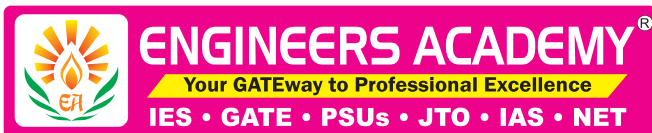


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UNIT-I

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BRICKS

CHAPTER**1****OBJECTIVE QUESTIONS**

1. The process of mixing sand with the powdered natural soil to improve the quality is known as
 - (a) Moulding
 - (b) Tempering
 - (c) Drying
 - (d) Blending
2. Lime is mixed with brick earth
 - (a) To impart plasticity
 - (b) To increase durability
 - (c) To prevent shrinkage
 - (d) To increase impermeability
3. Maximum percentage of water absorption of II-class bricks in 24 hours should be limited to
 - (a) 10%
 - (b) 15%
 - (c) 20%
 - (d) 22%
4. The over ground continuous kiln is
 - (a) Bull's trench kiln
 - (b) Hoffman's kiln
 - (c) Tunnel kiln
 - (d) All of these
5. Fire bricks should be laid in
 - (a) Lime mortar
 - (b) Fire cement mortar
 - (c) Fire clay mortar
 - (d) All of these
6. Bullnose bricks are not used in
 - (a) Walls
 - (b) Rounding off sharp corners
 - (c) Arches
 - (d) Pillars
7. Terracotta is used in buildings for
 - (a) Ornamental work
 - (b) Insulation
 - (c) Storage
 - (d) None of these
8. If rain water falls on hot bricks, then shape of the bricks gets deformed, the defect is known as
 - (a) Efflorescence
 - (b) Bloating
 - (c) Chuffs
 - (d) Nodules
9. The moulded bricks are dried before burning to an approximate moisture content of
 - (a) 3%
 - (b) 6%
 - (c) 10%
 - (d) 20%
10. Hollow brick is
 - (a) Sound proof
 - (b) Heat proof
 - (c) About 1/3 in weight of standard brick
 - (d) All of the above
11. The compressive strength of burnt clay bricks as per IS 1077-1992 is
 - (a) 105 kg/cm²
 - (b) 150 kg/cm²
 - (c) 105–150 kg/cm²
 - (d) 35–350 kg/cm²
12. Consider the following statements:

A good soil for making bricks should contain

 1. About 30% alumina.
 2. About 10% lime nodules.
 3. A small quantity of iron oxides, 5 to 6%.
 4. About 5% magnesia.

Of these statements

 - (a) 1 and 2 are correct
 - (b) 1 and 3 are correct
 - (c) 1, 3 and 4 are correct
 - (d) 1 and 4 are correct

13. Consider the following statements:
For the manufacture of good quality bricks it is essential to
1. Use a reverberatory kiln.
 2. Blend the soil with clay or sand as deemed appropriate.
 3. Kneading the soil in a ghani.
 4. Temper the soil in a pug mill.
- Of these correct statements are
- (a) 1 and 3 (b) 2 and 4
(c) 1, 3 and 4 (d) 2, 3 and 4
14. The raw bricks shrink during drying and warp during burning because of
- (a) Less lime in brick earth
(b) Less silica and excess magnesia in brick earth
(c) Excess of alumina
(d) Alkalies in bricks earth
15. In brick masonry the frog of the brick is generally kept on
- (a) Top face
(b) Bottom face
(c) Exposed face
(d) Interior face
- [Punjab JE - 2014,
PHED-RAJ., Chandigarh JE - 2016]
16. The approximate weight of a brick should be
- (a) 2.5 kg (b) 4.5 kg
(c) 5.1 kg (d) 3.2 kg
- [Punjab JE - 2014,
PEB.SUB ER. - 2017, DMRC - 2018]
17. Which one is the correct sequence of various operations of preparation of Brick-Earth.
I. Blending II. Digging III. Weathering IV. Unsoiling V. Tempering
- (a) IV, II, III, V, I (b) IV, II, III, I, V
(c) II, IV, V, III, I (d) II, III, IV, V, I
- [RPSC]
18. What is the nominal size of standard modular brick-tile?
- (a) 19 cm × 9 cm × 4 cm
(b) 19 cm × 9 cm × 9 cm
(c) 20 cm × 10 cm × 10 cm
(d) 20 cm × 10 cm × 5 cm
- [PEB-SUB ER. - 2017]
19. What is the unit weight of broken bricks ?
- (a) 1520 kg/m³ (b) 1630 kg/m³
(c) 1800 kg/m³ (d) 1420 kg/m³
- [PEB-SUB ER. - 2017]
20. The compressive strength of first class bricks should not be less than
- (a) 7 N/mm² (b) 10.5 N/mm²
(c) 12 N/mm² (d) 15 N/mm²
21. The term 'frog' means :
- (a) An apparatus to lift the brick
(b) Soaking brick in water
(c) A depression on the face of the brick
(d) Vertical joint in a brick work
- [PEB-SUB ER. - 2017,
LMRC JE, AEC-2017]
22. How many bricks will be required for 1 cubic meter of brick masonry?
- (a) 100 (b) 500
(c) 250 (d) 400
- [PEB-SUB ER. - 2017,
MPSC - 2012, ISRO - 2013]
23. Efflorescence is
- (a) Formation of white patches on the surface of bricks due to the presence of insoluble salts in the clay used for making bricks
(b) Swelling of bricks due to the presence of carbonaceous matter and gas
(c) Deformation arising out of exposure to the weather
(d) Presence of impurities in the clay used for making bricks that show up after burning
- [GESCOM-AE, PMB- JE - 2018]

