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# CIVIL ENGINEERING



# DDA JE 2022

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- ✓ Validity:- Till The Exam (Under 5 Months)
- ✓ Duration:- 150 Hours
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START DATE

**14<sup>th</sup>**  
JUNE 2022



DURATION

**300**  
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VALIDITY

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YEAR



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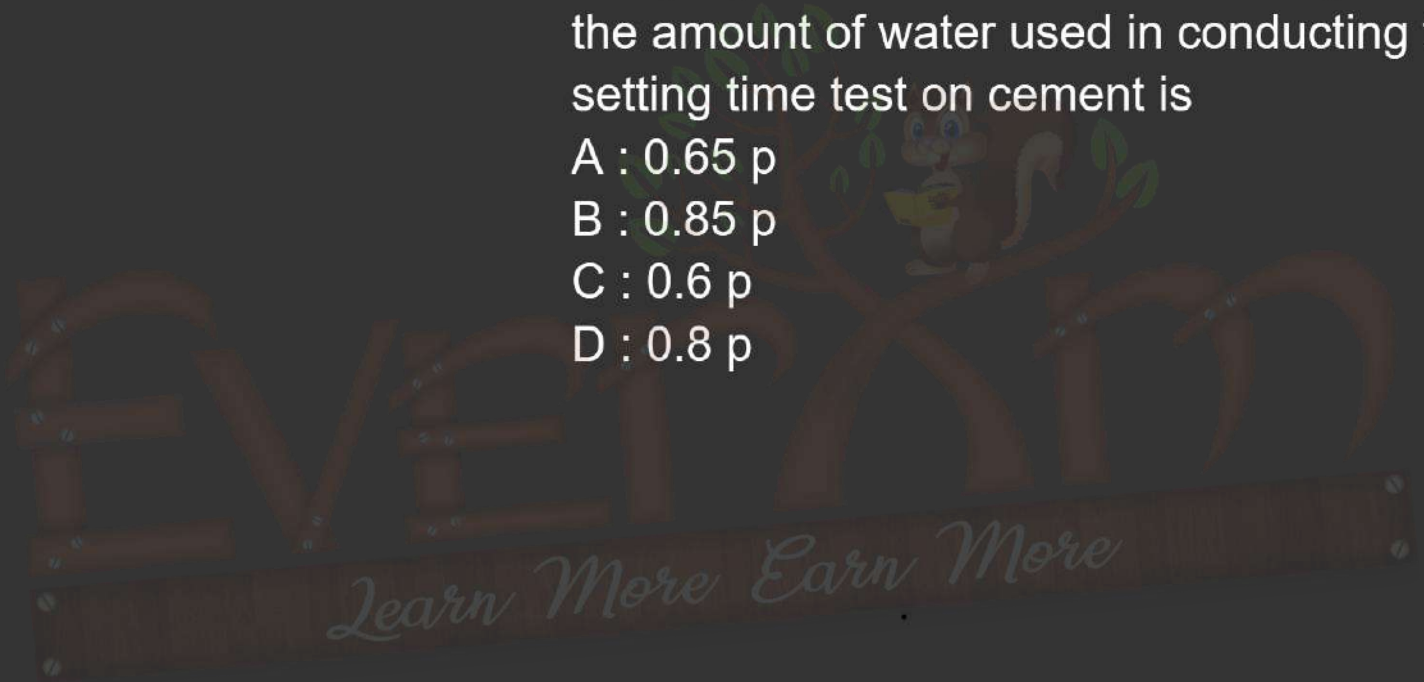
Q: 1) If  $p$  is the standard consistency of cement the amount of water used in conducting the initial setting time test on cement is

A :  $0.65 p$

B :  $0.85 p$

C :  $0.6 p$

D :  $0.8 p$



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Q: 2) 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 structures
B. Low-heat portland Cement	2. Unsuitable for very large masses of concrete
C. Hydrophobic portland cement	3. Greater resistance to frost attack
d. Rapid hardening Portland cement	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-3,B-1,C-4,D-2

Q: 3) Blast furance slag has approximately  
A : 45% calcium oxide and about 35% silica  
B : 50% alumina and 20% calcium oxide  
C : 25% magnesia and 15% silica  
D : 25% calcium sulphate and 15% alumina



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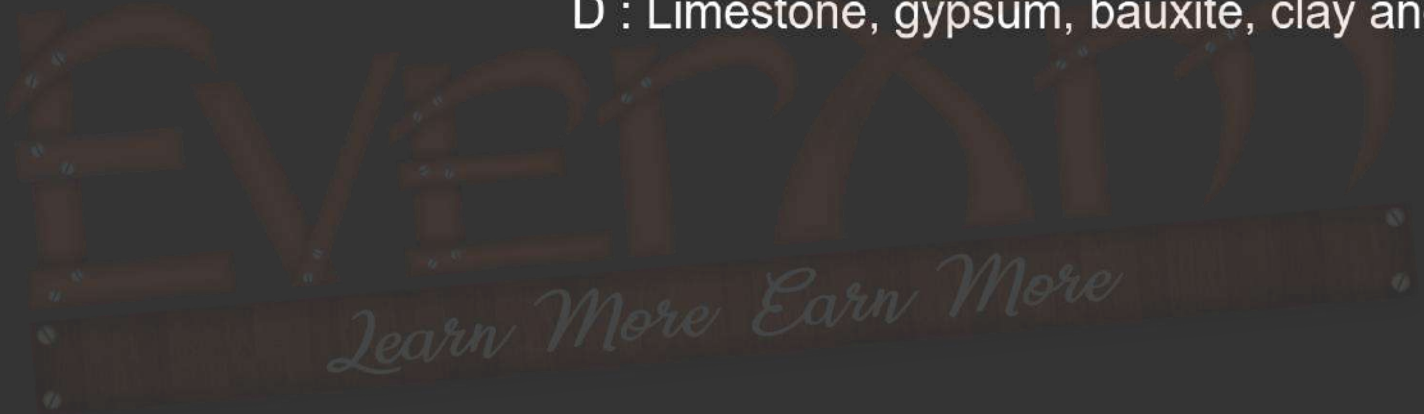
Q: 4) High alumina cement is produced by fusing together a Mixture of

