Reg. No. \_\_\_\_\_\_\_\_\_\_\_\_



**End Semester Examination – Nov / Dec – 2019**

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| **Code :** | **14ME3037** | **Duration :** | **3hrs** |
| **Sub. Name :** | **QUALITY CONCEPTS IN DESIGN** | **Max. Marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Elaborate the concept of Total Quality Management with suitable examples. | CO2 | 10 |
| b. | Explain about Six sigma with a suitable case study. | CO1 | 10 |
| **(OR)** | | | | |
| 2. | a. | Describe about frequency distributions and histograms. State their applications. | CO2 | 10 |
| b. | Highlight the basic concepts in Quality engineering and management. | CO1 | 10 |
|  |  |  |  |  |
| 3. | a. | Explain the DMAIC process for process improvement with neat sketches. | CO3 | 10 |
| b. | Describe the different types of control charts with neat sketches. | CO2 | 10 |
| **(OR)** | | | | |
| 4. |  | Explain in detail Statistical Process Control and its applications with suitable case studies. | CO2 | 20 |
|  |  |  |  |  |
| 5. | a. | Explain about EVOP with neat block diagrams. | CO2 | 10 |
| b. | Recall Quality Function Deployment with a case study. | CO2 | 10 |
| **(OR)** | | | | |
| 6. | a. | Describe Failure mode effect analysis with neat sketches. | CO2 | 10 |
| b. | Describe Process Capability with neat sketches. | CO2 | 10 |
|  |  |  |  |  |
| 7. | a. | Explain the Weibull distribution with neat sketches. | CO4 | 10 |
| b. | Compare Fractional, Full and Orthogonal Experiments with suitable examples. | CO3 | 10 |
| **(OR)** | | | | |
| 8. | a. | Describe briefly Gage Reproducibility and Repeatability. | CO3 | 10 |
| b. | Explain briefly Taguchi methods for robust design. | CO3 | 10 |
|  | | **Compulsory**: |  |  |
| 9. | a. | Explain about lean production. Highlight its advantages with examples. | CO3 | 10 |
| b. | Define analysis of variance. List out its applications with examples. | CO3 | 10 |