

B. E. PRODUCTION ENGINEERING EXAMINATION 2019  
(THIRD YEAR SECOND SEMESTER)

TOTAL QUALITY MANAGEMENT

Full Marks: 100

Time: Three Hours

The figures in the margin indicates full marks

Answer any FIVE questions

1. a) What is Total Quality Management? State the benefits of it.  
 b) What are the main ingredients of TQM?  
 c) Make comparisons between TQM and Traditional approach.  
 d) Explain that TQM is a new cultural revolution.  
(4+3+10+3)
2. a) What are the benefits obtained from Brainstorming Session?  
 b) What is KAIZEN ? Why is KAIZEN so important?  
 c) What are the various types of Benchmarking assessment? Discuss on the process of benchmarking.  
(5+5+10)
3. a) What are the objectives of statistical quality control?  
 b) Mention various tools and techniques of TQM?  
 c) Discuss on process capability index.  
 d) Discuss on O.C. curve defining producer's risk and consumer's risk.  
(3+7+4+6)
4. a) What are the Quality Loss Functions according to Dr. G. Taguchi.  
 b) What is Robust Design? What are the steps in Robust Design?  
 c) How do you select the standard orthogonal array?  
 d) How and Why do you perform ANOVA test?  
(3+5+5+7)
5. a) What do you understand by Quality Function Deployment? What are the steps of it?  
 b) Sketch a typical House of Quality template showing its benefits.  
 c) Sketch and explain waterfall relationship of QFD matrices.  
(8+5+7)
6. a) What do you understand by JIT Philosophy? What are the basic elements of JIT ?  
 b) What are the basic steps involved in the road map to Six Sigma quality?  
 c) What is the defect rate allowed in 3-Sigma and 6-Sigma processes?  
 d) State Juran's ten steps to quality improvement.  
(7+5+3+5)
7. Write short notes on the followings:  
 a) Concurrent Engineering Culture.  
 b) ISO Quality System;  
(10+10)