A : Limestone and bauxite

B : Limestone, bauxite and gypsum

C : Limestone, gypsum, and clay

D : Limestone, gypsum, bauxite, clay and chalk



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Q: 5) Match List-I(Property of cement) with List-II (Testing apparatus) and select the correct answer

List-I	List-II
A. Specific gravity	1. Blaine's apparatus
B. Setting time	2. Le Chatelier's Flask
C. Soundness	3. Compressometer
D. Fineness	4. Autoclave
	5. Vicat's apparatus

Codes:

A : A-3,B-5,C-1,D-2

B : A-2,B-5,C-1,D-4

C : A-2,B-5,C-4,D-1

D : A-5,B-3,C-4,D-1



Q: 6) Consider the following statements:

1. Has high early compressive strength and high heat of hydration than OPC-43 graded
2. Is not suitable to be used in cold regions.

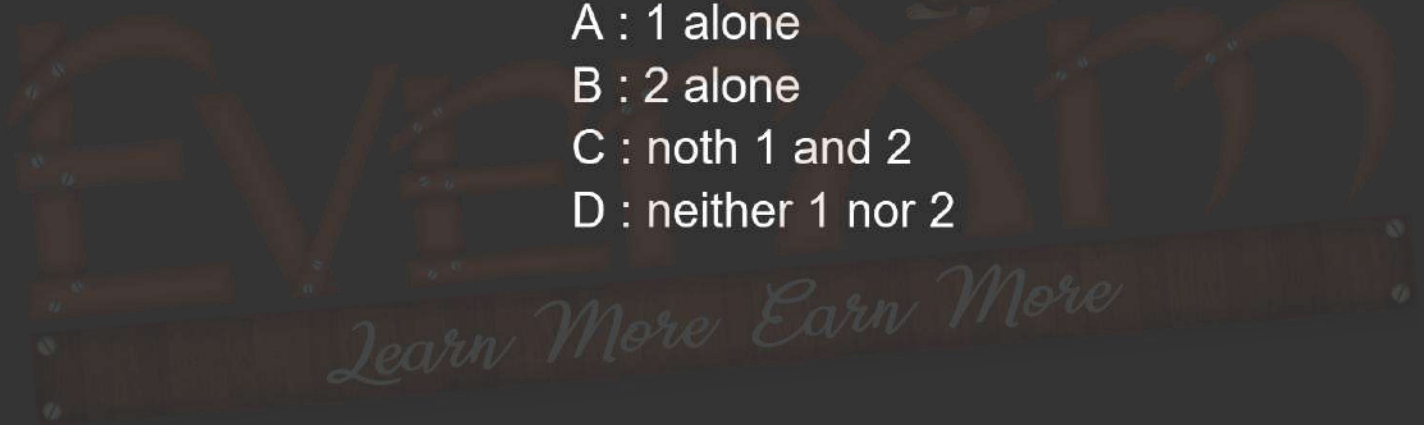
Which of these statements is/are correct?

A : 1 alone

B : 2 alone

C : both 1 and 2

D : neither 1 nor 2



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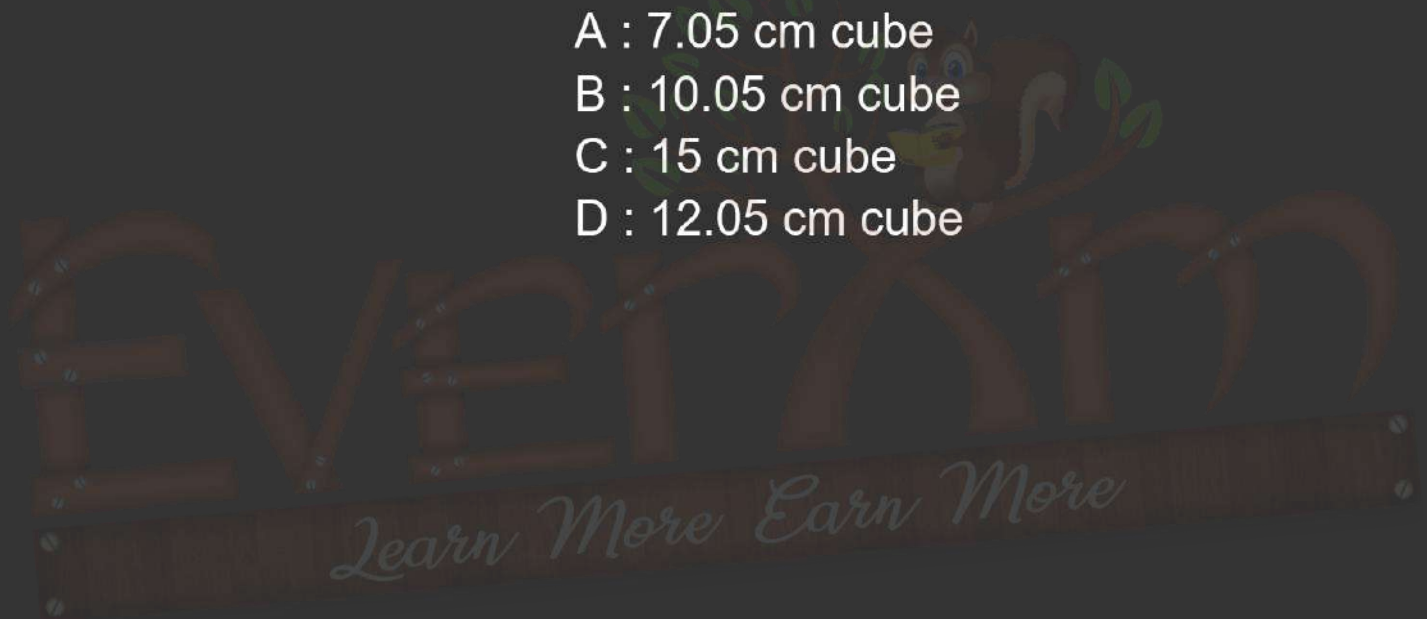
Q: 7) The proper size of mould for testing compressive strength of cement is

A : 7.05 cm cube

B : 10.05 cm cube

C : 15 cm cube

D : 12.05 cm cube



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Q: 8) Consider the following statements:

Low percentage of C3S and high percentage of C2S in cement will result in

1. Higher ultimate strength with less heat generation
2. Rapid-hardening
3. Better resistance to chemical attack

Which of the statements given above are correct?

