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10MA71

Seventh Semester B.E. Degree Examination, June/July 2019

Foundry Technology

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions, selecting at least TWO questions from each part.

PART – A

- 1 a. Explain in detail the casting design considerations. (10 Marks)
b. Brief the sources of design data for cast alloys. (10 Marks)
- 2 Explain the casting design with respect to the following:
a. Physical factors
b. Molding factors
c. Machining factors
d. Engineering factors (20 Marks)
- 3 a. With the sketches show the different types of patterns. (10 Marks)
b. Explain the various pattern allowances. (10 Marks)
- 4 a. Brief the concept of solidification of metals. (05 Marks)
b. Explain the mechanism of Dendritic formation and Dendritic growth. (10 Marks)
c. Explain the refinement and modification of cast structure. (05 Marks)

PART – B

- 5 a. With a sketch explain the concept of progressive and directional solidification. (10 Marks)
b. Explain the solidification time and Chvorinov's Rule influences in mould characteristics and cast metal. (10 Marks)
- 6 a. With a neat sketch, explain the gating system. (10 Marks)
b. Explain the padding, chills and insulation used in solidification of castings. (10 Marks)
- 7 a. What are the needs of foundry mechanizations? (05 Marks)
b. List the area of foundry mechanization. (05 Marks)
c. With a neat sketch, explain the method of sand reclamation. (10 Marks)
- 8 Explain the following with respect to foundry management.
a. Planning of New Foundry Project
b. Management in Foundry
c. Use of computer in Foundry
d. Energy conservation in Foundry (20 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.