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**Reg. No. :**

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**Question Paper Code: 58173**

B.E. / B.Tech. DEGREE EXAMINATION, DEC 2021

One credit

Civil Engineering

15UCE873- HEALTH MONITORING OF STRUCTURES

(Regulation 2015)

Duration: 1.30 hours

Maximum: 50 Marks

Answer ALL Questions

PART A - (5 x 1 = 5 Marks)

1. Unsupervised learning is very appropriate to handle SHM of complex system. State True or False. CO1-U
2. SHM system is a generic system. State True or False CO1-U
3. Which among the following is not a type of non-destructive testing? CO2-U  
(a) Compressive test (b) Visual testing (c) Ultrasonic testing (d) Eddy testing
4. Routing and sealing of cracks can be used in condition requiring..... CO2-U  
(a) Structural Repair (b) Remedial Repair (c) Both (a) and (b) (d) None of these
5. The cracks that show some change in direction, width or depth is call..... CO1-U  
(a) active crack (b) dormant crack (c) pop-out crack (d) none of these

PART – B (5 x 3= 15 Marks)

11. What are the causes of collapse in structural? CO2-U
12. What is meant by Structural safety in structural building? CO1-U
13. What are different ways through which a statistical model can be developed?. CO1-U
14. State critical issues of uncertainties in SHM? CO2-U
15. Periodic maintenance is important for which type of structures? CO2-U

PART – C (2 x 15 = 30 Marks)

16. (a) Briefly explain about structural health monitoring in structures. CO1-U (15)
- Or
- (b) Discuss the various causes of deterioration of concrete structures mentioning their effects/symptoms. CO1-U (15)
17. (a) Briefly describe the structural audit in SHM. CO2- (15)  
U
- Or
- (b) Briefly explain the fiber optical sensor and application in structural health monitoring. CO2-U (15)