

CBCS SCHEME

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18MA35

Third Semester B.E. Degree Examination, Jan./Feb. 2021 Foundry Technology

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Define casting process and explain the different steps involved in casting process. (10 Marks)
- b. List the advantages and limitations of casting process. (04 Marks)
- c. Define fluidity and what are the parameters affecting fluidity. (06 Marks)

OR

- 2 a. What is Nucleation and explain homogeneous and heterogeneous nucleation with sketches. (10 Marks)
- b. Explain progressive and directional solidification process. (06 Marks)
- c. Briefly explain Chvorinov's rule. (04 Marks)

Module-2

- 3 a. Draw the neat sketch of CWPOLA furnace and briefly explain different stages of it. (12 Marks)
- b. Sketch and explain induction furnace. (08 Marks)

OR

- 4 a. Define a pattern and explain various allowances of pattern. (10 Marks)
- b. List and explain any four types of pattern. (10 Marks)

Module-3

- 5 a. What are binders and additives, also explain the different types of it. (08 Marks)
- b. Sketch and explain Jolt and squeeze type molding machine. (12 Marks)

OR

- 6 a. With a simple sketch, explain the different elements of gating system. (08 Marks)
- b. What is a riser and differentiate between open and closed riser. (06 Marks)
- c. List and explain any two types of gates. (06 Marks)

Module-4

- 7 a. List the advantages of special holding processes. (04 Marks)
- b. Explain the different steps involved in shell molding process. (10 Marks)
- c. Explain gravity die casting process. (06 Marks)

OR

- 8 a. Sketch and explain centrifugal casting process. (10 Marks)
- b. Briefly explain the fettling and clearing of castings. (04 Marks)
- c. Explain the foundry practice used in copper based alloys. (06 Marks)

Module-5

- 9 a. Explain the foundry practices used in cast Iron casting process. (06 Marks)
b. List the defects in casting and what are the causes for it. (04 Marks)
c. Explain the non-destructive testing methods used for inspecting castings. (10 Marks)

OR

- 10 a. What is foundry mechanization and explain the steps involved in it. (10 Marks)
b. Explain the following
i) Application of computers in foundry
ii) Software's used in foundry. (10 Marks)

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