

HALL TICKET NUMBER

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PACE INSTITUTE OF TECHNOLOGY & SCIENCES::ONGOLE  
(AUTONOMOUS)

IV B.TECH I SEMESTER END SUPPLEMENTARY EXAMINATIONS, MARCH-2023  
NON DESTRUCTIVE TESTING & EVALUATION  
(ME Branch)

Time: 3 hours

Max. Marks: 60

Note: Question Paper consists of Two parts (Part-A and Part-B)

**PART-A**Answer **all** the questions in Part-A (5X2=10M)

Q.No.	Questions	Marks	CO	KL
1.	a) What are the importance of Non-destructive tests?	[2M]	1	2
	b) Write the limitations of radiographic testing.	[2M]	2	2
	c) What is the principle of ultrasonic test?	[2M]	3	1
	d) What is the sensitivity related with penetrant flow detection	[2M]	4	1
	e) Write about magnetization of materials?	[2M]	5	1

**PART-B**Answer **One** Question from each UNIT (5X10=50M)

Q.No.	Questions	Marks	CO	KL
UNIT-I				
2.	Explain Scope and limitations of Non Destructive Testing methods.	[10M]	1	2
OR				
3.	Describe the NDE applications for offshore gas and petroleum projects.	[10M]	1	2
UNIT-II				
4.	What is Radiography? Explain the principle of working of radiographic test.	[10M]	2	2
OR				
5.	Identify the safety aspects of industrial radiography.	[10M]	2	2
UNIT-III				
6.	Write about applications and limitations of ultrasonic testing?	[10M]	3	2
OR				
7.	Explain the design of ultrasonic transducers with suitable sketches.	[10M]	3	1
UNIT-IV				
8.	Explain about effectiveness and limitations of Fluorescence Penetrant Testing?	[10M]	4	2
OR				
9.	Explain working principle and characterization of penetrants in detailed.	[10M]	4	2
UNIT-V				
10.	Explain the principle of magnetic particle testing (MPT). What are its advantages and limitations?	[10M]	5	2
OR				
11.	State the principle of Leak and pressure testing and explain in detail.	[10M]	5	2

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