

Course No: CON 5317
Course Title: Buildings Restoration
& Rehabilitation
Date: 10 / 03 /2018
No. of Questions: (2)
Time: 1 hours
Using Calculator (No)

University of Palestine



First Mid Exam
Second Semester
2017/2018
Total Grade: 30

Instructor Name: Dr.Mohammed Ahmed
Student No.: _____
Student Name: _____
College Name: Engineering
Dep. / Specialist: Civil Engineering
Using Dictionary (No)

Please Answer All Questions

First Question

15 Points

Mark each of the following sentences True (T) or False (F)

1. Violation of construction specification is not considered as a cause of the premature material deterioration. ()
2. A single technical investigation may not be adequate to get a truly representative data on the condition of the building. ()
3. Rehabilitation of existing structures is more expensive and requires raw materials more than construction of new buildings. ()
4. Deficiency of design and construction is considered an extrinsic cause of structures' distress. ()
5. Ingress of aggressive chemicals through interconnected pores of concrete is highly dependent on absence of water/moisture. ()
6. Propagation of cracks and its depth in structural members due to static loads is higher than due to cyclic loading of same intensity. ()
7. Higher the permeability of concrete cover, longer the time it takes for chloride penetration & de-passivation of embedded steel to affect the RCC. ()
8. Effect of Ettringite is considered as expansion and cracking formed due to reaction between silica ions and the hydration products C3A. ()
9. To improved resistance to sulfate attack you have to reduce the porosity and consequently the coefficient of permeability. ()
10. Cement content and water/cement ratio have no influence of concrete durability. ()

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Second Question

15 Points

A) Distinguish between restoration and rehabilitation of the buildings. **(2 Points)**

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B) List only three difficulties of rehabilitation. **(3 Points)**

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C) In the framework of distress identification, what are the steps involved for repairing reinforcement corrosion. **(4 Points)**

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D) List three factors that controls concrete permeability. **(3 Points)**

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E) Explain in brief carbonation of concrete. **(3 Points)**

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End of Questions & Good luck