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10ME/AU35

Third Semester B.E. Degree Examination, June/July 2017
Manufacturing Process – I

Time: 3 hrs.

Max. Marks:100

Note: Answer FIVE full questions, selecting at least TWO questions from each part.

PART – A

- 1 a. Define the casting process. Explain the different steps involved in casting process. (08 Marks)
b. What is pattern? Explain briefly any two types of pattern allowances. (06 Marks)
c. Write a Note on Binders and Additives used in moulding. (06 Marks)
- 2 a. With a neat figure, explain the Terminologies of sand mould. (08 Marks)
b. What are the desirable properties of moulding sand? (06 Marks)
c. Mention the various casting defects. Explain any two types of defects. (06 Marks)
- 3 a. With a neat sketch, explain the investment moulding process. Mention its advantages. (10 Marks)
b. Define the “Die casting”. With a neat sketch, Explain the Hot chamber die casting process. (10 Marks)
- 4 a. With a neat sketch, explain the working principle of electric Resistance Furnace. (10 Marks)
b. Explain the construction and working principle of a cupola Furnace, with a sketch. (10 Marks)

PART – B

- 5 a. Define welding process. What are the advantages and limitations of welding process? List the industrial applications of welding. (10 Marks)
b. With a neat sketch, explain the Tungsten Inert gas welding (TIG) with advantages. (10 Marks)
- 6 a. With a neat sketch, explain the Resistance Butt welding process with its applications. (10 Marks)
b. With a sketch, explain the electron beam welding. Mention its applications. (10 Marks)
- 7 Write short notes on :
a. Different zones in welding
b. Parameter affecting HAZ
c. Effects of Residual stresses
d. Welding defects. (20 Marks)
- 8 a. Compare the soldering and Brazing processes. (05 Marks)
b. What is NDT? With neat sketches, explain the magnetic particle and ultrasonic testing techniques. (15 Marks)

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1. On completing your answer, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and/or equations written on the remaining pages will be treated as malpractice.