



# 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)

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. 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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