

SREENIVASA INSTITUTE of TECHNOLOGY and MANAGEMENT STUDIES  
(AUTONOMOUS)  
(NBA – NAAC ACCREDITED)  
B.TECH IV Year II semester  
(Question Bank)  
16MEC424 A: **MODERN MACHINING PROCESS**  
(MECHANICAL ENGINEERING)

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<b>UNIT – 1:MECHANICAL ADVANCED MACHINING PROCESS</b>					
<b>Q.No</b>	<b>Questions</b>	<b>Marks</b>	<b>CO</b>	<b>BL</b>	<b>PO</b>
1	What is meant by unconventional machining processes?	2	CO1	R	1
2	Write any four advantages of unconventional machining process.	2	CO1	R	1
3	Write any four limitations of unconventional machining process.	2	CO1	R	1
4	List the unconventional machining process which uses mechanical energy.	2	CO1	R	1
5	What is meant by conventional machining processes?	2	CO1	U	1
6	What are the characteristics of unconventional machining process?	2	CO1	R	1
7	State the working principle of Abrasive Jet Machining.	2	CO1	U	1
8	What is the transfer medium in Abrasive Jet Machining?	2	CO1	R	1
9	List the applications of Water Jet Machining process.	2	CO1	R	1
10	What are the abrasives used in Ultrasonic Machining process?	2	CO1	R	1
11	Classify the unconventional machining process and briefly explain it.	10	CO1	U	1
12	Describe the need for non-traditional machining processes.	10	CO1	U	1
13	Briefly explain the factors influencing the process selection of unconventional machining process.	10	CO1	U	1
14	Describe the construction and principle for Abrasive Jet machining with suitable diagram	10	CO1	R	1
15	Explain the process parameters for AJM.	10	CO1	R	1
16	Explain the working principle of the AJM Process and also mention its advantages and limitations.	10	CO1	R	1
17	Describe the principle and equipment for Water Jet machining with suitable diagram	10	CO1	R	1
18	List the advantages, limitations, applications and recent development of Water Jet machining process.	10	CO1	R	1
19	Describe Ultrasonic machining with neat sketch.	10	CO1	R	1
20	List the advantages, limitations, and applications of USM.	10	CO1	R	1

<b>UNIT – 2: THERMO ELECTRIC ADVANCED MACHINING PROCESS</b>					
<b>Q.No</b>	<b>Questions</b>	<b>Marks</b>	<b>CO</b>	<b>BL</b>	<b>PO</b>
1	State the working principle of EDM process	2	CO2	R	1
2	What is the purpose of dielectric in EDM?	2	CO2	U	1
3	What are the basic requirements of tool material for EDM?	2	CO2	U	1
4	Name the common tool material used in EDM.	2	CO2	R	1
5	What are the factors affecting metal removal rate in EDM?	2	CO2	R	1
6	List the applications of EDM.	2	CO2	R	1
7	Name the common dielectric fluids used in EDM.	2	CO2	R	1
8	List the advantages of Wire Cut EDM process.	2	CO2	R	1
9	List the limitations of Wire Cut EDM process.	2	CO2	R	1
10	List the applications of Wire Cut EDM process.	2	CO2	R	1
11	With neat sketch, explain the working principle of EDM and their applications with respect to industrial environment.	10	CO2	R	1
12	Describe the features of Wire Cut EDM.	10	CO2	U	1
13	Describe functions of dielectric fluids and mention advantages and limitations of EDM.	10	CO2	R	1
14	With neat sketch, explain the construction and working of Wire-Cut EDM.	10	CO2	U	1
15	Describe about metal removal rate and surface finish in EDM process.	10	CO2	U	1
16	Describe electrical discharge diamond grinding with suitable sketch.	10	CO2	R	1
17	Explain difference between EDM and Wire-Cut EDM and also mention recent development in EDM process.	10	CO2	R	1
18	Describe features of Wire-Cut EDM.	10	CO2	R	1
19	List the advantages, limitations, and applications of EDM process.	10	CO2	R	1
20	Write short notes on electric discharge diamond grinding.	10	CO2	R	1

