

B.E./B.TECH. Degree Examination, September 2020
Semester - VIII
CE16015 & REPAIR AND REHABILITATION OF STRUCTURES
(Regulation 2016)

Time: Three hours

Maximum : 80 Marks

Answer **ALL** questions**PART A - (8 X 2 = 16 marks)**

1. Which type of inspection is more intensive involving examination of structural elements?
a) Minor inspection b) General inspection
c) Major inspection d) Reverse inspection
2. One of the testing equipments used for inspection is?
a) Strain gauges b) Measuring jar
c) Test tubes d) None of the mentioned
3. In the case of dormant cracks wider than about 1m, it is more economical to use _____
a) Epoxy resin b) Grouting
c) Tensioning d) Ranging
4. Rehabilitation of structures may be required due to several reasons. Choose the correct reason.
a) Environmental effects b) Tensile effects
c) Compressive effects d) Range effects
5. Distinguish between repair and rehabilitation.
6. What are the causes of deterioration of concrete?
7. Briefly discuss the effects due to climate change.
8. List any four durability parameters.

PART B - (4 X16 = 64 marks)

09. (a) (i) List out the various types of maintenance operations and explain it in detail. **(16)**

(OR)

 (b) (i) Discuss about the various aspects of inspection **(10)**
 (ii) Classify the types of repair works. **(6)**
10. (a) (i) Describe in detail about the causes and effects of cracks in concrete structure **(16)**

(OR)

 (b) (i) List out the durability properties of concrete and describe it in detail. **(8)**
 (ii) Write short note on structural cracks. **(8)**
11. (a) (i) Describe the following type of concrete **(16)**
 i. High performance concrete
 ii. Sulphur infiltrated concrete

(OR)

 (b) (i) Describe in detail the properties and applications of polymer concrete. **(16)**
12. (a) (i) Identify the Non-destructive testing equipments and describe in detail. **(16)**

(OR)

 (b) (i) Analyse the mechanism of the following corrosion protection BT-4 Analyse methods. **(16)**
 (i) Corrosion inhibitors (8)
 (ii) Cathodic protection (8)