

A

Reg. No. :

--	--	--	--	--	--	--	--	--	--	--

Question Paper Code: 58172

B.E. / B.Tech. DEGREE EXAMINATION, APRIL 2019

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)

- The risk of segregation is more for
 - Wetter mix
 - Larger proportion of maximum size aggregate
 - Coarser grading
 - All the above
- The cylindrical strength of concrete is _____ times the strength of the cube.
 - 10
 - 1.5
 - 0.8
 - 8
- While compacting the concrete by a mechanical vibrator, the slump should not exceed
 - 2.5 cm
 - 5.0 cm
 - 7.5 cm
 - 10 cm
- In bacterial concrete in order to seal the cracks on the surface _____ is formed due to metabolic activity of bacteria
 - CaO
 - CaCO₂
 - CaCO₃
 - CaOH
- Where aspect ratio increases strength of concrete _____
 - Increases
 - Decreases
 - Both
 - None of these
- Commonly employed test for measurement of cement workability is ____
 - Slump test
 - Kelley bell tes
 - Vee consists meter
 - All the above
- The cement concrete, from which entrained air and excess water are removed after placing it in position, is called _____
 - Vacuum concrete
 - LWC
 - Prestressed concrete
 - Sawdust concrete

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. 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

PART – B (5 x 2= 10 Marks)

11. Explain Cellular concrete.
12. Explain High density concrete.
13. Write applications of Fibre Reinforced concrete?
14. What are the materials used for SCC.
15. What are the special methods of making high strength concrete?

PART – C (2 x 15 = 30 Marks)

16. (a) (i) Explain in detail about self-healing concrete and bacterial concrete. (10)
 (ii) What are the advantages of Reactive Powder Concrete. (5)

Or

- (b) (i) Explain in detail about Shotcrete Process and Under Water Concrete. (10)
 (ii) What is meant by Aerated Concrete? (5)

17. (a) Explain in detail about heavy weather concrete. (15)

Or

- (b) (i) Explain in detail about Geopolymer Concrete. (10)
 (ii) What is meant by High Pressure Concrete? (5)