

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech (Ind. Engg. & Mgt.) (Spl. in TQM) (Sem.-2)
MANUFACTURING PROCESSES & MATERIALS

Subject Code : IEM-202

Paper ID : [61007]

Time : 3 Hrs.

Max. Marks : 40

INSTRUCTIONS TO CANDIDATES :

1. Attempt All EIGHT questions from SECTION-A carrying TWO Marks each.
2. Attempt any SIX out of EIGHT questions from SECTION-B carrying FOUR marks each.

SECTION-A**1. Answer briefly :**

- a) Discuss the criteria for selection of materials for various applications.
- b) Define thermoplastics. Describe the characteristic features and applications of thermoplastics.
- c) Explain the working principle of injection moulding process for manufacturing plastic parts.
- d) Differentiate between forward and backward extrusion processes.
- e) Define broaching. Show various elements of a broach.
- f) Describe various types of joints used in welding operations.
- g) Explain the carburizing process and give its applications.
- h) Explain the procedure for anodizing the materials.

SECTION-B

2. Differentiate between metals and alloys. Explain the characteristics and applications of alloy steels for manufacturing of automobile components.
3. Explain the manufacturing process involved in preparation of metal matrix composites giving a neat sketch.
4. Discuss the investment casting process giving a neat sketch and also describe its advantages, disadvantages and applications.
5. Describe the working of drop forging process giving a neat sketch and also discuss the advantages, limitations and applications of drop forging process.
6. Discuss the elements of a planer giving a neat sketch.
7. What do you understand by resistance welding? Explain the working principle of resistance spot welding process giving a neat sketch.
8. Explain Iron-Carbon diagram showing various zones and explain their significance.
9. Explain any two methods for applying coatings on materials giving neat sketches.