37. The strength achieved by a brick depends on
(a) Composition of brick earth
(b) Nature of moulding adopted
(c) Burning and cooling process
(d) All of the above
[MPSC - 2012]
38. The red colour of bricks is due to :
(a) Iron oxide (b) Silica
(c) Magnesia (d) Alumina
[NBCC - 2017]
39. The recommended compression strength of A class Brick as per BIS is :
(a) 25 N/mm² (b) 20 N/mm²
(c) 14 N/mm² (d) None of these
[NBCC - 2017]
40. Excess of silica in brick earth causes
(a) Loss of cohesion
(b) Impermeability
(c) Cracking and warping on drying
(d) None of the above
[Chandigarh JE - 2016]
41. A pug mill is used for
(a) Moulding of brick earth
(b) Baking of bricks
(c) Tempering of brick earth
(d) Testing of bricks
[ISRO - 2018]
42. Which tool is used for cutting bricks accurately?
(a) Bolster (b) Trowel
(c) Brick Hammer (d) Rammer
[Haryana JE - 2018]
43. Fire bricks are made from
(a) Fire clay (b) Quick lime
(c) Hydrate lime (d) Cement
44. Which one of following is not a defect in bricks?
(a) Wedge cut (b) Under burning
(c) Over burning (d) Black core
[DMRC - 2018]
45. To get uniform colour, Terracotta is burnt at a temperature that lies in the range of :
(a) 650 to 850°C (b) 900 to 1500°C
(c) 4500 to 4600°C (d) 1100 to 1200°C
[DMRC - 2018]
46. In the manufacturing process of bricks, which moulding is not practiced?
(a) Ground moulding
(b) Table moulding
(c) Automatic moulding
(d) Machine moulding
[DMRC - 2018]
47. A frog in a brick is provided to mainly serve which of the following purposes?
(a) Emboss builder's name
(b) Reduce the weight of brick
(c) Improve insulation by providing hollows
(d) Form keyed joint between brick and mortar
[AEC - 2017]
48. The average compressive strength of 2nd class bricks should not be less than
(a) 75 kg/cm² (b) 12 kg/cm²
(c) 10 kg/cm² (d) 15 kg/cm²
[AEC - 2017]
49. The following soil is good for making bricks
(a) Black cotton (b) Silty
(c) Alluvial (d) Sand and silt
[RPSC ACF - 2011]
50. The percentage of perforation in solid bricks is about
(a) 5 (b) 10
(c) 15 (d) 20
[RPSC ACF - 2011]
51. The tolerance in the width of the mould of a class I brick is about
(a) ± 3 mm (b) ± 6 mm
(c) ± 10 mm (d) ± 12 mm
[RPSC ACF - 2011]

64. The function of iron oxide in brick is to _____.
(a) Impart uniform shape
(b) Prevent shrinkage of raw bricks
(c) Impart colour
(d) Impart plasticity to the brick
[Draughtsman-Bihar - 2016]
65. Percentage of silica in a good brick earth lies between
(a) 5 to 10% (b) 20 to 30%
(c) 50 to 60% (d) 70 to 80%
[UP JAL NIGAM JE - 2017,
UPRVUNL JE - 2015]
66. The average crushing and tensile strength of hand moulded bricks in kN/m^2 is:
(a) 60000 and 2000 (b) 50000 and 1000
(c) 55000 and 1500 (d) 65000 and 2500
[UPRVUNL JE - 2016]
67. What happens of the constituents of brick, when a raw brick is heated in the temperature range of 700-1000 degree C?
(a) Physical changes (b) Chemical changes
(c) Dehydration (d) Colouring of brick
[CPEB - 2016]
68. The minimum compressive strength of a brick is:
(a) 3.5 MPa (b) 7.5 MPa
(c) 10.2 MPa (d) 5.5 MPa
[CPEB - 2016]
69. China clay is an example of
(a) Kaolinite (b) Illite
(c) Montmorillonite (d) None of these
[CPEB - 2016]
70. Stone chips or broken bricks are also known as
(a) Scrap (b) Waste
(c) Dust (d) Spall
[Haryana SSC JE - 2015]
71. Which of the following is an odd one as regards 'requirements of good bricks 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 vegetable and organic matter
[Haryana SSC JE - 2015]
72. Which class of bricks has the following quality?
1. Soft and have light color.
2. Crumble even on light crushing.
(a) Over burnt bricks
(b) Second class bricks
(c) Under burnt bricks
(d) First class bricks
[MP VYAPAM - 2016]
73. Frog is provided into the bricks to:
(i) Indicate the manufacture's name
(ii) Provide a key for mortar
Which among these is/are correct?
(a) Only (i) (b) Only (ii)
(c) Both (i) and (ii) (d) Neither (i) nor (ii)
[UPPCL JE - 2016, LMRC JE - 2015]
74. The articles prepared from refractory clays mixed with stone and crushed pottery are called
(a) Tiles (b) Terra cotta
(c) Porcelain (d) Stoneware
[UPPCL JE - 2016]
75. Excess of _____ is responsible for brick's decay.
(a) Magnesia (b) Alumina
(c) Lime (d) Silica
[UPPCL JE - 2016]
76. Strength based classification of bricks is made on the basis of
(a) IS : 3101 (b) IS : 3102
(c) IS : 3495 (d) IS : 3496
77. Which of the following constituent, present in excess quantity, changes the color of the brick from red to yellow?
(a) Alumina (b) Silica
(c) Lime stone (d) Iron Pyrite
[UPPSC-AE-2020]

ANSWERS SHEET

1. Ans. (d)

In the process of manufacturing bricks, the following four steps are involved:

