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B.E (Full Time) End Semester DEGREE EXAMINATION, NOV / DEC 2011

Third Semester

Mechanical Engineering

ME 272 – MANUFACTURING TECHNOLOGY – I

(Regulation 2004)

Time : 3 Hours

Answer ALL Questions

Max. Marks 100

PART-A (10 x 2 = 20 Marks)

1. What are the elements in gating system?
2. State the reasons for the need of special casting processes.
3. What is meant by cold rolling operation?
4. Why backup rolls are provided in cluster roll mill?
5. List any common for defects in forging operation?
6. How is lubrication applied in hot extrusion?
7. What are the specific advantages of screw type injection moulding machine?
8. What is high energy rate forming process?
9. What is meant by solid state welding process?
10. Why brazing mane extensively used in industries?

Part – B (5 x 16 = 80 marks)

11. a) i) Briefly discuss why machining and draft allowances are important for patterns. (6)
ii) With the aid of neat sketches. Explain the various steps for rolling round sections. (10)
12. a) Briefly enumerate the steps in sequence for producing castings from investment casting process. List the applications. (16)

OR

- b) Describe the construction features and working operation of a cupola furnace. (16)
13. a) Explain the various stages in drop forging process for manufacturing the crane hook. (16)

OR

- b) Write a short note on the following sheet metal operation (16)
i) Embossing ii) Coining iii) Deep drawing iv) Piercing.

14. a) Compare the Electro magnetic forming and electro hydraulic forming based on construction, working principle and applications. (16)

OR

- b) i) Give example of the typical products of the following process. (6)
i) Compression moulding ii) Transfer moulding.
- ii) With the aid of simple sketch, explain the screw type injection moulding machine. (10)

15. a) i) How the brazing different from welding? (6)
- ii) With the aid of simple diagram, explain the working principle of LASER BEAM welding process. List the application. (10)

OR

- b) i) Discuss the causes and remedies for the following welding defects. (16)
- i) Under cut ii) Lamellar Tearing iii) Porosity
iv) Incomplete fusion