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Total No. of Pages : 02

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M.Tech (ME) (2017 Batch) (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 in all, out of EIGHT questions.
2. Each question carries TWENTY marks.

1. a) Write short notes on :
 - i) System design
 - ii) Product design
- b) Discuss in detail the objectives and constraints in system design approach for product design.
2. a) Define CAE, CAD and CAM and explain how they relate to each other.
- b) Explain the need of simulating the product performance.
3. a) What are the factors which should be considered while selecting a particular material?
- b) Give the influence of materials on form design of casting members.
4. Briefly explain the followings :
 - a) Simplification by separation
 - b) Simplification by amalgamation
5. a) Explain the general design principle for manufacturability.
- b) Define Process Capability. What are methods to increase the process capability?





6.
 - a) Give the difference between manual, automatic and robotic assembly.
 - b) Discuss various factors which should be considered while design for assembly.
7.
 - a) Explain Setu chair, what types of environmental impacts would be in the use stage of its life cycle?
 - b) How will you design the product on the basis of energy efficiency?
8.
 - a) Give the guidelines to design a product for minimum material usage.
 - b) Explain various methods to investigate the customer needs.

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

