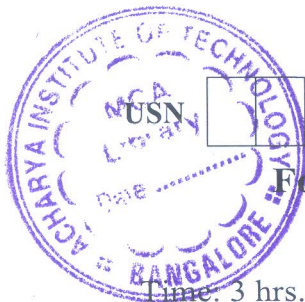


# CBCS SCHEME

18ME45B



--	--	--	--	--	--	--	--	--	--

## Fourth Semester B.E. Degree Examination, June/July 2024 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. Give brief classification of Manufacturing. (08 Marks)  
b. Define Pattern. Explain different allowances provided on pattern. (12 Marks)

OR

- 2 a. Explain : i) SQUEEZ molding machine ii) SAND SLINGER molding machine. (12 Marks)  
b. With neat sketch, explain Open Riser and Blind Riser. (08 Marks)

### Module-2

- 3 a. Explain working principle of Cupola Furnace. (10 Marks)  
b. Explain : i) Coreless Induction Furnace ii) Gas Fired Pit Furnace. (10 Marks)

OR

- 4 Explain the following with suitable sketch :  
a. Slush Casting b. Continuous Casting process. (20 Marks)  
c. Pressure die Casting d. Centrifugal Casting

### Module-3

- 5 a. With a neat sketch, explain Directional Solidification Process. (10 Marks)  
b. Define Degassing. List its methods any two. (10 Marks)

OR

- 6 a. List the Casting defects. Explain the causes and remedial measures. (10 Marks)  
b. With a neat sketch, explain Stir Casting process. List advantages and limitations. (10 Marks)

### Module-4

- 7 a. Explain with a neat sketch, process of Tungsten Inert Gas Welding. List advantages and limitations. (10 Marks)  
b. Explain with a neat sketch, process of Atomic Hydrogen Welding (AHW). List advantages and limitations. (10 Marks)

OR

- 8 Explain the following process :  
a. Laser Welding  
b. Electron Beam Welding. Also list advantages and limitations of both process. (20 Marks)

### Module-5

- 9 a. Explain Oxyacetylene Welding process, with suitable sketch. (10 Marks)  
b. Explain : i) Shrinkage in Welds ii) Residual stresses. (10 Marks)

OR

- 10 a. Differentiate between Soldering and Brazing. (10 Marks)  
b. Explain Holography method of Inspection with a neat sketch. (10 Marks)

\* \* \* \* \*

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.