

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

Semester: 3
Subject Code: 203219232
Subject Name: Product Design and Development

Date: 26-11-2019
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) What are the essential factors for product design? (05)

B) Briefly explain Failure Mode Effect Analysis(FMEA). (05)

C) Briefly explain Design for Manufacturing & Assembly(DFMA). (05)

Q.2 Answer the following questions. (Attempt any three) (Each five mark) (15)

A) How to organize and prioritize the customer needs?

B) Differentiate between Virtual Reality & Augmented Reality.

C) What is Kano model ? Explain the working of model for product development and customer satisfaction.

D) Discuss Value Engineering Job Plan.

Q.3 A) Differentiate between design by evolution and design by innovation? (07)

B) What are the various tools for gathering information on customer needs and satisfaction. (08)

OR

B) What is TRIZ? List some principles and features of TRIZ? How can it help in India? (08)

Q.4 A) Explain the effect of parametric design and geometric dimensioning and tolerancing on product development. (07)

OR

A) Discuss case study for value engineering using FAST diagram (07)

B) Justify "Computer Integrated Manufacturing(CIM) incorporates Group Technology (GT), Computer Aided Process Planning(CAPP), Flexible Manufacturing System (FMS) and many more technologies" (08)