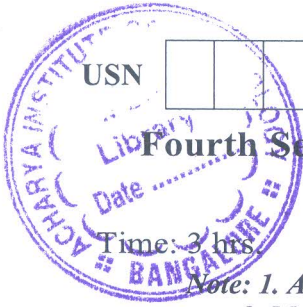


# CBCS SCHEME

BME405A



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**Fourth Semester B.E./B.Tech. Degree Examination, June/July 2024**

## 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. Write the classification of NTM.	8	L1	CO1
	b.	Justify the need of non-traditional machining process.	6	L2	CO1
	c.	List the applications of NTM.	6	L1	CO1
<b>OR</b>					
Q.2	a.	Differentiate between Traditional and Non-traditional machining processes.	10	L2	CO1
	b.	Explain the physical parameters and process capability of the Non-traditional machining processes.	10	L2	CO1
<b>Module – 2</b>					
Q.3	a.	With a neat sketch, explain the working principle of ultrasonic machining.	10	L2	CO2
	b.	Explain the effector process parameters of Ultrasonic machining.	10	L2	CO2
<b>OR</b>					
Q.4	a.	With a neat sketch, explain the working principle of Abrasive Jet Machining (AJM).	10	L2	CO2
	b.	Explain process parameters on Abrasive Jet Machining.	10	L2	CO2
<b>Module – 3</b>					
Q.5	a.	With a neat sketch, explain the working principle of Electro Chemical Grinding (ECG).	10	L2	CO3
	b.	Explain the following in chemical machining process: (i) Maskants                      (ii) Etchants	10	L2	CO3
<b>OR</b>					
Q.6	a.	Explain with flow chart the chemical blanking process. Mention its applications.	10	L2	CO3
	b.	Describe the various process parameters affecting ECM.	6	L2	CO3
	c.	List the advantages and disadvantages of ECM.	4	L2	CO3
<b>Module – 4</b>					
Q.7	a.	Explain with a neat sketch, the non-thermal generation of plasma and mechanism of metal removal in PAM.	10	L2	CO4
	b.	With a schematic representation, explain the travelling wire EDM processes.	10	L2	CO4

OR					
Q.8	a.	Differentiate between transferred and non transferred arc plasma torch mode of operation.	8	L2	CO4
	b.	Explain with a neat sketch, the plasma arc machining.	8	L2	CO4
	c.	What are the advantages and disadvantages of EDM?	4	L1	CO4
Module – 5					
Q.9	a.	With a neat sketch, explain Laser Beam Machining (LBM).	10	L2	CO5
	b.	Explain the process parameters of Electron Beam Machining.	10	L2	CO5
OR					
Q.10	a.	With a neat sketch, explain Electron Beam Machining.	10	L2	CO5
	b.	Explain with a neat sketch, the ND-YAG laser used in the laser beam machining.	10	L2	CO5

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