


QUESTION BANK (DESCRIPTIVE)
Subject with Code: Modern Machining Methods (19ME0326)

Course & Branch: B.Tech - MECH

Regulation: R19

Year & Sem: IV-B.Tech & I-Sem

UNIT –I

1		Discuss the Modern Machining Methods with their applications in the current industry.	L2	CO1	12M
2	A	Explain the need for Modern Machining Methods.	L2	CO1	6M
	B	What are the advantages of Non-Traditional Machining Methods?	L1	CO1	6M
3		Explain the differences between Conventional and Non-Conventional machining are used.	L2	CO1	12M
4		With a block diagram, discuss the classification of Non-Traditional Machining Processes.	L2	CO1	12M
5	A	Illustrate a neat sketch, and explain the working process of the Ultrasonic Sonic Machining Process (USM).	L4	CO1	6M
	B	Mention advantages and disadvantages of the Ultrasonic Machining Process.	L2	CO1	6M
6		Analyze the effects of the following parameters on MRR as applied to the Ultrasonic Machining Process (USM). a) Amplitude & Frequency of Vibrations b) Grain Size c) Applied Static Load d) Effect of Slurry	L3	CO1	12M
7		Explain the working principle of Abrasive Jet Machining (AJM) and also process characteristics.	L2	CO1	12M
8	A	Explain the working principle of water jet machining (WJM)?	L4	CO1	6M
	B	What are the applications, advantages and disadvantages of water jet machining (WJM)?	L1	CO1	6M
9		What are the applications, advantages and disadvantages of Abrasive Jet Machining (AJM)?	L1	CO1	12M
10		Discuss the effect of stand of distance (or) nozzle tip distance, water pressure, nozzle material on MRR and surface finish in Water Jet Machining (WJM).	L2	CO1	12M

UNIT –II

1		Discuss the need for Thermo Electrical Machining Processes when compared to conventional machining processes.	L4	CO2	12M
2		Explain the working principle and machining process of EDM (Electrical Discharge machining) with a neat sketch.	L2	CO2	12M
3	A	List the advantages and disadvantages of EDM (Electrical Discharge Machining).	L2	CO2	6M
	B	Lists the Applications of EDM (Electrical Discharge machining).	L2	CO2	6M
4	A	What is flushing, and explain any two methods of flushing in the EDM process.	L3	CO2	6M

	B	What are the functions of dielectric fluid in EDM (Electrical Discharge Machining)?	L3	CO2	6M
5	A	Explain the working principle of wire cut EDM.	L2	CO2	6M
	B	With a neat sketch, explain the construction and working of a Wire Electrical Discharge Machining Process (WEDM).	L1	CO2	6M
6	A	List the advantages and disadvantages of WEDM (WIRE Electrical Discharge machining).	L2	CO2	6M
	B	List the Applications of WEDM (WIRE Electrical Discharge machining).	L2	CO2	6M
7		Explain the choice of parameters for improved surface finish and accuracy of the Electrical Discharge Machining (EDM) process.	L5	CO2	12M
8		With a neat sketch, explain the construction and working of an electrical discharge grinding (EDG) process.	L1	CO2	12M
9	A	Give a brief note on the advantages and limitations of the Electrical Discharge Grinding (EDG) process.	L4	CO2	6M
	B	Give a brief note on applications of the Electrical Discharge Grinding (EDG) process.	L2	CO2	6M
10		Differentiate between EDM (Electrical Discharge Machining) and Electrical Discharge Grinding (EDG) process.	L5	CO2	12M

UNIT-III

1		Discuss the need for Electro Chemical Machining (ECM) and its applications.	L4	CO3	12M
2		Give a brief note on metal removal in maskants, etchants and process variables of a Chemical Machining Process.	L1	CO3	12M
3		What are the advantages, disadvantages and applications of Chemical Machining?	L2	CO3	12M
4		Draw the schematic layout of the Electro Chemical Machining (ECM) set-up and explain the major elements in it.	L2	CO3	12M
5		Write the advantages, disadvantages and applications of Electro Chemical Machining (ECM).	L2	CO3	12M
6		Explain the principle of metal removal in the Electro Chemical Machining (ECM) process. Discuss the function of electrolytes in this process.	L5	CO3	12M
7		Explain the working principle of the Electro Chemical Grinding (ECG) process with a schematic diagram and specify the parameters.	L1	CO3	12M
8	A	What are the different types of electrolytes used in Electro Chemical Machining (ECM)?	L1	CO3	6M
	B	Discuss the surface finish, accuracy and economic aspects of Electro Chemical Machining (ECM).	L1	CO3	6M
9		Write the advantages, disadvantages and applications of Electro Chemical Grinding (ECG).	L4	CO3	12M
10	A	Explain the working principle of the Electro-Chemical Honing (ECH) process with a schematic diagram and specify the parameters.	L2	CO3	6M
	B	Write the advantages, disadvantages and applications of Electro Chemical Honing (ECH).	L2	CO3	6M

UNIT-IV

1	Draw the schematic layout of Electron Beam Machining (EBM) set up and explain the major elements in it.	L1	CO4	12M
2	Write the advantages, disadvantages Electron Beam Machining (EBM).	L2	CO4	12M
2	Differentiate between Electron Beam Machining (EBM) and Laser Beam Machining (LBM).	L1	CO4	12M
3	Draw the schematic layout of Laser Beam Machining (LBM) set up and explain the major elements in it.	L4	CO4	12M
4.	Write the advantages, disadvantages Laser Beam Machining (LBM).	L4	CO4	12M
5.	Discuss the applications and limitations of Laser Beam Machining (LBM).	L2	CO4	12M
6.	Draw the schematic layout of Plasma Arc Machining (PAM) set up and explain the major elements in it.	L2	CO4	12M
7.	Write the advantages, disadvantages Plasma Arc Machining (PAM).	L1	CO4	12M
8.	Discuss the applications and limitations of Plasma Arc Machining (PAM).	L2	CO4	12M
9.	Discuss the applications and limitations of Electron Beam Machining (EBM).	L2	CO4	12M
10.	Differentiate between Plasma Arc Machining (PAM) and Laser Beam Machining (LBM).	L1	CO4	12M

UNIT-V

1	Discuss briefly about the need of Micro fabrication Techniques, it's advantages, disadvantages and applications.	L2	CO5	12M
2	Explain about the Micro Fabrication Technique - Lithography with neat Lithography flow diagram.	L1	CO5	12M
3	Explain about the Micro Fabrication Technique: Thin-Film Deposition.	L1	CO5	12M
4	Discuss about the Micro Fabrication Technique-Doping.	L2	CO5	12M
5	Explain about the Micro Fabrication Technique of Chemical vapor deposition with neat diagram.	L1	CO5	12M
6	Explain about the Micro Fabrication Technique of Physical vapor deposition with a neat diagram.	L1	CO6	12M
7	Discuss briefly about the need of Nano fabrication Techniques.	L2	CO6	12M
8	Explain about Nanofabrication Techniques-E-Beam Nanofabrication.	L1	CO6	12M
9	Explain about Nanofabrication Techniques- Scanning Probe Technique with neat diagram.	L1	CO6	12M
10	Discuss briefly about the its advantages, disadvantages and applications.	L2	CO6	12M

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