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Third Semester B.E. Degree Examination, December 2011

Manufacturing Process - I

Time: 3 hrs.

Max. Marks:100

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

PART – A

- 1 a. Define manufacturing process and explain primary and secondary manufacturing process. (06 Marks)
- b. Define moulding and casting. (03 Marks)
- c. What is pattern? Explain in detail various allowances given to pattern and reasons to provide the allowances. (11 Marks)
- 2 a. With a neat figure, explain the terminologies of sand mould. (08 Marks)
- b. Explain with a neat sketch, the working principle of Jolt type moulding machine. (06 Marks)
- c. Explain the elements involved in gating system. (06 Marks)
- 3 a. Explain with neat sketches, shell moulding process and Investment moulding process. (14 Marks)
- b. Explain with a neat figure Hot chamber die casting process. (06 Marks)
- 4 a. With respect to different zones and their chemical reaction, explain Cupola furnace with a neat figure. (10 Marks)
- b. Explain high frequency Induction furnace. (05 Marks)
- c. Mention the advantages of oil fired crucible furnace over coke fired furnace. (05 Marks)

PART – B

- 5 a. Define welding. Broadly classify welding process with examples in each. (05 Marks)
- b. Write a note on cleaning and edge preparation in welding. (05 Marks)
- c. Explain Tungsten wiest gas welding process with a neat figure and mention its advantages and limitations. (10 Marks)
- 6 a. Explain with a neat figure, Thermit welding process with advantages. (10 Marks)
- b. Explain with a neat sketch, laser beam welding process mentioning clearly the formation of laser beam. (10 Marks)
- 7 Write short notes on :
 - a. Electrodes
 - b. Residual stresses
 - c. HAZ in welding
 - d. Welding defects. (20 Marks)
- 8 a. Explain magnetic particle inspection method to test welded part with advantages and limitations. (10 Marks)
- b. Explain Induction Brazing and mention advantages and limitations. (05 Marks)
- c. Differentiate Soldering and Brazing. (05 Marks)

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