Reg. No.										

MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

(A constituent unit of MAHE, Manipal)

VI SEMESTER B.TECH (MECHANICAL / IP ENGG.)

END SEMESTER MAKE UP EXAMINATIONS, JUNE 2018

SUBJECT: DESIGN FOR MANUFACTURE & ASSEMBLY [MME 4001]

PE-III

REVISED CREDIT SYSTEM

Time: 3 Hours MAX. MARKS: 50

Instructions to Candidates:

- Answer **ALL** the questions.
- Draw neat sketches wherever necessary.

1A.	List the different factors influencing product design. Explain any six of them.	**03**
1B.	Define the term feasibility study, list the different levels in it and explain why to carry out feasibility study?	**04**
1C.	Explain the manufacturing process selection guidelines.	**03**
2A.	What are the typical characteristics and applications of forged parts? Explain with proper justification any six design recommendations for parts processed through forging.	**04**
2B.	What are the typical characteristics and applications of investment cast parts? Explain any six design guidelines for parts to be produced by investment casting process. Give proper justification for each guideline.	**04**
2C.	Explain the design guidelines related to providing the wall thickness and section changes for sand cast components?	**02**
3A.	Explain with necessary justification, any ten design guidelines to be followed for turning a component.	**05**
3B.	Explain the design guidelines for drilling with proper justification.	**05**
4A.	State the advantages of die casting. Explain the specific design recommendations for die casting a component.	**05**

4B.	List the advantages and limitations of powder metallurgy. Explain any six design guidelines for manufacturing a part by powder metallurgy process.	**05**
5A.	Explain the design guidelines for part insertion and fastening in manual assembly.	**04**
5B.	Explain the guidelines in product design for automated assembly.	**04**
5C.	What is alpha and beta angle of symmetry in design for assembly? Explain in brief.	**02**

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