1. Preparation of clay
2. Moulding
3. Drying
4. Burning

1. Preparation of clay :

- (i) **Unsoiling** : In this process top layer of soil, about 200 mm in depth, is taken out and thrown away. The top soil is full of impurities and not use for purpose of preparing bricks.
- (ii) **Digging** : The clay is then dug out from the ground. It is spread on the levelled ground.
- (iii) **Cleaning** : The clay, as obtained in the process of digging, should be cleaned of stones, pebbles, vegetable matter, etc.
If these particles are in excess, the clay is to be washed and screened.
- (iv) **Weathering** : The clay is then exposed to atmosphere for softening. The period of softening is from few week to few month.
- (v) **Blending** : The required ingredient to be added to it and mixing the clay.
 - Blending makes clay fit for next stage tempering.
- (vi) **Tempering** : In the process of tempering, the clay is brought to a proper degree of hardness and it is made fit for the next operation of moulding.

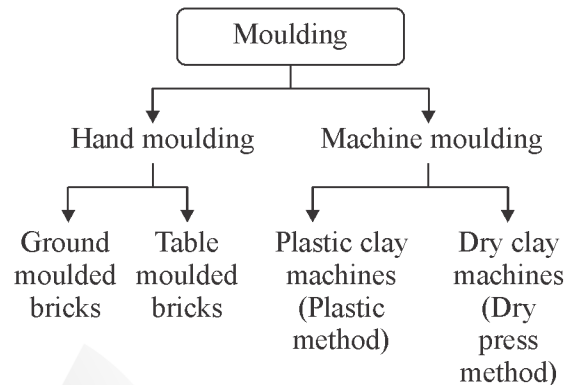
The water in required quantity is added to clay.

For manufacturing good bricks on a large scale, the tempering is usually done in pug mill. Which may be operated mechanically or with the help of animal.

2. Moulding :

The process of giving desire shape to the clay is term as moulding.

The moulding is done with the help of mould, which may be wood or steel.



3. Drying :

If bricks are directly burn without drying it lead to cracking and distortion.

4. Burning :

Burning imparts hardness and strength to the bricks and makes them dense and durable.

The bricks are burn at 1100°C temperature so that the ingredient of brick can fuse with each other and can provide desire strength and density to the bricks.

The burning of the bricks is done either in clamp and kiln.

The burning of clay may be divided into three main stages.

(i) Dehydration (400 – 650°C)

This is also known as water smoking stage.

(ii) Oxidation Period (650 – 900°C)

At this stage chemical changes occurs in the constituents of bricks.

(iii) Vitrification :

The temperature ranges 900 – 1100°C for low melting clay and 1000 – 1250°C for high melting clay.

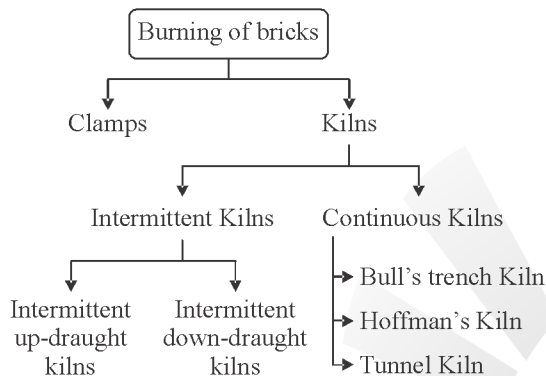
2. Ans. (c)

3. *Ans. (d)*

When bricks immersed in water for 24 hrs. it should not show absorption greater than 20% of its dry weight for first class brick and 22% for 2nd class bricks.

4. *Ans. (b)*

The Hoffman's kiln is constructed overground and hence it is sometimes known as the flame kiln. Its shape is circular in plan and it is divided into a number of chambers.



5. *Ans. (c)*

Fire clay bricks are made from fire clay and also known as refractory bricks.

These bricks are laid in fire clay mortar.

6. *Ans. (d)*

Bullnose bricks : A brick moulded with a rounded angle is known as a bullnose. These types of bricks are used for rounded quoin (round corner). An external corner of a wall is known as quoin.

Bullnose bricks commonly used in the rounded edge for staircase steps, building corners, verandahs etc.

7. *Ans. (a)*

Uses of Terracotta

- Ornamental works.
- Statuettes.
- Porous terracotta is used for sound insulation.
- Being fire proof, terracotta is most suitable as casing for steel columns and beams.
- It is used as a decorative material in place of stones for ornamental parts of buildings such as cornices, string courses, sills, copings, bases of pillars, fire places etc.

8. *Ans. (c)*

Bloating : This defect observed as spongy swollen mass over the surface of burned bricks is caused due to the presence of excess carbonaceous matter and sulphur in brick clay.

Cracks : This defect may be because of lumps of lime or excess of water. When bricks come in contact with water, the absorbed water reacts with lime nodules causing expansion and a consequent disintegration of bricks.

Chuffs : The deformation of the shape of bricks caused by the rain water falling on hot bricks is known as chuffs.

Laminations : These are caused by the entrapped air in the voids of clay. Laminations produce thin lamina on the brick faces which weather out on exposure.

Black Core : When brick-clay contains bituminous matter or carbon and they are not completely removed by oxidation, the brick results in black core mainly because of improper burning.

Efflorescence : This defect is caused because of alkalis present in bricks. When bricks come in contact with moisture, water is absorbed by them.

This absorbed water dries out by evaporation from the exposed faces and the soluble salts it contains crystallize out on the surface.

On drying grey or white powder patches appear on the brick surface.

