

BIRLA INSTITUTE OF TECHNOLOGY & SCIENCE, PILANI
Department of Mechanical Engineering
II Semester (2016 - 17) Mid Semester Examination

Course No. : MF F473

Date : 09/03/2017

Course Title: **Product Design and Development**

Marks: **20 (Closed Book)**

Answer all the questions (Marks are mentioned for each question, No partial Marks)

1. Answer the following questions briefly
 - a. List the characteristics needed by a team to be effective, justify [1]
 - b. Product development is a part of Product design; do you agree? Justify [1]
 - c. Product vision statement is based on Mission statement; do you agree? Justify [1]
 - d. What factors affect the quality of opportunities, justify [1]
 - e. List and explain different types of designs with examples [1]
2. List and explain different types of organisational structures. What type of structure BITS follows? [2]
3. Briefly explain the guidelines to follow while converting raw data into customer needs [2]
4. Briefly discuss the guidelines to be followed when developing the metrics. List the type of values possible for metrics [2]
5. What are the various ways to communicate a concept for testing, when and where these will be effective? [2]
6. What are mental blocks? Discuss cultural blocks and intellectual blocks [2]
7. Personal safety while travelling has become a major problem in the society. Your company is interested in developing solutions to this problem. You have been asked to study the problem and develop the solutions. You need to consider minimum 10 requirements. State the methods used, assumptions made clearly in your answer. Use the structured methods taught in the course. Use sketches wherever applicable. [5]