[03 – 3116]

III/IV B.E. DEGREE EXAMINATION.

First Semester

Mechanical Engineering

Elective I — ADVANCED FOUNDRY AND WELDING TECHNOLOGY

(w.e.f. admitted batch of 2006–2007)

Time : Three hours Maximum : 70 marks

Question No.1 is compulsory.

Answer any FIVE questions.

(5 × 14)

All questions carry equal marks.

1. (a) Define mass production and give few applications of it.

(b) Name the family of cost iron.

(c) What are the different types of resistance welding?

(d) What are the various types of joints used in welding?

(e) Name the equipment used for foundry mechanization.

2. (a) Explain with neat sketch investment moulding.

(b) Write the advantages and applications of shell moulding.

3. Explain clearly about the principles of solidification with neat sketches :

(a) Nucleation.

(b) Crystal growth

(c) Morphology and structure of cost metals and alloys.

4. (a) Write about Fettling equipment.

(b) Write the importance of crames in foundry mechanization.

5. (a) Explain with sketch resistance seam welding.

(b) Explain with sketch laser beam welding.

6. (a) Explain weldability of Ti and its alloys.

(b) Explain briefly heat treatment of welded parts.

7. (a) With neat sketches write the various symbols used in welding.

(b) Explain with neat sketches various types of welds.in welding.

8. Write briefly about :

(a) Ultrasonic welding.

(b) Knock-out-of moulds.

(c) Forge welding.