2021 SCHEME

Basavarajeswari Group of Institutions

BALLARI INSTITUTE OF TECHNOLOGY & MANAGEMENT

(Autonomous Institute under Visvesvaraya Technological University, Belagavi)

USN										Course Code	2	1	M	E	6	4	1

Sixth Semester B.E. Degree Examinations, September/October 2024

NON-TRADITIONAL MACHINING

Duration: 3 hrs **Max. Marks: 100**

Note: 1. Answer any* FIVE *full questions choosing ONE full Question from each Module.
2. Missing data, if any, may be suitably assumed

Q. No		*Question*	*Marks*	*(RBTL:CO:PI)*
		Module-1		
1.	**a.**	Define non-traditional machining. Write the detailed classification of non-traditional machining.	**08**	**(2:1:1.6.1)**
	b.	Distinguish between traditional and non-traditional machining.	**06**	**(2 :1:1.6.1)**
	c.	Explain the factors to be considered for selection of non–traditional machining process.	**06**	**(2 :1:1.6.1)**
		(OR)		
2.	**a.**	Sketch and explain the ultrasonic machining process.	**10**	**(2 :1:1.6.1)**
	b.	Explain the influence of various process parameters on MRR in USM.	**10**	**(2 :1:1.6.1)**
		Module-2		
3.	**a.**	With neat sketch, explain the working abrasive jet machining process.	**10**	**(2 :2:1.6.1)**
	b.	Explain the influence of various process parameters on MRR in AJM.	**10**	**(2 :2:1.6.1)**
		(OR)		
4.	**a.**	With the help of neat sketch, explain water jet machining process.	**10**	**(2 :2:1.6.1)**
	b.	Explain the process variables that affect the performance of water jet machining process.	**10**	**(2 :2:1.6.1)**
		Module-3		
5.	**a.**	With a neat sketch, explain the working principle of ECM process.	**08**	**(2 :3:1.6.1)**
	b.	With a neat sketch, explain Electro Chemical Grinding (ECG) process.	**06**	**(2 :3:1.6.1)**
	c.	Explain the following ECM Process characteristics: (i) Material removal rate (ii) Accuracy (iii) Surface finish	**06**	**(2 :3:1.6.1)**
		(OR)		
6.	**a.**	Sketch and explain the electro chemical honing. Mention the advantages and disadvantages.	**10**	**(2 :3:1.6.1)**
	b.	Explain in brief the following in chemical machining process: (i) Maskants (ii) Etchants	**10**	**(2 :3:1.6.1)**

Note: (RBTL - Revised Bloom's Taxonomy Level: CO - Course Outcome: PI– Performance Indicator)

Module-4

7.	**a.**	With neat sketch, explain the working of electrical discharge machining process.	**10**	**(2 :4:1.6.1)**
	b.	Sketch and explain travelling wire EDM Process.	**10**	**(2 :4:1.6.1)**

(OR)

8.	**a.**	Explain with sketch, the principle of working of plasma arc machining process.	**08**	**(2 :4:1.6.1)**
	b.	What are the safety precautions in PAM? Explain.	**06**	**(2 :4:1.6.1)**
	c.	What are the advantages, limitations and applications of PAM process?	**06**	**(2 :4:1.6.1)**

Module-5

9.	**a.**	Sketch and explain laser beam machining process.	**10**	**(2 :5:1.6.1)**
	b.	Discuss various process parameters of LBM process.	**10**	**(2 :5:1.6.1)**

(OR)

10	**a.**	Explain with sketch the working of electron beam machining process.	**10**	**(2 :5:1.6.1)**
	b.	Discuss various process parameters of EBM process.	**10**	**(2 :5:1.6.1)**

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