MARATHON CLASS

(BMC-ESE-PYQ-ONE-LINER)

Q: 31) In order to achieve a safe compressive strength of 20 kg/cm^2 in a brick masonry, what should be the suitable range of crushing strength of bricks?
A : 35 kg/cm^2 to 70 kg/cm^2
B : 70 kg/cm^2 to 105 kg/cm^2
C : 105 kg/cm^2 to 125 kg/cm^2
D : More than 125 kg/cm^2

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 kg/cm^2
3. The size of modular type bricks is 20 cm × 10 cm × 10 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 refards 'requirement of good brick-earth?
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 vegerable and organic matter

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_2 release in the atmosphere.
A : A
B : B
C : C
D : D

Q: 36) Consider the following statements regarding refactory bricks in furnaces:
1. The furnace is fired at temperatures more than 1700^{o}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

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

B : Durability
C : Strength
D : Hardness

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

Q: 41) The mortar used for masonry construction are classified based on strength in IS 2250 and IS 1905 according to their designations L_1, L_2, H_1, H_2, M_1, M_2. The correct sequence of increasing order of their strength is
A : L_1, L_2, H_1, H_2, M_1, M_2 L_1, L_2, H_1, H_2, M_1, M_2
B : L_2, L_1, M_2, M_1, H_2, H_1 L_2, L_1, M_2, M_1, H_2, H_1
C : M_1, M_2, H_1, H_2, L_1, L_2 M_1, M_2, H_1, H_2, L_1, L_2
D : L2, L_1, M_1, M_2, H_1, H_2

Q: 42) Match List-I with List-II and select the correct answer:

List-I	List-II
A. Fat lime B. Hydraulic lime C. Quick lime D. Non-hydraulic lime	1. Calcined dolomitic stone 2. Calcined lime stone 3. Kankar 4. Sea shells

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

Q: 43) Surkhi is added to lime mortar to
A : Prevent shrinkage
B : Decrease setting time
C : Increase bulk
D : Impart hydraulicity

Q: 44) Guniting is the application f mortar
A : On a surface under pneumatic pressure
B : On a vertical surface
C : Om brickwork by manual method
D : Of fluid consistency for repair works

Q: 45) Why is lime added to cement slurry for the topcoat of plastering?
A : To inprove the strength of palster
B : To stiffen the palster
C : To smoothen the palster for ease of spread
D : To make the plaster non-shrinkable

Q: 46) Match List-I (Cement mortar for difefrent work) with List-II (Cement :s and in mortar) and select the correct answer using the code given below the lists:

List-I	List-II
A. Cement mortar for normal brick work B. Cement mortar for plastering work C. Cement mortar for grouting the cavernour rocks D. Cement mortar for guniting	1. 1 : 4 2. 1 : 3 3. 1 : 6 4. 1 : 1.5

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

Q: 47) Consider the following statements:
Sand in cement mortar is used for
1. Increasing the strength
2. Reducing the shrinkage
3. Decreasing the surface area of the binding material
4. Decreasing the quantity of cement
Which of these statements are correct?
A : 1, 2 and 4
B : 1, 2 and 3
C : 1, 3 and 4
D : 2, 3 and 4

Q: 48) Which of the following ingredients refer to binding materials of mortar?
1. Cement
2. Lime
Sand
Ashes
Select the correct answer using the code given below.
A : 1 and 4

B : 3 and 4
C : 1 and 2
D : 2 and 3

Q: 49) Which of the following statements are correct with regard to cement mortar?
1. Workability of cement mortar can be improved by addition of time.
2. Fly-ash cement is economical in plastering jobs.
3. Addition of saw dust improves workability.
Sand in mortar can be replaced by finely crushed fire bricks.
A : 1, 2, 3 and 4
B : 1, 2 and 3 only
C : 3 and 4 only
D : 1, 2 and 4 only

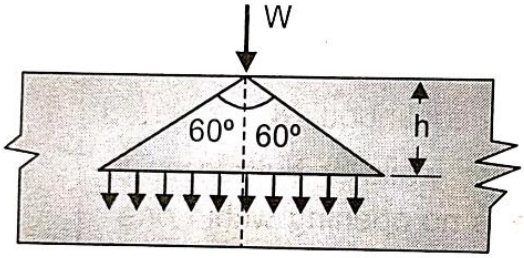
Q: 50) Which one of the following light weight element will be added to enhance the protective properties for x-ray shielding mortars?
A : Sodium
B : Potassium
C : Lithium
D : Calcium