A : 1 and 2

B : 2 and 3

C : 1 and 3

D : 1, 2 and 3



Q: 9) Match List-I (Type of cement) with List-II (Characteristics) and select the correct answer using the code given below the lists:

List-I	List-II
A. Rapidly hardening cement	1. Lower $C_3A$ content than that in OPC
B. Low heat Portland cement	2. Contains pulverized fly that is OPC
C. Portland Pozzolana	3. Higher $C_3S$ and $C_3A$ contents than that in OPC
D. Sulphate resisting cement	4. Lower $C_3S$ and $C_3A$ contents than in OPC

Codes:

A : A-1,B-2,C-4,D-3

B : A-3,B-4,C-2,D-1

C : A-1,B-4,C-2,D-3

D : A-3,B-2,C-4,D-1

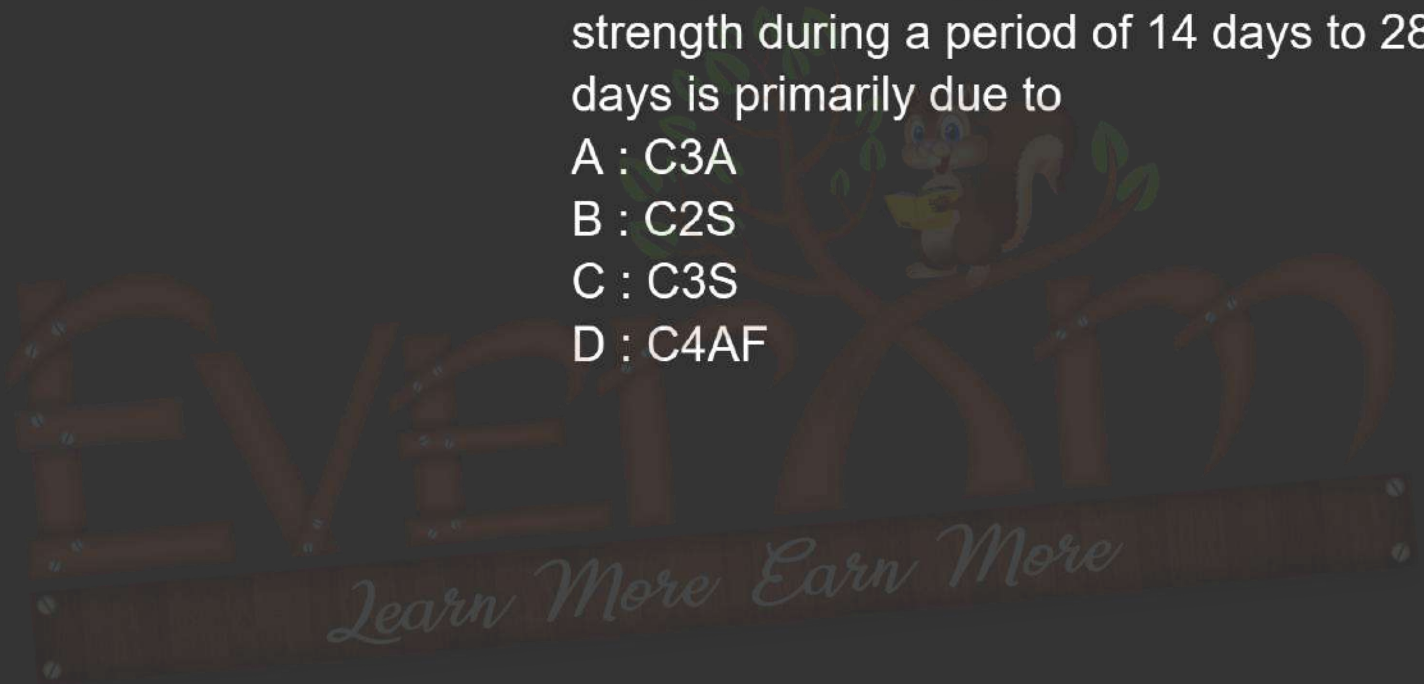
Q: 10) In cements, generally the increase in strength during a period of 14 days to 28 days is primarily due to

A : C3A

B : C2S

C : C3S

D : C4AF



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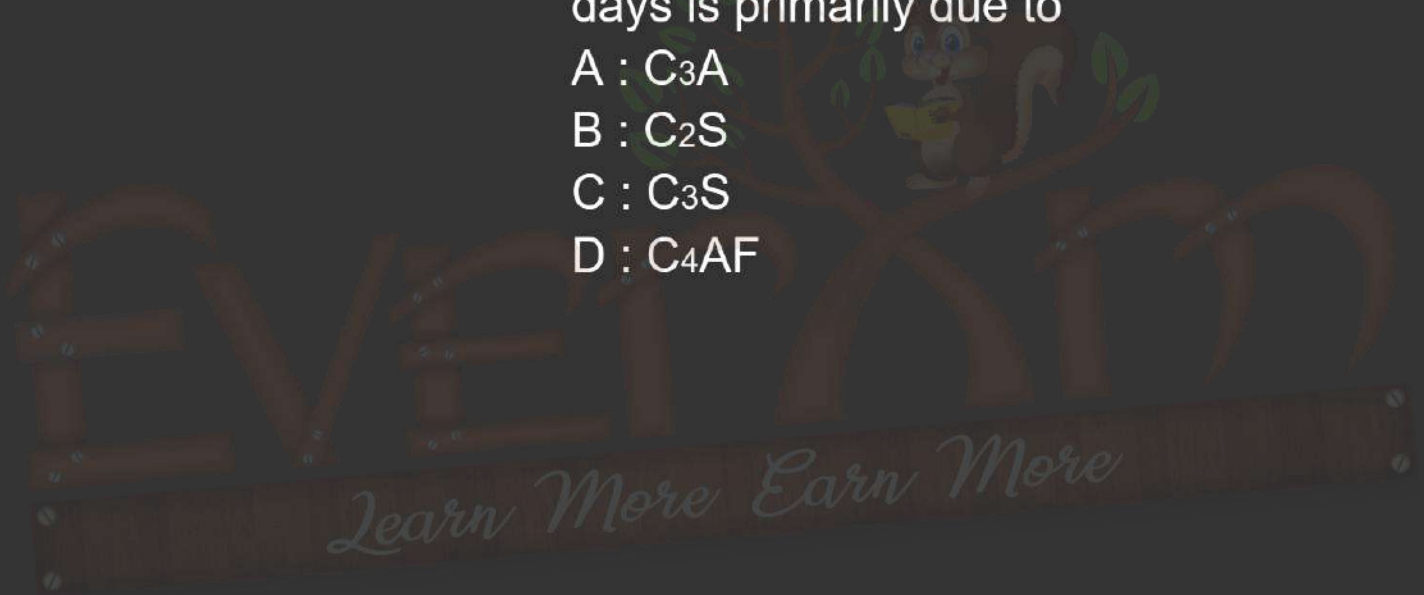
Q: 10) In cements, generally the increase in strength during a period of 14 days to 28 days is primarily due to

