



VI SEMESTER B.TECH (MECHANICAL/IP ENGG.) END SEMESTER EXAMINATIONS, JUNE 2017

SUBJECT: DESIGN FOR MANUFACTURE & ASSEMBLY [MME 4001]
REVISED CREDIT SYSTEM

Time: 3 Hours

MAX. MARKS: 50

Instructions to Candidates:

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

- | | |
|--|-----------|
| 1A. What is DFMA? Explain. List and explain the guidelines for the selection of production processes. | 04 |
| 1B. Explain the sequential steps involved in preliminary design phase in morphology of design. | 04 |
| 1C. Explain the steps in material selection process for existing design. | 02 |
| 2A. Explain the detailed design recommendations for die castings. | 04 |
| 2B. Explain the detailed design recommendations for investment castings. | 04 |
| 2C. What are the typical characteristics and applications of sand cast parts? | 02 |
| 3A. Explain the design recommendations for heat treatment of a component. | 05 |
| 3B. Explain the design guidelines for milling operation. | 05 |
| 4A. Explain the design recommendations for forging. | 05 |
| 4B. Explain the design guidelines to produce a component by deep drawing. | 05 |

- 5A.** Explain the design for assembly guidelines for a product to be assembled by an automated assembly process. **04**
- 5B.** Explain the design guidelines for robotic assembly. **04**
- 5C.** How to achieve the ease of part handling in design for assembly? **02**