- Efflorescence can be minimized by selecting proper clay materials for brick manufacturing, preventing moisture come in contact with the masonry. This can be achieved by providing waterproof coping and by using water repellent materials in mortars and by providing damp proof course.

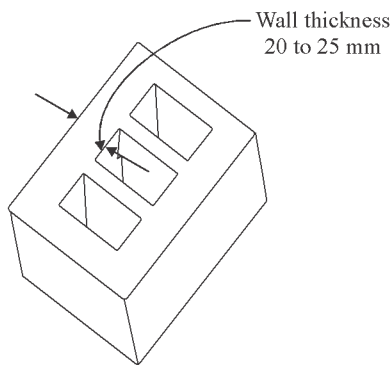
9. *Ans. (a)*

10. *Ans. (d)*

Hollow bricks are also known as the cellular or cavity bricks.

They are light in weight about one-third the weight of the ordinary brick of the same size.

Hollow bricks reduce the transmission of heat, sound and damp.



Hollow brick

11. *Ans. (d)*

Class Designation	Average Compressive Strength not less than	
	N/mm ²	Kg/cm ²
35	35.0	350
30	30.0	300
25	25.0	250
20	20.0	200
17.5	17.5	175
15	15.0	150
12.5	12.5	125
10	10.0	100
7.5	7.5	75
5	5.0	50
3.5	3.5	35

12. *Ans. (b)*13. *Ans. (b)*14. *Ans. (c)*15. *Ans. (a)*

The size of frog should be 10 cm × 4 cm × 1 cm.

The main purpose of providing frog is to form a key for holding the mortar and therefore, the bricks are laid with frogs on top.

It is also use to indicate the trade name of manufacturer's.

16. *Ans. (d)*17. *Ans. (b)*

1. Unsoiling
2. Digging
3. Weathering
4. Blending
5. Tempering

18. *Ans. (d)*19. *Ans. (d)*20. *Ans. (b)*

Type of bricks	Compressive Strength (N/mm ²)
First class bricks	- 10.5
Second class bricks	- 7.0
Common building bricks	- 3.5

21. *Ans. (c)*

The depression provided in the face of a brick during its manufacturing is called frog in bricks.

22. *Ans. (b)*

Size of standard brick should be 19 × 9 × 9 cm.

Size of standard brick with mortar 20 × 10 × 10 cm.

$$\text{Volume of one brick} \Rightarrow 20 \times 10 \times 10 = 2000 \text{ cm}^3 \\ = 2000 \times 10^{-6} \text{ m}^3$$

Number of bricks required in one cubic meter

$$\Rightarrow \frac{\text{Total Volume}}{\text{Volume of one brick}} = \frac{1}{2000 \times 10^{-6}}$$

$$\Rightarrow \frac{1000000}{2000} = 500 \text{ bricks}$$

$$\Rightarrow \text{Weight of 1 m}^3 \text{ bricks approximately} = 1800 \text{ kg.}$$

23. *Ans. (a)*

According to IS : 3495 – Part (3)

The liability to efflorescence shall be reported as nil, slight, moderate, heavy and serious.

- **Nil** : When the deposit of efflorescence is imperceptible.

- **Slight** : When not more than 10 percent of the exposed area of the brick is covered with a thin deposit of salts.
- **Moderate** : When the deposit of efflorescence is more than 10 percent but less than 50% of the exposed area of the brick but unaccompanied by powdering or flaking of the surface.
- **Heavy** : When the deposit of efflorescence is more than 50% but the deposits do not powder or flake away the brick surface.
- **Serious** : When there is a heavy deposit of salts accompanied by powdering and/or flaking of the exposed surfaces.

24. *Ans. (b)*

Under burnt bricks : These are half burnt bricks. The color is yellow. The strength is low. Such bricks should not be exposed to rain water. These are used as soiling under RCC footing or basement. These are also used as surkhi in lime terracing.

Jhumb bricks : Jhumb bricks are mostly not used because these are over burnt bricks with irregular shape and size. Jhumb bricks twisted due to over burning.

Modular bricks : Modular bricks of standard size 190 mm × 90 mm × 90 mm are used for high class brick masonry.

25. *Ans. (d)*

A good brick earth should contain about 50% to 60% of silica. The excess of silica destroys the cohesion between particles and brick become brittle and weak.

26. *Ans. (b)*

If Alumina is present in excess, the raw bricks shrink and warp during drying and burning and become too hard when burnt.

- The excess of silica destroys the cohesion between particles and bricks become brittle.
- The excess of lime causes the brick to melt and hence its shape is lost.
- The excess oxide of iron makes the bricks dark blue or blackish.
- Excess of magnesia leads to the decay of bricks.

27. *Ans. (c)*

For first class bricks :

- These should have uniform texture.
- No impression should be left on the brick when a scratch is made by a finger nail.
- These should be free from flaws, cracks and stones.
- A metallic or ringing sound should come when two bricks are struck against each other.
- The surface should be smooth and rectangular, with parallel, sharp and straight edges and square corners.
- The crushing strength of the brick should not be less than 10 N/mm².
- Water absorption should not be greater than 20% of its dry weight.

28. *Ans. (c)*

29. *Ans. (c)*

30. *Ans. (a)*

31. *Ans. (c)*

32. *Ans. (d)*

33. *Ans. (d)*

34. *Ans. (c)*

- Standard size of modular brick as per Indian standard is 19 × 9 × 9 cm or 190 mm × 90 mm × 90 mm.
- Nominal size of modular brick is 20 × 10 × 10 cm (size with mortar) or 200 mm × 100 mm × 100 mm.

