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Question Paper Code: 95U24

M.E. DEGREE EXAMINATION, MAY 2022

Elective

Structural Engineering

19PSE524– STRUCTURAL HEALTH MONITORING

(Regulation 2019)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART - A (10 x 2= 20 Marks)

1. What is meant by structural health monitoring? CO1-U
2. How to calculated structural life duration in building? CO1-U
3. What are the steps to investigation in building collapse ? CO2-R
4. What is the role of investigation management in structural health monitoring? CO2- R
5. Define fiber optical sensor and application in structural health monitoring. CO3-R
6. What is meant by static Response measurement in structural health monitoring ? CO3- R
7. What is the main aim of Dynamic field Test in SHM? CO4-U
8. Write the application of Remote Data Acquisition systems in SHM. CO4-U
9. Define EMI technique in SHM. CO5-U
10. What are the application of EMI in SHM? CO5-U

PART – B (5 x 16= 80 Marks)

11. (a) Describe the Factors affecting Health of Structures. CO1- U (16)
Or
(b) Discuss the various causes of deterioration of concrete structures mentioning their effects/symptoms. CO1- U (16)
12. (a) Briefly describe the structural audit in SHM. CO2- U (16)
Or
(b) Briefly write about the durability parameters in structural health monitoring. CO2- U (16)

13. (a) Describe the types of sensor system and application of sensor system in structural health monitoring. CO3-U (16)
- Or
- (b) Explain the types of static tests in structural health monitoring. CO3-U (16)
14. (a) Describe the Dynamic field test in structural health monitoring. CO4 -U (16)
- Or
- (b) Describe the Remote structural health monitoring and also explain the application CO4 -U (16)
15. (a) Describe the steps in the assessment procedure for evaluate damage in a structure. CO5-U (16)
- Or
- (b) Describe in detail about the prevention aspect of maintenance in building CO5-U (16)