

T 8259

B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2006.

Fourth Semester

Mechatronics Engineering

MH 1251 — MANUFACTURING TECHNOLOGY

(Regulation 2004)

Time: Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is a split pattern?
2. What are the important factors affecting selection of pattern material?
3. How presses are classified according to the mechanism used for ram driving?
4. What is cold spinning operation?
5. What are the requirements of tool material?
6. What are the operations that can be performed on a drilling machine?
7. What is draw cut shaper?
8. What is glazing? How will you rectify this?
9. What are the advantages of resistance welding?
10. Distinguish between brazing and soldering.

PART B — (5 × 16 = 80 marks)

11. (a) (i) What are the types of induction furnace? Explain any one of them in detail. (12)
- (ii) Discuss the various allowances used in pattern making. (4)

Or

- (b) (i) Explain briefly diecasting with a neat sketch. (8)
- (ii) Explain in detail the various defects of casting. (8)
12. (a) (i) Explain the different types of rolling mills. (8)
- (ii) Explain the process of hydrostatic extrusion. (8)

Or

- (b) (i) What are the types of hammers used in drop forging? Explain the steps to be followed in drop forging. (8)
- (ii) Explain the concept of combination die for blanking and piercing operation. (8)
13. (a) (i) What are the advantages of automats as compared to engine lathes? (4)
- (ii) Explain the mechanisms used for headstock driving arrangement in a lathe. (12)

Or

- (b) (i) What are the operations that can be done on drilling machine? Explain them with simple sketches. (4)
- (ii) Explain with a neat sketch the features of a radial drilling machine. (12)
14. (a) Explain any FOUR of the following milling operations with sketches (i) Straddle Milling (ii) Gang Milling (iii) Form Milling (iv) End Milling (v) Up milling. (4 × 4 = 16)

Or

- (b) (i) Explain the factors considered in selecting a grinding wheel and also explain the standard marking system used for grinding wheels. (12)
- (ii) Distinguish between lapping and honing. (4)

- (i) Sketch and explain the process of electron beam welding. (8)
- (ii) Explain the principle of electric arc welding. (8)

Or

- (b) (i) Sketch and explain the process of friction welding. (8)
- (ii) What are the advantages and disadvantages of metal arc welding? (8)