



SIDDHARTH GROUP OF INSTITUTIONS :: PUTTUR
Siddharth Nagar, Narayanavanam Road – 517583

QUESTION BANK (DESCRIPTIVE)

Subject with Code : BUILDING MATERIALS AND CONSTRUCTION(16CE107)

Course & Branch: B.Tech - CE Year & Sem: II-B.Tech & I-Sem

Regulation: R16

UNIT – I

STONES ,BRICKS AND WOOD

- | | | |
|-----|---|-----|
| 1. | Discuss the geological classification of rocks? | 10M |
| 2. | Explain the following classification | |
| | a) Physical classification b) Chemical classification | 10M |
| 3. | What are the various uses and characteristics of stones? | 10M |
| 4. | a) Define a quarry & mention the factors to be considered while making selection for its site? | 5M |
| | b) What are the important considerations which are to be carefully paid attention to before actually starting the quarry? | 5M |
| 5. | a) Describe the method of quarrying with hand tools? | 5M |
| | b) Describe the method of quarrying by blasting? | 5M |
| 6. | a) What are the tools for blasting and explain with neat sketches? | 5M |
| | b) What are the precautions to be taken in the process of blasting? | 5M |
| 7. | a) What are the constituents of good brick earth? | 5M |
| | b) State the harmful ingredients in brick earth? | 5M |
| 8. | a) Enumerate the qualities of good bricks? | 5M |
| | b) Describe the classifications of bricks? | 5M |
| 9. | a) Explain briefly about classification of trees? | 5M |
| | b) Explain structure of a tree? | 5M |
| 10. | a) Explain different types of seasoning of timber? | 5M |
| | b) What are the defects in timber? Explain.. | 5M |

UNIT – II

CEMENT ,PAINTS AND DISTEMPERS AND MISCELLANEOUS MATERIALS

- | | | |
|----|--|-----|
| 1. | Explain briefly the manufacturing of cement (i) Dry process (ii) Wet process | 10M |
| 2. | a) Explain the basic properties of cement? | 5M |
| | b) write a short note on field tests on cement. | 5M |
| 3. | Explain the following | 10M |
| | a) Normal consistency test | |
| | b) Initial setting time and final setting time | |
| 4. | a) Briefly explain the compression test on cement concrete. | 5M |
| | b) Chemical composition of cement | 5M |

5. a) What are the different types in storage of cement ? Explain. 5M
 b) What is varnishing and point out the characteristics of ideal varnish? 5M
6. What are the ingredients of an oil borne paint? Describe briefly each of them. 10M
7. Give a brief description of the process of painting on different surfaces (i) Wood (ii) metal (iii) Plastered surface. 10M
8. a) Mention the characteristics of distemping? 5M
 b) Write a note on the following 5M
 (i) Whitewash (ii) color wash
- 9.a) Mention the usual defects which are found in the painting work. 5M
 b) What are the factors to be considered for successful application of paint on cement plastered surface. 5M
10. Write a short note on 10M
 (i) Asbestos
 (ii) Gypsum
 (iii) Glass

Prepared by: PRANAVI SINGARAJU

UNIT – III

FOUNDATION AND MASONRYS

- 1.(a) Discuss various functions served by foundations.
 (b) What are the requirements of a good foundation? 10M
2. What are the causes of failure of foundation? What remedial measures would you adopt? 10M
3. Explain, with the help of sketches , various types of shallow foundations. 10M
4. Explain with the help of sketches ,the following (i) stip footing (ii) pad footing. 10M
5. (a) Explain (i) combined footing (ii) continuous footing
 (b) Write a brief note on deep foundations 10M
6. Explain with neat sketches, various types of ashlar stone masonry? 10M
7. Write a short note on the following
 (i) Flint rubble masonry
 (ii) Polygonal rubble masonry
 (iii) Random rubble masonry 10M
8. Write a short note on the following
 (i) Coursed rubble masonry

- (ii)Uncoursed rubble masonry
(iii)Dry rubble masonry 10M
9. Compare brick and stone masonry? 10M
10. With the help of neat sketches explain the brick bonds? 10M

