M.E. DEGREE EXAMINATIONS: JUNE 2011

Second Semester

INDUSTRIAL ENGINEERING

IEE507: Quality Engineering

Time: Three Hours   **Maximum Marks: 100**

Answer all the Questions:-

PART A (10 x 2 = 20 Marks)

1. Define Quality assurance.

2. Express the need of multivarichart.

3. Explain the term ASN.

4. What are all the parameters involved in OC curves?

5. What is the need of experimental design?

6. What is the purpose of orthogonal array?

7. Explain the concept 6 sigma.

8. What is the need of Quality Circle?

9. Explain the term Reliability.

10. Define Redundancy.

PART B (5 x 16 = 80 Marks)

11. a) (i) Explain the concept of process capability studies.   (10)

   (ii) What are all the objectives of Quality and explain about Quality control.   (6)

(OR)

   b) Explain in detail the various steps involved in calculating the limits of control charts for

   Variables and attributes.

12. a) Explain the steps involved in Double Sampling Plan and give an example.

(OR)

   b) (i) Describe in detail about Operating characteristics Curves.   (10)

   (ii) Brief the term ATI and AOQL.   (6)

13. a) Explain the experimental design considering one factor at a time with example.

(OR)

b) Explain the use of orthogonal arrays with suitable example.

14. a) Explain the House of quality with some suitable example.

(OR)

b) (i) Explain the basic concepts required for TQM   (6)

   (ii) Explain the term zero defect management with some examples   (10)

15. a) Explain about the series configuration of system reliability

(OR)

b) (i) Explain any one method of the reliability allocation   (10)

   (ii) Explain any one concept of redundancy   (6)

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