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



**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

**End Semester Examination – Nov/Dec – 2016**

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|  |  | **Semester :** | **2016-17 ODD** |
| **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. | Highlight the basic concepts in Quality engineering and management. | CO1 | 10 |
| b. | Elaborate the concept of Total Quality Management with suitable examples. | CO2 | 10 |
| (OR) | | | | |
| 2. | a. | Explain about Quality engineering and Six sigma with a suitable case study. | CO1 | 10 |
| b. | Describe about frequency distributions and histograms. State their applications. | CO2 | 10 |
| 3. | a. | Illustrate the Test of Hypothesis with an example. | CO3 | 10 |
|  | b. | Explain the DMAIC process for design improvement. | CO3 | 10 |
| (OR) | | | | |
| 4. | a. | Elaborate the Acceptance Sampling method with suitable examples. | CO2 | 10 |
|  | b. | Explain briefly Statistical Process Control. | CO2 | 10 |
| 5. | a. | Describe Process Capability with neat sketches. | CO2 | 10 |
|  | b. | Expand and describe APQP. | CO2 | 10 |
| (OR) | | | | |
| 6. | a. | Explain about EVOP with neat block diagrams. | CO3 | 10 |
|  | b. | Recall Quality Function Deployment with a case study. | CO2 | 10 |
| 7. | a. | Describe briefly Gage Reproducibility and Repeatability. | CO3 | 10 |
|  | b. | Compare Fractional, Full and Orthogonal Experiments with suitable examples. | CO3 | 10 |
| (OR) | | | | |
| 8. | a. | Explain briefly Taguchi methods for robust design. | CO3 | 10 |
|  | b. | Explain the Failure mode effect analysis with a neat block diagram. | CO3 | 10 |
|  | | **Compulsory:** |  |  |
| 9. | a. | Elaborate about the fundamentals of Reliability theory. | CO4 | 10 |
|  | b. | Expand ANOVA. Highlight its applications with examples. | CO3 | 10 |

ALL THE BEST