



VI SEMESTER B.TECH (MECHANICAL/IP ENGG.) END SEMESTER EXAMINATIONS, APRIL/MAY 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

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| 1A. Explain the principles of DFMA for Mechanical Design. | 04 |
| 1B. Explain the sequential steps involved in detailed design phase in morphology of design. | 04 |
| 1C. List and explain the general steps in material selection process. | 02 |
| 2A. Explain the detailed design recommendations for investment castings. | 04 |
| 2B. Explain the design considerations and recommendations for sand castings. | 04 |
| 2C. What are the typical characteristics and applications of forged parts? | 02 |
| 3A. Explain the design rules for turning a component. | 05 |
| 3B. Explain the design considerations when drilling operations are considered for the manufacture of a part. | 05 |
| 4A. What are the specific design recommendations for die casting a component? | 05 |
| 4B. Explain the design recommendations for a component to be produced by powder metallurgy process. | 05 |

- 5A.** Explain the design guidelines for insertion and fastening in manual assembly. **04**
- 5B.** Explain the guidelines for improving design for assembly of mechanical products. **04**
- 5C.** What is an assembly? List the characteristics and applications of assembly. **02**
