

CVG 2141 – CIVIL ENGINEERING MATERIALS

Quiz II

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Time: 10 minutes

Student Name: _____

Student Number: _____

1. Concrete has:
(a) High tensile strength ☒ (b) High compressive strength
(c) High ductility (d) All of the above
2. What component occupies the highest proportion in a unit volume of concrete?
(a) Cement (b) Air
(c) Water ☒ (d) None of the above
3. An aggregate that is round in shape and has a smooth texture produces a concrete that has:
(a) Low strength (b) High workability
(c) Low paste requirement ☒ (d) All of the above
4. Which of these phases is not a clinker compound?
(a) C₃S (b) C₂S
(c) C₄AF ☒ (d) Gypsum
5. Which compound contributes to strength development in concrete?
☒ (a) C₃S (b) C₃A
(c) C₄AF (d) Gypsum

6. Gypsum is added in the manufacture of cement to:
- (a) Increase the hydration rate of C_3S
 - (b) Increase the hydration rate of C_3A
 - (c) Slow the hydration rate of C_3S
 - ☒ (d) Slow the hydration rate of C_3A
7. Segregation occurs in:
- ☒ (a) Very wet mixes
 - (b) Very dry mixes
 - (c) Mixes with a great amount of fine particles
 - (d) None of the above
8. Bleeding is reduced by:
- (a) Increasing the fineness of the cement
 - (b) Decreasing the w/c
 - (c) Using air-entraining admixtures
 - ☒ (d) All of the above
9. In the mix design procedure, which requirements control the w/c ratio?
- (a) Strength & cement content
 - ☒ (b) Strength & durability
 - (c) Strength & water content
 - (d) None of the above
10. A mixture of 1080 g of gravel with an effective absorption capacity of 0.50% and 720 g of sand with surface moisture of 5% is added to a concrete mix. The mixing water must be adjusted by:
- (a) Increasing it 36 g
 - (b) Increasing it 5.4 g
 - ☒ (c) Reducing it 30.6 g
 - (d) None of the above