Seat No.: _____ Enrolment No._____

# GUJARAT TECHNOLOGICAL UNIVERSITY

**BE - SEMESTER–VII • EXAMINATION – SUMMER • 2015**

**Subject Code: 173404** **Date: 08/05/2015**

**Subject Name: Design for Manufacture, Assembly and Environment**

**Time: 02.30pm-05.00pm** **Total Marks: 70**

**Instructions:**

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

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|---|---|---|---|
| **Q.1** | **(a)** | What is DFMA? How does DFMA work? | **07** |
| | **(b)** | Explain the factors to be considered for plastic product design. | **07** |
| **Q.2** | **(a)** | What are the reasons claimed for not implementing DFMA? | **07** |
| | **(b)** | Discuss the capabilities of various manufacturing processes. | **07** |
| | | **OR** | |
| | **(b)** | Explain the need for early materials and process selection. | **07** |
| **Q.3** | **(a)** | What are the equipment used for hot forging? Explain. | **07** |
| | **(b)** | Explain the design rules for sand casting. | **07** |
| | | **OR** | |
| **Q.3** | **(a)** | How significant is part handling in DFA? Explain. | **07** |
| | **(b)** | Explain the design guidelines for insertion and fastening. | **07** |
| **Q.4** | **(a)** | Explain the types of manual assembly methods with neat sketches. | **07** |
| | **(b)** | What is design for economy? Explain the effect of uneconomical design. | **07** |
| | | **OR** | |
| **Q.4** | **(a)** | Explain the design guidelines for machining rotational and non-rotational components. | **07** |
| | **(b)** | Discuss the application of group technology in DFMA. | **07** |
| **Q.5** | **(a)** | Explain the social impact of design for environment. | **07** |
| | **(b)** | What is green economy? Explain. | **07** |
| | | **OR** | |
| **Q.5** | **(a)** | Name few hazardous materials used in products and their impact in environment. | **07** |
| | **(b)** | Discuss the economics of recycling. | **07** |

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