

# CBCS SCHEME

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18ME45B/18MEB405

## Fourth Semester B.E. Degree Examination, Feb./Mar. 2022 Metal Casting and Welding

Time: 3 hrs.

Max. Marks: 100

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

### Module-1

- 1 a. Define manufacturing process. With a suitable sketch, explain the classification of manufacturing process. (10 Marks)  
b. With a neat sketch, explain the working of Jolt moulding machine. (10 Marks)

OR

- 2 a. With neat sketches, explain investment moulding process, listing its advantages. (10 Marks)  
b. Explain Open Riser and Blind Riser with neat sketches. (10 Marks)

### Module-2

- 3 a. With a neat sketch, explain the constructional features and working principle of coreless induction furnace. (10 Marks)  
b. Draw and explain the basic principle of working of a resistance furnace. (10 Marks)

OR

- 4 a. With a neat sketch, explain continuous casting process. (10 Marks)  
b. Explain Hot chamber pressure die casting process with a neat sketch. (10 Marks)

### Module-3

- 5 a. Describe the need of directional solidification in casting. (06 Marks)  
b. With neat sketches, explain any four casting defects. (08 Marks)  
c. With a neat sketch, explain stir casting process. (06 Marks)

OR

- 6 a. Explain stream droplet degassing and induction degassing methods with neat sketches. (12 Marks)  
b. State and advantages and limitations of casting process. (08 Marks)

### Module-4

- 7 a. With a neat sketch, explain flux shielded metal arc welding process. Also state its advantages and limitations. (10 Marks)  
b. With a neat sketch, explain laser welding process. Mention its advantages and limitations. (10 Marks)

OR

- 8 a. Explain the Thermit welding process with sketch. List its advantages and applications. (10 Marks)  
b. With a neat sketch, explain Tungsten Inert gas welding process. Mention its advantages and disadvantages. (10 Marks)

### Module-5

- 9 a. Explain the different zones in welding with a neat sketch. (06 Marks)  
b. With neat sketches, explain the types of flames that can be obtained during oxy-acetylene welding process. (06 Marks)  
c. With neat sketches, explain any four welding defects. (08 Marks)

OR

- 10 a. With a neat sketch explain ultrasonic inspection method and list its advantages. (10 Marks)  
b. Explain radiography inspection method with its advantages and disadvantages. (10 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.