

**PRAGATI ENGINEERING COLLEGE: SURAMPALEM**  
**(AUTONOMOUS)**  
**IV B.Tech II Semester Supplementary Examinations, May - 2024**  
**UNCONVENTIONAL MACHINING PROCESSES**  
**(MECHANICAL ENGINEERING)**

Time: 3 hours

Max. Marks: 70M

Answer ONE Question from each Unit  
 All Questions Carry Equal Marks

Q. No.	Questions	BTL	CO	Marks
<b>UNIT – I</b>				
1.	a) What are the limitations of traditional machining methods.	K1	CO1	7M
	b) Explain the process parameters of MRR in Ultrasonic machining.	K2	CO1	7M
<b>OR</b>				
2.	a) What are various considerations in unconventional process selection?	K1	CO1	7M
	b) Write the applications and limitations of Ultrasonic machining.	K1	CO1	7M
<b>UNIT – II</b>				
3.	a) Sketch the line diagram explaining the working of electro chemical machining.	K2	CO2	7M
	b) Write the limitations of electro chemical machining.	K1	CO2	7M
<b>OR</b>				
4.	a) List the applications of electro chemical machining.	K2	CO2	7M
	b) Explain the factors affecting the Surface finish and accuracy in electro chemical machining.	K2	CO2	7M
<b>UNIT – III</b>				
5.	a) Explain the working principle of EDM using a neat sketch.	K2	CO3	7M
	b) Compare Electric Discharge Grinding and wire EDM processes.	K2	CO3	7M
<b>OR</b>				
6.	a) Explain the considerations in selection of tool electrode in EDM.	K2	CO3	7M
	b) List out the process parameters in EDM.	K2	CO3	7M
<b>UNIT – IV</b>				
7.	a) Explain the principle and working of Laser beam machining.	K2	CO4	7M
	b) Explain non- transferred and transferred modes of Plasma arc.	K2	CO4	7M
<b>OR</b>				
8.	a) Differentiate between working of Electron Beam Machining and Laser Beam Machining	K2	CO4	7M
	b) Explain the applications Plasma Machining.	K2	CO4	7M

UNIT – V					
9.	a)	Explain the working principle of Water jet machining using a neat sketch.	K2	CO5	7M
	b)	Write any three application and limitations of WJM.	K2	CO5	7M
OR					
10.	a)	Explain the working principle of Abrasive jet machining using a neat sketch.	K2	CO5	7M
	b)	Write any three application and limitations of Abrasive jet machining.	K2	CO5	7M