<b>UNIT – 3: ELECTRON BEAM AND LASER BEAM MACHINING PROCESS</b>					
<b>Q.No</b>	<b>Questions</b>	<b>Marks</b>	<b>CO</b>	<b>BL</b>	<b>PO</b>
1	State the working principle of EBM process.	2	CO3	R	1
2	Explain why EBM process is performed usually in a vacuum chamber.	2	CO3	U	1
3	What are the limitations of EBM process?	2	CO3	R	1
4	What is the acronym of LASER?	2	CO3	R	1
5	What materials can be machined by using Laser Beam?	2	CO3	U	2
6	List any four advantages of LBM.	2	CO3	R	1
7	What are the applications of LBM?	2	CO3	R	1
8	What is Plasma?	2	CO3	R	1
9	State the working principle of Plasma Arc Machining.	2	CO3	R	1
10	What are the gases used in PAM?	2	CO3	R	1
11	Describe how the metal removal rate is controlled in Plasma Arc machining process.	10	CO3	U	1
12	With neat sketch, explain the construction and working of PAM.	10	CO3	R	1
13	List the advantages, limitations, and applications of PAM process.	10	CO3	R	1
14	Explain Plasma Arc Machining construction.	10	CO3	R	1
15	Describe Electron Beam machining equipment.	10	CO3	R	1
16	Describe construction and working principle of LBM process.	10	CO3	R	1
17	Discuss process parameters of LBM.	10	CO3	U	1
18	List the advantages, limitations, and applications of LBM process.	10	CO3	R	1
19	Describe process parameters and applications of EBM.	10	CO3	U	1
20	Discuss process parameters of PAM.	10	CO3	U	1

<b>UNIT – 4: ELECTRO CHEMICAL AND CHEMICAL ADVANCED MACHINING PROCESS</b>					
<b>Q.No</b>	<b>Questions</b>	<b>Marks</b>	<b>CO</b>	<b>BL</b>	<b>PO</b>
1	State the principle of Chemical machining Process.	2	CO4	R	1
2	What is the purpose of etchants in chemical machining?	2	CO4	U	1
3	Name the etchants used in chemical machining process.	2	CO4	R	1
4	What is the use of maskants in chemical machining.	2	CO4	R	1
5	Name some of the maskants used in CHM.	2	CO4	R	1
6	Write principle of ECM process.	2	CO4	R	1
7	What are the requirements of tool materials in ECM process?	2	CO4	R	1
8	State the principle of Electro Chemical Grinding Process.	2	CO4	R	1
9	List the applications of ECG process.	2	CO4	U	1
10	What is the difference between ECG and Conventional Grinding?	2	CO4	R	1
11	Explain Electro Chemical machining process with suitable sketch.	10	CO4	R	1
12	Write the advantages, limitations, and applications of ECM process.	10	CO4	R	1
13	Explain the working principle of Electro Chemical Grinding with neat diagram.	10	CO4	R	1
14	List the advantages, limitations, and applications of Electro Chemical Grinding.	10	CO4	R	1
15	Explain the process capabilities of Electro Chemical Discharge Grinding.	10	CO4	U	1
16	State the principle of Electro Chemical Discharge Grinding and also mention advantages and applications of Electro Chemical Discharge Grinding process.	10	CO4	R	1
17	Briefly explain the difference between ECG and Conventional Grinding.	10	CO4	U	1
18	What are the tool materials used for Electro Chemical Machining and also mention essential characteristics of electrolyte used in ECM process.	10	CO4	U	1
19	What is the use of maskant in Chemical machining? Name some of the maskants used in CHM.	10	CO4	R	1
20	Describe the principle of ECM process with suitable diagram.	10	CO4	R	1

<b>UNIT – 5: OTHER ADVANCED MACHINING PROCESS</b>					
<b>Q.No</b>	<b>Questions</b>	<b>Marks</b>	<b>CO</b>	<b>BL</b>	<b>PO</b>
1	Write advantages of Rapid Prototyping.	2	CO5	R	1
2	State the principle of Electro stream drilling.	2	CO5	R	1
3	List the applications of Electro stream drilling.	2	CO5	R	1
4	List the applications of Rapid Prototyping.	2	CO5	R	1
5	Briefly describe about Stereo Lithography.	2	CO5	R	1
6	Mention limitations of Electro Stream Drilling.	2	CO5	R	1
7	State the principle of Magnetic Abrasive Finishing.	2	CO5	R	1
8	Write classification of Magnetic Abrasive Finishing.	2	CO5	R	1
9	List any four advantages of Magnetic Abrasive Finishing process.	2	CO5	R	1
10	Write applications of Selective Laser Sintering.	2	CO5	R	1
11	Explain working principle of Electro Stream Drilling with suitable diagram.	10	CO5	R	1
12	Describe process parameters of Electro Stream Drilling.	10	CO5	U	1
13	List the advantages, limitations, and applications of Electro Stream Drilling.	10	CO5	R	1
14	Describe process capabilities of Electro Stream Drilling.	10	CO5	U	1
15	Write short notes on Magnetic Abrasive Finishing process.	10	CO5	R	1
16	Describe principle and applications of Shaped Tube Electrolytic machining.	10	CO5	R	1
17	List the advantages, limitations, and applications of Magnetic Abrasive Finishing process.	10	CO5	R	1
18	Briefly explain Selective Laser Sintering process and also mention its applications.	10	CO5	R	1
19	Briefly describe classification of Rapid Prototyping.	10	CO5	R	1
20	List the advantages, limitations, and applications of Stereo Lithography.	10	CO5	R	1