Q 1 Match List – I with List – II and select the correct answer using the codes given below the lists:

List – I	List – II
A. Fineness of cement	1. Le – chatelier apparatus
B. Setting time	2. Vicat's needle
C. Soundness	3. Air permeability apparatus
D. Workability	4. Slump cone

Codes :

a. **A – 1, B – 2, C – 3, D – 4**

b. **A – 3, B – 1, C – 4, D – 2**

c. **A – 3, B – 2, C – 1, D – 4**

d. **A – 1, B – 4, C – 3, D – 2**

Q 2 If P is the standard consistency of cement the amount of water used in conducting the initial setting time test on cement is

a. **0.65 p**

b. **0.85 p**

c. **0.6 p**

d. **0.8 p**

Q 3 For complete hydration of cement the w/c ratio needed is

a. **Less than 0.25**

b. **More than 0.25 but less than 0.35**

c. **More than 0.35 but less than 0.45**

d. **More than 0.45 but less than 0.60**

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Q 4 Match List – I (Type of cement) with List – II (Characteristics) and select the correct answer:

List – I	List – II
A. Air entraining portland cement	1. Suitable for very large structure
B. Low – heat Portland cement	2. Unsuitable for verylarge masses of concrete
C. Hydrophobic portland cement	3. Greater resistance to first attack
D. Rapid hardening portland cement	4. Safe storage under unfavourable conditions of humidity

Codes :

a. **A – 4, B – 2, C – 1, D – 3**
b. **A – 3, B – 4, C – 1, D – 2**
c. **A – 3, B – 1, C – 4, D – 2**
d. **A – 4, B – 1, C – 2, D – 3**

Q 5. Match List – I with List – II and select the correct answer:

List – I	List – II
A. Vicat's needle	1. Setting time
B. Michaeli's compound lever apparatus	2. Specific surface
C. Le chatelier's apparatus	3. Tensile strength
D. Turbidimeter	4. Soundness

Codes :

a. **A – 1, B – 2, C – 3, D – 4**
b. **A – 1, B – 3, C – 4, D – 2**
c. **A – 2, B – 4, C – 3, D – 1**

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d. A – 3, B – 4, C – 1, D – 2

Q 6. Blast furnace slag has approximately

a. 45% calcium oxide and about 35% silica

b. 50% alumina and 35% calcium oxide

c. 25% magnesia and 15% silica

d. 45% calcium sulphate and 15% alumina

Q 7. Gypsum is used as an admixture in cement grouts for

a. Accelerating the setting time

b. Retarding the setting time

c. Increasing the plastering

d. Reducing the grout shrinkage

Q 8. Which of the following pairs in respect of ordinary portland cement (OPC) are correctly matched.

1. Initial setting time…….. 30 minutes

2. Final setting time……. 10 hours

3. Normal consistency…….10 %

Select the correct answer from the codes given below:

a. 1, 2, and 3

b. 2 and 3

c. 1 and 2

d. 1 and 3

Q 9. High alumina cement is produced by fusing together of mixture of

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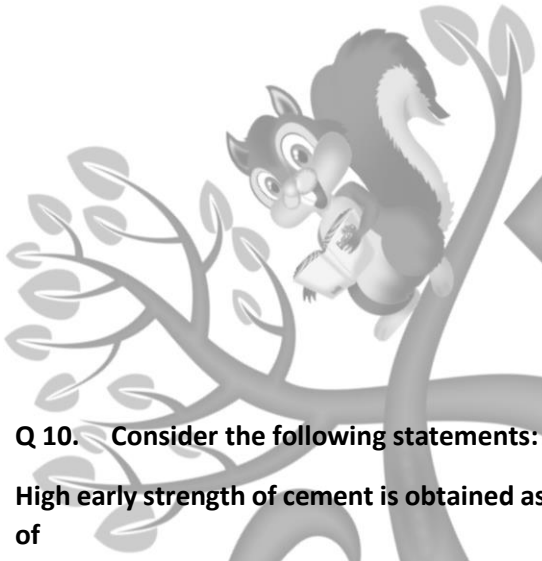
a. **Limestone and bauxite**

b. **Limestone, bauxite and gypsum**

c. **Limestone, gypsum, and clay**

d. **Limestone, gypsum bauxite, clay and chalk**



Q 10. Consider the following statements:

High early strength of cement is obtained as a result of

1. **Fine grinding**
2. **Decreasing the lime content**
3. **Burning at higher temperature**
4. **Increasing the quantity of gypsum**

Of these statements

a. **1 and 2 are correct**

b. **1 and 3 are correct**

c. **2, 3, and 4 are correct**

d. **1, 3 and 4 are correct**

Q 11. The temperature range in a cement kiln is

a. **500 to 1000˚C**

b. **1000 to 1200˚C**

c. **1300 to 1500˚C**

d. **1600 to 2000˚C**

Q 12. Before testing setting time of cement one should test for

a. **Soundness**

b. **Strength**

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c. **Fineness**

d. **Consistency**

Q 13. Consider the following statements.

1. **Tests on cement paste to determinate initial and final setting time are done at normal consistency condition.**
2. **Low heat cement has a high percentage of tricaluium aluminate.**
3. **High early strength protland cement contains a larger percentage of tricalcium silicate and a lower percentage of dicalcium silicate**

Which of these statements are correct?

a. **1 and 2**
b. **1 and 3**
c. **2 and 3**
d. **1, 2 and 3**

Q 14. The role of superplasticizer in a cement paste is to

a. **Disperse the particles**
b. **Disperse the particles and to remove air bubbles**
c. **Disperse the particles, remove air bubbles and to retard setting**
d. **Retard setting**

Q 15. Consider the following oxides:

1. **$Al_2 O_3$**
2. **CaO**
3. **SiO_2**

The correct sequence in increasing order of their percentage in
an ordinary portland and cement is

a. **2, 1, 3**
b. **1, 3, 2,**
c. **3, 1, 2,**
d. **1, 2, 3,**

Q 16. Increase in fineness of cement

a. **Reduces the rate of strength development and lead to higher shrinkage**
b. **Increase the rate of strength development of reduces the rate of deterioration.**

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c. **Decreases the rate of strength development and increases the bleeding of cement.**
d. **Increases the rate of strength development and leads to higher shrinkage.**

Q 17 Match List – I (Cement) with List – II (Characteristics) and select the correct answer:

List – I	List – II
A. High alumina cement	1. High early strength
B. Blast furnace cement	2. Gypsum free cement
C. Quick setting cement	3. Used in mass concrete work
D. Rapid hardening cement	4. Used in chemical factories and mines

Codes :

a. **A – 5, B – 4, C – 2, D – 1**
b. **A – 4, B – 3, C – 2, D – 1**
c. **A – 5, B – 4, C – 3, D – 2**
d. **A – 4, B – 5, C – 1, D – 2**

Q 18. The fineness of cement is tested by

a. **Air-content method**
b. **Air-permeability method**
c. **Le - chtelier apparatus**
d. **Vicat's apparatus**

Q 19. The test on cement designed to accelerate the slaking process of the ingredient of cement and to determinate the resulting expansion in a short time is

a. **Setting time test**
b. **Soundness test**
c. **Normal consistency test**
d. **Accelerated test**

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Q 20. The bricks which are extensively used for basic refractories in furnaces are

a. **Chrome bricks**

b. **Silimanite bricks**

c. **Magnesite bricks**

d. **Fosterite bricks**

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