Prepared by: PRANAVI SINGARAJU

UNIT – IV

FLOORS,ROOFS,DOORS AND WINDOWS

- 1.Explain the method of constructing cement concrete flooring. What is the use of non- monolithic Finish and how it made? 10M
- 2.Explain the procedure of constructing the following types of flooring
(i)mosaic flooring (ii) tiled flooring 10M
- 3.Explain the procedure of constructing the following types of flooring
(i) Marble flooring (ii) timber flooring (iii) rubber flooring 10M
- 4.(a) State briefly the essential requirements of a good roof.
(b)What is trussed roof and purlin roof? 10M
- 5.Explain with neat sketches various basic forms of pitched roofs. 10M
- 6.(a)Define the following terms
Ridge, Eaves, Hip, Valley, Purlins, Battens, Truss.
(b)Explain the madras terrace roofing. 10M
- 7.Give sketches of king post truss and queen post truss. Explain? 10M
- 8.(a) Explain the following with neat sketches
(i).Lean to roof (ii) couple roof 10M
- 9.Explain various type of doors? 10M
10. (a) How do you select the location of doors and windows?
(b) Write a note on flat roof and curved roof? 10M

Prepared by: PRANAVI SINGARAJU**UNIT – V****LINTELS AND ARCHES, PLASTERING AND POINTING. STAIRS**

1. Explain the following
(a) Timber lintels
(b) Stone lintels 10M
2. Classify the arches according to slope. 10M
3. Explain the following
(a) steel lintels
(b) Reinforced concrete lintels 10M
4. Classify the various types of lintels & discuss their relative use? 10M
5. Explain the classification based on material and workmanship? 10M
6. What are the defects in plastering .Explain? 10M
7. Explain the types of mortars for plastering? 10M
8. What is pointing and what are the different methods of pointing? 10M
9. What are the requirements of a good stair? 10M
10. Write a short note on the following
(a) Straight stairs
(b) Continuous stairs
(c) Metal stairs 10M

Prepared by: PRANAVI SINGARAJU

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QUESTION BANK (OBJECTIVE)

Subject with Code : BMC (16CE107)

Course & Branch: B.Tech - CE

Year & Sem: II-B.Tech & I-Sem

Regulation: R16

UNIT – I

1. Gypsum is a [C]
 A) Mechanically formed sedimentary rock B) igneous rock
 C) chemically precipitated sedimentary rock D) metamorphic rock

2. Which of the following sedimentary rocks changes into quartzite by metamorphic action? [A]
 A) sand stone B) lime stone C) shale D) gypsum

3. Which of the following represents a metamorphic rock? [B]
 i) slate ii) shale iii) quartzite
 A) only (iii) B) both (i) and (iii) C) both (ii) and (iii) D) all (i), (ii) and (iii)

4. Quartzite is a [A]
 A) Silicious rock B) Argillaceous rock C) Calcareous rock D) Aqueous rock

5. Which of the following is a mineral? [C]
 A) Basalt B) Granite C) Quartz D) Syenite

6. Slate is formed by metamorphic action on [A]
 A) Shale B) Lime stone C) Sand stone D) Granite

7. Sandstone is a i) Sedimentary rock ii) Aqueous rock iii) Silicious rock
 The correct answer is [D]
 A) Only (i) B) Both (i) and (ii) C) Both (i) and (iii) D) All (i), (ii) and (iii)

8. Which of the following is a rock? [C]
 A) Quartz B) Mica C) Gypsum D) None of the above

9. Based on the following rocks and minerals, select the correct statement, quartz, shale, basalt, granite, marble, gypsum, mica [D]
 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

10. A heavy stone is suitable for [D]

A) Arches B) Rubble masonry C) Roads D) Retaining walls

11. The stone suitable for rubble masonry should be. [**A**]

A) Hard B) Tough C) Heavy D) Light

12. Which of the following metamorphic rocks has the most weather resisting characteristics? [**B**]

A) Marble B) Quartzite C) Slate D) Lime stone

13. A good building stone should not absorb water more than [**A**]

A) 5% B) 10% C) 15% D) 20%

14. Which of the following has more fire resisting characteristics? [**C**]

A) Marble B) Lime stone C) Compact sand stone D) Granite

15. Jumper is a tool used for [**B**]

A) Testing of stones B) Quarrying of stones C) Dressing of stones D) None of the above

16. The important test to be conducted on a stone used in docks and harbours is [**C**]

A) Hardness test B) Workability test C) Weight test D) Toughness test

17. The predominant constituent which is responsible for strength in granite is [**A**]

A) Quartz B) Felspar C) Mica D) None of the above

18. Granite is not suitable for ordinary building purpose because [**C**]

A) it can not be polished B) it is not a fire proof material
C) it is costly D) it has less crushing strength

