Assignment 0

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

Due on 2019-02-04, 23:59 IST.

1) In the context of chemical complexes in ordinary portland cement, identify the **FALSE** point statement.

- One of the hydration products of \( \text{C}_3\text{S} \) is referred to as tobermorite gel
- \( \text{C}_3\text{S}, \text{C}_2\text{S}, \text{C}_3\text{A} \) and \( \text{C}_4\text{AF} \) are generally referred to as ‘Bogues compounds’
- \( \text{C}_2\text{S} \) is responsible for the later-age strength gain during the hydration of cement
- \( \text{C}_3\text{A} \) and \( \text{C}_4\text{AF} \) react during the first 2 to 4 hours after water is added to portland cement

No, the answer is incorrect.
Score: 0

Accepted Answers:
- \( \text{C}_3\text{A} \) and \( \text{C}_4\text{AF} \) react during the first 2 to 4 hours after water is added to portland cement

2) In the context of addition of gypsum during the manufacture of portland cement, identify the **TRUE** statement.

- The addition of gypsum affects the setting time behavior of cement
- Gypsum affects the strength development of cement
- Gypsum affects both the setting time and strength development behavior of cement
- Gypsum neither affects the setting time nor strength development behavior of cement

No, the answer is incorrect.
Score: 0

Accepted Answers:
- Gypsum affects both the setting time and strength development behavior of cement

3) In the context of fineness of cement, identify the **FALSE** statement.

- Fineness of cement is determined using the Blaine’s apparatus

No, the answer is incorrect.
Score: 1 point

Accepted Answers:
- Gypsum affects both the setting time and strength development behavior of cement
4) In the context of coarse aggregate used in concrete, identify the **TRUE** statement.

- Flaky aggregates increase the strength of concrete due to interlocking between aggregates
- Rounded aggregates increase the workability of concrete due to higher paste requirement
- Gradation of aggregates (particle size distribution) is not an important criterion in the selection of aggregates
- According to the provisions of IS 456:2000, the nominal maximum size of aggregate should be less than \(\frac{1}{4}\) of the minimum thickness of member

No, the answer is incorrect.
Score: 0

5) In the context of concrete, identify the **FALSE** statement.

- For the same w/c ratio, the strength of concrete is higher than that of cement paste and mortar
- According to the provisions of IS 10262, the target mean strength of concrete mix should be equal to the characteristic strength plus 1.65 times the standard deviation
- Stress strain curve of concrete may be taken to be linear up to about 30-40% of the ultimate load (strength)
- Concrete shows strain softening behavior after the ultimate load in a strain-controlled test

No, the answer is incorrect.
Score: 0