35. *Ans. (c)*

Silica = 50 – 60%,

Lime = 4 – 5 %

Alumina = 20 – 30% ,

Iron oxide = 5 – 6%

Magnesia = 1%

36. *Ans. (d)*

37. *Ans. (d)*

38. *Ans. (a)*

STONES

CHAPTER**2****OBJECTIVE QUESTIONS**

1. Lime stone is a
(a) Igneous rock (b) Sedimentary rock
(c) Metamorphic rock (d) Granite rock
2. Marble contains mostly
(a) Lime (b) Silica
(c) Lime and silica (d) None of these
3. Which of the following is a mineral ?
(a) Basalt (b) Laterite
(c) Granite (d) Calcite
4. Gravel is a type of
(a) Igneous rock
(b) Sedimentary rock
(c) Metamorphic rock
(d) None of the above
5. Rocks having silica as main constituent are called
(a) Calcareous rocks (b) Argillaceous rocks
(c) Silicious rocks (d) None of these
6. The tendency of minerals to split along a certain plane, is known as
(a) Fracture (b) Cleavage
(c) Breaking (d) Fault
7. A stone is rejected if the water absorption is more than
(a) 15% (b) 20%
(c) 25% (d) 30%
8. In stone masonry, the direction of pressure line is
(a) Parallel to natural bed
(b) Perpendicular to natural bed
(c) Inclined to natural bed at 30°
(d) Inclined to natural bed at 45°
9. For stones Moh's scale is used to determine
(a) Toughness (b) Hardness
(c) Flakiness index (d) Durability
10. Which one of the following pairs is correctly matched?
(a) Sandstone - Igneous rock
(b) Lime stone - Sedimentary rock
(c) Basalt - Metamorphic rock
(d) Granite - Argillaceous rock
11. Stone generally used for railway ballast is
(a) Sand stone
(b) Dolomite
(c) Marble
(d) Basalt or Trap basalt
12. Specific gravity for most of the building stone lies between
(a) 1.5 to 2.0 (b) 2.0 to 2.5
(c) 2.5 to 3.0 (d) 3.0 to 3.5
13. The constituent responsible for strength in granite is
(a) Mica (b) Feldspar
(c) Quartz (d) All of these

[KPSC-JE]**[RPSC-ACF - 2011, ISRO - 2017]**

14. Spalling hammer is used for
(a) Rough dressing of stones
(b) Quarrying of stones
(c) Carrying of stones
(d) All of the above
15. The tool used for blasting process in quarrying of stones is
(a) Dipper (b) Priming needle
(c) Jumper (d) All of these
16. Marble is a
(a) Igneous Rock (b) Sedimentary Rock
(c) Granite Rock (d) Metamorphic Rock
[RPSC, KPSC- JE, RPSC-ACF - 2011]
17. Based on the following rocks and minerals select the correct statement.
Quartz, shale, basalt, granite, marble, gypsum, mica
(a) Basalt and marble are the only metamorphic rocks
(b) There is no sedimentary rock
(c) Granite is the only igneous rock
(d) Quartz and mica are minerals
[LMRC-JE]
18. Granite is not suitable for ordinary buildings purpose because
(a) It cannot be polished
(b) It is not a fire proof material
(c) It is costly
(d) It has less crushing strength
[LMRC-JE]
19. The stone that exhibits highest compressive strength is
(a) Slate (b) Gneiss
(c) Granite (d) Limestone
[LMRC-JE]
20. The best types of ballast is:
(a) Granite (b) Sand Stone
(c) Lime Stone (d) None of these
[Jharkhand SSC JE - 2016]
21. For a good building stone, its specific gravity should be greater than
(a) 1.5 (b) 1.7
(c) 2.2 (d) 2.7
[LMRC-JE]
22. Granite and basalt are examples of which of the following?
(a) Sedimentary rocks (b) Stratified rocks
(c) Igneous rocks (d) Metamorphic rocks
[PEB-SUB ER. - 2017]
23. Which of the following property of rock defines its capacity to store maximum amount of water?
(a) Texture (b) Hardness
(c) Porosity (d) None of these
[PEB-SUB ER. - 2017]
24. Chemically, marble is known as
(a) Metamorphic rock
(b) Argillaceous rock
(c) Calcareous rock
(d) Siliceous rock
25. The type of stone masonry commonly adopted in the construction of residential building is
(a) Uncoursed rubble masonry
(b) Coursed rubble masonry
(c) Random rubble masonry
(d) Dry rubble masonry
26. The crystallization test is performed on stones to find out its ____.
(a) Durability (b) Fire resistance
(c) Hardness (d) Specific gravity
[PEB-SUB ER. - 2017]
27. A stone passing through a wall from front to back face and which acts as a binder for two faces is termed as ____.
(a) Cornice (b) Corbel
(c) Through stone (d) Buttress
[PEB-SUB ER. - 2017]

