

CBCS SCHEME

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18AU36

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

Manufacturing Process – I

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 making a casting. (08 Marks)
- b. Explain different pattern allowances. (07 Marks)
- c. What is a binder? What are different types of binders used in moulding sand? (05 Marks)

OR

- 2 a. With a neat sketch, explain the functions of gating system. (08 Marks)
- b. Briefly explain different casting defects and briefly discuss their remedies. (08 Marks)
- c. What is a core? Give the classifications of core. (04 Marks)

Module-2

- 3 a. With a neat sketch, explain 'Shell moulding process', its advantages and disadvantages. (10 Marks)
- b. With a neat sketch, explain the working of a 'Cupola furnace'. (10 Marks)

OR

- 4 a. Explain with a neat diagram, the working of 'Hot chamber Die-casting process'. (10 Marks)
- b. With a neat sketch, explain the construction and working principle for 'Direct Electric Arc Furnace'. (10 Marks)

Module-3

- 5 a. Briefly discuss, the broad classification for welding processes and list out various applications of welding. (08 Marks)
- b. With a neat diagram, explain the operation of 'Flux Shielded Metal Arc Welding' and list out its advantages, disadvantages and applications. (12 Marks)

OR

- 6 a. With a neat sketch, explain the operation of oxy-acetylene gas welding and list out its advantages and disadvantages. (12 Marks)
- b. What is HAZ? Discuss the various parameters affecting HAZ. (08 Marks)

Module-4

- 7 a. Explain the process, principle, advantages and disadvantages for 'Spot Welding' process. (10 Marks)
- b. Explain the process advantages and disadvantages in 'Resistance Butt Welding'. (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.

OR

- 8 a. Explain the process, advantages, disadvantages and applications for 'Laser Beam Welding' (LBW). (10 Marks)
- b. Explain 'Thermit Welding' process, advantages and disadvantages. (10 Marks)

Module-5

- 9 a. Differentiate between soldering and brazing. (05 Marks)
- b. Explain the process of soldering in 'Soldering Iron Method'. (10 Marks)
- c. List out advantages and limitations for brazing. (05 Marks)

OR

- 10 a. List and various methods for inspecting casting and welding. (04 Marks)
- b. Explain 'Magnetic Particle Inspection'. (08 Marks)
- c. Explain 'Ultrasonic Inspection' for detecting defects in castings. (08 Marks)
