

# CBCS SCHEME



18ME641

## Sixth Semester B.E. Degree Examination, Jan./Feb. 2023 Non-Traditional Machining

Time: 3 hrs.

Max. Marks: 100

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

### Module-1

- 1 a. Define and classify non-traditional machining process with a neat chart. (10 Marks)  
b. Explain the need of non-traditional machining process. (10 Marks)

OR

- 2 a. Differentiate between traditional and nontraditional machining process. (10 Marks)  
b. List the advantages, disadvantages and applications of non-traditional machining process. (10 Marks)

### Module-2

- 3 a. Sketch and explain Ultra Sonic Machining Process (USM). (10 Marks)  
b. Explain the influence of the process parameters on Material Removal Rate (MRR) in USM. (10 Marks)

OR

- 4 a. With a neat sketch, explain the working principle of Abrasive Jet Machining Process (AJM). (10 Marks)  
b. List the advantages, limitations and applications of Abrasive Jet Machining (AJM). (10 Marks)

### Module-3

- 5 a. With a neat sketch, explain the working of Electrochemical Machining Processing (ECM). (10 Marks)  
b. What are the advantages, limitations and applications of electrochemical machining process? (10 Marks)

OR

- 6 a. With a neat sketch, explain the working principle of Chemical Machining Process (CHM). (10 Marks)  
b. What are the steps involved in chemical milling method and state its applications? (10 Marks)

### Module-4

- 7 a. With neat sketch, explain the working principle of Electro Discharge Machining Process (EDM). (10 Marks)  
b. What types of fluid used in electrochemical discharge machining and state the functions of these fluids? (10 Marks)

OR

- 8 a. With neat sketch, explain the working principle of Plasma Arc Machining (PAM). (10 Marks)  
b. What are the process parameters of Plasma Arc Machining (PAM)? Briefly explain. (10 Marks)

**Module-5**

- 9 a. With a neat sketch, explain the working of Laser Beam Machining Process (LBM). (10 Marks)
- b. What are the applications, advantages and limitations of Laser Beam Machining Process (LBM)? (10 Marks)

**OR**

- 10 a. With a neat sketch, explain the working principle of Electron Beam Machining (EBM). (10 Marks)
- b. Comment on parameters influencing Material Removal Rate (MRR) in Electron Beam Machining (EBM) and state their application of EBM. (10 Marks)

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