

**PARUL UNIVERSITY**  
**FACULTY OF ENGINEERING & TECHNOLOGY**  
**M.Tech. Winter 2019 - 20 Examination**

**Semester: 1****Subject Code: 203217131****Subject Name: Design for Manufacturing and Assembly****Date: 18/12/2019****Time: 10:30 am to 01:00 pm****Total Marks: 60****Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

- Q.1** A) Discuss importance of morphological chart in design with functional decomposition of any product as a case study. (05)  
B) Distinguish between modular and integral product architecture. (05)  
C) Define Factor of Safety and list various factors affecting for the selection of appropriate Factor of Safety. (05)
- Q.2** Answer the following questions. (Attempt any three) (Each five mark) (15)  
A) Explain Product Life Cycle.  
B) Discuss various casting defects with figure.  
C) Classify polymers and explain various molecular structures of polymer materials.  
D) What is shape factor? How does shape factor affect to enhance mechanical efficiency of a material?
- Q.3** A) Discuss about "Design recommendations for Casting". (07)  
B) Discuss about "Design for Bulk Deformation Processes". (08)
- OR**
- B) Discuss about Design for Machining. (08)
- Q.4** A) Define Reliability and discuss Design for Reliability. (07)
- OR**
- A) Discuss design recommendations for brazing and soldering. (07)  
B) Explain welding distortion and give guidelines to minimize the distortion. (08)