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B.E. (Full Time) DEGREE END SEMESTER EXAMINATIONS, APRIL/MAY 2011

ANNA UNIVERSITY, CHENNAI – 600025

MANUFACTURING ENGINEERING

FIFTH SEMESTER

MF 9301 CASTING AND WELDING TECHNOLOGY

(REGULATIONS 2008)

Duration: 3 hours

Max. Marks: 100

Answer All Questions

Part – A (10 x 2 = 20 Marks)

1. What does the crucible number represents?
2. What are the three common methods of degassing?
3. Write short notes on chill.
4. What are the various elements of gating system?
5. Write short notes on symbolic representation of welds on drawings.
6. Write the usage of three different quality levels in welding.
7. What is shell moulding?
8. What is squeeze casting?
9. Write any four welding defects.
10. Write short notes on NDT.

Part – B (5 x 16 = 80 Marks)

11. What are the requisite properties of a good refractory material? Briefly explain the acid refractory, basic refractory and neutral refractory.
12. a) Explain the design of various junctions in casting with neat sketches.
Or
b) Explain the solidification of alloys with transformation curves.
13. a) Brief out the weld design consideration with schematic diagrams.
Or
b) Write the guidelines for reducing residual stresses in welds, weld distortions.
14. a) Explain evaporative pattern casting process with neat sketches.
Or
b) Explain Electron Beam Welding process with neat sketches.
15. a) What is fettling? Explain the various stages of fettling operation.
Or
b) Write down the causes and remedies of any five casting defects.