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# Manipal Institute of Technology, Manipal

(A Constituent Institute of Manipal University)



## V SEMESTER B.TECH. (INDUSTRIAL AND PRODUCTION ENGINEERING)

### DEGREE END SEMESTER EXAMINATIONS, NOV/DEC 2015

**SUBJECT: ADVANCED MANUFACTURING TECHNOLOGY [MME 323]**

**REVISED CREDIT SYSTEM**

Time: 3 Hours

MAX. MARKS: 50

#### Instructions to Candidates:

- ❖ Answer **ANY FIVE FULL** the questions.
- ❖ Missing data may be suitable assumed.

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|-----|---|---|
| 1A. | Differentiate between Honing and Lapping.   | 2 |
| 1B. | Explain with sketch Stereo lithography and Three dimensional printing   | 4 |
| 1C. | Sketch and Explain confined and unconfined system of Explosive forming.   | 4 |
| 2A. | What do you mean by Chipless machining? What are its advantages over conventional machining?                            | 2 |
| 2B. | Sketch and Explain Electron beam machining  | 4 |
| 2C. | With a neat sketch, explain the procedure of Electro hydraulic forming process.   | 4 |
| 3A. | Write a note on "Recycling of Plastics".  | 2 |
| 3B. | With a neat diagram, explain Thermoforming process and Blow molding used to form plastics.                              | 4 |
| 3C. | With the help of a neat line diagram, explain the Injection moulding and Reaction injection moulding process.           | 4 |
| 4A. | Distinguish clearly between Thermosets and Thermoplasts.  | 2 |
| 4B. | With a neat sketch, explain Abrasive Water Jet Machining process.   | 4 |
| 4C. | Briefly explain the following finishing operations used in PM:<br>A.Sizing B. Impregnation C. Heat treatment D. coining | 4 |
| 5A. | What are the advantages and disadvantages of Plasma arc machining   | 2 |
| 5B. | What do you mean by sintering of green compact? Why do you go for sintering of metal compacts?                          | 4 |
| 5C. | With a neat sketch, explain the Cold isostatic and Hot isostatic pressing of metallic powders.                          | 4 |
| 6A. | Write a note on Polymerization of plastics.   | 2 |
| 6B. | Explain with sketch Laminated object manufacturing and Spark discharge sintering process                                | 4 |
| 6C. | With a neat sketch, explain atomization process for metallic powder generation  | 4 |