



10MA71

Seventh Semester B.E. Degree Examination, Aug./Sept.2020

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. Present a general picture of the basic operations and alternative paths to the production of a finished engineering structure. (12 Marks)
b. List the broad casting process, and the principal factors influencing selection of these processes. (08 Marks)
- 2 a. As a good practice of casting design, present an example of design modification to give unimpeded draft to parting surface. (08 Marks)
b. Present some technique for elimination of hot spots in castings, while designing intersections. (06 Marks)
c. Summarize the characteristics of various designs of cross section for casting members. (06 Marks)
- 3 a. Illustrate the different types (any 3) patterns used in foundry. (12 Marks)
b. Discuss any 2 types of allowances made on pattern to get dimensionally correct casting. (08 Marks)
- 4 a. Describe the significance of grain shape and orientation. (08 Marks)
b. Explain the effect of grain size during solidification. (06 Marks)
c. Explain the types of nucleation. (06 Marks)

PART – B

- 5 a. Explain the directional solidification and its needs in casting. (08 Marks)
b. Describe the progressive solidification with sketch. (08 Marks)
c. What is solidification time? How it is related with Chvorinov's rule. (04 Marks)
- 6 a. Briefly explain the feeding characteristics of alloys in castings. (10 Marks)
b. Explain the methods of feeding of castings. (10 Marks)
- 7 a. Explain the need for modernization and mechanization in foundry. (10 Marks)
b. Explain the pollution control techniques in foundries. (10 Marks)
- 8 a. Explain the steps involved in planning of new foundry project. (08 Marks)
b. Briefly explain computer application in foundries (05 Marks)
c. Explain the methods of energy conservation in foundry management. (07 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.