28. Which of the following is a sedimentary rock?
(a) Sand stone (b) Limestone
(c) Coal (d) All of these
[GESCOM-AE]
29. Chemically, how would kaolin be classified as?
(a) Metamorphic rock
(b) Calcareous rock
(c) Silicious rock
(d) Argillaceous rock
[GESCOM-AE]
30. Rocks in which argil or clay predominates, are called
(a) Argillaceous rocks (b) Igneous rocks
(c) Calcareous rocks (d) None of these
[KPSC-AE]
31. Which of the following is a plutonic rock?
(a) Granite (b) Dolerite
(c) Basalt (d) None of these
[KPSC-AE]
32. Stones used for ornamental work should be
(a) Soft (b) Hard
(c) Light (d) Heavy
[KPSC-AE, RPSC-ACF - 2011]
33. In stone masonry, let the stones be so placed that their layers are parallel to the direction of load. Then
(a) The stones split easily
(b) The stones are affected by moisture
(c) Both 'a' and 'b'
(d) Neither 'a' nor 'b'
[KPSC-AE]
34. Crushing strength of a good building stone should be more than _____.
(a) 50 MPa (b) 100 MPa
(c) 150 MPa (d) 200 MPa
[KPSC-JE, RPSC-ACF - 2011]
35. The process of taking out stones of various sizes from natural rocks is known as
(a) Dressing (b) Seasoning
(c) Quarrying (d) None of these
[KPSC-JE]
36. The process of giving definite and regular shape to quarried stone is called
(a) Pitching (b) Dressing
(c) Seasoning (d) Quarrying
[KPSC-JE]
37. The rocks formed due to cooling of magma at a considerable depth from earth's surface are called
(a) Plutonic rocks (b) Hypabyssal rocks
(c) Volcanic rocks (d) Igneous rocks
[KPSC-JE]
38. What type of a rock is sand stone ?
(a) Sedimentary rock
(b) Metamorphic rock
(c) Igneous rock
(d) Volcanic rock
[KPSC-JE]
39. Which of the following types of rocks is generally, used for roofing?
(a) Granite (b) Basalt
(c) Slate (d) Pumice
[KPSC-JE, MPSC - 2012]
40. What is a Shingle ?
(a) Decomposed laterite
(b) Crushed granite
(c) Water bound pebbles
(d) Air weathered rock
[KPSC-JE]
41. Which of the following rocks is not calcareous?
(a) Lime stone (b) Laterite
(c) Chalk (d) Both 'a' and 'c'
[KPSC-JE]

42. Marble is quarried by
 (a) Heating (b) Excavating
 (c) Wedging (d) Blasting
43. Which is the most dangerous for decaying the stone?
 (a) Efflorescence (b) Water absorption
 (c) Incorrect bedding (d) Vegetation growth [MPSC - 2012]
44. Select the incorrect joint considered in stone masonry
 (a) Butt joint (b) Rebated joint
 (c) Grooved joint (d) Contraction joint
45. The masonry constructed using more than one material to improve the appearance and durability is called as
 (a) Stone masonry (b) Brick masonry
 (c) Rubble masonry (d) Composite masonry
46. Smith's test is conducted on a sample of stone to find out which of the following parameter?
 (a) Compressive strength
 (b) Toughness
 (c) Presence of soluble matter
 (d) Hardness [TSPSC-AE - 2015]
47. The hardest rock is
 (a) Marble (b) Diamond
 (c) Talc (d) Quartz [MPSC - 2012]
48. Match List-I with List-II correctly and select your answer using the codes given below :
- | List-I
(Stone test) | List-II
(Characteristics) |
|------------------------|------------------------------|
| A. Acid test | 1. Compressive strength |
| B. Attrition test | 2. Weathering quality |
| C. Crushing test | 3. Toughness |
| D. Impact test | 4. Rate of wear |
- Codes :
 A B C D
 (a) 1 2 3 4
 (b) 3 1 4 2
 (c) 2 4 1 3
 (d) 4 3 2 1
49. The stone masonry of finely dressed stones laid in cement or lime is
 (a) Random rubble masonry
 (b) Coursed rubble masonry
 (c) Dry rubble masonry
 (d) Ashlar masonry [MPSC - 2012]
50. Stone masonry is measured in
 (a) Square metre (b) Cubic metre
 (c) Kilometers (d) Metre [MPSC - 2012]
51. Granite mainly composed of quartz and feldspar particles, is obtained from
 (a) Sedimentary rocks
 (b) Metamorphic rocks
 (c) Igneous rocks
 (d) Volcanic rocks [ISRO - 2015]
52. The dressing of stone is done
 (a) Immediately after quarrying
 (b) After seasoning
 (c) After three months of quarrying
 (d) Just before construction [NBCC - 2017, TSPSC-AE - 2015]
53. The compressive strength of stone is find out by
 (a) Attrition test (b) Crushing test
 (c) Hardness test (d) Impact test [NBCC - 2017]

54. The rocks having alumina or clay as their significant components are known as
(a) Siliceous rocks (b) Argillaceous rocks
(c) Calcareous rocks (d) None of these
[ISRO - 2018]
55. The rock contains several minerals is known as
(a) Polymer rock
(b) Polyminerale rock
(c) Monomineralic rock
(d) Homomineralic rock
[Haryana JE - 2018]
56. Which one of the following test is used to determine the rate of wear of stones?
(a) Crushing test (b) Hardness test
(c) Attrition test (d) Impact test
[PMB JE - 2018]
57. Gneiss is chemically classified as a/an :
(a) Aqueous rock
(b) Sedimentary rock
(c) Metamorphic rock
(d) Siliceous rock
[DMRC - 2018]
58. The natural moisture contained in a newly quarried/freshly cut stone is known as :
(a) Quarry sap (b) Wetting
(c) Water content (d) Natural spring
[DMRC - 2018]
59. The rock formed due to solidification of molten mass laying below or above the earth surface is called a/an:
(a) Argillaceous rock (b) Siliceous rock
(c) Igneous rock (d) Calcareous rock
[DMRC - 2018]
60. Which of the following is NOT a tool for dressing stones?
(a) Face hammer (b) Mallet
(c) Point chisel (d) None of these
[DMRC - 2018]
61. Ashlar stone masonry is measured in :
(a) cubic m (b) kg
(c) running m (d) sq m
[DMRC - 2018]
62. According to Mohs scale of hardness, the mineral with the least hardness is :
(a) Gypsum (b) Sandstone
(c) Calcite (d) Talc
[DMRC - 2018]
63. The range of specific gravity of granite falls between :
(a) 3.50 to 4.00 (b) 2.00 to 2.25
(c) 2.70 to 2.80 (d) 1.30 to 1.45
[DMRC - 2018]
64. Good quality stones for buildings should not absorb water in 24 hours
(a) 5% (b) 10%
(c) 7.5% (d) 12.5%
[RPSC ACF - 2011]
65. The stone suitable for rubble masonry should be
(a) Hard (b) Tough
(c) Heavy (d) Light
[RPSC ACF - 2011]
66. The stone masonry at a higher level should be completed with :
(a) Shoring
(b) Under pinning
(c) Single scaffolding
(d) Double scaffolding
[RPSC ACF - 2011]
67. The grooved cement pointing is applied over the stone masonry
(a) To increase strength of stone masonry
(b) To increase appearance of masonry
(c) To increase imperviousness
(d) None of the above
[RPSC ACF - 2011]