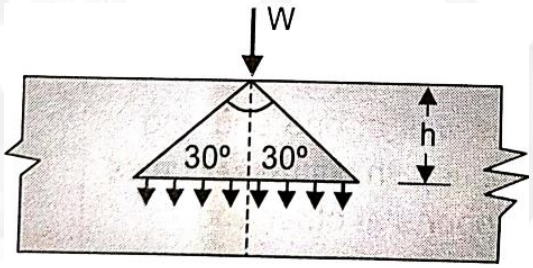
Q: 51) Direct load carrying capacity of a brick masonry wall standing freely as against when it supports RC slab will be
A : More
B : Less
C : The same in both the cases
D : 100% more

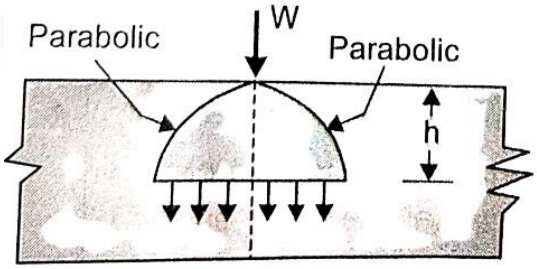
Q: 52) Window sills in residential house are normally kept at
A : 83 to 90 cm above the floor level
B : 80 to 90 cm above the floor level
C : 78 to 88 cm above the floor level
D : 75 to 85 cm above the floor level

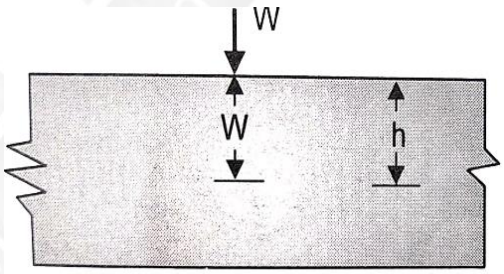
Q: 53) The function of coping is to serve as a
A : Covering to the wall to throw off water
B : Ornamental course between lintel level and roof level
C : Projection from a wall to support a structural
D : Shade against solar radiation

Q: 54) Which one of the following figures shows the permitted dispersion of concentrated load in masonry structures?

A:


B:


C:


D:


Q: 55) The slenderness ratio for masonry walls should NOT be more than
A : 50
B : 40
C : 30
D : 20

Q: 56) The average compressive strength of a burnt clay brick is less than 12.5 N/mm^2. The allowable rating of efflorescence is
A : Moderate
B : Serious
C : Heavy
D : Zero

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Q: 57) Maximum slenderness ratio for load-bearing masonry wall built in cement mortar, as per IS code, shall not exceed

A : 12
B : 20
C : 27
D : 30

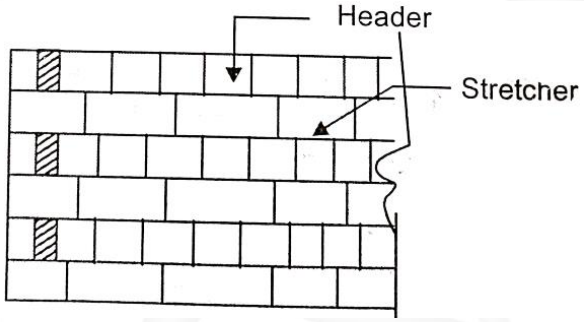
Q: 58) Consider the following statements:
Perforated bricks are preferred in construction since

1. They are lighter
2. They are stronger than class 1 bricks
3. They have heat-insulating properties
4. They are cheaper and need less mortar

Which of these statements are correct?

A : 1, 2, 3 and 4
B : 2 and 3 only
C : 1 and 3 only
D : 3 and 4 only

Q: 59) When provided with alternating courses of
(a) all headers and
(b) all stretchers, the front elevation of such brick masonry is desigend as



A : English bond
B : Single flemish bond
C : Double flemish bond
D : Rat-trap bond

Q: 60) The relation between the strength of brick masonry f_w, the strength of bricks f_b, and the strength of mortar f_m is given by (Where K_w is a coefficient based on the layout of the bricks and the joints).

A : $f_w = \sqrt{K_w \frac{f_b}{f_m}}$

B : $f_w = K_w \sqrt{\frac{f_b}{f_m}}$

C : $f_w = \sqrt{K_w f_b f_m}$

D : $f_w = K_w \sqrt{f_b f_m}$

Q: 61) According to the relevant IS code, the weight of the timber is to be reckoned at a mositure content of

A : Zero
B : 0.04
C : 0.08
D : 0.12