

Code: 20ME4501C

**III B.Tech - I Semester – Regular / Supplementary Examinations
NOVEMBER 2024**

**MODERN MACHINING METHODS
(MECHANICAL ENGINEERING)**

Duration: 3 hours

Max. Marks: 70

Note: 1. This paper contains questions from 5 units of Syllabus. Each unit carries 14 marks and have an internal choice of Questions.
2. All parts of Question must be answered in one place.

BL – Blooms Level

CO – Course Outcome

			BL	CO	Max. Marks
UNIT-I					
1	a)	What do you understand by the term Non-traditional machining methods? What is their importance?	L2	CO1	7 M
	b)	Classification of modern machining processes.	L2	CO1	7 M
OR					
2	a)	Explain with a neat sketch the working principle of Ultrasonic machining process, and mention any four applications.	L2	CO1	7 M
	b)	What are the advantages and disadvantages of Ultrasonic machining process?	L2	CO1	7 M
UNIT-II					
3	a)	Discuss the significance of important process parameters in WJM process with a neat sketch.	L2	CO1	7 M

	b)	Mention industrial applications and limitations of the Water Jet Machining process.	L2	CO1	7 M
OR					
4	a)	Discuss the working principle and process parameters affecting material removal in AJM with a neat sketch.	L2	CO1	7 M
	b)	Write the applications and limitations of AJM.	L2	CO1	7 M
UNIT-III					
5	a)	Illustrate the Electrochemical honing process with a neat sketch and mention applications.	L3	CO1 CO2	7 M
	b)	Explain the mechanism of material removal involved in the electrochemical machining.	L3	CO1 CO2	7 M
OR					
6	a)	Differentiate between electrochemical and chemical machining processes.	L2	CO1 CO2	7 M
	b)	Discuss the working principle of Electro stream drilling process with the help of a neat sketch.	L3	CO1 CO2	7 M
UNIT-IV					
7	a)	Illustrate the Electric discharge Wire cutting processes with a neat sketch.	L3	CO1	7 M
	b)	Write the advantages and applications of EDM?	L3	CO1	7 M
OR					

8	a)	Mention the different types of Dielectric fluids used in EDM, its function.	L3	CO1 CO3	4 M
	b)	Discuss the working principle and basic elements of EDM machining process with a neat sketch.	L3	CO1 CO3	10 M
UNIT-V					
9	a)	List the types of plasma arc torches used in Plasma Arc and explain working principle of PAM with neat sketch.	L2	CO1 CO4	7 M
	b)	Illustrate the construction and working of EBM machining.	L3	CO1 CO4	7 M
OR					
10	a)	Describe the working principle of the LBM process with a neat sketch, and mention any two advantages.	L3	CO1 CO4	7 M
	b)	What is the function of the vacuum chamber in EBM and write any four applications of EBM.	L2	CO1 CO4	7 M