

Total No. of Pages : 01

Total No. of Questions : 08

M.Tech (ME) (2017 Batch) (Sem.-2, 3)

PRODUCT DESIGN AND DEVELOPMENT

Subject Code : MTME-213

Paper ID : [74989]

Time : 3 Hrs.

Max. Marks : 100

INSTRUCTIONS TO CANDIDATES :

1. Attempt any FIVE questions out of EIGHT questions.
2. Each question carries TWENTY marks.

- Q1 What are the 7 steps required for product development? What are the major factors that contributes towards product reliability and safety?
- Q2 Discuss the fundamental three “S”s that relate to economic analysis of product design. Also list out the Activities and Advantages of Standardising a product design.
- Q3 How will you analysis stress formed during :
 - a) Overdesign.
 - b) Analysis of stress during bending of a beam.
- Q4 What is group technology? What are its benefits? Does it have any obstacle in performing its application?
- Q5 What is the principle of Rapid Prototyping? List out its applicable technologies and explain any two most applicable technologies.
- Q6 Determine the power required to draw wire from 12.5 to 10 mm in diameter at 100m/min.), $\mu = 0.1$, $\alpha = 4^\circ$, $S = 2K = 30 \text{ Kg/mm}^2$. Also calculate the maximum reduction possible.
- Q7 How market research derives the design production cycle, what steps will you take to enhance aesthetic appeal of a product?
- Q8 Write short notes on **ANY TWO** of the following :
 - a) Creative & Brainstorming techniques.
 - b) CIM and its Benefits.
 - c) Steps for Design consideration for new product.