Assignment 6

This due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

1. Which among the following mineral admixtures contain the maximum reaction site?
   - Class F fly ash
   - Class C fly ash
   - Silica fume
   - Ground-granulated steel furnace slag
   - None of the above
   Accepted Answer: Silica fume

2. For a binder which is later hydration, the Ca/SiO2 ratio is
   - Around 1
   - Less than 0.7
   - Around 0.6
   - Outside the range
   - None of the above
   Accepted Answer: Around 1

3. Identify the incorrect statement
   - Workability of concrete increases with fly ash addition
   - Setting time of concrete is increased with fly ash addition
   - Segregation resistance of concrete increases, fly ash addition
   - Addition of fly ash reduces plastic shrinkage in concrete
   - All of the above
   Accepted Answer: Addition of fly ash reduces plastic shrinkage in concrete

4. Identify the correct statement
   - L/L test should be performed at fly ash to determine unburnt carbon content
   - Uniform carbon, if present in fly ash may cause exothermic reaction
   - Fly ash collected from power plant may cause an increase in sulfate content when added to concrete
   - Both (a) and (b)
   - All of the above
   Accepted Answer: Both (a) and (b)

5. A W82 grade concrete is to be used for the manufacturing of prestressed tunnel segments. Among the following, which mineral admixture can be recommended to be used in the concrete to achieve a better strength gain?
   - Class F fly ash
   - Class C fly ash
   - Silica fume
   - None of the above
   Accepted Answer: Silica fume

6. In the furnace industry, silica fume is captured by using
   - Baghouse filter
   - Electrostatic precipitator
   - Venturi scrubber
   - Cyclone
   - None of the above
   Accepted Answer: Baghouse filter

7. The addition of silica fume can reduce shrinkage induced cracking in reinforced concrete. This is because
   - The reactive aluminates present in silica fume can lead the shrinkage rate
   - High reactivity of silica fume concrete
   - Low permeability of silica fume concrete
   - Both (a) and (b)
   - None of the above
   Accepted Answer: Both (a) and (b)

8. The re-produced form of silica fume is rarely used and is densified before being supplied commercially. This is because
   - The re-produced form is very fine and difficult to handle and transport
   - The re-produced form is less reactive
   - The re-produced form does not disperse well during mixing of concrete
   - Both (b) and (c)
   - None of the above
   Accepted Answer: Both (b) and (c)

9. Identify the incorrect statement
   - The high surface area of the silica fume particles can act as a nucleation site increasing rate of hydration reactions in early ages
   - Silica fume addition increases bleeding in concrete
   - Silica fume addition increases the plastic shrinkage in concrete
   - None of the above
   Accepted Answer: None of the above

10. slab is the most preferred mineral admixture for making reinforced concrete exposed to marine environment. This is because
    - The reactive aluminates present in slab can bond chloride ions thereby reducing chloride induced corrosion
    - Slab has high amounts of reactive silica that offers resistance against chloride induced corrosion
    - Slab increases the permeability of concrete
    - None of the above
    - None of the above
    Accepted Answer: The reactive aluminates present in slab can bond chloride ions thereby reducing chloride induced corrosion