A :  $C_3A$

B :  $C_2S$

C :  $C_3S$

D :  $C_4AF$



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Q: 12) Consider the following statements:

More than 6% magnesium oxide by weight in cement result in

1. High early strength and high heat generation
2. Less tendency towards volume change and formation of cracks.

Which of these statements is/are correct?

A : 1 Only

B : 2 Only

C : Neither 1 nor 2

D : Both 1 and 2

Q: 13) Consider the following forms of water in a hydrated cement paste:

1. Capillary water
2. Chemically combined water
3. Interlayer water
4. Adsorbed water

Which of the above forms of water will, on its/ their removal, cause shrinkage of the paste?

A : 1,2 and 3

B : 1,2 and 4

C : 2,3 and 4

D : 1,3 and 4

Q: 14) Which of the following statements is/are correct regarding the strength of cement?

1. particle sizes less than  $3\mu\text{m}$  increases the viscous nature of the cement.
2. Finer particles in cement can be replaced by fly-ash to improve the strength

A : 1 only

B : 2 only

C : Both 1 and 2

D: Neither 1 nor 2



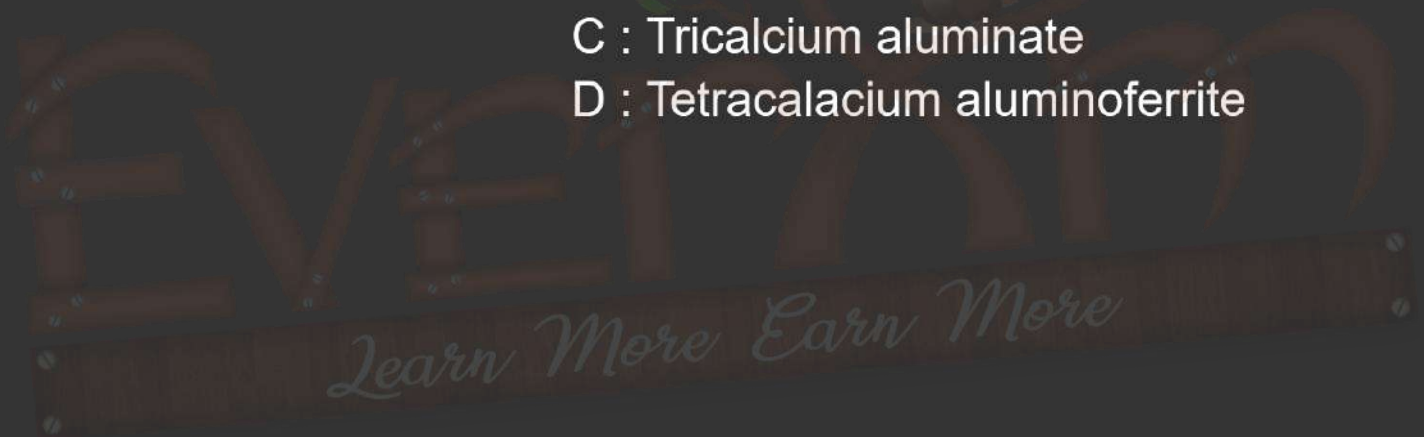
Q: 15) The constituent compound in Portland cement which reacts immediately with water, and also sets earliest, is

A : Tricalcium silicate

B : Dicalcium silicate

C : Tricalcium aluminate

D : Tetracalcium aluminoferrite



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Q: 16) Consider the following statements:

1. Hydrophobic cement grains possesses low wetting ability
2. Rapid-hardening cement is useful in concreting under static, or running water
3. Quick-setting cement helps concrete to attain high strength in the initial period
4. White cement is just a variety of ordinary cement free of colouring oxides.

Which of the above statements are correct?

