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10ME/AU35

Third Semester B.E. Degree Examination, Dec.2015/Jan.2016

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. Briefly Discuss the steps involved in making a sand casting. (08 Marks)
b. What is pattern? List different types of pattern. Explain match plate pattern with a neat sketch. (09 Marks)
c. Write explanatory note on No – Bake sands. (03 Marks)
- 2 a. Explain briefly the desirable properties of moulding sand. (08 Marks)
b. Draw a neat sketch of a gating system showing all the elements. (04 Marks)
c. With a neat sketch explain sand slinger. (08 Marks)
- 3 a. Explain with a neat sketch, the shell moulding process. (10 Marks)
b. With a neat sketch, explain continuous casting process. (10 Marks)
- 4 a. With a neat sketch, explain the different zones present in cupola furnace. (10 Marks)
b. With a neat sketch explain the constructional features and working of electrical resistance Furnace. List its advantages. (10 Marks)

PART – B

- 5 a. Sketch and explain TIG welding process. Mention its limitations. (10 Marks)
b. What are the different types of flames produced in oxy – acetylene welding and explain in brief with neat sketches. (10 Marks)
- 6 a. Explain the principle of Resistance welding. Also list its major applications. (06 Marks)
b. With a neat sketch explain laser beam welding. (10 Marks)
c. Enumerate the advantages of Electron beam welding. (04 Marks)
- 7 a. What is Heat Affected Zone (HAZ)? Explain the parameter affecting HAZ. (10 Marks)
b. List the functions of Electrode coatings. (04 Marks)
c. Write a short note on residual stresses in welding. (06 Marks)
- 8 a. Compare soldering and Brazing process. Mention their advantages, limitations and applications. (12 Marks)
b. Explain Radiography inspection with a neat sketch. (08 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.