68. Laterite is chemically classified as
(a) Calcareous rocks
(b) Silicious rocks
(c) Argillaceous rocks
(d) Metamorphic rocks
[RPSC ACF - 2011]
69. Which of the following has more fire resistant characteristics
(a) Marble
(b) Lime stone
(c) Compact sand stone
(d) Granite
[RPSC ACF - 2011]
70. The coefficient of linear expansion of granite is in the range of that of
(a) Glass
(b) Mild steel
(c) High carbon steel
(d) Bamboo
[RPSC ACF - 2011]
71. The compressive strength of granite is
(a) 50 to 70 N/mm²
(b) 70 to 130 N/mm²
(c) 130 to 170 N/mm²
(d) 170 to 200 N/mm²
[ISRO - 2013]
72. Granite is an
(a) Igneous rock (b) Metamorphic rock
(c) Sedimentary rock (d) All of these
[HPSC AE - 2010]
73. Which of the following stones has the least percentage of water absorption by volume?
(a) Granite (b) Slate
(c) Shale (d) Quartzite
[DMRC - 2018]
74. The compressive strength of building stones
(a) Ranges between 60 to 200 N/mm²
(b) Ranges between 6 to 20 N/mm²
(c) Ranges between 600 to 2000 N/mm²
(d) Ranges between 50 to 1200 N/mm²
[DMRC - 2018]
75. Slate is a type of
(a) Metamorphic rock (b) Igneous rock
(c) Prolific rock (d) Sedimentary rock
[DDA JE - 2018]
76. A village resident wants to cover his roof. Which of the following four options available to him would you recommend?
(a) Marble (b) Basalt
(c) Slate (d) Granite
[DDA JE - 2018]
77. Which amongst the following is a soft rock?
(a) Talc (b) Quartzite
(c) Basalt (d) Granite
[DDA JE - 2018]
78. Solidification of molten magma at the surface of the earth result in the formation of
(a) Sedimentary rock
(b) Basalt and traps
(c) Granite
(d) Metamorphic rocks
79. Which one of the following can have highest bearing capacity?
(a) Hard rocks
(b) Coarse sand, compact and dry
(c) Fine sand, loose and dry
(d) Black cotton soil
[Raj. - 2015]
80. _____ is a variety of carborundum stone and it is a very hard abrasive material.
(a) Emery (b) Coke breeze
(c) Clinker (d) Gutta-percha
[MP JE - 2017]

94. Quartzite and marble are by nature
(a) Metamorphic (b) Volcanic
(c) Sedimentary (d) Plutonic
[Bihar SSC JE - 2016]
95. Which of the following has less unit weight
(a) Sand stone (b) Granite
(c) Marble (d) Basalt
[Bihar SSC JE - 2016, DSSSB JE - 2015]
96. Under heat and pressure granite can transform into:
(a) Marble (b) Slate
(c) Gneiss (d) Quartzite
[Bihar SSC JE - 2016]
97. The most suitable stone for building piers is
(a) Marble (b) Lime Stone
(c) Granite (d) Sand Stone
[Bihar SSC JE - 2016]
98. Which of the following has least bearing capacity
(a) Hard rocks (b) Loose gravel
(c) Compact Gravel (d) Soft rocks
[Bihar SSC JE - 2016]
99. Sand particles are made of
(a) Montmorillonite (b) Quartz
(c) Kaolinite (d) Illite
[Bihar SSC JE - 2016]
100. Granite is a rock that is by nature
(a) Metamorphic (b) Plutonic
(c) Sedimentary (d) Volcanic
[Bihar SSC JE - 2016]
101. The siliceous sandstone which has been subjected to metamorphic action, is called
(a) Moorum (b) Laterite
(c) Quartzite (d) Dolomite
[UP JAL NIGAM - 2016]
102. What is the limiting value of Los Angeles abrasion value (in %) for wearing courses when these aggregates are to be used for concrete making?
(a) 30 (b) 45
(c) 40 (d) 35
[NPCC JE - 2017]
103. A limestone found in seams of great thickness in non-crystalline texture with earthy appearance, is called:
(a) Granular limestone
(b) Compact limestone
(c) Magnesium limestone
(d) Kankar
[UPJAL NIGAM JE - 2016, UPRVUNL JE - 2015]
104. Solid earth and its interior is known as:
(a) Therosphere (b) Lithosphere
(c) Mesosphere (d) Atmosphere
[DMRC JE - 2017]
105. Which of the following is unstratified?
(a) Sand Stone (b) Limestone
(c) Shale (d) Granite
[AAI JE - 2015]
106. The black marble is found in _____ district.
(a) Jaipur (b) Jodhpur
(c) Jaisalmer (d) Jabalpur
[DMRC JE - 2017]
107. Rock is called good rock if in the impact test the toughness index is
(a) Less than 9 (b) More than 9
(c) Less than 19 (d) More than 19
[UPPCL JE - 2016]
108. Which of the following rock is extremely fine grained in structure?
(a) Basalt (b) Granite
(c) Calcite (d) Dolomite
[UPPCL JE - 2016]

