

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
FIFTH SEMESTER B.TECH DEGREE EXAMINATION(S), MAY 2019

Course Code: ME367

Course Name: NON-DESTRUCTIVE TESTING

Max. Marks: 100

Duration: 3 Hours

PART A

Answer any three full questions, each carries 10 marks.

Marks

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| 1 | a) What are the advantages of NDT over destructive testing? | (5) |
| | b) Clearly mention the areas of applications of NDT? | (5) |
| 2 | a) What are the factors that affect visual testing? | (3) |
| | b) What are the differences between endoscope and boroscope? | (3) |
| | c) What are the different special lighting methods used for visual inspection? | (4) |
| 3 | a) What are the properties of a good developer? | (5) |
| | b) Explain different types of developers and how it is being applied? | (5) |
| 4 | a) Explain the process of liquid penetrant testing. | (8) |
| | b) What are the advantages of LPI? | (2) |

PART B

Answer any three full questions, each carries 10 marks.

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| 5 | a) Explain permeability, magnetizing force, coercive force, retentivity, residual magnetism. | (5) |
| | b) What is the principle of MPI? | (5) |
| 6 | a) What are the differences between dry continuous and wet continuous MPI? | (5) |
| | b) What are the advantages of MPI? | (5) |
| 7 | a) With a sketch explain the procedure of through transmission method of ultrasonic testing? | (5) |
| | b) Explain resonance testing technique. | (5) |
| 8 | a) Explain any two ultrasonic transducers. | (5) |
| | b) What are the characteristics of ultrasonic waves | (5) |

PART C

Answer any four full questions, each carries 10 marks.

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| 9 | a) Explain the principle of radiography testing. | (5) |
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- b) What are the properties of X rays and gamma rays? (5)
- 10 a) Explain various techniques used in the radiography of pipe line welding joints inspection. (10)
- 11 How do we interpret defects in welding by radiographic method? Explain with two examples. (10)
- 12 What are the factors affecting eddy current testing? (10)
- 13 Explain in detail any two probes used for eddy current testing. (10)
- 14 a) Explain lift off effect, edge effect and end effect (5)
- b) Explain any two applications of ECT. (5)
