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**Question Paper Code : 41376**

**B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2024.**

**Third/Fifth/Sixth Semester**

**Mechanical Engineering**

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**ME 3393 — MANUFACTURING PROCESSES**

**(Common to : Aeronautical Engineering/Aerospace Engineering/Automobile Engineering/Industrial Engineering/Industrial Engineering and Management/Mechanical Engineering (Sandwich)/Safety and Fire Engineering)**

**(Regulations 2021)**

**(Also common to PTME 3393 – Manufacturing Processes for Mechanical Engineering Part-Time B.E. Second Semester Regulations 2023)**

**Time : Three hours**

**Maximum : 100 marks**

**Answer ALL questions.**

**PART A — (10 × 2 = 20 marks)**

1. List out the pattern materials.
2. What are the properties of molding sand?
3. Classify welding processes.
4. What are the applications of Friction Stir Welding?
5. List out the advantages of cold working processes.
6. List out the defects in rolled parts.
7. Define stretch forming processes.
8. Define metal spinning operation.
9. What are the applications of thermosetting polymers?
10. What are the applications of blow molding processes?

**PART B — (5 × 13 = 65 marks)**

11. (a) Describe shell molding processes and its applications, advantages and limitations.

Or

- (b) Describe different types of defects in sand casting process and its remedies.

12. (a) Describe oxy fuel welding process and its application, advantages, limitations.

Or

- (b) Discuss the thermit welding process and its applications.

13. (a) Distinguish between hot working and cold working of metals.

Or

- (b) Discuss hot and cold extrusion processes and its applications.

14. (a) Describe super plastic forming process and its applications.

Or

- (b) Discuss incremental forming process and its applications.

15. (a) Discuss injection molding processes and its application, advantages, limitations.

Or

- (b) Discuss compression molding process. List out the advantages and limitations.

**PART C — (1 × 15 = 15 marks)**

16. (a) Discuss the methods of Friction stir welding process and its advantages, limitations.

Or

- (b) Discuss the welding defects and its remedies.