



**PRESIDENCY UNIVERSITY
BENGALURU
SCHOOL OF ENGINEERING**

Mid Term Examination – AUGUST 2024

Odd Semester: II Sem (AY 2023-24)

Course Code: CIV814

Course Name: Development and application of special concretes

Program & Sem: PhD, II Sem

Date: 12-08-2024

Time: 9:30 AM to 11:00 AM

Max Marks: 50

Weightage: 25%

Instructions:

- (i) *Read the question properly and answer accordingly.*
 - (ii) *Scientific and non-programmable calculator is allowed.*
 - (iii) *Assume missing data. Data book / Code book is not required*
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Part A [Memory Recall Questions]

Choose the correct answer. Each question carries 4 marks. (4Qx4M=16M)

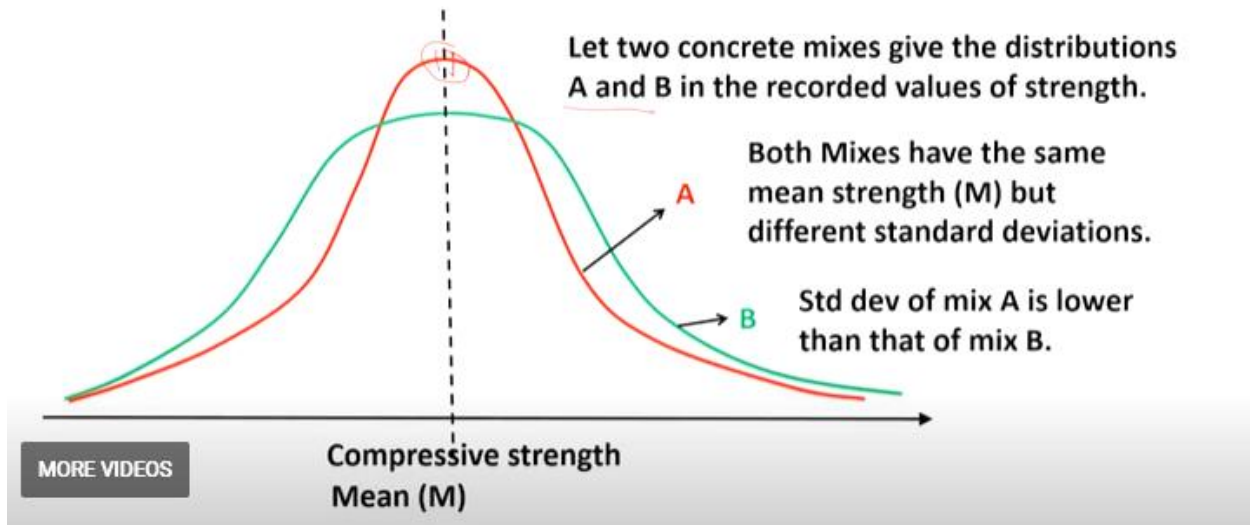
1. What are the basic properties of fresh concrete? Briefly explain.
(C.O.NO. 1) [Knowledge]
2. What are the basic properties of cured concrete? Briefly explain.
(C.O.NO. 1) [Knowledge]
3. What causes variation in concrete quality?
(C.O.NO. 1) [Knowledge]
4. What are the different curing methods and feasible conditions for using them?
(C.O.NO. 1) [Knowledge]

Part B [Thought Provoking Questions]

Answer all the Questions. Each question carries 6 marks. (4Qx6M=24M)

5. List any 5 types of chemical and mineral admixtures and briefly explain their effect on fresh and hardened concrete.
(C.O.NO.1) [Comprehension]
6. How can light weight concrete be produced? What are the benefits?
(C.O.NO.2) [Comprehension]

7. Refer to the figure below. Both mixes have the same mean strength (M) but different standard deviations. What can be inferred from this? (C.O.NO.2) [Comprehension]



8. Although concrete is well compacted to achieve its target strength and durability it can have pores. Give reasons. Explain how porosity can affect concrete. (C.O.NO.2) [Comprehension]

Part C [Problem Solving Questions]

Answer all the Questions. Each question carries 10 marks. (1Qx10M=10M)

9. A contractor wants to make M35 concrete mix design for structural work of a commercial building. Briefly explain the steps involved in proportioning of concrete mixes? (C.O.NO. 2) [Comprehension]