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**Question Paper Code: 49105**

B.E./B.Tech. DEGREE EXAMINATION, NOV 2018

Elective

Civil Engineering

14UCE905- REPAIR AND REHABILITATION OF STRUCTURES

(Regulation 2014)

Duration: Three hours

Maximum: 100 Marks

PART A - (10 x 1 = 10 Marks)

(Answer all Questions)

- Maintenance is a \_\_\_\_\_ and steady state activity. CO1- R  
(a) occasional                      (b) cyclic                      (c) annual                      (d) rare
- The sulphate attack can be controlled by CO1- R  
(a) Air entrainment      (b) High alumina cement      (c) Pozzolana      (d) All the above
- For preparing mortar \_\_\_\_\_ is used along with cement and water CO2-U  
(a) Aggregates      (b) Bricks                      (c) Sand                      (d) Steel
- Concrete has a good resistant against CO2- R  
(a) Cavitation                      (b) Corrosion                      (c) Abrasion                      (d) All the above
- Concrete produced by removing excess water is known as \_\_\_\_\_ CO3- R  
(a) vacuum concrete                      (b) self compacting concrete  
(c) FRC                      (d) dry pack
- Cracks may be considered as probalamatic, if they are CO3- U  
(a) Aesthetically unacceptable                      (b) Structure non water tight  
(c) Affect the durability                      (d) All the above

7. Shotcrete concrete contains a well grained aggregates of CO4-U
- (a) 10mm or less in size (b) 20mm or less in size
- (c) 10mm or more in size (d) None of the above
8. Dry pack is used for the repair of CO4- U
- (a) Dormant cracks (b) Filling (c) Growing cracks (d) All the above
9. Suitable time to take up repair is \_\_\_\_\_ CO5- R
- (a) winter (b) autumn (c) spring (d) summer
10. One of the method adopted for protecting corrosion is CO5- U
- (a) painting (b) Distempering (c) varnishing (d) Cleaning

PART – B (5 x 2= 10Marks)

11. Write the factors affecting maintenance. CO1- R
12. What is the necessary of providing cover in concrete? CO2- R
13. List out any three special concretes. CO3- R
14. What do you mean by NDT? CO4- R
15. Name any four demolition equipment. CO5 -R

PART – C (5 x 16= 80Marks)

16. (a) Explain the various causes for the deterioration of concrete structures. CO1- App (16)
- Or
- (b) Brief about causes, types and prevention of cracks. CO1-App (16)
17. (a) Write the factors influencing corrosion of reinforcement. Explain the damage in RC structures due to corrosion in reinforcement CO2 -Ana (16)
- Or
- (b) Briefly explain the chemical attack on concrete with its preventive measures. CO2 -U (16)

18. (a) Discuss briefly about polymer concrete. CO3- Ana (16)
- Or
- (b) Describe in detail about the self compacting concrete and concrete with industrial wastes. CO3 -Ana (16)
19. (a) With the aid of neat sketches, explain any two Non destructive testing techniques. CO4- U (16)
- Or
- (b) Brief discuss about different types of shoring. CO4 -U (16)
20. (a) How do you improve the load carrying capacity of column? Explain. CO5- U (16)
- Or
- (b) Illustrate the term demolition. Also discuss the techniques available for demolition of a building structure, explain any one in detail. CO5- U (16)

