Reg. No. : | | | | | | | | | | |

Question Paper Code : 91628

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2014.

Third Semester

Mechanical Engineering

ME 2201/ME 32/PR 1204/080120005/10122 ME 302 — MANUFACTURING TECHNOLOGY – I

(Common to Industrial Engineering, Industrial Engineering and Management and Mechanical and Automation Engineering)

(Regulation 2008/2010)

(Common to 10122 ME 302 – Manufacturing Technology – I for B.E. (Part-Time) Second Semester – Mechanical Engineering – Regulation 2010)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Name any four casting defects.
2. List the materials used for making patterns.
3. State the use of flux material.
4. List any four welding defects.
5. State the advantage of cold extrusion.
6. Name the types of forging machines.
7. State the purpose of detonator in explosive forming.
8. What is the basic requirement of super plastic forming?
9. Name the types of plastics.
10. Define thermoforming.

PART B — (5 × 16 = 80 marks)

11. (a) (i) Explain the different types of moulding sand. (8)

(ii) Discuss the steps involved in the casting process. (8)

Or

(b) (i) Describe the stages in cupola melting. (8)

(ii) With sketch explain centrifugal casting process. (8)

12. (a) (i) Explain the principle of arc welding process. (7)

(ii) Discuss how parts are joined in percussion welding. (9)

Or

(b) (i) Compare and contrast brazing and soldering process. (8)

(ii) Explain the principle and application of friction welding process. (8)

13. (a) (i) Discuss the types of defects in rolled parts. (8)

(ii) Compare direct and indirect extrusion process. (8)

Or

(b) (i) Discuss the types of rolling mills. (8)

(ii) State the advantages and limitations of closed die forging. (8)

14. (a) (i) Explain metal spinning operation with a diagram. (8)

(ii) Compare conventional forming with high strain rate forming technique. (8)

Or

(b) (i) Explain how stretch forming operation is performed. (8)

(ii) Explain the principle of operation of rubber pad forming. (8)

15. (a) (i) Discuss the working principle of compression moulding process. (8)

(ii) State the typical industrial applications of thermoplastics. (8)

Or

(b) (i) Compare blow moulding and rotational moulding. (8)

(ii) Explain the working principle of plunger and screw machines. (8)

———————