24-04-2023

Reg. No.												

Question Paper Code	11799

B.E. / B.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2023

Seventh Semester

Mechanical Engineering

(Common to Production Engineering)

ME8073 – UNCONVENTIONAL MACHINING PROCESSES

(Regulations 2017)

Duration: 3 Hours | Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

		Marks, K-Level, CO
1.	What are the importances of unconventional machining?	*2,K2,CO1*
2.	Reuse of abrasives is not recommended in Abrasive jet machining process. Why?	*2,K2,CO1*
3.	Explain the principle of LBM process in short.	*2,K2,CO2*
4.	Describe the roles of dielectric fluid in EDM.	*2,K2,CO2*
5.	What is the use of maskant in chemical machining?	*2,K1,CO3*
6.	What are the main functions of electrolysis in the ECM?	*2,K1,CO3*
7.	Describe the Abrasive Flow Machining process.	*2,K2,CO4*
8.	What is Chemical Mechanical Polishing?	*2,K1,CO4*
9.	Define non-traditional machining.	*2,K1,CO5*
10.	Discriminate the machining processes of AWJM and ECM.	*2,K2,CO6*

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

11.	a)	Describe the apparatus, construction and working principle of AJM. Also discuss the various process parameters of abrasive jet machining.	*13,K2,CO1*
		OR	
	b)	Explain with a neat sketch, the working principle of ultrasonic machining process.	*13,K2,CO1*
12.	a)	Explain the principle of working of EDM process with sketch. List down its advantages, disadvantages and its application.	*13,K2,CO2*
		OR	
	b)	Explain the principle, construction and working of Laser beam machining. Also Explain in detail about the process parameters of Laser Beam Machining.	*13,K2,CO2*

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create

13. a) Explain in detail the ECM process with neat sketch and also mention the advantages and its application. *13,K2,CO3*

OR

b) Explain Electro-Chemical Honing process with neat sketch. *13,K2,CO3*

14. a) With the help of a neat diagram, explain the working principle of Abrasive Flow Machining process. *13,K2,CO4*

OR

b) Explain the principle, construction and working of Magneto rheological Abrasive Flow Finishing. *13,K2,CO4*

15. a) Illustrate with neat sketch, about working Principle of Electro Chemical Deburring (ECD). *13,K2,CO5*

OR

b) Discuss the factors to be considered, while selecting Nontraditional Machining Process. *13,K2,CO5*

PART - C (1 × 15 = 15 Marks)

16. a) Compare various non-traditional machining processes. *15,K2,CO6*

OR

b) Discuss the recent developments in non-traditional machining processes with practical examples. *15,K2,CO6*