

6E7117**6E7117****B.Tech. VI-Sem. (Main/Back) Examination, April/May - 2026****Mechanical Engineering****6ME5-12 Non Conventional Machining Methods (EI-II)****Time : 3 Hours****Maximum Marks : 70****Instructions to Candidates:**

Attempt all Ten questions from Part A, Five questions out of seven questions from Part B and Three questions out of five questions from Part C.

Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. Units of quantities used/calculated must be stated clearly.

Use of following supporting material is permitted during examination. (Mentioned in form No. 205).

PART - A**(Answer should be given up to 25 words only)****All questions are compulsory.****(10×2=20)**

1. Define Non-Traditional Machining (NTM).
2. List two advantages of non-conventional machining processes.
3. Write any two differences between conventional and non-conventional machining.
4. What is Abrasive Jet Machining (AJM)?
5. Define Metal Removal Rate (MRR).
6. What is Abrasive Flow Machining (AFM)?
7. Write the function of dielectric fluid in EDM.
8. What is Laser Beam Machining (LBM)?
9. Define Electrochemical Machining (CHM)?
10. What is meant by Micro-machining?

PART - B

(Analytical / Problem Solving Questions)

Attempt any Five questions.

(5×4=20)

1. Explain classification of advanced machining processes.
2. Describe the mechanism of material removal in Ultrasonic Machining.
3. Discuss advantages and limitations of Water Jet Machining.
4. Describe Magnetic Abrasive Finishing for cylindrical surfaces.
5. Explain working principle of Electrical Discharge Machining.
6. Discuss advantages and limitations of Laser Beam Machining.
7. Explain Electrochemical Grinding (ECG).

PART - C

(Descriptive / Analytical / Problem Solving / Design Questions)

Attempt any Three questions.

(3×10=30)

1. Explain in detail the classification of non-conventional machining processes with examples.
 2. Describe the working principle of Abrasive Jet Machining (AJM) and discuss the factor affecting MRR.
 3. Explain the process steps, advantages and applications of Chemical Machining (CHM).
 4. Write a detailed note on Electron Beam Machining (EBM) and Plasma Arc Machining (PAM).
 5. Explain micro-machining and Nano-machining and discuss their industrial applications.
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