

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)***UG/PG DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL-MAY 2026***Seventh Semester**Mechanical Engineering***OML351 - INTRODUCTION TO NON-DESTRUCTIVE TESTING***Regulations - 2021***Duration : 3 Hrs****Maximum : 100 Marks****PART – A(ANSWER ALL QUESTIONS) (Marks 10*2=20)**

Q.No	Questions	BTL	CO	Marks
1.	Visual testing is inherently part of all other NDT methods. Justify the Statement.	L4	1	2
2.	Name any two of the NDT techniques that can be used to detect internal defects of the materials.	L3	1	2
3.	What are the methods used for surface preparation in liquid penetrant testing?	L3	2	2
4.	Compare Fluorescent penetrant and visible penetrant.	L4	2	2
5.	What are the applications of eddy current inspection?	L3	3	2
6.	Analyze A-scan, B-scan, and C-scan displays for a component with multiple flaw types and recommend appropriate actions based on scan results	L4	3	2
7.	Name the couplants used in ultrasonic testing.	L3	4	2
8.	Write the principle of acoustic emission testing.	L2	4	2
9.	Write the mathematical correlation between film density and intensity of incident light in X-ray test	L3	5	2
10.	Define image sharpness.	L2	5	2

PART – B (ANSWER ALL QUESTIONS) (Marks 5*16 = 80)

Q.No	Questions	BLT	CO	Marks
11. a	Explain the working principles of tensile and compression destructive tests in brief.	L2	1	16
	Or			
b	Explain in detail about the factors influencing the selection of NDT methods.	L2	1	16
12. a	Explain about water washable and post Emulsifiable - Hydrophilic methods in liquid penetrant testing using process flow diagram.	L3	2	16
	Or			
b	Explain about various steps involved in Magnetic particle inspection process with suitable flow diagram.	L2	2	16
13. a	Explain with neat sketch about the principle of thermography test and its advantages, limitations and applications of thermography test.	L2	3	16
	Or			
b	Illustrate the principle of thermography testing by passive approach and its application.	L3	3	16
14. a	Explain the principle of Acoustic emission test with neat sketch and its applications.	L2	4	16

Or

	b	Analyze A-scan, B-scan, and C-scan displays for a component with multiple flaw types and recommend appropriate actions based on scan results	L4	4	16
15.	a	Explain the three step process of computed radiography and mention the significant advantages.	L2	5	16
Or					
	b	Illustrate the components of Xray generator with suitable sketch.	L3	5	16