A : 1 and 4 only

B : 1 and 3 only

C : 2 and 4 only

D : 2 and 3 only

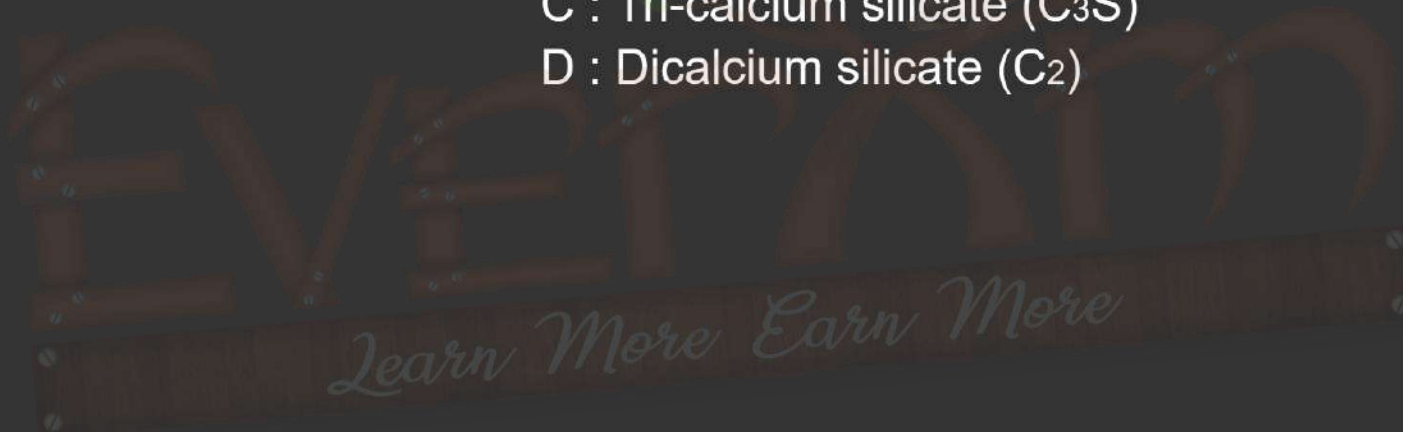
Q: 17) Hydration of which compound is responsible for increase in strength of cement in later age?

A : Tri-calcium Aluminate ( $C_3A$ )

B : Tetracalcium aluminoferrite ( $C_4AF$ )

C : Tri-calcium silicate ( $C_3S$ )

D : Dicalcium silicate ( $C_2$ )



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Q: 18) Which one of the following cements is a deliquescent?

A : Quick setting portland cement

B : white and coloured cement

C : Calcium chloride cement

D : Water repellent cement



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Q: 19) Consider the following data for concrete with mild exposure:

Water-cement ratio = 0.50

Water = 191.6 litre

The required cement content will be

A : 561 kg/m<sup>3</sup>

B : 472 kg/m<sup>3</sup>

C : 383 kg/m<sup>3</sup>

D : 294 kg/m<sup>3</sup>

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Q: 20) Air permeability method is used to determine

A : Soundness of cement

B : Setting time

C : Fineness of cement

D : Resistance of cement



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Q: 21) Match List-I (Name of stone) with List-II (Use of stone) and select the correct answer using the codes given below the lists:

List-I	List-II
A. Granite	1. Ornamental work
B. Marble	2. Ballast
C. Chalk	3. Rough stone work
D. Laterite	4. Manufacture of cement

Codes:

A : A-3, B-1, C-2, D-4

B : A-2, B-3, C-1, D-4

C : A-2, B-1, C-4, D-3

D : A-1, B-4, C-2, D-3

Q: 22) Match List I with List II and select the correct answer using the codes given below be lists:

List-I

A. Pugmill

B. Plug and feathers

C. Lewis

D. Gelignite

List-II

1. Blasting

2. Lifting

3. Splitting

4. Tempering

Codes:

A : A-2, B-1, C-3, D-4

B : A-2, B-3, C-4, D-1

C : A-4, B-3, C-2, D-1

D : A-2, B-1, C-4, D-3

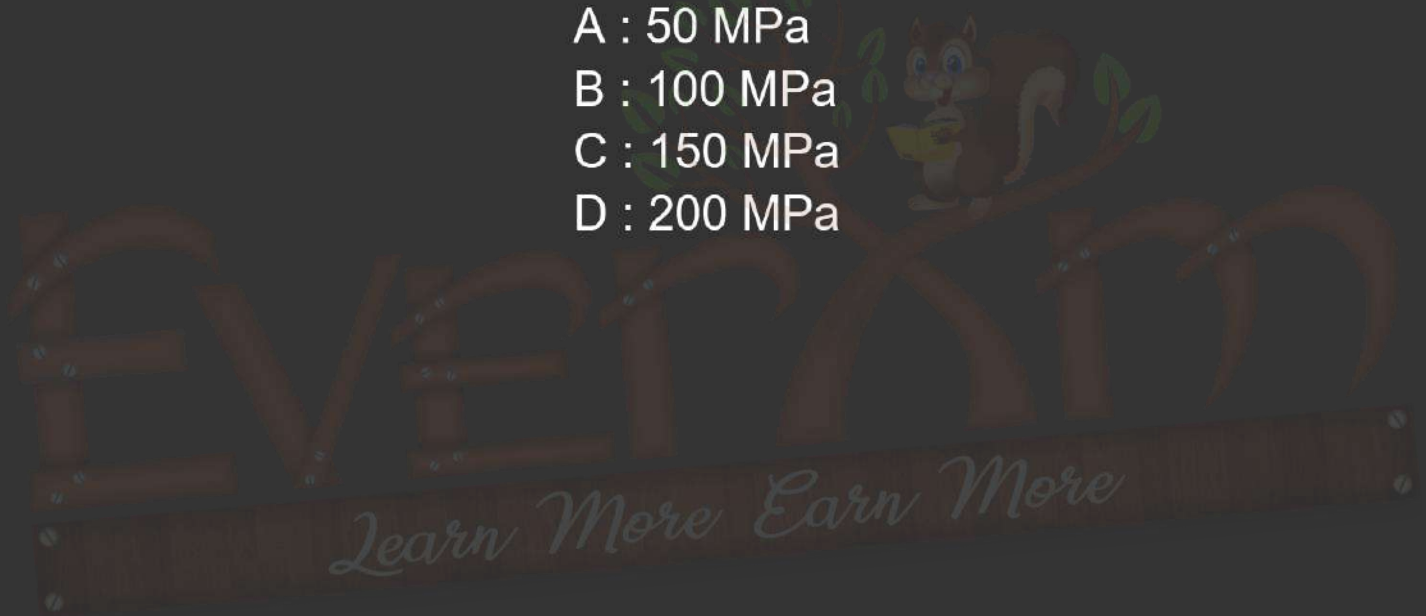
Q: 23) The crushing strength of a good building stone should be at least.

