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Total Number of Pages : 01

B.Tech
PAE6J002

6th Semester Regular Examination 2018-19

NON-DESTRUCTIVE TESTING

BRANCH : AERO

Time : 3 Hours

Max Marks : 100

Q.CODE : F643

Answer Question No.1 (Part-1) which is compulsory, any eight from Part-II and any two from Part-III.

The figures in the right hand margin indicate marks.

Part- I

Q1 Only Short Answer Type Questions (Answer All-10) (2 x 10)

- What is the principle of Liquid penetration method of NDT?
- Explain the principle and application of Eddy Current Testing.
- State briefly about magnetic hysteresis.
- What are the limitations of eddy current testing?
- State the criteria for the probe selection for ultra sonic testing.
- What is acoustic impedance?
- What is radiation contrast and film contrast?
- State two applications of Radiography.
- Give a brief outline on computed Tomography.
- What do you mean by xeroradiography?

Part- II

Q2 Only Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve) (6 x 8)

- State the principle of leak and pressure testing and explain it in detail.
- What is dye penetrant test? Explain cleaners, penetrants and developers.
- Analyze Unaided and aided-Standards in visual inspection method.
- Distinguish between magnetization, demagnetization and residual magnetism in Magnetic Inspection Technique.
- Difference between A-Scan, B-Scan, C-Scan.
- Analyze basic principle of Thermography.
- Explain the interpretation of Radiograph and justify safety precaution in Industrial radiography.
- With line diagram explain ultrasonic flaw detection equipment.
- Explain the principle of thermography and give its applications.
- What is a Holograph? How can it be used in NDT?
- Write the principle of safety in X-ray and gamma ray radiography.
- Distinguish the impact of straight beam and angle beam.

Part-III

Q3 Only Long Answer Type Questions (Answer Any Two out of Four) (16)
Explain Liquid penetrant testing and its advantages and disadvantages.

Q4 (16)
Explain different types of probes used in Eddy current testing with a neat sketches.

Q5 (16)
Describe the acoustic emission test methods and setup with neat sketch.

Q6 (16)
Discuss the salient features in Fluoroscopy- Xero-Radiography, Computed Radiography, Computed Tomography.