

FOUNDRY TECHNOLOGY
ASSIGNMENT – 1
Submission last Date :16/09/2019

Descriptive questions [7 marks]

1. Differentiate Casting and Forging
2. Discuss pattern materials with reasons
3. Discuss properties of molding sand
4. Discuss types of cores used in Foundry
5. Explain Gating System with its elements
6. Discuss casting defects with causes and remedies
7. Explain Investment Casting Procedure in detail
8. Explain Shell Molding procedure in detail

9. Give a detailed classification of casting processes.
10. Enlist types of patterns. Discuss any three in detail.
11. Explain various types of pattern allowances with sketch.
12. Describe the green sand molding process in detail.
13. Describe various types of sands used in mold making.
14. Explain the working of a Cupola furnace
15. Explain any two Non-destructive testing methods of cast parts.
16. Explain the centrifugal casting process in detail.
17. Explain the Gravity die casting process in detail.

18. What is annealing? What is the necessity of heat treatment to a medium carbon steel casting? Explain any two heat treatment methods in brief.
19. What is a sprue? Why it is required? Explain elements of gating system with a simple casting design.
20. What is net cast? How one can improve casting ability? What precautions should be taken?
21. What is shrinkage? What are the causes of defects in a casting? How the defects can be eliminated? Explain any five defects in brief.
22. Which test is required to find out depth of casting? Explain any two testing methods in detail.
23. What is a backing sand? How molding sand is prepared? Which are the additives and binders used in preparing molding sand?
24. Can CAD/CAM system be applied to a foundry? How? What will be the benefits?

Short questions [4 marks]

25. Give eight examples of products of foundry technology
26. Brief about four important pattern allowances
27. Discuss contents of molding sand
28. What is Core? What is the use of core prints?
29. Discuss hand molding tools
30. Draw sketch of Cupola showing different stages
31. Mention steps of Permanent Mold Casting Technique
32. Discuss four NDT techniques in brief

33. Enlist the steps involved in the sand casting process.

34. Write a brief note on pattern materials.
35. Dictate any four required properties of molding sand.
36. Discuss some of the functions of a riser.
37. Discuss any two commonly used heat treatments on castings.
38. Briefly describe the shell-molding process.
39. Enlist the applications of investment casting process.
40. What are the steps of sand preparation carried out before mold making.

Short questions [3 marks]

41. Mention six basic steps of metal casting
 42. Classify Patterns
 43. How computer can be useful in casting process?
 44. How permeability of sand is tested?
 45. What is Riser? Why it is used?
 46. Why a casting is to be heat treated?
 47. Discuss Slush Casting in brief
 48. Differentiate green and dry mold
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49. Mention some of the advantages of casting over other manufacturing
 50. processes.
 51. Define pattern. State the functions of a pattern.
 52. Explain the Loam molding process with sketch.
 53. Write a brief note on sand cores.
 54. Draw the neat sketch of gating system showing each part of the same.
 55. Identify some of the defects that may arise in cast parts.
 56. What is the principle of electric arc furnace ?
 57. Give a brief note on directional solidification.