

AU – 2845

Seventh Semester B. E. (Civil Engineering) Examination

ADVANCED CONCRETE TECHNOLOGY

Paper – 7 CE 05

(USC – 10222)

P. Pages : 3

Time : Three Hours]

[Max. Marks : 80

- Note :** (1) Separate answer book must be used for each section in the subject Geology, Engineering material of civil branch and Separate answer book must be used for Section A and B in Pharmacy and Cosmetic Tech.
- (2) Answer **Three** questions from Section A and **Three** questions from Section B.
- (3) Assume suitable data wherever necessary.
- (4) Illustrate your answer wherever necessary with the help of neat sketches.
- (5) Use pen of Blue/Black ink/refill only for writing the answer book.

SECTION A

1. Explain in detail :

- (i) Plasticisers 7
- (ii) Superplasticisers. 7

with their effect, action, materials used and site problems in their use.

OR

2. Explain in detail :

- (i) Fly Ash
- (ii) Silica Fume
- (iii) Rice Husk ash as pozzolanic admixtures. 14

3. Explain in detail :

- (i) Strength and Durability relationship. 4
- (ii) Volume change in concrete. 4

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- (iii) Methods of predicting Durability. 5

OR

4. What are the IS code provisions for Durability of concrete ? 13
5. Explain any four factors contributing to cracks in concrete in harden state. 13

OR

6. Explain in detail the mechanism/reactions of corrosion of reinforced steel and any four methods of corrosion control. 13

SECTION B

7. Explain in detail :
- (i) Polymer impregnated concrete,
 - (ii) Polymer cement concrete,
 - (iii) Polymer concrete. 14

OR

8. Explain in detail :
- (i) Ferrocement 7
 - (ii) Ready mix concrete. 7
9. (a) What is the need of repairs in concrete structures ? 4
- (b) Explain :
- (i) Polymer modified mortar 5
 - (ii) Silicon based water repellent materials. 4

OR

10. Explain :

- | | |
|---|---|
| (i) Guniting Aid | 4 |
| (ii) Injection Grouts for cracks | 4 |
| (iii) Coatings to embedded reinforcement. | 5 |

- | | |
|--|---|
| 11. (a) Why Non Destructive Testing methods are needed ? | 4 |
| (b) What are the limitations of Rebound Hammer ? | 4 |
| (c) Explain use and principle of rebar locators. | 5 |

OR

- | | |
|---|---|
| 12. (a) Explain Resonance Frequency method of testing concrete. | 5 |
| (b) Explain Ultrasonic Pulse velocity method in detail. | 8 |



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