

Time : 3 Hrs.

Marks : 80

PLEASE NOTE:

1. Question No.1 is compulsory.
2. Attempt any **three** out of remaining five questions.
3. Figure to the right indicates full marks.
4. Illustrate answer with proper sketches.

- Q 1.** Attempt any **FOUR** questions **20**
- a** write a short note on core sampling and testing,
 - b** Explain the use of polymer modified mortars as materials for repair
 - c** Write a short note on surface impregnation
 - d** Write a note on engagement of contractors for repair work.
 - e** Explain the response of buildings to earthquake motion.
 - f** Write a note on repairs of sewage treatment plants.
- Q 2.** **a** Write a detailed note on repairs of masonry structures **10**
- b** Explain various methods of seismic retrofitting. Explain any one in detail **10**
- Q 3.** **a** Explain the important stages of Condition Survey to identify and estimate of damage. **14**
- b** Explain the plate bonding technique used for strengthening of RCC structures **06**
- Q 4.** **a** What important properties you will consider why selecting repair materials **10**
- b** Explain the importance of Post repair inspection and maintainace and related conditions in repair contract. **10**
- Q 5.** **a** What are the important performance requirements of repair systems? **10**
- b** How the Pavements and Runways repairs are carried out. Explain with suitable example. **10**
- Q 6.** Explain any **two** tests from following. **20**
- a** Ultrasonic pulse velocity tests,
 - b** Carbonation tests and chloride content,
 - c** Half-cell potentiometer test,