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Question Paper Code: 59121

B.E./B.Tech. DEGREE EXAMINATION, DEC 2020

Elective

Civil Engineering

15UCE921 - REPAIR AND REHABILITATION OF STRUCTURES

(Regulation 2015)

Duration: 1.15 hrs

Maximum: 30 Marks

PART A - (6 x 1 = 6 Marks)

(Answer any six of the following questions)

1. Act of preserving a structure to an acceptable standard is called
(a) maintenance (b) repair
(c) rehabilitation (d) inspection CO1- R
2. The following is not a classification of maintenance CO1- R
(a) Corrective (b) Timely (c) Scheduled (d) Preventive
3. The crack which is occur due to reduction in the volume of concrete is called CO2- R
(a) hairline cracks (b) plastic shrinkage cracks (c) scaling cracks (d) map cracks
4. To control the corrosion, concrete should have CO2- R
(a) Low permeability (b) Low thermal coefficient
(c) More cement content (d) More coarse aggregates
5. The cement concrete from which air and excess water are removed after placing in position is called CO3- R
(a) Vacuum concrete (b) LWC (c) HSC (d) PSC

6. is a type of concrete that is made by reacting aluminate and silicate bearing materials with a caustic activator. CO3- R
- (a) polymer concrete (b) self compacting concrete
(c) geopolymer concrete (d) none of these
7. The corrosion of reinforced steel is because of CO4- R
- (a) Carbonation (b) Presence of salt (c) Porosity of concrete (d) All the above
8. The quality of concrete is good when the longitudinal pulse velocity is CO4- R
- km/h
- (a) 3.5 - 4.5 (b) 2-3 (c) 3-3.5 (d) 4-5
9. When exposed to fire, Concrete has very little strength left after CO5- R
- (a) 500°C (b) 300°C (c) 200°C (d) 600°C
10. consist of restoring the section of an existing membrane CO5- R
by encasing it in a new concrete..
- (a) jacketing (b) grouting
(c) blanketing (d) stitching

PART – B (3 x 8= 24 Marks)

(Answer any three of the following questions)

11. Discuss the procedure of assessment for evaluating a damaged structure CO1- U (8)
bringing out the vital components at each stage.
12. Why quality assurance for structure is needed? Explain the components of CO2- U (8)
quality assurance for building.
13. Enumerate the properties and uses of polymer concrete and fibre CO3- U (8)
reinforced concrete
14. Explain how cracks may be sealed by using epoxy injection resin. CO4- U (8)
15. Discuss in detail about repair and rehabilitate a structure distressed due to CO5- U (8)
fire with case study.