Total No. of Questions—**12**] [Total No. of Printed Pages—**4**

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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. **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). [8]

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]