Manufacturing Processes–1 (New)

(ME-209, Dec. 2006)

Time: 3 Hours Max. Marks: 60

Note: Question No. 1 is compulsory. Attempt any four questions from section B and two questions from section C.

Section-A

1. (a) Why draft allowance is provided on pattern, sketch the draft on the pattern for internal surface of a casting.
   (b) What is the reason for providing a neck for a RISER?
   (c) Mention the steps involved in investment casting.
   (d) Define the words directional solidification and nucleation.
   (e) Name two furnaces which can operate continuously.
   (f) Compare fore hand gas welding & back hand gas welding techniques.
   (g) Compare TIG and MIG welding techniques.
   (h) Explain how heat is generated in Thermit welding.
   (i) What is bead geometry?
   (j) Differentiate Brazing & Braze welding.

Section-B

2. Explain the application of Bernoulli's theorem in the design of gating system.
3. Identify some methods of reducing the riser size.
4. Describe list wise procedure for core making using a core bon.
5. List and explain various welding defects obtained in arc welding.
6. While explaining spot and seam welding, derive an expression for heat generated in resistance welding.

Section-C

7. Discuss the relative features of gravity die casting and pressure die casting along with any sub-classifications of these processes.
8. Explain the relative merits and demerits of various power sources used in arc welding.
9. With neat sketches explain different variants in friction welding and friction stir welding.