

16275(D) - 0 DEC 2016

**B. Tech 8th Semester Examination**  
**Repair and Rehabilitation of Structures (NS)**  
**CE-421(c)**

**Time : 3 Hours**

**Max. Marks : 100**

*The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.*

**Note :** Attempt five questions selecting one question from each section A, B, C and D. Question 9 is compulsory. All questions carry equal marks. Non-programmable calculator is allowed.

**SECTION - A**

1. Discuss the need for repair and rehabilitation of structures in detail giving suitable illustrations. (20)

OR

2. Explain various causes of distress of structures in detail illustrating with suitable diagrams and examples. (20)

**SECTION - B**

3. Discuss different damage testing methods for the condition of structures using neat sketches. (20)

OR

4. Explain semi-destructive testing techniques to assess the condition of structures giving their uses and limitations. (20)

**SECTION - C**

5. Describe various materials used for the repair and maintenance of structures highlighting their specific uses. (20)

2

16275

OR

6. Explain different quality control methods for the repair and maintenance of concrete structures.

**SECTION - D**

7. Discuss different retrofitting techniques required in the structures using suitable neat diagrams. (20)

OR

8. Explain base isolation techniques used in the structures to control the effect of vibrations, in detail. (20)

**SECTION - E (Compulsory)**

9. (a) What do you mean by the performance of a structure?  
(b) What is serviceability of a structure?  
(c) Give advantages of non-destructive testing methods.  
(d) What are the uses of destructive testing methods?  
(e) List various techniques used in the repair of structures.  
(f) What is the need for repair of buildings?  
(g) What do you mean by energy dissipation?  
(h) List various retrofitting techniques.  
(i) What is the service life of a structure?  
(j) What is the importance of historical buildings? (10×2=20)