19. Which of the following stone is best suited for construction of piers and abutments of a railway bridge ? [**A**]

A) granite B) sand stone C) lime stone D) quartzite

20. The preparation of surface of stone to obtain plain edges or to obtain stones of required size and shape is known as [**D**]

A) quarrying of stones B) blasting of stones
C) seasoning of stones D) dressing of stones

21. Crushing strength of a good building stone should be more than [**B**]

- A) 50 MPa B) 100 MPa C) 150 MPa D) 200 MPa
22. Specific gravity for most of the building stones lies between [**C**]
- A) 1.5 to 2.0 B) 2.0 to 2.5 C) 2.5 to 3.0 D) 3.0 to 3.5
23. Spalling hammer is used for [**B**]
- A) driving wooden headed chisels B) rough dressing of stones
C) carving of stones D) breaking small projection of stones
24. Cross cut saw is used for [**B**]
- A) cutting soft stones B) cutting hard stones
C) cutting large blocks of stones D) dressing stones
25. Sapwood consists of [**B**]
- A) innermost annular rings around the pith
B) portion of timber between heartwood and cambium layer
C) thin layers below the bark
D) thin fibre which extends from the pith outwards and holds the annular rings together
26. Which of the following trees yields hard wood? [**C**]
- A) deodar B) chir C) shishum D) pine
27. The radial splits which are wider on the outside of the log and narrower towards the pith are known as [**C**]
- A) heart shakes B) cupshakes C) starshakes D) rindgalls
28. In which of the following pairs both trees yield soft wood? [**D**]
- A) deodar and shishum B) chir and sal C) sal and teak D) chir and deodar
29. Which of the following timbers is suitable for making sports goods? [**A**]
- A) mulberry B) mahogany C) sal D) deodar
30. Assertion A : Shishum is used for decorative woodwork.
Reason R : Shishum can be polished to an excellent finish.
Select your answer according to the coding system given below: [**A**]
- A) Both A and R are true and R is the correct explanation of A
B) Both A and R are true but R is not the correct explanation of A
C) A is true but R is false D) A is false but R is true

31. The disease of dry rot in timber is caused by [A]
A) lack of ventilation B) alternate wet and dry conditions
C) complete submergence in water D) none of the above
32. Plywood has the advantage of [C]
A) greater tensile strength in longer direction B) greater tensile strength in shorter direction
C) same tensile strength in all directions D) none of the above
33. In which of the following directions, the strength of timber is maximum? [A]
A) parallel to grains B) 45° to grains
C) perpendicular to grains D) same in all directions
34. The moisture content in a well seasoned timber is [B]
A) 4% to 6% B) 10% to 12% C) 15% to 20% D) 100%
35. The trunk of tree left after cutting all the branches is known as [A]
A) log B) batten C) plank D) baulk
36. The age of a tree can be known by examining [B]
A) cambium layer B) annular rings C) medullary rays D) heart wood
37. Plywood is made by bonding together thin layers of wood in such a way that the angle between grains of any layer to grains of adjacent layers is [B]
A) 0° B) 30° C) 45° D) 90°
38. The plywood [C]
A) has good strength along the panel only B) can be spilt in the plane of the panel
C) has greater impact resistance to blows than ordinary wood
D) cannot be bent more easily than ordinary wood of same thickness
39. The practical limit of moisture content achieved in air drying of timber is [B]
A) 5% B) 15% C) 25% D) 35%
40. First class timber has an average life of [D]
A) less than one year B) 1 to 5 years C) 5 to 10 years D) more than 10 years

UNIT – II**CEMENT ,PAINTS AND DISTEMPERS AND MISCELLANEOUS MATERIALS**

1. A first class brick when immersed in cold water for 24 hours should not absorb water more Than [**B**]
A) 15% B) 20% C) 22% D) 25%
2. Crushing strength of a first class brick should not be less than [**C**]
A) 3.5 N/mm² B) 7.0 N/mm² C) 10.5 N/mm² D) 14.0 N/mm²
3. The main function of alumina in brick earth is [**A**]
A) to impart plasticity B) to make the brick durable
C) to prevent shrinkage D) to make the brick impermeable
4. The percentage of alumina in a good brick earth lies between [**B**]
A) 5 to 10% B) 20 to 30% C) 50 to 60% D) 70 to 80%
5. Excess of alumina in brick earth makes the brick [**D**]
A) impermeable B) brittle and weak
C) to lose cohesion D) to crack and warp on drying
6. The nominal size of the modular brick is [**C**]
A) 190 mm x 90mmx 80 mm B) 190 mm x 190 mm x 90 mm
C) 200 mm x 100 mm x 100 mm D) 200 mm x 200 mm x 100 mm
7. Percentage of silica in a good brick earth lies between [**C**]
A) 5 to 10% B) 20 to 30% C) 50 to 60% D) 70 to 80%
8. Excess of silica in brick earth results in [**B**]
A) cracking and warping of bricks B) loss of cohesion
C) enhancing the impermeability of bricks D) none of the above
9. Which of the following ingredients of the brick earth enables the brick to retain its shape ? [**B**]
A) alumina B) silica C) iron D) magnesia

