

22620

M.Tech. 1st Semester (MAE) CBCS Scheme

Examination, December-2018

FOUNDRY TECHNOLOGY

Paper-MTMA 21D3

Time allowed : 3 hours]

[Maximum marks : 100

Note: Attempt any five questions. Question No. 1 is compulsory and one question from each of the four sections.

1. Discuss the following: 5×4
- (a) Chills and chaplets
 - (b) Fluidity measurement.
 - (c) Knock off feeders and wash burn cores.
 - (d) Use of robots in foundry.

Unit-I

2. (a) Discuss the types of metals and alloys commonly used in foundry? How can you classify them? 10
- (b) Discuss the construction and working of cupola furnace in detail. 10
3. (a) What is meant by directional solidification? Explain why directional solidification is preferred in foundries. 10
- (b) Discuss the construction and working of open hearth furnace in detail. 10

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Unit-II

4. Discuss in detail the mold handling equipment used at various stages of molding in a mechanized foundry. 20
5. (a) Discuss various types of gates with neat sketches along with their applications. 10
(b) Discuss the concept of increasing riser efficiency and promoting directional solidification. 10

Unit-III

6. (a) Explain gravity die casting in detail with neat sketch with applications and advantages over sand casting. 10
(b) Discuss cleaning operation and equipment of casting in detail. 10
7. (a) Explain continuous casting and its types in detail with applications. 10
(b) Discuss inspection procedure of casting in detail. 10

Unit-IV

8. (a) Discuss various salvaging techniques of castings. 10
(b) Explain the heat treatment process of Gray iron castings. 10
9. (a) Discuss the use of control charts in quality control of castings. 10
(b) Discuss the process of pollution control in a foundry. 10