121. The most suitable stone for building piers is

- (a) Marble
- (b) Lime stone
- (c) Sand stone
- (d) Granite

[Jharkhand SSC JE - 2016]

122. Which one of the following stones has maximum percentage of water absorption by volume?

- (a) Shale
- (b) Granite
- (c) Slate
- (d) Quartzite

[Jharkhand SSC JE - 2016]

123. Gypsum is a:

- (a) Mechanically formed sedimentary rock
- (b) Igneous rock
- (c) Chemically precipitated sedimentary rock
- (d) Metamorphic rock

[RRB JE - 2014]

124. Syenite is a

- (a) Acid rock
- (b) Hypabyssal rock
- (c) Basic rock
- (d) Deep seated plutonic rock

[Jharkhand SSC JE - 2016]

125. Crushing strength of a good building stone should be more than

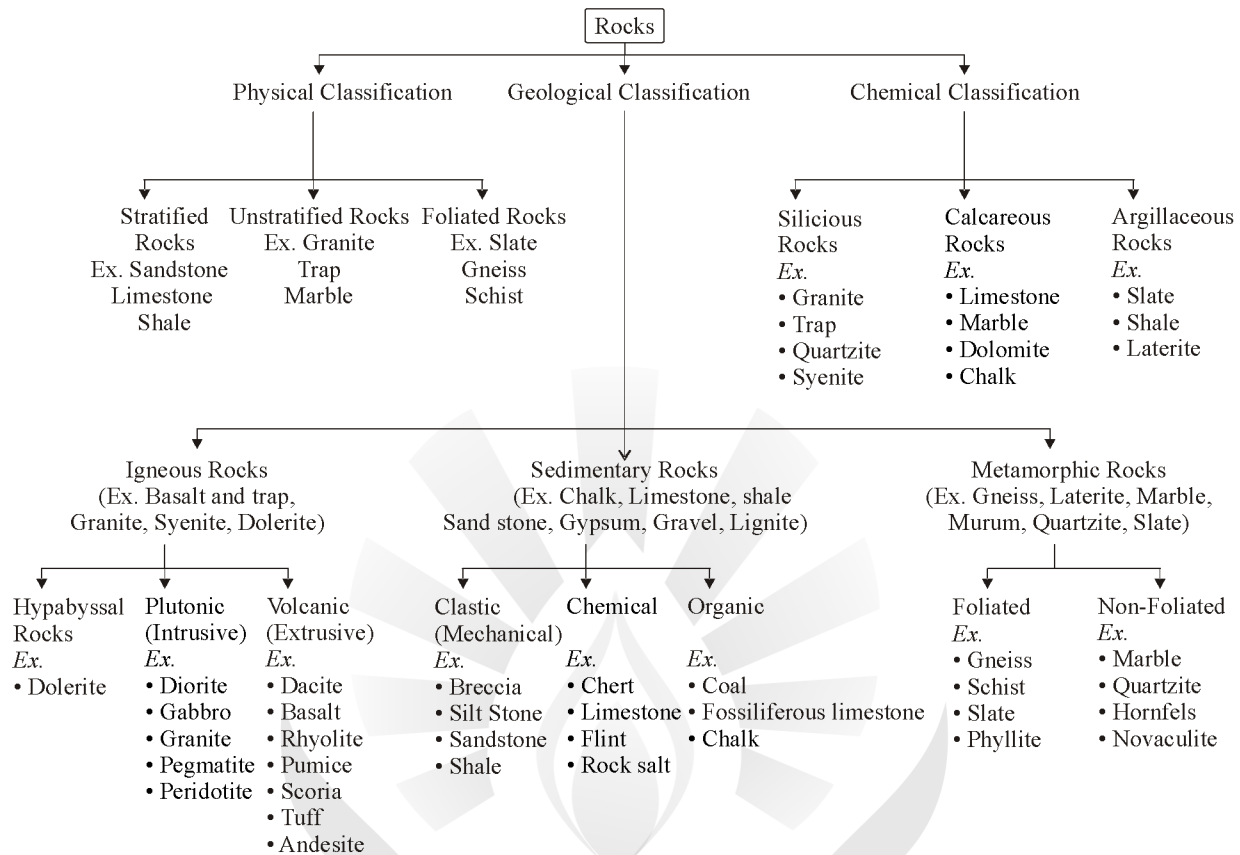
- (a) 150 MPa
- (b) 200 MPa
- (c) 50 MPa
- (d) 100 MPa

[RSMSSB-JE-2020]

□□□

ANSWERS SHEET

1. *Ans. (b)*



2. *Ans. (c)*

Marble is a metamorphic rock that form when limestone is subjected to heat and pressure.

In limestone, silica and lime both present.

3. *Ans. (d)*

Minerals in the sedimentary rocks :

1. Calcite
2. Limonite
3. Magnesite

4. *Ans. (b)*

5. *Ans. (c)*

Chemical classification of rocks:

(a) **Silicious Rocks** : In these rocks, the silica is predominates.

(b) **Argillaceous Rocks** : In these rocks, the alumina or clay predominates.

(c) **Calcareous Rocks** : In these rocks, calcium carbonate predominates.