

Reg. No. : _____

Question Paper Code: E3128

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2010

Third Semester

Mechanical Engineering

ME2201 — MANUFACTURING TECHNOLOGY —

I (Regulation 2008)

Time: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A — (10 · 2 = 20 Marks)

1. State any four properties of moulding sand.
2. Which type of furnaces are suitable for melting of ferrous material and why?
3. What are the advantages of AC equipment over DC equipment in arc welding?
4. Why is flux used in soldering and brazing?
5. What is meant by recrystallisation temperature?
6. List out any four parts that can be manufactured by shape rolling operations.
7. What is spring back? How is it recovered?
8. What is peen forming? What are its applications?
9. Plastic strips are to be converted into 3D objects. Suggest one process and explain.
10. Describe briefly the principle of film blowing.

PART B — (5 · 16 = 80 Marks)

11. (a) (i) List out various pattern allowances. Discuss any four. (8)
- (ii) Discuss any four sand testing methods. (8)

Or

- (b) (i) Enumerate with neat sketches various steps involved in making investment casting. (8)
- (ii) Explain any four casting defects with causes and their remedies. (8)

12. (a) (i) Describe with a neat sketch the components of oxyacetylene gas welding equipment. (8)
- (ii) Discuss principle of adhesive bonding. List out any four types of adhesives. (8)

Or

- (b) (i) Describe with neat sketches various steps in friction welding. (8)
- (ii) Describe with a neat sketch the principle of percussion welding. State its advantages and limitations. (8)
13. (a) (i) Distinguish between open die and closed die forging processes. (8)
- (ii) What are the defects in parts produced by rolling? Explain any four defects. (8)

Or

- (b) (i) Distinguish between wire drawing and tube drawing with sketches. (8)
- (ii) Describe the principle of Hydrostatic extrusion. (8)
14. (a) (i) Enumerate with neat sketches three phases in shearing. (8)
- (ii) What are the various bending operations? Explain any four. (8)

Or

- (b) Write short notes on
- (i) Hydro forming (5)
- (ii) Magnetic pulse forming (6)
- (iii) Super plastic forming. (5)
15. (a) (i) Enumerate with a neat sketch working principle of reciprocating screw injection moulding machine. (8)
- (ii) Explain the working principle of transfer moulding process. State its advantages and limitations. (8)

Or

- (b) (i) Describe with neat sketches various steps involved in rotational moulding. State its applications. (8)
- (ii) What are the methods of bonding thermoplastics? Explain any one method. (8)