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Question Paper Code: 1034138

B.E. / B.Tech. DEGREE EXAMINATIONS, NOV / DEC 2024

Fourth Semester

Civil Engineering

U20CE405 – CONCRETE TECHNOLOGY

(Regulation 2020)

Time: Three Hours

Maximum: 100 Marks

Answer ALL questions

PART – A

(10 x 2 = 20 Marks)

1. Explain the Hydration of cement.
2. Classify the aggregate based on size.
3. Outline the function of plasticizer in a concrete mix.
4. Classify the types of waterproofer materials.
5. Summarize the design parameters used in concrete mix proportioning.
6. Define Water-cement ratio.
7. Compare fresh concrete with hardened concrete.
8. Differentiate between segregation and bleeding of concrete.
9. List any four types of special concrete.
10. Name the materials used to make a geopolymer concrete.

11. (a) Outline in detail any four types of cement stating their purpose and applications in the real time. (16)

(OR)

- (b) Explain any four tests on aggregates to be conducted in the laboratory based on IS. (16)

12. (a) Outline the function of plasticizers and explain the effect of plasticizers and superplasticizers on the properties of concrete. (16)

(OR)

- (b) Explain the functions and applications of waterproofers with their various types. (16)

13. (a) Summarize the BIS method of concrete mix proportioning as per IS. (16)

(OR)

- (b) Outline the various properties of concrete related to mix design and specify their physical properties to be required. (16)

14. (a) Explain the types of fly ash and its effect on the fresh and hardened properties of concrete. (16)

(OR)

- (b) Explain the effect of GGBS on the fresh and hardened properties of concrete. (16)

15. (a) Outline the various types of special concrete and explain any two special concrete. (16)

(OR)

- (b) Explain in detail the characteristic properties on High Performance Concrete. (16)

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