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APJ Abdul Kalam Technological University

First Semester M. Tech Degree Examination December 2016

Ernakulam II Cluster

05ME 6407– QUALITY ENGINEERING AND MANAGEMENT

Time: 3 hours.   Max. Marks: 60

MODULE 1

1 a. What do you mean by quality assurance?   **(2 marks)**

1 b. What are the important categories of preventive cost of quality?   **(2 marks)**

1 c Compare and contrast the definition of Quality according to Deming and Juran. **(4 marks)**

1 d. Define Quality. Select a product and explain how the dimensions of quality influence its acceptance.   **(4 marks)**

MODULE 2

2 a. What do you mean by statistical process control?   **(2 marks)**

2 b. Explain double sampling plan.   **(5 marks)**

2 c. The following table refers to the average number of outlet leaks per radiator for 10 lots of 100 radiators each. Establish U chart for future production.   **(5 marks)**

Lot No	1	2	3	4	5	6	7	8	9	10
No of leaks	15	17	12	16	14	5	14	11	9	10

MODULE3

3 a.Explain the concept Quality loss functions in detail.   **(6 marks)**

3 b. Explain parametic design with an example?   **(6 marks)**

3 c. Explain QFD with an example**.**   **(6 marks)**

Or

4 a. What is orthogonal array. Explain the procedure to determine appropriate Orthogonal Array.

(6 marks)

4 b. Explain the concept of signal to noise ratio with examples **(6 marks)**

4 c. Explain the various steps involved in building house of quality by selecting suitable example**.**

(6 marks)

MODULE 4

5 a. Define TQM. What are the Pillars of TQM? **(6 marks)**

5 b. Explain the concept of six sigma? **(6 marks)**

5c. Describe the purpose of an ISO 9000 quality system**.** **(6 marks)**

Or

6 a. What are the problems that are encountered during implementation of TQM and explain how would you tackle them? **(6 marks)**

6 b. Describe the DMAIC problem solving methodology. **(6 marks)**

6c. Describe the purpose of an ISO 14000 quality system. **(6 marks)**