A : 50 MPa

B : 100 MPa

C : 150 MPa

D : 200 MPa



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Q: 24) The bricks which are extensively used for basic refractories in furnaces are

A : Chrome bricks

B : Sillimanite bricks

C : Magnesite bricks

D : Forsterite bricks



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Q: 25) Match List-I (Constituents of bricks) with II (Corresponding influence) and select the correct answer:

List - I

- A. Alumina
- B. Silica
- C. Magnesia

D. Limestone

List - II

- 1. Colour of brick
- 2. Plasticity recovery for moulding
- 3. Reacts with silica during burning and causes particles to unite together and development of strength.
- 4. Preserves the form of brick at high temperature and prevents

Codes:

- A : 2, 1, 4, 3
- B : 3, 4, 1, 2
- C : 2, 4, 1, 3
- D : 3, 1, 4, 2

Q: 26) Consider the following stages in the manufacturing of bricks:

1. Weathering
2. Moulding
3. Tempering

The correct sequence of these stages in the manufacturing of the bricks is

- A : 1, 2, 3
- B : 2, 3, 1
- C : 1, 3, 2
- D : 3, 2, 1

Q: 27) Consider the following characteristics with respect to brick

1. Minimum compressive strength = 175  
(Standard units)

2. Minimum absorption is 24 hours, (in % of dry weight) = 12

3. Very little efflorescence

4. Tolerance in dimension =  $\pm 8$

As per Indian standards classification, a brick with the characteristics given above is termed as

A : H I

B : F II

C : L II

D : H II

Q: 28) The temperature at which the bricks are burnt in kiln varies from

A :  $500^{\circ}$  to  $800^{\circ}\text{C}$

B :  $800^{\circ}$  to  $1000^{\circ}$

C :  $1000^{\circ}$  to  $1200^{\circ}$

D :  $1200^{\circ}$  to  $1500^{\circ}$



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Q: 29) Consider the following statements:

1. Soil containing more than 30% of calcium hydroxide is used for manufacture of sand lime brick.

2. Carbon bricks is made from crushed coke bonded with tar.

Which of the statements given above is/are correct?

A : 1 only

B : 2 only

C : Both (1) and (2)

D : Neither (1) nor (2)



Q: 30) For high class brick masonry, which are the proper bricks?

A : Refractory bricks

B : Jumb bricks

C : Bull nose bricks

D : Modular bricks



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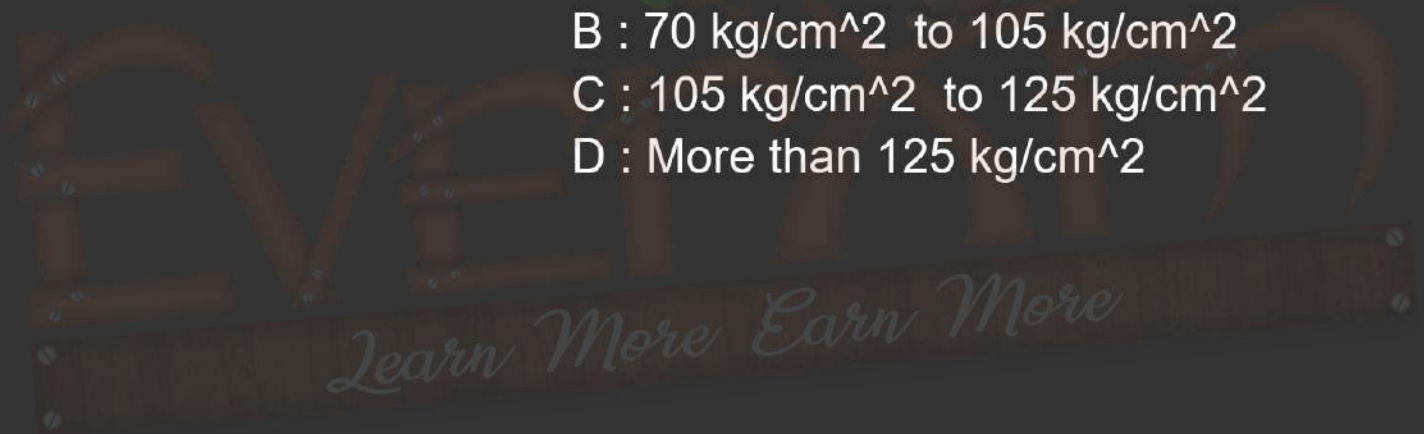
Q: 31) In order to achieve a safe compressive strength of  $20 \text{ kg/cm}^2$  in a brick masonry, what should be the suitable range of crushing strength of bricks?

A :  $35 \text{ kg/cm}^2$  to  $70 \text{ kg/cm}^2$

B :  $70 \text{ kg/cm}^2$  to  $105 \text{ kg/cm}^2$

C :  $105 \text{ kg/cm}^2$  to  $125 \text{ kg/cm}^2$

D : More than  $125 \text{ kg/cm}^2$



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Q: 32) Consider the following statements:

1. Bricks lose their strength by 25% when soaked in water
2. Minimum crushing strength of brick in buildings should be  $\text{kg/cm}^2$
3. The size of modular type bricks is  $20 \text{ cm} \times 10 \text{ cm} \times 10 \text{ cm}$  including mortar thickness.

