



C20-MET-404

7493

BOARD DIPLOMA EXAMINATION, (C-20)
OCTOBER/NOVEMBER—2023
DMET – FOURTH SEMESTER EXAMINATION
FOUNDRY TECHNOLOGY

Time : 3 Hours]

[Total Marks : 80

PART—A

3×10=30

- Instructions :** (1) Answer **all** questions.
(2) Each question carries **three** marks.
(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. List the basic steps involved in a sand casting process.
2. State the different types of patterns used in foundries.
3. List the uses of chaplets in mold making.
4. State the effect of clay on mold strength.
5. Draw the sketch of draw spike and state its application in foundries.
6. List the advantages of sand slinger.
7. Write the advantages of pit and floor molding.
8. List the applications of gravity die casting process.
9. State the factors affecting directional solidification.
10. Compare pressurized and unpressurized gating systems.

PART—B

8×5=40

- Instructions :** (1) Answer **all** questions.
(2) Each question carries **eight** marks.
(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

11. (a) Define foundry. State advantages and limitations of foundry as a production process. 2+3+3

(OR)

(b) List the different pattern making materials and state relative advantages and limitations of any two of them. 2+3+3

12. (a) Explain the important properties of molding sand. 8

(OR)

(b) List the different sand additives and state the functions of any two of them. 2+3+3

13. (a) Describe the working principle and applications of Jolt squeeze machine. 6+2

(OR)

(b) Describe the operation of mold blower with its applications. 6+2

14. (a) Explain the investment casting (lost wax) process. 8

(OR)

(b) Explain the steps involved in shell molding process. 8

15. (a) Explain the molding defects (i) blow holes and (ii) metal penetration with remedial measures. 4+4

(OR)

(b) Explain the molding defects (i) shift and (ii) warpage of casting with remedial measures. 4+4

PART—C

10×1=10

- Instructions :** (1) Answer the following question.
(2) The question carries **ten** marks.
(3) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

16. Why are Chevinra's rule and Cain's method so important in the riser design?

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