Roll No. | | | | | | | | | | | | Total No. of Pages : 02

Total No. of Questions : 08

M.Tech. (ME) (2017 Onwards) (Sem.–1)

ADVANCED DESIGN OF MECHANICAL SYSTEMS

Subject Code : MTME-103

M.Code : 74717

Time : 3 Hrs. Max. Marks : 100

INSTRUCTIONS TO CANDIDATES :

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

Q1 Write short notes on :

(a) Robust product design 5

(b) Life cycle assessment 5

(c) Design for environment 5

(d) Geometric Design and tolerances 5

Q2 Describe in detail the six phases of generic product design development process, highlighting typical tasks and responsibilities of key business functions for each phase. 20

Q3 Discuss in detail the methods used for material selection in product design and their influence on form design of welded members. 20

Q4 (a) Briefly describe the phases which comprises the industrial design process for overall product development. 10

(b) Describe the parameters that are used for assessing the quality of industrial design. 10

Q5 Discuss the general guidelines in manual assembly for part handling and insertion process. 20

Q6 What are the design features used to facilitate machining? Explain with the help of example. 20

Q7 (a) What are the benefits of design for environment and its implementation challenges? 5

(b) List at least 10 types of environmental impacts over the life cycle of any product that you usually use (like personal computer, mobile phone etc.). 15

Q8 (a) Describe the mechanical factors which are used to develop general design principles for manufacturability. 10

(b) What is the effect of Geometric design and tolerances techniques used in design for manufacturability? 10

NOTE : Disclosure of Identity by writing Mobile No. or Marking of passing request on any paper of Answer Sheet will lead to UMC against the Student.