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

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**End Semester Examination – Nov/Dec – 2018**

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| **Code : 14ME2040** |  | **Duration :** | **3hrs** |
| **Sub. Name : DESIGN FOR MANUFACTURE** |  | **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. | Discuss briefly the basic principles of designing for economical production. | CO1 | 10 |
| b. | List out and explain the general design rules for manufacturability. | CO1 | 10 |
| (OR) | | | | |
| 2. | a. | Illustrate the product development life cycle. | CO1 | 10 |
| b. | Explain the selection of materials for economical production. | CO1 | 10 |
|  |  |  |  |  |
| 3. | a. | Discuss briefly the design rules for welding. | CO1 | 10 |
| b. | Why pre and post treatment of welds are done? Explain. | CO1 | 10 |
| (OR) | | | | |
| 4. | a. | Identify the general design considerations for casting process. | CO1 | 10 |
| b. | What is the importance of solidification in casting process? Explain. | CO1 | 10 |
|  |  |  |  |  |
| 5. |  | Elaborate on the design considerations for powder metallurgy with neat sketches. | CO2 | 20 |
| (OR) | | | | |
| 6. | a. | Explain the design considerations for injection moulding. | CO2 | 10 |
| b. | Discuss the general design guide lines for plastic components. | CO2 | 10 |
|  |  |  |  |  |
| 7. | a. | Discuss the applications of design for machining rules. . | CO2 | 10 |
| b. | What are the general problems we come across while designing for machining operations? Explain how one can overcome those problems. | CO2 | 10 |
| (OR) | | | | |
| 8. |  | Explain the special machining considerations for production machining systems and hole making operation. | CO2 | 20 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. |  | Demonstrate the impact of DFA on assembly quality. | CO2 | 20 |