Model Question
Fifth Semester B.Tech Degree Examination
(2013 Scheme)
(EFFECTIVE 1)
13.506.6 NON DESTRUCTIVE TESTING (MPU)

Time: 3 hrs       Max. Marks: 100

Instruction: Answer all questions from part A and one full question from each module of part B

PART - A
(10 x 2 = 20 Marks)

1. Explain the importance of dynamic inspection
2. What is the function of an emulsifier in penetrant testing
3. Differentiate between X-ray and gamma ray radiography
4. Mention the principle of holography
5. What are the advantages of MPT?
6. Suggest a suitable method to inspect heat exchanger tubes
7. What are the different types of probes for UST?
8. Write short note on IQI. Is it essential to use IQI?
9. Mention the principle of thermography
10. In what way AET differ from UST?

PART B
Module - 1
11. a) Explain the various instruments used for visual inspection

b) Explain three principal methods of LPT. What are the advantages and applications

OR

12. a) Compare destructive and non destructive testing methods giving their relative advantages and disadvantages

b) What is in-situ metallography? Explain the process and its application.

P.T.O
Module - 2
13.  a) Explain radiographic imaging and radiographic sensitivity 10
    b) Describe one method of locating the exact position of a flaw in a casting using X radiography 10
14.  a) Differentiate between X-ray radiography and X-ray fluoroscopy 10
    b) Differentiate between X-ray and gamma ray radiography. What are the advantages of gamma radiographic equipment 10

Module - 3
15.  a) Explain the different methods of ultrasonic flaw detection 10
    b) Explain the characteristics of ultrasonic waves and their generation 10
16.  a) Illustrate the methods of magnetization and procedure of MPT 10
    b) Explain the advantages, limitations and applications of UST 10

Module - 4
17.  a) Illustrate instrumentation system for AET. What are the applications of AET 10
    b) Explain leak testing methods 10
    OR
18.  a) Explain the principle of ECT. What are the different methods? 10
    b) Discuss thermographic inspection and the areas of application 10