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

S 4050

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2007.

Second Semester

(Regulation 2004)

Mechanical Engineering

ME 1151 — MANUFACTURING TECHNOLOGY – I

(Common to B.E. (Part–Time) First Semester Regulation 2005)

Time : Three hours Maximum : 100 marks

Answer ALL the questions.

PART A — (10 × 2 = 20 marks)

1. State any four properties of moulding sand.

2. List out any four defects in castings.

3. What is the principle of resistance welding?

4. What is the chemical reaction occurs in thermit welding?

5. Classify the types of forging machines.

6. State the defects in rolled parts.

7. What is the purpose of piercing operation?

8. Mention any four products produced by spinning process.

9. Define polymerization.

10. What is calendering process?

PART B — (5 × 16 = 80 marks)

11. (a) (i) Classify the types of patterns and sketch any three of them. (8)

(ii) What is core and explain how to make a core? (8)

Or

(b) (i) Describe the centrifugal casting process with a neat sketch. (10)

(ii) Discuss the merits and demerits of shell moulding process. (6)

12. (a) (i) Describe the metal inert gas arc welding process with a neat sketch. (10)

(ii) Briefly explain on butt welding process. (6)

Or

(b) (i) Explain the seam welding process and compare it with spot welding. (8)

(ii) Describe the electro – slag welding process. (8)

13. (a) (i) Compare hot rolling and cold rolling processes. (6)

(ii) What are the types of power hammers available and explain the pneumatic hammer with a neat sketch. (10)

Or

(b) (i) Classify the extrusion processes and describe any two. (7)

(ii) Describe the following processes

(1) Roll die forging

(2) Skew rolling

(3) Ring rolling. (9)

14. (a) (i) Describe the stretch forming operation. (6)

(ii) Explain the metal spinning process. (6)

(iii) What is super plastic forming? (4)

Or

(b) (i) Explain the principle of magnetic pulse forming with a sketch. (8)

(ii) Describe the hydro forming process with the help of neat diagram. (8)

15. (a) (i) Explain the blow moulding process. (6)

(ii) What are the additives to be mixed in processing plastics and explain the purpose of each. (10)

Or

(b) (i) Describe the transfer moulding process with a neat sketch. (8)

(ii) Describe the compression moulding process with a neat sketch. (8)