

G 1472

(Pages : 2)

5 AUG 2016

4 AUG 2016

Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, MAY 2016

Sixth Semester

CE 010 606 L05—CONCRETE TECHNOLOGY (Elective I) [CE]

(New Scheme—2010 Admission onwards)

[Regular/Improvement/Supplementary]

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Time : Three Hours

Maximum : 100 Marks

Part A

Answer all questions.

Each question carries 3 marks.

1. What is alkali aggregate reaction ?
2. What is meant by curing of concrete ?
3. List the factors affecting modulus of elasticity of concrete.
4. Define characteristic compressive strength.
5. Write short notes on sulphur infiltrated concrete.



9 AUG 2016

(5 × 3 = 15 marks)

Part B

Answer all questions.

Each question carries 5 marks.

6. Explain the significance of transition zone in concrete.
7. Define and explain the workability of concrete. What are the factors affecting it ?
8. What is the effect of maximum size of aggregate on strength of concrete ?
9. List out the indirect methods of determining the tensile strength of concrete. Explain any one of them.
10. Write short notes on light weight concrete.

(5 × 5 = 25 marks)

Part C

Answer all questions.

Each full question carries 12 marks.

11. (a) With a neat sketch of the apparatus, explain the test for determining the standard consistency of cement. (5 marks)

Turn over

- (b) Define elongation index of coarse aggregate. Explain the IS code method to determine the elongation index of coarse aggregate. (7 marks)

Or

12. (a) Define hydration of cement. Explain any three types of cement and its uses. (5 marks)
 (b) Explain grading of aggregate and its significance. (7 marks)
13. (a) What are the qualities of water required for mixing and curing of concrete? (5 marks)
 (b) Explain seegregation and bleeding of concrete. (7 marks)

Or

14. (a) List the various methods of determining the workability of concrete. Explain in detail any one method used in the field to determine workability of concrete. (5 marks)
 (b) Write short notes on (i) retarders and (ii) damp proofing agents. (7 marks)
15. (a) Explain in detail the various factors affecting the strength of concrete. (5 marks)
 (b) Explain the maturity concept of concrete. (7 marks)

Or

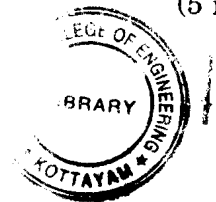
16. (a) What are the different moduli of elasticity of concrete? List the factors affecting modulus of elasticity of concrete. (5 marks)
 (b) Write short notes on : (i) Creep of concrete ; and (ii) Shrinkage of concrete. List the factors affecting each of them. (7 marks)
17. (a) Explain the IS code method of concrete mix design. (5 marks)
 (b) What are the methods of controlling sulphate and chloride attack on concrete? (7 marks)

Or

18. (a) Write short notes on the action of organic acids and mineral oils on hardened concrete. (5 marks)
 (b) Write short notes on durability of concrete. (5 marks)

19. Write short notes on any four :

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|--------------------------------|-----------------------------|
| (i) Artificial aggregate. | (ii) High density concrete. |
| (iii) Polymer cement concrete. | (iv) No-fine concrete. |
| (v) Fibre reinforced concrete. | |



(4 × 3 = 12 marks)

Or

20. Explain in detail any three special concreting methods.

[5 × 12 = 60 marks]