

# CBCS SCHEME

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18RA34

## Third Semester B.Tech. Degree Examination, Feb./Mar. 2022 Manufacturing Technology

Time: 3 hrs.

Max. Marks: 100

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

### Module-1

- 1 a. Define manufacturing and give the broad classification of manufacturing. (04 Marks)  
b. Define casting process and explain the various steps involved in casting process. (08 Marks)  
c. What is a pattern and briefly explain any two types of it. (08 Marks)

OR

- 2 a. What are binders and additives? List the different types of it. (04 Marks)  
b. Sketch and explain the steps involved in sand molding process. (10 Marks)  
c. What is Gating and Riser and list different types of it. Also mention their uses in solidification process. (06 Marks)

### Module-2

- 3 a. List the advantages and limitations of metal working processes. (06 Marks)  
b. List and explain any one type of forging equipment with a neat sketch. (08 Marks)  
c. Explain different types of forging defects. (06 Marks)

OR

- 4 a. Sketch and explain different types of rolling mills. (10 Marks)  
b. List and explain any one type of tube drawing process. (10 Marks)

### Module-3

- 5 a. Sketch and explain hydrostatic extrusion process. (06 Marks)  
b. Sketch and explain progressive die used for producing washer. (08 Marks)  
c. Explain deep drawing process. (06 Marks)

OR

- 6 a. Sketch and explain the working principle of flux shielded metal arc welding process. (08 Marks)  
b. Differentiate between TIG and MIG. (06 Marks)  
c. List and explain any one type of resistance welding process. (06 Marks)

### Module-4

- 7 a. Give the broad classification of non-traditional process based on type of energy. (04 Marks)  
b. With a simple sketch, explain the working principle of ultrasonic machining process. (08 Marks)  
c. Explain the various process parameters affects on the performance of AJM process. (08 Marks)

OR

- 8 a. Sketch and explain EDM process. (08 Marks)  
b. List the advantages, disadvantages and applications of ECM process. (06 Marks)  
c. Briefly explain PAM process. (06 Marks)

**Module-5**

- 9 a. Explain ATC and Tool magazine used in CNC machines. (08 Marks)  
b. Briefly explain different methods of CNC programming. (08 Marks)  
c. What are M and G codes and briefly explain the significance in turning and milling operation programming. (04 Marks)

OR

- 10 a. Define CAPP and list the important benefits of it. (04 Marks)  
b. Define DNC System and with sketch explain the elements of DNC System. (08 Marks)  
c. Give the classification of machining centers and briefly explain any ONE type of it. (08 Marks)

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