Code No.: ME511PE | R20 | H.T.No. | | | 8 | R | | | | | |

CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
III–B.TECH–II–Semester End Examinations (Regular) - June- 2024
UNCONVENTIONAL MACHINING PROCESSES
(MECH)

[Time: 3 Hours] **[Max. Marks: 70]**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 20 marks. Answer all questions in Part A.
Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART-A **(20 Marks)**

1.	a)	What are the applications of ultrasonic machining?	[2M]
	b)	List out the various controlling parameters on the metal removal rate in ultrasonic machining.	[2M]
	c)	What are the advantages and disadvantages of electro chemical honing.	[2M]
	d)	Outline the Economic aspects of electro chemical machining (ECM).	[2M]
	e)	Draw the relaxation circuit (R-L-C) diagram of electro discharge machining.	[2M]
	f)	What do you mean by spark erosion?	[2M]
	g)	What are the different types of LASERs?	[2M]
	h)	Briefly explain about thermal fatigue.	[2M]
	i)	What the limitations of chemical machining?	[2M]
	j)	Distinguish between the Cut and Peel Maskant.	[2M]

PART-B **(50 Marks)**

2.	With the help of a neat diagram, explain the working principle of ultrasonic machining.	[10M]
	OR	
3.	Explain the effect of operating parameters on material removal rate in Unconventional Machining Process.	[10M]
4.	Explain the working principle of electro chemical Grinding and write its applications.	[10M]
	OR	
5.	Explain the working principle of abrasive water jet machining. Mention some of the specific applications.	[10M]
6.	What factors are to be considered for the selection of tool electrode in electric discharge machining? Explain.	[10M]
	OR	
7.	Enumerate the principle of wire electric discharge machining and Write its applications.	[10M]
8.	Explain the production of laser beam and its working principle with help of neat sketch.	[10M]
	OR	
9.	What are the applications of laser beam machining and discuss their importance.	[10M]
10.	List out various maskants used in chemical machining and explain their merits in detail.	[10M]
	OR	
11.	Discuss the applications of chemical machining along with the limitations.	[10M]

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