MODEL QUESTION PAPER

PE 010804 L05 (Common with ME010 804 L05) Non Destructive Testing

Duration: 3 Hrs **Marks: 100**

Part A

(Answer all questions in two or three sentences)

(Each question carries 3marks)

1. What are the properties of a good penetrant? **(5x3=15marks)**

2. What is meant by Acoustical Holography?

3. Explain Pulse Echo Testing technique.

4. Write briefly about Real-Time Radiography.

5. Explain the term Thermography

Part B

(Answer all questions)

(Each question carries 5 marks) **(5x5=15marks)**

6. Describe various visual Inspection methods and tools used for non destructive testing.

7. What are the magnetization techniques used in MPI?

8. Write a short note on Electromagnetic Acoustic Transducers (EMATs)

9. Define Radiographic sensitivity and what are the variables affects Radiographic sensitivity?

10. What is the Skin effect phenomenon and how can find the depth of penetration in ECT method?

Part C

(Each question carries 12 marks)

11. Explain the various methods of LPI and explain advantages and limitations of LPI.

OR

12. What are the indirect methods used for Visual Inspection and explain each method.

13. What is Acoustical Holography, what are the applications and limitations?

OR

14. Explain MPI technique with neat diagram.

15. Explain different types of Ultrasonic testing techniques and write their applications and advantages.

OR

16. What are the different types of transducers used in UT technique?

17. Describe the film processing, interpretation and evaluation of test results in Radiography testing method.

OR

18. What are the different types of sources used in RT method and what are the safety precautions required in RT?

19. Describe the physics of ECT and explain various applications in engineering field.

OR

20. Select a suitable Non contact - Non Destructive testing method for the inspection of Space Shuttle leading edge and explain about that method.

(5x12=60marks)