

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. - SEMESTER – II • EXAMINATION – SUMMER • 2014

Subject code: 1722803

Date: 20-06-2014

Subject Name: Product Design for Manufacturing

Time: 02:30 pm - 05:00 pm

Total Marks: 70

Instructions:

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

- Q.1** (a) Explain the stages of product design in detail. **07**
(b) Explain the importance of ergonomics in product design. Discuss with illustration. **07**
- Q.2** (a) Compare polymers and ceramics materials with their properties and application. **07**
(b) What do you understand by anthropomorphic data? State its importance in product design. **07**
- OR**
- (b) Discuss ergonomics and automation system. **07**
- Q.3** (a) Explain the types of plastics and its specific engineering application with the properties. **07**
(b) Explain the criteria for selection for lathe bed material. **07**
- OR**
- Q.3** (a) Explain the plastic and composite materials with their properties and applications. **07**
(b) Explain the material selection criteria for hooks and chain used in material handling equipment. **07**
- Q.4** (a) Explain various factors are to be considered in product design. **07**
(b) Explain the factors are to be considered for work place design. **07**
- OR**
- Q.4** (a) Explain in detail morphology of design. **07**
(b) Explain various working environmental factors to be consider at work place. **07**
- Q.5** (a) Explain the design for robustness. **07**
(b) Explain in detail parametric design for manufacturing. **07**
- OR**
- Q.5** (a) Explain the limitations of anthropomorphic data in ergonomic design. **07**
(b) Explain the importance of safety, reliability and maintainability in design of manufacturing. **07**
