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Question Paper Code : 30256

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2023

Third Semester

Automobile Engineering

ME 3393 – MANUFACTURING PROCESSES

(Common to Industrial Engineering/Industrial Engineering and Management/
Mechanical Engineering/Mechanical Engineering (Sandwich))

(Regulations 2021)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Name the different melting furnaces employed for metal casting.
2. List the different types of patterns used in modern foundry.
3. State any two disadvantages of sub-merged arc welding.
4. Why is flux used in brazing?
5. Give some basic forging operations.
6. What is meant by cold spinning?
7. List some of the sheet metal operations.
8. What are the advantages of Rubber pad forming?
9. What is film blowing?
10. What is meant by Thermoforming?

PART B — (5 × 13 = 65 marks)

11. (a) Discuss the properties of moulding sand.

Or

- (b) Explain the centrifugal casting with a neat sketch. Mention its advantages and applications.

12. (a) Explain Electro slag Welding process with a neat sketch. Also state its advantages and disadvantages.

Or

- (b) Discuss the working principle, types, equipments, advantages, limitations and applications of Plasma arc welding with neat sketches.

13. (a) Write a short on the following : (6+7)

- (i) Drop forging
- (ii) Upset forging

Or

- (b) Define Extrusion and explain the various classifications with a suitable sketch. Also state its advantages, disadvantages and applications.

14. (a) Describe the working principle of hydro-forming process with a help of neat sketch. Also list out its advantages.

Or

- (b) Explain the principle of explosive forming with a neat sketch. State its applications, advantages and disadvantages.

15. (a) Explain the working principle of Transfer moulding with a neat sketch. Also state its advantages, disadvantages and applications.

Or

- (b) What is Rotational moulding? Explain the same with necessary sketch. Mention its advantages, disadvantages and applications.

PART C — (1 × 15 = 15 marks)

16. (a) Describe the step by step procedure involved in making green sand mould with a suitable diagram. Also state its advantages and disadvantages.

Or

- (b) Explain screw Injection moulding process with neat sketch. State its applications, advantages and disadvantages.