

5415004

B.Tech. DEGREE EXAMINATION, SEPTEMBER 2020.

Fifth Semester

Mechanical Engineering

Elective : INDUSTRIAL CASTING TECHNOLOGY

(From 2013-14 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer ALL the questions.

All questions carry equal marks.

1. How the casting process defined by manufacturers?
2. Write the procedure for moulding sand preparations?
3. List out the merits of cupola furnace.
4. What is meant by solidification rate the casting?
5. Compare open riser and blind riser.
6. What are the different types of gates used in moulding?

7. What are the restrictions on die casting?
8. List out the difference between extrusion and injection moulding.
9. Write the defects occur in casting?
10. What are the factors to be considered for foundry layout?

PART B — (5 × 11 = 55 marks)

Answer ALL the Units, choosing ONE full question from each Unit.

UNIT I

11. Explicate different types of patterns used in casting with neat sketch.

Or

12. Discuss the several Cores used in moulding making with neat sketch.

UNIT II

13. Describe the processes involved in Rotary Furnace for aluminium scraps.

Or

14. Elucidate the construction and operation of Cupola furnace.

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UNIT III

15. Explain the factors influences in Riser Design and Riser Shape.

Or

16. Describe about Directional Solidification and Progressive solidification in detail.

UNIT IV

17. Briefly discuss the construction and operation of centrifugal casting.

Or

18. Describe the processes involved in Injection Moulding with neat sketch.

UNIT V

19. Discuss procedures involved in inspection of the casting in detail.

Or

20. Illustrate the factors influencing in various defects in castings.

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