A : 1, 2 and 3

B : 1 and 2 only

C : 1 and 3 only

D: 2 and 3 only

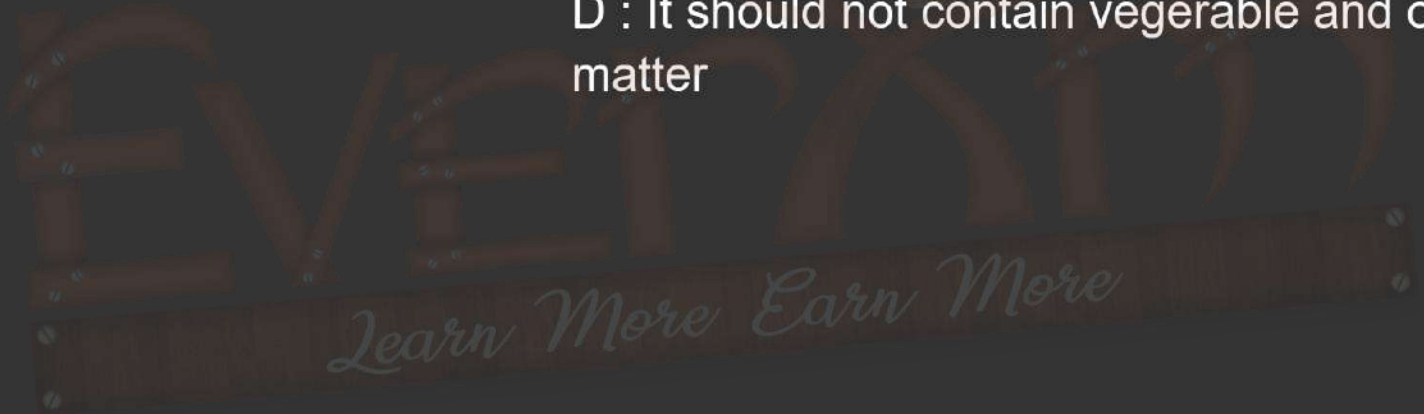
Q: 33) Which of the following is an ODD one as regards 'requirement of good brickearth?

A : It must be free from lumps of lime

B : It should not be mixed with salty water

C : It must be non-homogeneous

D : It should not contain vegetable and organic matter



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Q: 34) Disintegration of bricks masonry walls is primarily due to

1. Efflorescence
2. Magnesium sulphate in bricks
3. Calcined clay admixtures
4. Kankar nodules

Which of the above statements are correct?

A : 1, 2 and 3 only

B : 1, 2 and 4 only

C : 3 and 4 only

D: 1, 2, 3 and 4



Q: 35) Statement (I) : Mud bricks can be completely replaced by Flyash lime-Gypsum (Fal-G) bricks in building.

Statement (II) : Useful fertile soil is used in manufacturing mud bricks, causing high CO<sub>2</sub> release in the atmosphere.

A : A

B : B

C : C

D : D

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Q: 36) Consider the following statements regarding refractory bricks in furnaces:

1. The furnace is fired at temperatures more than 1700°C.
2. Silica content in the soil should be less than 40%.
3. Water absorption of bricks should not exceed 10%

Which of the above statements are correct?

A : 1 and 2 only

B : 2 and 4 only

C : 1 and 3 only

D : 3 and 4 only

Q: 37) Consider the following statement for selecting building stones:

1. Seasoning of stones is essential and is done by soaking in water
2. Specific gravity of stone is to be more than 2.7
3. Porosity of stone affects its durability
4. Climatic conditions decide the type of stone to be used in construction

Which of the above statements are correct?

A : 1, 2 and 3 only

B : 1, 2 and 4 only

C : 1, 3 and 4 only

D : 2, 3 and 4 only

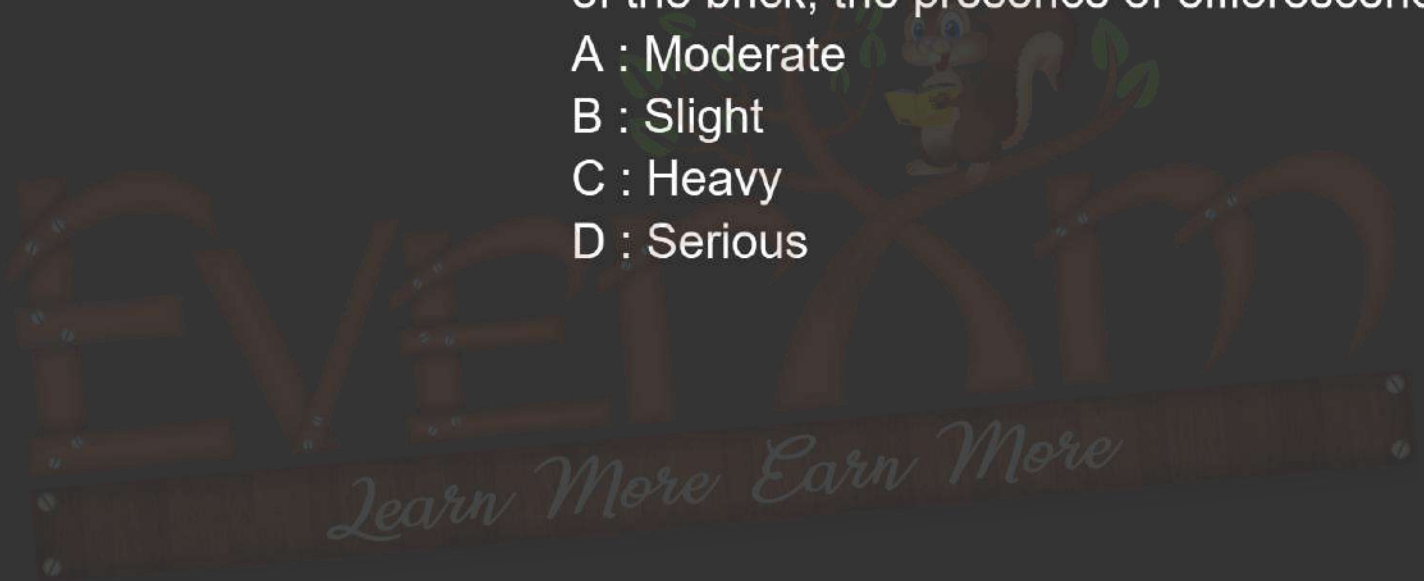
Q: 38) When the deposit of efflorescence is more than 10% but less than 50% of the exposed area of the brick, the presence of efflorescence is

