

Model Questions :-

Short Questions (2 marks)

1. State the principle of casting.
2. what do you mean by moulding.
3. Define Core.
4. What is facing sand?
5. what do you mean by machine moulding?
6. Mention different types of furnaces used in foundry.
7. State the function of a riser.
8. Mention the function of chaplet.
9. Write at least two disadvantages of casting.
10. Write the ingredients of molding sand.
11. What is core print?
12. what do you mean by cleaning of casting.
13. Write a flow diagram show the steps of casting process.
14. what is chaplet?
15. what is pattern?
16. what is investment casting?
17. what is the role of chill?
18. what is a pattern allowance?
19. what is directional solidification?
20. Name different types of cores.
21. Mention various casting defects.
22. Give the difference between facing sand and backing sand.

23. What is gating ratio?
24. State Chorinov's Rule.
25. Mention the casting defects caused by pattern and molding bone equipments.
26. What are the ingredients of synthetic molding sand?
27. What are the materials commonly used for pattern making?
28. What is the pattern material in investment casting?

## Long Questions (5 marks)

1. Differentiate between pattern and casting.
2. Write the advantages and disadvantages of casting process.
3. State the reasons of sand reclamation.
4. Compare between moulding sand and core sand.
5. Briefly explain the different types of mould with sketches.
6. Distinguish between 'Captive foundry' and 'Job-Shop foundry'.
7. Write a short note on directional solidification.
8. Write a short note on 'casting defects'.
9. Define pattern and state the reasons for selecting a pattern material.
10. What is a mold and discuss its characteristics?
11. Differentiate between sand preparation & conditioning?
12. Why clay is one of the important ingredients of molding sand? Write its functions and sources.
13. Differentiate between direct arc and indirect arc ffc.
14. Mention few different allowances given to pattern.
15. What do you mean by green strength, dry strength and hot strength of moulding sand? Explain in detail.
16. Why additives are used in moulding sand? Explain role of different additives to prepare a sand casting.
17. Describe the steps of shell moulding process with sketches.
18. Explain different properties of moulding sand.

19. what are the binders used during moulding ? Discuss.
20. what are the binders used for core making ? Discuss.
21. Explain different cores used in castings.
22. Explain gating system and its elements in detail.
23. Explain traditional moulding methods.
24. State and explain chvorinov's rule.
25. Explain the function of riser.
26. Describe centrifugal casting methods.
27. Give the layout of a mechanized foundry shop producing cast iron products.
28. what is investment casting? Explain its importance.
29. Explain the cleaning steps for removal of gates and risers from casting.
30. Differentiate betw<sup>n</sup> pressurised and unpressurised gating system.

31. Differentiate betw<sup>n</sup> open riser and blind riser.
32. Discuss any two casting defects caused due to improper moldings with remedial measures.
33. Briefly describe the method of firing cupola.

## Long Questions (10 marks/8 marks)

1. What are the various allowances given to a pattern while designing? Give details with reasons.
2. Derive an expression for permeability number of moulding sand.
3. Explain various methods of core baking.
4. Describe the method of investment casting.
5. Explain the working principle of induction furnace.
6. Explain the process of pressure die casting in detail.
7. Draw a neat sketch of gating system & explain in detail the function of different parts attached to it.
8. Describe the role of moisture in molding sand & describe various methods of determination of moisture.
9. State different functions & characteristics of core.
10. Explain the process of lost wax process in detail.
11. What are the different types of mold and describe any 3 types of mold in detail.
12. What do you mean by riser efficiency? Discuss the factors that increase riser efficiency.
13. Describe the role of moisture in molding sand and describe the various methods of determination of moisture in molding sand.
14. State different functions and essential characteristics of core.

- ~~15. What do you mean by riser efficiency?~~
15. What is master pattern? Mention different colours and codes that imparted to pattern for different purposes.
16. State the basic ingredients of moulding sand. Describe the procedure to measure the moisture in the moulding sand.
17. Explain different materials used for pattern making.
18. Explain different types of patterns used in foundry with neat sketches.