

# CBCS SCHEME



BME405A

## Fourth Semester B.E./B.Tech. Degree Examination, June/July 2025 Non Traditional Machining

Time: 3 hrs.

Max. Marks: 100

*Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.  
2. M : Marks , L: Bloom's level , C: Course outcomes.*

Module – 1				M	L	C
Q.1	a.	Define Non-traditional Machining process. Also give the classification of non-traditional machining process based on different energy sources.	10	L1	CO1	
	b.	Explain the need for non-traditional machining process.	10	L2	CO1	
OR						
Q.2	a.	Explain the selection of non-traditional machining process.	08	L2	CO2	
	b.	What are the specific advantages , disadvantages and applications of non-traditional machining process.	12	L2	CO2	
Module – 2						
Q.3	a.	Write a neat sketch of Ultrasonic Machining (USM) process and label the important parts. Also explain principle of working.	12	L2	CO2	
	b.	Discuss the process characteristics like material removal rate, tool wear, accuracy and surface finish of USM.	08	L2	CO3	
OR						
Q.4	a.	With a neat sketch explain working principle of Abrasive Jet Machining process.	12	L2	CO2	
	b.	Explain the process variables in Abrasive Jet Machining process.	08	L1	CO2	
Module – 3						
Q.5	a.	With a neat sketch explain principle of working of Electro Chemical Machining process (ECM).	12	L2	CO2	
	b.	Explain the process parameters of ECM like current density, tool feed rate, gap between tool and workpiece, flow rate of electrolyte.	08	L1	CO2	
OR						
Q.6	a.	With a neat sketch explain electrochemical honing process, also write advantages and limitations of the process.	08	L2	CO2	
	b.	Explain the following with respect to chemical machining process: i) Chemical blanking process      ii) Chemical Milling process	12	L2	CO2	
Module – 4						
Q.7	a.	With a neat sketch explain mechanism of metal removal in EDM process.	12	L1	CO4	
	b.	What is Dielectric Fluid? Explain the desirable properties of a dielectric fluid medium used in EDM process. Also list the different dielectric fluids.	08	L2	CO4	
OR						
Q.8	a.	With a sketch explain working of Plasma Arc Machining process (PAM).	10	L2	CO4	
	b.	Explain the safety precaution in PAM.	06	L2	CO4	
	c.	Write the applications of EDM process.	04	L2	CO4	
Module – 5						
Q.9	a.	With a help of neat sketch explain working principle of Laser Beam Machining process (LBM).	12	L2	CO2	
	b.	What are the advantages , limitations and applications of LBM.	08	L1	CO2	
OR						
Q.10	a.	With a neat sketch explain Electron Beam Machining process (EBM).	12	L2	CO2	
	b.	What are the advantages , limitations and applications of EBM.	08	L1	CO2	

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