

# CBCS SCHEME

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17AU36

Third Semester B.E. Degree Examination, Dec.2018/Jan.2019

## Manufacturing Process - I

Time: 3 hrs.

Max. Marks: 100

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

### Module-1

- 1 a. Briefly explain the steps involved in casting, with neat diagram. (10 Marks)  
b. What is Pattern? Write its functions. (05 Marks)  
c. What are the different allowances given to the pattern? Explain any 2 with neat diagram. (05 Marks)

OR

- 2 a. With neat diagram, explain the different types of cores used in manufacturing process. (10 Marks)  
b. Write the principles of Gates and Risers. (10 Marks)

### Module-2

- 3 a. With neat diagram, explain the sand slinger moulding machine. (10 Marks)  
b. Explain the CO<sub>2</sub> mould, with a neat diagram. (05 Marks)  
c. Explain the investment mould, with neat diagram. (05 Marks)

OR

- 4 a. Write a short note on "Centrifugal casting" (05 Marks)  
b. With a neat diagram, explain the different zones of cupola furnace. (12 Marks)  
c. What are the different types of Special moulding processes? (03 Marks)

### Module-3

- 5 a. What you mean by welding? Discuss the advantages and limitations of welding. (07 Marks)  
b. With neat diagram, explain the working of metal arc welding process. (07 Marks)  
c. What are the different applications of welding process? (06 Marks)

OR

- 6 a. Explain the construction and working of oxy-acetylene welding, with neat diagram. (08 Marks)  
b. Explain the different flame characteristics in gas welding, with diagram. (05 Marks)  
c. Explain the construction and working of Tungsten Inert gas welding, with neat diagram. (07 Marks)

### Module-4

- 7 a. With neat diagram, explain the working of Electron beam welding. (10 Marks)  
b. Write a short note on 'Laser welding'. (05 Marks)  
c. Write a short note on 'Spot welding'. (05 Marks)

OR

- 8 a. Write a short note on "Heat affected zones" in welding. (06 Marks)  
b. Explain the different welding defects, their causes and remedies. (10 Marks)  
c. Write a short note on 'Filler Rod and Fluxes'. (04 Marks)

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.

Module-5

- 9 a. Differentiate Soldering and Brazing. (05 Marks)
- b. Write the advantages and disadvantages of soldering and brazing. (10 Marks)
- c. Explain Induction brazing and mention its advantages and limitations. (05 Marks)

OR

- 10 a. What are the different Non – desctructive Testing (NDT) methods and explain with neat sketches of magnetic particle Inspection and Radiography Inspection method. (15 Marks)
- b. Write a short note on ‘Ultrasonic method of Inspection’. (05 Marks)

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