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Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, MAY 2014

Sixth Semester

Branch : Civil Engineering

CE 010 606 L05 – CONCRETE TECHNOLOGY (Elective – I) (CE)

(New Scheme – 2010 Admission onwards)

[Regular/Improvement/Supplementary]



Maximum : 100 Marks

Time : Three Hours

Part A

Answer all questions.

Each question carries 3 marks.

1. Name the Bogue's compounds specifying the formula and abbreviated formula.
2. List any six factors affecting workability of concrete.
3. Write short note on Get space ratio.
4. Define characteristic compressive strength of Concrete.
5. What are the different ways of making concrete light in weight in actual practice ?

(5 × 3 = 15 marks)

Part B

Answer all questions.

Each question carries 5 marks.

Write short notes on the following :

6. Quality of water for concrete making.
7. Air entraining agents.
8. Various Elastic moduli of concrete.
9. Methods of controlling sulphate attack in concrete.
10. No-fine concrete.

(5 × 5 = 25 marks)

Turn over



Part C

Answer all questions.

Each full question carries 12 marks.

11. (a) Explain in detail, how compressive strength of cement is determined highlighting the specimen preparation and testing procedure. How Ordinary Portland Cement is classified according to its compressive strength as per BIS?

Or

- (b) Explain alkali aggregate reaction mentioning the mechanism, factors promoting the reaction and methods of control.
12. (a) Explain the following fresh state characteristics of concrete : (i) Segregation ; and (ii) Bleeding.

(2 × 6 = 12 marks)

Or

- (b) (i) What are admixtures? How are admixtures classified?
(ii) Explain the action of plasticizers in concrete.

(5 + 7 = 12 marks)

13. (a) (i) Explain the term shrinkage in concrete. What are the different forms of shrinkage in concrete?
(ii) What are the factors affecting shrinkage?

(6 + 6 = 12 marks)

Or

- (b) Explain the following :
(i) Effect of maximum size of aggregate on strength.
(ii) Maturity concept of concrete.

(2 × 6 = 12 marks)

14. (a) Explain the following :
(i) Indirect tension testing methods for concrete.
(ii) Comparison between cube and cylinder strength of concrete.

(2 × 6 = 12 marks)

Or

- (b) (i) What is non-destructive testing of concrete? Mention the various methods.
(ii) Explain any *one* method in detail with necessary sketches.

(4 + 8 = 12 marks)

15. (a) Explain the following :
- (i) Hot weather concreting.
 - (ii) Fibre Reinforced concrete.

(2 × 6 = 12 marks)

Or

- (b) Write a detailed note on the following :
- (i) Light weight aggregates used in Concrete.
 - (ii) Ferro cement.

(2 × 6 = 12 marks)

[5 × 12 = 60 marks]

