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Question Paper Code: 58172

B.E. / B.Tech. DEGREE EXAMINATION, DEC 2021

One credit

Civil Engineering

15UCE872 - SPECIAL CONCRETES

(Regulation 2015)

Duration: 1.30 hours

Maximum: 50 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. Workability improved by adding
(a) Air-entraining agent (b) Foaming agent (c) Oily-agent (d) All the above
2. The characteristic strength of M_{50} concrete is _____
(a) 40 N/mm² (b) 60 N/mm² (c) 50 N/mm² (d) 30 N/mm²
3. In bacterial concrete in order to seal the cracks on the surface _____ is formed due to metabolic activity of bacteria
(a) Cao (b) Caco₂ (c) Caco₃ (d) Caoh
4. Where aspect ratio increases strength of concrete _____
(a) Increases (b) Decreases (c) Both (d) None of these
5. While compacting the concrete by a mechanical vibrator, the slump should not exceed
(a) 2.5 cm (b) 5.0 cm (c) 7.5 cm (d) 10 cm
6. Commonly employed test for measurement of cement workability is _____
(a) Slump test (b) Kelley belltes (c) Vee consists meter (d) All the above
7. Which of the following process is based on Faradays law of Electrolysis?
(a) Electron beam Machining (b) Laser Beam Machining
(c) Electrical discharge Machining (d) Electrochemical Machining
8. Density of no fines concrete with light weight aggregate vary from _____ kg/m³.
(a) 1600-1900 (b) <300 (c) >2500 (d) >300

9. The maximum size of aggregate in High Density concrete
(a) 20mm (b) 30mm (c) 40mm (d) 80mm
10. Density of no fines concrete with light weight aggregate vary from _____ kg/m³.
(a) 1600-1900 (b) <300 (c) >2500 (d) >300

PART – B (5 x 2= 10 Marks)

11. Explain High density concrete
12. Write applications of Fibre Reinforced concrete?
13. Define Admixtures.
14. What are the types of polymer concrete?
15. Define aerated concrete.

PART – C (2 x 15 = 30 Marks)

16. (a) (i) Explain high performance concrete and what are the advantages of high performance concrete over conventional concrete? (11)
- (ii) List Various types of the artificial light weight aggregate. (4)

Or

- (b) Explain in detail about heavy weather concrete. (15)
17. (a) Explain in detail about different types of polymer concrete. (15)
- Or
- (b) Explain in detail about workability test on self compacting concrete. (15)