

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI  
(MID SEMESTER EXAMINATION SP2023)

CLASS: BTECH  
BRANCH: MECH

SEMESTER : IV  
SESSION : SP-2023

SUBJECT: ME219 NON-DESTRUCTIVE TESTING

TIME: 02 Hours

FULL MARKS: 25

**INSTRUCTIONS:**

1. The question paper contains 5 questions each of 5 marks and total 25 marks.
  2. Attempt all questions.
  3. The missing data, if any, may be assumed suitably.
  4. Tables/Data handbook/Graph paper etc., if applicable, will be supplied to the candidates
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		CO	BL
Q.1(a)	Compare the non-destructive evaluation with destructive evaluation.	[2] 1	2
Q.1(b)	Outline the general steps in non-destructive testing.	[3] 1	4
Q.2(a)	Describe the role of developer along with its desirable properties.	[2] 1	2
Q.2(b)	Demonstrate the liquid penetrant test for evaluation of surface flaw.	[3] 1	3
Q.3(a)	Explain the advantages of magnetic particle inspection.	[2] 2	2
Q.3(b)	With neat sketch describe magnetization using an electromagnet.	[3] 2	3
Q.4(a)	Explain dry and wet magnetic particles.	[2] 2	2
Q.4(b)	Illustrate the requirement of demagnetization in magnetic particle testing.	[3] 2	4
Q.5(a)	Identify the effect of conductivity on eddy current.	[2] 2	2
Q.5(b)	Demonstrate the eddy current testing for flaw detection.	[3] 2	3

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