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10MA71

Seventh Semester B.E. Degree Examination, Dec.2016/Jan.2017
Foundry Technology

Time: 3 hrs.

Max. Marks:100

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

PART – A

- 1 a. Explain the dimensional and surface characteristics in the selection of castings. (08 Marks)
b. Explain any two property criteria in design of castings. (08 Marks)
c. Describe bimetal casting techniques. (04 Marks)
- 2 a. With the help of neat sketches. Explain the design considerations at the casting stages. (08 Marks)
b. Explain the engineering aspects of casting geometry. (06 Marks)
c. Explain the machining factors considered in casting design. (06 Marks)
- 3 a. With neat sketches explain any Four types of patterns. (08 Marks)
b. Describe the commonly used pattern materials with their advantages. (08 Marks)
c. What is core print? Explain its importance. (04 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. Describe the geometric influences on solidification. (06 Marks)
b. Explain the feeding characteristics of alloys. (08 Marks)
c. With neat sketch explain electric arc feeding. (06 Marks)
- 7 a. Explain the different pollution control techniques in foundries. (08 Marks)
b. Explain the need for modernization and mechanization. (08 Marks)
c. Describe sand reclamation in foundry. (04 Marks)
- 8 a. Explain the steps involved in planning of new foundry project. (08 Marks)
b. Describe energy conservation methods in foundries. (06 Marks)
c. Write note on material handling equipments in a foundry. (06 Marks)

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