PVP 20

Code: 20ME4501C

III B.Tech - I Semester – Regular / Supplementary Examinations
NOVEMBER 2023

MODERN MACHINING METHODS
(MECHANICAL ENGINEERING)

Duration: 3 hours Max. Marks: 70

Note: 1. This paper contains questions from 5 units of Syllabus. Each unit carries 14 marks and have an internal choice of Questions.
2. All parts of Question must be answered in one place.

BL – Blooms Level CO – Course Outcome

			BL	CO	Max. Marks
UNIT-I					
1	a)	Indicate the term Non-traditional machining methods? What is their importance?	L2	CO1	7 M
	b)	How are 'Unconventional machining methods' classified?	L2	CO1	7 M
OR					
2	a)	Explain briefly with a neat sketch the principle and working of Ultrasonic machining process.	L2	CO1	7 M
	b)	What are the advantages and disadvantages of Ultrasonic machining process?	L2	CO1	7 M
UNIT-II					
3	a)	Discuss the significance of important process parameters in WJM process with a neat sketch.	L2	CO1	7 M

	b)	What are the applications and limitations of WJM?	L2	CO1	7 M
OR					
4	a)	Discuss the working principle and process parameters affecting material removal in AJM with a neat sketch.	L2	CO1	7 M
	b)	Write the applications and limitations of AJM.	L2	CO1	7 M
UNIT-III					
5	a)	Illustrate the working principle of Chemical machining process with a neat sketch.	L3	CO2	7 M
	b)	Explain the mechanism of material removal involved in the electrochemical machining.	L3	CO2	7 M
OR					
6	a)	Differentiate between electrochemical and chemical machining processes.	L3	CO2	7 M
	b)	Discuss the working principle of Electro stream drilling process with the help of a neat sketch.	L3	CO2	7 M
UNIT-IV					
7	a)	Illustrate the working principle of Wire-EDM process with neat sketch.	L3	CO3	7 M
	b)	Write the advantages and applications of EDM.	L3	CO3	7 M
OR					

8	a)	Describe the dielectric fluids commonly used in EDM.	L2	CO3	2 M
	b)	Illustrate the working principle and basic elements of EDG machining process with neat sketch.	L3	CO3	12 M
UNIT-V					
9	a)	Illustrate the working principle of the LBM process with a neat sketch.	L3	CO4	7 M
	b)	Write any five industrial applications of Laser Beam Machining process.	L3	CO4	7 M
OR					
10	a)	Explain the metal removal mechanism and process parameters of Plasma Arc Machining.	L3	CO4	7 M
	b)	Write applications of plasma in manufacturing industries.	L3	CO4	7 M