

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)***B.E/B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, NOV/DEC 2025***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)**

<i>Q.No</i>	<i>Questions</i>	<i>BTL</i>	<i>CO</i>	<i>Marks</i>
1.	List out the importance of using NDT.	L1	1	2
2.	Distinguish between destructive and non-destructive testing.	L1	1	2
3.	Outline the steps followed in a Liquid Penetrant Test.	L1	2	2
4.	Define the terms Dwell time and developing time.	L1	2	2
5.	What are the principles of eddy current method?	L2	3	2
6.	Classify the thermography testing.	L2	3	2
7.	Define the term attenuation.	L1	4	2
8.	Identify the modes of AE signals.	L1	4	2
9.	What is the definition of Fluoroscopy?	L2	5	2
10.	How x-ray radiography differs from film radiography?	L2	5	2

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

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
11.	a Explain in detail about the factors influencing the selection of NDT methods.	L2	1	16
	Or			
	b Illustrate the working principle and types of visual inspection technique with suitable sketch.	L2	1	16
12.	a Discuss and explain about the principles of liquid penetrant testing with neat sketch. Also bring out the advantages and limitations of the liquid penetrant testing.	L2	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.	L3	3	16
	Or			
	b Explain in details about Image processing of thermography non-destructive testing method in NDT.	L3	3	16

14.	a	Illustrate the principle of pulse echo method with neat sketch in ultrasonic testing method.	L3	4	16
		Or			
	b	Differentiate between, with neat sketch, the following A-scan, B-scan and C-scan.	L3	4	16
15.	a	How X-rays are produced in radiographic testing? Briefly write about two methods of X-ray production.	L3	5	16
		Or			
	b	Explain how X-rays are used in metallurgy, including their applications and importance.	L3	5	16