

FOUNDRY TECHNOLOGY

Important question from the all units

1. What is a foundry and explain its main types?
2. List at least five safety precautions to be taken in foundries.
3. Explain the layout of a mechanized foundry and its advantages.
4. Define a pattern and list its main functions.
5. Name common materials used for making patterns.
6. Differentiate between solid/single-piece pattern, split pattern, and loose-piece pattern.
7. Explain match plate pattern, gated pattern, and sweep pattern with applications.
8. What are pattern allowances? Explain draft, shrinkage, and machining allowances.
9. Define mold and list essential mold characteristics.
10. Explain green sand mold, dry sand mold, loam mold, and sodium-silicate (CO_2) mold.
11. Differentiate bench molding, floor molding, pit molding, and machine molding.
12. What is a core? Explain the core-making procedure.
13. Define core boxes and explain split core box and left/right-hand core boxes.
14. Differentiate horizontal core, vertical core, and hanging core; explain core prints.
15. What is a gating system? List its functions and characteristics of gates.
16. Explain top gate, bottom gate, and parting line side gate.
17. Differentiate open riser and blind riser; define internal and external chills.
18. Describe cupola furnace construction and its operation.
19. Explain coreless induction furnace construction and working principle.
20. Discuss aluminium alloy foundry practice: drossing, fluxing, flushing, gas absorption, and grain refinement.
21. Explain steel foundry practice and specific safety precautions.
22. Define gravity die casting (permanent mold casting) and pressure die casting (hot chamber and cold chamber).

- 23. Describe true centrifugal casting, investment casting, and shell molding processes.**
- 24. Classify casting defects and explain defects due to pattern, molding, and core making.**
- 25. List defects due to faulty heat treatment in casting.**
- 26. Explain foundry sand testing: clay content, AFS grain fineness, and strength tests.**
- 27. What is sand reclamation? Explain its advantages.**
- 28. Describe dry sand reclamation and its drawbacks.**
- 29. Explain combined wet reclamation plus thermal reclamation process.**
- 30. Discuss environmental challenges in foundries and how reclamation helps address them.**

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