

B..E/B.Tech DEGREE END SEMESTER EXAMINATIONS,APR/MAY2014

Manufacturing Engineering (R2012)

Third Semester

MF8301 CASTING AND WELDING TECHNOLOGY

Time:3 hrs

Max.Marks:100

Answer ALL Questions

Part A (10 x 2 =20 Marks)

1. What is the importance of adding inoculants during melting of metals?
2. What are the two stages of solidification of metals?
3. List out any four methods used in casting cleaning.
4. Write down the difference between two types of squeeze casting.
5. Write short notes on any two welding defects.
6. Define welding.
7. Write brief note on explosives used in explosive welding.
8. What are the characteristics of laser light?
9. State true or false,“ point to point control robot can be used for welding”. Justify your answer.
10. Write short notes on arc sensing.

Part B (5 x 16=80 Marks)

11. i) Briefly explain about automation of sand plant in a foundry. 8
 - ii) Describe briefly the scope and need for automation of welding. 8
 12. a.i) Explain the construction and operation of any one type Induction furnace. 8
 - ii) Briefly discuss about progressive and directional solidification. 8
- Or
- b.i) Briefly discuss about pressurised and non pressurised gating system with their merits and demerits. 8
 - ii) Explain any two sand testing methods. 8
13. a.i) Discuss various steps involved in magnetic particle inspection of casting. 8

- ii) Explain the steps involved in making green sand mould. 8
- Or
- b.i) Enumerate with neat sketch any one centrifugal casting processes. 8
- ii) Describe the continuous casting process with neat sketch . Mention its advantages and limitations. 8
14. a.i) What are the factors which governs the heat flow in and around the weld and quality of the weld. 8
- ii) Discuss about various welding positions. 8
- Or
- b.i) Draw and explain standard identification of welds employed in design drawings 8
- ii) Explain the pre and post weld heat treatment of steel and copper. 8
15. a.i) Enumerate with neat sketch Principle of submerged Arc welding Process. 8
- ii) Explain the Process parameters of friction stir welding. 8
- Or
- b.i) Explain with necessary sketches Atomic Hydrogen welding process. 8
- ii) Explain about three types of flames used in gas welding. 8
