2014****Subject Name: Total Quality management****Time: 02:30 pm - 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)** Discuss Importance of TQM in comparison to quality-inspection/control/assurance **07**
- (b)** Discuss TQM Road Map and state when it fails. **07**
- Q.2 (a)** Explain how 14 point philosophy from Deming for TQM is beneficial to business and customer satisfaction. **07**
- (b)** State different definitions of Quality given by different quality gurus and discuss internal & external customer concept for TQM. **07**
- OR**
- (b)** Draw a house of quality and discuss how it can be used a continuous improvement tool for customer satisfaction and business improvement. **07**
- Q.3 (a)** Draw Ishikawa diagram for poor fuel economy (effect) - cause as a man, machine, method, materials & environment. **07**
- (b)** Explain the Transition TQM model with schematic representation. **07**
- OR**
- Q.3 (a)** State Pareto principal. Justify “vital few and trivial many” by taking suitable example of Pareto chart. **07**
- (b)** Discuss relationship between quality and cost? Explain PAF(prevention/appraisal/failure) model for cost of quality **07**
- Q.4 (a)** Define  $C_p$  and  $C_{pk}$ . Discuss six sigma is an effective tool for customer satisfaction. **07**
- (b)** Discuss ‘5S’ as a workplace management tool for continuous improvement. **07**
- OR**
- Q.4 (a)** Explain Quality Auditing with its advantages. **07**
- (b)** Explain Quality Circle Philosophy. **07**
- Q.5 (a)** Explain the different steps involved in FMEA. **07**
- (b)** Define the following terms: **07**
- a) Reliability b) Failure Density c) MTTF d) MTBF e) Failure Rate
- b) f) Achieved Availability g) Operational Availability
- OR**
- Q.5 (a)** Explain OEE model for continuous improvement. **07**
- (b)** Discuss importance of *Team Building* for successful implementation of TQM **07**

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