

Reg. No:

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)

M.Tech I Year I Semester Regular Examinations Jan 2020

STRUCTURAL HEALTH MONITORING

(Civil Engineering)

Time: 3 hours

Max. Marks: 60

(Answer all Five Units 5 x 12 = 60 Marks)

UNIT-I

- 1 a Explain the Role of Piezoelectric Sensors in Structural Health Monitoring System. **6M**
b Explain about Electrical-Mechanical Impedance (EMI) Method. **6M**

OR

- 2 Explain the Principle and Organization of a Structural Health Monitoring System. **12M**

UNIT-II

- 3 Explain the General Equations for Flexural Vibrations of Rectangular Plates. **12M**

OR

- 4 What is Integrated Structural Health Monitoring System? And explain the Monitoring Strategies in Structural Health Monitoring. **12M**

UNIT-III

- 5 a Explain the Basic Methods for Non-Destructive Testing of Concrete Structures. **6M**
b Explain any two methods for quality control testing of concrete. **6M**

OR

- 6 a Classify different Non-Destructive Testing Methods. Justify any three Methods for NDT. **6M**
b What do you mean by Thermography? Explain briefly. **6M**

UNIT-IV

- 7 a What are the factors influencing the pulse velocity measurement. **6M**
b Explain principle and procedure for Ultrasonic pulse velocity test. **6M**

OR

- 8 a Explain the general procedure for Half Cell Electrical Potential method. **6M**
b What are the applications of Half Cell Electrical Potential Testing method? **6M**

UNIT-V

- 9 What are the Crack Repair Techniques? And explain Briefly about any two techniques. **12M**

OR

- 10 Discuss the various types of Blanket Repair Techniques. **12M**

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