

U.S.N.

B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

January 2024 Semester End Main Examinations

Programme: B.E.

Branch: Mechanical Engineering

Course Code: 20ME7DENDT

Course: Non-Destructive Testing

Semester: VII

Duration: 3 hrs.

Max Marks: 100

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.			UNIT - I	CO	PO	Marks
	1	a)	List out the advantages and disadvantages of NDT over DT.	CO2	PO1	10
		b)	Sketch and explain flexible borescope with its application.	CO1	PO1	10
			OR			
	2	a)	How is the eddy current test used for the inspection of material thickness? Sketch and explain the same.	CO1	PO1	10
		b)	Explain the principal operating variables encountered in the eddy current inspection.	CO4	PO1	10
			UNIT - II			
	3	a)	List out the desired properties of the penetrant used in liquid penetrant testing.	CO1	PO1	10
		b)	Explain how post emulsifiable hydrophilic liquid penetrant testing is performed with a flow diagram.	CO1	PO1	10
			UNIT - III			
	4	a)	Explain the steps involved in the magnetic particle inspection system with an illustration.	CO1	PO1	10
		b)	Explain the characteristics of magnetic particles used in the magnetic particle inspection system.	CO1	PO1	10
			UNIT - IV			
	5	a)	Explain the principle of the radiography test with a neat sketch.	CO4	PO1	10
		b)	Explain how X-rays are produced in radiography test.	CO1	PO1	10
			UNIT - V			
	6	a)	Describe how ultrasonic waves are classified. And explain the same.	CO2	PO1	10

		b)	Explain with a neat sketch of through transmission method of ultrasonic testing.	CO4	PO1	10
			OR			
7	a)		List out advantages and disadvantages of ultrasonic inspection.	CO3	PO1	10
	b)		Explain different types of pulse echo methods and its importance In NDT.	CO1	PO1	10

B.M.S.C.E. - ODD SEM 2023-24