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06ME35

**Third Semester B.E. Degree Examination, December 2011**  
**Manufacturing Processes – 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. Classify manufacturing processes. Explain briefly the various factors to be considered while selecting a process for a given application. (10 Marks)  
b. List the various types of patterns. Explain the different types of pattern allowances, with neat sketches. (10 Marks)
- 2 a. Sketch and explain the different types of gates. Bring out the requirements of a riser. (10 Marks)  
b. Sketch and explain the working of a jolt – squeeze type of a moulding machine. (10 Marks)
- 3 a. With neat sketches, explain the investment casting process. (10 Marks)  
b. With a neat sketch, explain the continuous casting process. Bring out its advantages. (10 Marks)
- 4 a. Sketch and explain the principle and working of a high frequency induction furnace. (10 Marks)  
b. Sketch and explain the construction and operation of a cupola. (10 Marks)

**PART – B**

- 5 a. Sketch and explain the metal inert gas welding (MIG). Bring out its advantages and limitations. (10 Marks)  
b. Classify welding processes and bring out the advantages and limitations of welding. (10 Marks)
- 6 a. With neat sketches, bring out the differences between spot and seam welding. (10 Marks)  
b. Explain electron beam welding, with a neat sketch and bring out its advantages and limitations. (10 Marks)
- 7 a. What is meant by HAZ? Explain the various regions of HAZ in low carbon steel during welding, with a neat sketch. (10 Marks)  
b. Discuss the various types of weld defects, their causes and remedies. (10 Marks)
- 8 a. Differentiate between brazing and soldering. Bring out the advantages, limitations and applications of these two processes. (10 Marks)  
b. What is meant by NDT? With a neat sketch, explain the X – ray radiography and bring out its advantages and limitations. (10 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.