

# CBCS SCHEME

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## Third Semester B.E. Degree Examination, June/July 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 principle and any two types of risers. (04 Marks)  
c. What is casting defect? Write the causes and remedies for any 4 casting defects. (04 Marks)

### Module-2

- 3 a. With a neat sketch explain jolt and squeeze type moulding machine, list the advantages. (06 Marks)  
b. Explain sweep mould process. (04 Marks)  
c. With neat sketch describe investment molding process. (06 Marks)

OR

- 4 a. Describe pressure die casting technique with appropriate sketches. (06 Marks)  
b. Explain the constructional 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 detail 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)

Important Note : 1. On completing your answers, compulsorily draw diagonal process lines on the remaining blank space. 2. All the portions of answers should be written in blue or black ink. 3. If the number of questions written eg. 42+8 = 50, will be treated as malpractice.

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)

**Module-5**

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

OR

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

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