

Code: 9A03803

B.Tech IV Year II Semester (R09) Regular & Supplementary Examinations May/June 2014

TOTAL QUALITY MANAGEMENT

(Mechanical Engineering)

Time: 3 hours

Max. Marks: 70

Answer any FIVE questions
All questions carry equal marks

- 1 Explain Deming's 14 points on quality.
- 2 Explain ISO 14000. How does the conceptual approach to ISO 14001 differ from ISO 9001? Also explain the elements in ISO 9001 which are similar to ISO 14001.
- 3 (a) State the benefits and importance of customer satisfaction.
(b) Elaborate the steps involved in implementation of quality measurement system.
- 4 (a) Describe the Maslow's theory of motivation and compare it with Herzberg theory of motivation.
(b) Explain system failure analysis approach.
- 5 (a) The current capacity in ampere of five random samples from each batch are reordered as shown for 8 such batches:

Sl. No.	1	2	3	4	5	6	7	8
X ₁	42	45	48	36	40	20	55	30
X ₂	60	55	24	48	45	25	60	36
X ₃	65	66	75	54	65	33	60	39
X ₄	70	72	76	63	70	40	63	45
X ₅	75	78	80	72	75	50	81	72

- Construct \bar{X} and R chart and comment on the results.
- (b) Illustrate Ishikawa diagram with an example.
 - 6 (a) Describe the basic structure of house of quality matrix in QFD.
(b) The specifications of a steel shaft are 6.40 ± 0.10 mm. The device sometimes fails when the shaft exceeds the specification. When failure occurs, repair or replacement is necessary at an average cost of Rs. 950.
 - (i) What is the quality loss coefficient?
 - (ii) What is the loss function equation?
 - (iii) What is the loss at 6.45 mm?
 - 7 (a) Describe how reengineering of business process achieve dramatic improvement in performance of company.
(b) Explain the various stages of supply chain management.
 - 8 Discuss the steps involved in implementation of six sigma. List out any five industrial situations of application of six sigma approach.
