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10ME/AU35

Third Semester B.E. Degree Examination, June/July 2015**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. List and explain different steps involved in making sand casting. (10 Marks)
b. Define pattern explain with neat sketch 'sweep' pattern. (10 Marks)
- 2 a. List the different properties of moulding sand, and explain any four. (10 Marks)
b. With a neat sketch explain sand slinger. (10 Marks)
- 3 a. Explain with neat sketch 'shell moulding' process. (12 Marks)
b. Explain with neat sketch true centrifugal casting. (08 Marks)
- 4 a. How melting furnaces are classified? Explain cupola furnace with neat sketch. (14 Marks)
b. Differentiate oil fired crucible furnace over a coke fired furnace. (06 Marks)

PART - B

- 5 a. Define welding. List the advantages, disadvantages and applications. (10 Marks)
b. Explain with a neat sketch 'TIG' welding and list its applications. (10 Marks)
- 6 a. Explain with a neat sketch Laser beam welding process. (10 Marks)
b. What is the principle of Resistance welding? With a neat sketch Explain 'Thermit' welding. (10 Marks)
- 7 Write a short notes on the following
i) Heat affected zone (HAZ).
ii) Welding defects.
iii) Residual stresses.
iv) Electrodes. (20 Marks)
- 8 a. Explain the following NDT with sketches.
i) Radiography inspection. (14 Marks)
ii) Magnetic particle inspection. (06 Marks)
b. Differentiate between Soldering and Brazing.

Important Note : 1. On completing your answers, cursorily draw diagonal cross lines on the remaining blank spaces.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.