Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 91379

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2025.

Third Semester

Mechanical Engineering

ME 3393 — MANUFACTURING PROCESSES

(Common to Automobile Engineering/Industrial Engineering/Industrial Engineering and Management/Mechanical Engineering (sandwich))

(Regulations 2021)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — ($10 \times 2 = 20$ marks)

1. Mention the various types of pattern materials.

2. What are the classifications of molding sand?

3. What is soldering process?

4. Differentiate arc welding and Gas welding.

5. Differentiate Hot working and cold working of metals.

6. Write the Principles of Extrusion Process.

7. Write the characteristics of Sheet metals.

8. What is Micro forming?

9. Write the types of plastics.

10. What is Thermoforming process?

PART B — (5 × 13 = 65 marks)

11. (a) Describe the various kinds of patterns in use. What are the allowances provided when making a pattern?

Or

(b) What do you understand by casting? Explain the working of pressure die casting and write its advantages.

12. (a) Explain the Laser beam Welding with neat sketch and write any two real time applications.

Or

(b) Explain the Plasma arc Welding with neat sketch and write its advantages and disadvantages.

13. (a) What is extrusion? Explain the Hot and Cold extrusion with advantages and disadvantages.

Or

(b) Explain any two types of rolling operations with neat sketch.

14. (a) What is metal forming? Briefly explain the working principle and applications.

Or

(b) Explain any two special forming processes in detail.

15. (a) Explain injection molding and Compression molding with neat sketch.

Or

(b) Explain Rotational molding and duff molding with neat sketch.

PART C — (1 × 15 = 15 marks)

16. (a) With neat sketches, explain the working principle of hydro forming and Rubber pad forming, Also mention their industrial applications.

Or

(b) With suitable examples, explain the working principle of rod and wire drawing operations.

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