

Total No. of Questions—12]

[Total No. of Printed Pages—4

[3762]-116

S.E. (Mech.) (First Semester) EXAMINATION, 2010

MANUFACTURING PROCESSES

(2008 PATTERN)

Time : Three Hours

Maximum Marks : 100

N.B. :— (i) Attempt Q. No. 1 or Q. No. 2, Q. No. 3 or Q. No. 4, Q. No. 5 or Q. No. 6 from Section I and Q. No. 7 or Q. No. 8, Q. No. 9 or Q. No. 10, Q. No. 11 or Q. No. 12. from Section II

(ii) Answers to the two Sections should be written in separate answer-books.

(iii) Neat diagrams must be drawn wherever necessary.

(iv) Figures to the right indicate full marks.

(v) Use of logarithmic tables, slide rule, Mollier charts, electronic pocket calculator and steam tables is allowed.

SECTION I

UNIT I

1. (a) Explain types of material used for making patterns. [5]

(b) Explain qualities of good pattern material. [5]

(c) Explain any two :

(i) Shell moulding

(ii) Die casting

(iii) Centrifugal casting. [8]

P.T.O.

Or

2. (a) Explain types of allowances provided on patterns. [4]
(b) Describe properties of sand used for moulding. [4]
(c) Explain any *two* : [10]
(i) Investment casting
(ii) Continuous casting
(iii) Moulding machines.

UNIT II

3. (a) Differentiate between hot working and cold working processes. [6]
(b) What is forging ? Explain the process and give the classification. [6]
(c) Describe extrusion operation and its types. [4]

Or

4. (a) Explain Rolling operation and various types of rolling mills. [8]
(b) Explain any *two* : [8]
(i) Wire drawing
(ii) Spinning
(iii) Shot penning.

UNIT III

5. (a) Explain importance of polarities in electric arc welding. [4]
(b) State advantages and disadvantages of gas welding. [4]

(c) Explain any *two* :

- (i) Submerged Arc Welding (SAW)
- (ii) Thermit welding
- (iii) Gas Metal Arc Welding (GMAW).

Or

6. (a) Explain principle of Resistance welding. Also describe their types and applications. [8]

(b) Explain any *two* :

- (i) Gas Tungsten arc welding
- (ii) Plasma arc welding
- (iii) Friction welding. [8]

SECTION II

UNIT IV

7. (a) Describe any *four* work holding devices used on lathe with neat sketches. [8]

(b) Explain construction, working and uses of tail-stock of lathe with block diagram. [10]

Or

8. (a) Describe all geared headstock of lathe with its advantages and block diagram. [8]

(b) Explain :

- (i) Thread cutting on lathe
- (ii) Taper turning methods. [10]

UNIT V

9. (a) Differentiate between upmilling and downmilling. [4]
(b) Explain any *three* :
(i) Milling cutter Geometry
(ii) Operations of drilling machine
(iii) Boring and Reaming
(iv) Helical slot milling. [12]

Or

10. (a) Explain construction and working of Radial drilling machine with block diagram. [6]
(b) Explain any *two* :
(i) Universal Dividing head
(ii) Geometry of Twist drill
(iii) Cam milling operation. [10]

UNIT VI

11. (a) Explain marking system of grinding wheel in detail. [10]
(b) Explain :
(i) Glazing and loading of grinding wheel.
(ii) Thread grinding. [6]

Or

12. Describe with neat sketches :
(i) Tool and cutter Grinder
(ii) Cylindrical Grinding
(iii) Centreless grinding
(iv) Mounting of grinding wheel. [16]