

# CBCS Scheme

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15AU36

Third Semester B.E. Degree Examination, Dec.2017/Jan.2018

## Manufacturing Process - I

Time: 3 hrs.

Max. Marks: 80

**Note: Answer any FIVE full questions, choosing one full question from each module.**

### Module-1

- 1 a. List the steps involved in sand casting. Briefly explain. (06 Marks)
- b. What is a Pattern? What are the functions of pattern? (04 Marks)
- c. List the types of Binders used in molding sand. (06 Marks)

OR

- 2 a. With a neat sketch, explain the procedure and advantages and limitations of Green sand moulding process. (08 Marks)
- b. Explain the principal of Risers and any two types of Risers. (04 Marks)
- c. What is Casting defect? What are the causes and remedies of any four casting defects? (04 Marks)

### Module-2

- 3 a. With a neat sketch, explain Jolt squeeze type moulding. (06 Marks)
- b. Explain Sweep mould process. (04 Marks)
- c. With neat sketch, describe investment moulding process. (06 Marks)

OR

- 4 a. Describe Pressure – die casting technique with appropriate sketches. (06 Marks)
- b. Explain the structural features, working of Cupola furnace with different zones of Cupola. (10 Marks)

### Module-3

- 5 a. With a neat sketch, explain flux – shielded metal arc welding. (06 Marks)
- b. Define Welding. Describe the detailed classification. (04 Marks)
- c. Explain Oxy – acetylene welding process with flame characteristics. (06 Marks)

OR

- 6 a. List the differences between forward and backward welding. (04 Marks)
- b. What is TIG? Explain working of TIG. (06 Marks)
- c. With a neat sketch, explain atomic hydrogen welding process. (06 Marks)

### Module-4

- 7 a. Explain the principle and working of Thermit welding process. (08 Marks)
- b. With a neat sketch, explain Electron beam welding. (08 Marks)

OR

- 8 a. Name the different zones formed during welding and parameters affecting on HAZ. (06 Marks)
- b. What is Residual stress? Explain the methods of relieving residual stresses. (06 Marks)
- c. With neat sketches, explain the causes and remedies of any two welding defects. (04 Marks)

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**Module-5**

- 9 a. Explain the principle of Brazing. Explain any two methods of brazing. (06 Marks)  
b. With neat sketches, explain fluorescent particle test. (06 Marks)  
c. Explain Eddy current test. (04 Marks)

**OR**

- 10 a. With neat sketch, describe ultrasonic inspection methods. (08 Marks)  
b. Explain Holography method of inspection and list the advantages. (08 Marks)

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