10. Which of the following pairs gives a correct combination of the useful and harmful constituents respectively of a good brick earth ? [**B**]
A) lime stone and alumina B) silica and alkalies C) alumina and iron D) alkalies and magnesium
11. The process of mixing clay, water and other ingredients to make brick is known as [**A**]
A) kneading B) moulding C) pugging D) drying
12. Advantage of a clamp compared to a kiln for burning bricks is that [**C**]
A) it takes less time for burning B) it gives more output of first class bricks
C) it has less initial cost D) it is suitable when bricks are required in large numbers
13. The internal size of mould used in brick preparation is [**C**]
A) equal to the size of a fully burnt brick B) smaller than the size of a fully burnt brick
C) greater than the size of a fully burnt brick D) none of the above
14. Pug mill is used for [**A**]
A) preparation of clay B) moulding of clay C) drying of bricks D) burning of bricks
15. Which of the following bricks are used for lining of furnaces? [**C**]
A) overburnt bricks B) underburnt bricks C) refractory bricks D) first class bricks
16. The frog of the brick in a brick masonry is generally kept on [**B**]
A) bottom face B) top face C) shorter side D) longer side
17. Number of bricks required for one cubic metre of brick masonry is [**C**]
A) 400 B) 450 C) 500 D) 550
18. Glazing is used to make earthenware [**D**]
A) hard B) soft C) porous D) impervious
19. Quick lime is [**B**]
A) calcium carbonate B) calcium oxide C) calcium hydroxide D) none of the above
20. Quick lime is i) slow in setting ii) rapid in slacking iii) good in strength The correct answer is [**C**]
A) only (i) B) only (ii) C) both (i) and (ii) D) both (ii) and (iii)
21. Assertion A : Pure lime takes a long time to develop adequate strength.
Reason R : Pure lime has slow hardening characteristics.
Select your answer according to the coding system given below : [**A**]

- A) Both A and R are true and R is correct explanation of A.
B) Both A and R are true and R is not a correct explanation of A.
C) A is true but R is false. D) A is false but R is true.
22. Hydraulic lime is obtained by [**B**]
- A) burning of lime stone B) burning of kankar
C) adding water to quick lime D) calcination of pure clay
23. The main constituent which imparts hydraulicity to hydraulic lime is [**C**]
- A) calcium oxide B) silica C) clay D) water
24. Study the following statements.
i) Hydraulic lime is suitable for white washing, ii) Fat lime is suitable for whitewashing,
iii) Hydraulic lime is suitable for making mortar, iv) Fat lime is suitable for making mortar.
The correct answer is [**B**]
- A) (i) and (iv) B) (ii) and (iii) C) (i) and (ii) D) (iii) and (iv)
25. The main ingredients of Portland cement are [**A**]
- A) lime and silica B) lime and alumina C) silica and alumina D) lime and iron
26. The constituent of cement which is responsible for all the undesirable properties of cement is [**C**]
- A) dicalcium silicate B) tricalcium silicate
C) tricalcium aluminate D) tetra calcium alumino ferrite
27. Le Chatelier's device is used for determining the [**B**]
- A) setting time of cement B) soundness of cement
C) tensile strength of cement D) compressive strength of cement
28. The main constituent of cement which is responsible for initial setting of cement is [**C**]
- A) dicalcium silicate B) tricalcium silicate C) tricalcium aluminate D) all of the above
29. The initial setting time for ordinary Portland cement as per IS specifications should not be less than [**B**]
- A) 10 minutes B) 30 minutes C) 60 minutes D) 600 minutes
30. As per IS specifications, the maximum final setting time for ordinary Portland cement should be [**D**]
- A) 30 minutes B) 1 hour C) 6 hours D) 10 hours
31. For testing compressive strength of cement, the size of cube used is [**A**]
- A) 50 mm B) 70.6 mm C) 100 mm D) 150 mm

