

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)**

**CLASS: BTECH
BRANCH: MECH**

**SEMESTER : IV
SESSION : SP/2024**

SUBJECT: ME219 NON-DESTRUCTIVE TESTING

TIME: 3 Hours

FULL MARKS: 50

INSTRUCTIONS:

1. The question paper contains 5 questions each of 10 marks and total 50 marks.
 2. Attempt all questions.
 3. The missing data, if any, may be assumed suitably.
 4. Before attempting the question paper, be sure that you have got the correct question paper.
 5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
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		CO	BL
Q.1(a)	Outline the steps for evaluation of a surface flaw in a electric arc weld joint by liquid penetrant inspection method.	[5] 1	4
Q.1(b)	Describe the role of developer along with its desirable properties	[5] 1	2
Q.2(a)	With neat sketch describe eddy current test for flaw detection.	[5] 2	3
Q.2(b)	Explain the concept of demagnetization in magnetic particle test.	[5] 2	3
Q.3(a)	Describe with neat sketch the production of X-rays in an x-ray tube.	[5] 3	3
Q.3(b)	Demonstrate the X-ray radiography test.	[5] 3	3
Q.4(a)	Describe Pulse- echo contact type method for ultrasonic test.	[5] 4	3
Q.4(b)	Explain advantage and limitation of ultrasonic test.	[5] 4	2
Q.5(a)	Outline the types of defects that are observed in rolling along with their cause.	[5] 5	3
Q.5(b)	Summarize the applications, types of discontinuities, advantages and limitations of magnetic particle test for detection of flaws.	[5] 5	4

::::::26/04/2024::::::M