

00492

**BACHELOR OF TECHNOLOGY IN
MECHANICAL ENGINEERING
(COMPUTER INTEGRATED
MANUFACTURING)
B.Tech. (AEROSPACE ENGINEERING)**

Term-End Examination

December, 2011

BME-007 : QUALITY ENGINEERING

Time : 3 hours

Maximum Marks : 70

Note : *Attempt any ten questions. All questions carry equal marks. Use of scientific non-programmable calculator is allowed.*

1. (a) Discuss the factors which control quality of conformance. 3
- (b) Enumerate the steps involved in quality audit. 4
2. (a) Write short notes on Kanban Just In Time System. 3½
- (b) What is zero defect concept ? Discuss the steps involved in implementing zero defect concept. 3½
3. (a) What is Tree Diagram ? Write the steps to construct a tree diagram. 4
- (b) Discuss the benefits of ISO 9000. 3

4. (a) Discuss the commonly used measures of dispersion of data. 4
- (b) Calculate the probability of acceptance of a lot containing 8% defective by a sampling plan with acceptance number 2 and sample size 100. 3
5. (a) Differentiate between random causes and assignable causes. 3
- (b) Explain briefly about average outgoing quality. 4

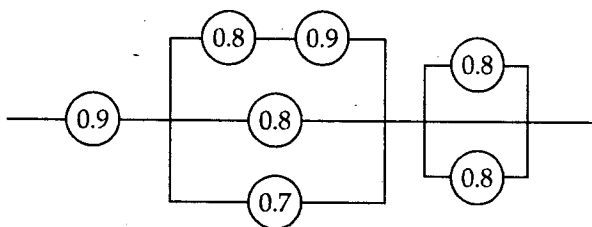
6. A company manufactures electric heaters on mass production basis. From the products manufactured in a shift, 20 samples of size 50 were taken and inspected. The number of defective items are given in the following table. Construct a p-chart and comment on the process. 7

Sample No.	1	2	3	4	5	6	7	8	9	10
Number of Defectives	3	7	5	2	9	4	6	3	2	9

Sample No.	11	12	13	14	15	16	17	18	19	20
Number of Defectives	12	4	8	2	3	7	3	6	1	4

7. (a) Discuss the benefits of QFD. 3
- (b) Write the applications and benefits of FMEA/FMECA. 4

8. (a) Briefly explain the steps involved in the preparation of cause and effect diagram. 4
 (b) Discuss the concept of maintainability of a system. 3
9. (a) Explain the issues concerning reliability. 3
 (b) Determine the reliability of the following system. 4



10. (a) Discuss the needs of a customer. 3
 (b) Explain the sources of information on quality from market. 4
11. (a) Compare the external failure costs born by the buyer and seller. 4
 (b) Explain different categories of internal failure costs. 3
12. (a) What are the critical factors for success identified by Ishikawa ? 3
 (b) How did Tata Steel became a profit making company of high class ? 4