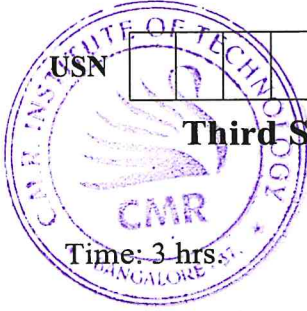


CBCS SCHEME

17ME35A/17MEA305



Third Semester B.E. Degree Examination, July/August 2021 Metal Casting and Welding

Max. Marks: 100

Note: Answer any FIVE full questions.

- 1 a. Define Manufacturing process and explain primary and secondary manufacturing process. (04 Marks)
b. Explain different types of allowances provided on a pattern. (08 Marks)
c. With the help of neat sketch, explain carbon dioxide moulding process. (08 Marks)
- 2 a. Discuss desirable properties of moulding sand. (04 Marks)
b. With a neat sketch, explain the elements used in a gating system. (08 Marks)
c. With a neat sketch, explain different steps used in shell moulding. (08 Marks)
- 3 a. With a neat sketch, explain in detail the basic melting of steel using direct arc furnace. (10 Marks)
b. With a neat sketch, explain the process of High pressure die casting. (10 Marks)
- 4 a. With reference to different zones and their chemical reactions, explain cupola furnace with a sketch. (10 Marks)
b. Explain with a sketch, process of continuous casting. (10 Marks)
- 5 a. What is Nucleation? Explain the types of nucleation with sketches. (10 Marks)
b. With a neat sketch, explain the process of stir casting. (10 Marks)
- 6 a. Explain Fettling and various casting defects during casting process. (10 Marks)
b. What is Degasification in liquid metals? Mention the methods and explain any one method. (10 Marks)
- 7 a. Broadly classify welding processes, with examples in each. (04 Marks)
b. Explain with a neat sketch, process of Tungsten Inert gas welding. (08 Marks)
c. Explain with a neat sketch, Thermit welding process, with its advantages. (08 Marks)
- 8 a. Explain with neat sketch, Atomic hydrogen welding with advantages and disadvantages. (10 Marks)
b. Explain with a neat sketch, Electron beam welding with advantages and disadvantages. (10 Marks)
- 9 a. What is Heat Affected Zone? Explain the factors affecting Heat Affected zone. (10 Marks)
b. Write short notes on : i) Electrodes used in welding ii) Welding defects. (10 Marks)
- 10 a. Explain with neat sketch, Oxyacetylene Welding process. (10 Marks)
b. What are the different Non destructive Testing methods? Explain with a sketch Ultrasonic Inspection method. (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.