C 60596

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EIGHTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION
APRIL 2014

ME / PTME 09 804 L 22—QUALITY ENGINEERING AND MANAGEMENT

Time : Three Hours

Maximum : 70 Marks

Part A

Answer all questions.

1. Define the term 'quality'.

2. What is 'quality control' ?

3. What is ISO ?

4. Explain random variables.

5. Explain MTBF.

(5 × 2 = 10 marks)

Part B

Answer any four questions.

6. Explain quality assurance.

7. Explain quality management.

8. What is bench marking?

9. Explain quality function deployment.

10. Explain patterns of variation.

11. Explain acceptance sampling.

(4 × 5 = 20 marks)

Part C

Answer all questions.

12. (a) Enumerate the duties of quality council.

Or

(b) What is kaizen ? Explain how kaizen helps in improving quality on a continuous basis ?

13. (a) Explain ISO quality management systems in detail.

Or

(b) Explain failure mode and effect analysis.

Turn over

14. (a) The following data are obtained from an automatic filling process of certain chemical delivered into each container . The specification of the mass delivered is 50 plus or minus 4 grams. Samples of 4 are taken from 10 successive samples as shown in table :

Use $A_2 = 0.73$, $D_4 = 2.28$, $D_3 = 0$ and $d_2 = 2.0$

1	2	3	4	5	6	7	8	9	10
51	52	51	48	53	51	52	54	53	50
50	53	52	49	49	49	53	52	53	52
52	52	52	52	49	49	47	51	52	52
49	54	51	49	54	50	52	53	54	53

Determine the control limits for X and R charts.

Or

(b) Explain Binomial and Poisson and normal distribution.

15. (a) Explain reliability and life testing.

Or

(b) Explain (i) AOQL-life testing ; (ii) Bathtub Curve.

$(4 \times 10 = 40 \text{ marks})$