A : Moderate

B : Slight

C : Heavy

D : Serious



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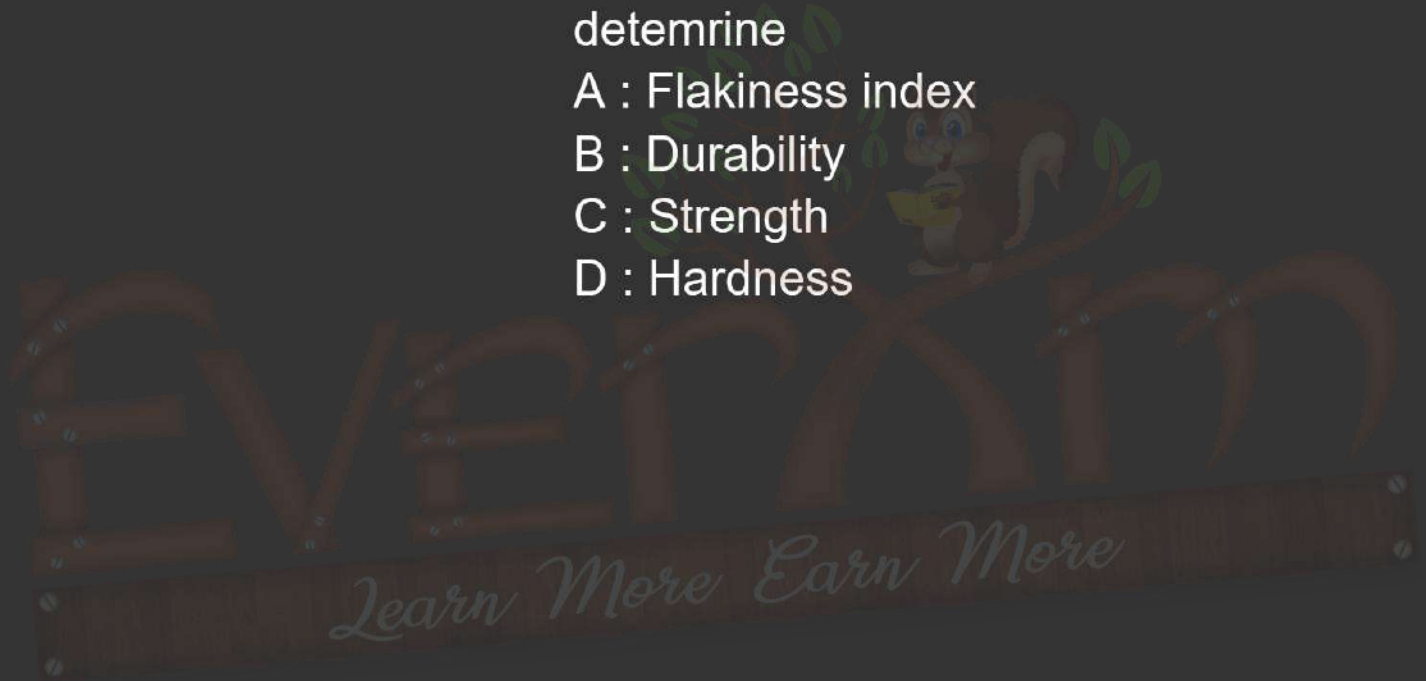
Q: 39) Mohr scale is used for stones to determine

A : Flakiness index

B : Durability

C : Strength

D : Hardness



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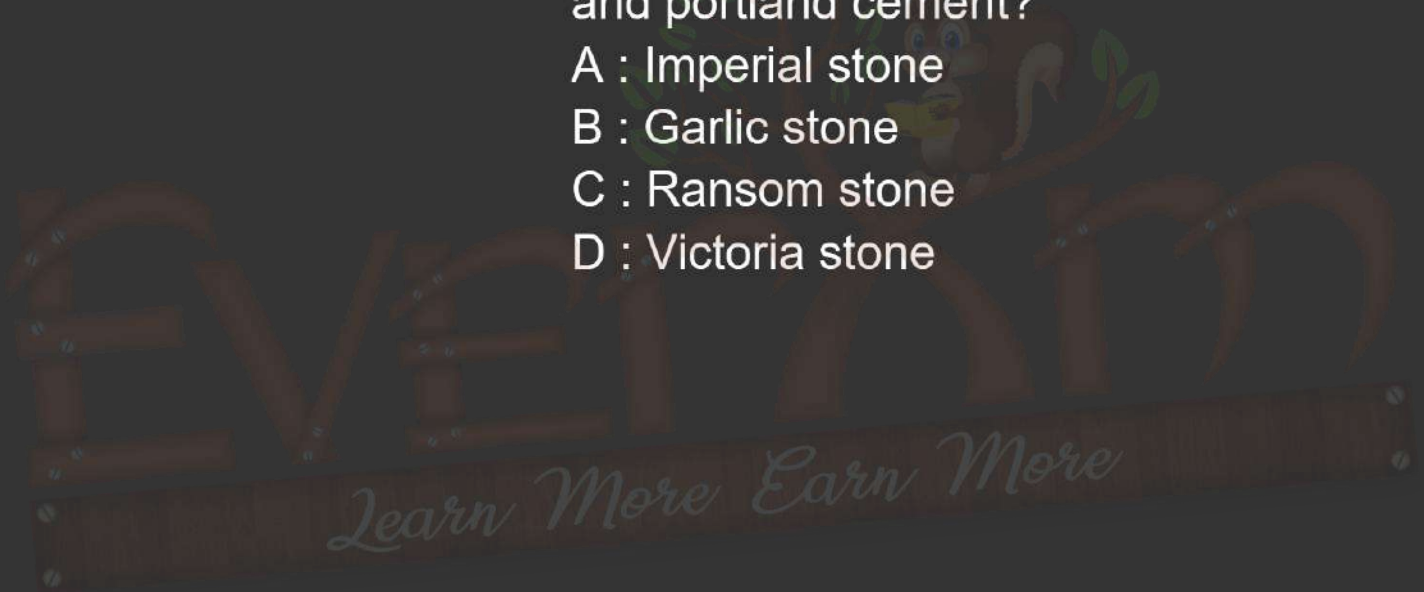
Q: 40) Which one of the following stone is produced by moulding a mixture of iron slag and portland cement?

A : Imperial stone

B : Garlic stone

C : Ransom stone

D : Victoria stone



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(BRO)



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(BRO)



DIVAKAR JINUGU  
(BRO)





**किसी भी प्रकार की  
सहायता  
के लिए संपर्क करें:-**



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