

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Fifth Semester B.Tech Degree Regular and Supplementary Examination December 2020

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) How Non-destructive test differs from Destructive test? | (6) |
| | b) Explain the Material attributes that effects visual testing? | (4) |
| 2 | a) Classify and explain the Light sources used in Visual inspection? | (5) |
| | b) Explain computer enhanced visual system with suitable diagram? | (5) |
| 3 | a) Explain the procedure for liquid penetrant inspection with suitable diagram? | (6) |
| | b) Classify and explain Developers? | (4) |
| 4 | a) What are the safety precautions required in Liquid Penetrant Inspection? | (5) |
| | b) List any five advantages and limitations of LPI? | (5) |

PART B*Answer any three full questions, each carries 10 marks.*

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| 5 | a) Explain the principle of MPI with neat sketch? | (5) |
| | b) List the advantages and limitations of MPI? | (5) |
| 6 | a) What are the magnetization techniques used in MPI? Explain in detail with figures? | (10) |
| 7 | a) Explain in detail with figures, the transmission method and pulse echo method used in Ultrasonic testing? | (10) |
| 8 | a) What are the modes of display used in UT? Explain with figure? | (6) |
| | b) Explain the significance of the use of couplant in UT with examples? | (4) |

PART C*Answer any four full questions, each carries 10 marks.*

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| 9 | a) Explain the principle of Radiographic testing with figure? | (6) |
| | b) What are the electromagnetic sources used in RT? | (4) |
| 10 | a) Explain with figure the inspection techniques used in RT? | (10) |

- 11 a) Explain the working principle of Real time radiography with figure (5)
b) Explain the steps involved in film processing in RT? (5)
- 12 a) With neat sketch explain the principle of Eddy current Testing? (5)
b) Explain how thickness is measured using Eddy current testing? (5)
- 13 a) Explain the following terms (6)
I. Lift off effect
II. Edge effect
III. End effect
- b) Correlate Frequency and depth of penetration in ECT? (4)
- 14 a) Explain various applications of Eddy current testing? (6)
b) List the advantages of Eddy current testing? (4)