32. The normal consistency of ordinary Portland cement is about [**C**]
A) 10% B) 20% C) 30% D) 40%
33. Early attainment of strength in rapid hardening cement is mainly due to [**B**]
A) gypsum B) finer grinding C) tricalcium silicate D) tricalcium aluminate
34. After storage, the strength of cement [**A**]
A) decreases B) increases C) remains same D) may increase or decrease
35. According to IS specifications, the compressive strength of ordinary portland cement after three days should not be less than [**C**]
A) 7 MPa B) 11.5 MPa C) 16 MPa D) 21 MPa
36. Addition of pozzolana to ordinary Portland cement increases [**B**]
A) bleeding B) shrinkage C) permeability D) heat of hydration
37. Gypsum consists of [**B**]
A) H₂S and CO₂ B) CaSO₄ and H₂O C) Lime and H₂O D) CO₂ and calcium
38. For testing compressive and tensile strength of cement, the cement mortar is made by mixing cement and standard sand in the proportions of [**B**]
A) 1:2 B) 1:3 C) 1:4 D) 1:6
39. The slump recommended for mass concrete is about [**A**]
A) 25 mm to 50 mm B) 50 mm to 100 mm
C) 100 mm to 125 mm D) 125 mm to 150 mm
40. With increase in moisture content, the bulking of sand [**C**]
A) increases B) decreases
C) first increases to a certain maximum value and then decreases
D) first decreases to a certain minimum value and then increases

UNIT – III**FOUNDATION AND MASONRY**

1. Which of the following cements is suitable for use in massive concrete structures such as large dams ? [**B**]
A) ordinary Portland cement B) low heat cement
C) rapid hardening cement D) sulphate resisting cement
2. Proper amount of entrained air in concrete results in
i) better workability ii) better resistance to freezing and thawing
iii) lesser workability iv) less resistance to freezing and thawing The correct answer is [**A**]
A) (i) and (ii) B) (i)and(iv) C) (ii) and (iii) D) (iii) and (iv)
3. The most common admixture which is used to accelerate the initial set of concrete is [**B**]
A) gypsum B) calcium chloride C) calcium carbonate D) none of the above
4. The maximum quantity of calcium chloride used as an accelerator in cement in percentage by weight of cement is [**B**]
A) 1 B) 2 C) 3 D) 4
5. The basic purpose of a retarder in concrete is [**A**]
A) to increase the initial setting time of cement paste in concrete
B) to decrease the initial setting time of cement paste in concrete
C) to render the concrete more water tight D) to improve the workability of concrete mix
6. Which of the following cements contains maximum percentage of dicalcium silicate? [**B**]
A) ordinary Portland cement B) low heat cement
C) rapid hardening cement D) sulphate resisting cement
7. The most commonly used retarder in cement is [**A**]
A) gypsum B) calcium chloride C) calcium carbonate D) none of the above
8. Three basic raw materials which are needed in large quantities for production of steel are [**C**]
A) iron ore, coal and sulphur B) iron ore, carbon and sulphur
C) iron ore, coal and lime stone D) iron ore, carbon and lime stone
9. Compared to mild steel, cast iron has i) high compressive strength
ii) high tensile strength iii) low compressive strength iv) low tensile strength
The correct answer is [**D**]

A) (i) and (ii) B) (ii) and (iii) C) (iii) and (iv) D) (i)and(iv)

10. Which of the following gradients exerts maximum influence on properties of steel? [**B**]

A) iron B) carbon C) manganese D) sulphur

11. Which of the following is the purest form of iron ? [**B**]

A) cast iron B) wrought iron C) mild steel D) high carbon steel

12. The ultimate tensile strength of structural mild steel is about [**C**]

A) 160N/mm² B) 260N/mm² C) 420 N/mm² D) 520 N/mm²

13. Percentage of carbon content in mild steel is [**A**]

A) less than 0.25 B) between 0.25 and 0.7
C) between 0.7 and 1.5 D) greater than 1.5

14. Which of the following stresses is used for identifying the quality of structural steel? [**B**]

A) ultimate stress B) yield stress C) proof stress D) none of the above

15. The ratio of the thickness of web to that of flange of steel rolled structural beams and channels is [**A**]

A) less than 1 B) equal to 1 C) greater than 1
D) less than 1 in beams but greater than 1 in channels

16. Paints with white lead base are suitable for painting of [**A**]

A) wood work B) iron work C) both wood work and iron work D) none of the above

17. Assertion A : Paints with white lead base are not recommended for painting of iron works.

Reason R : Paints with white lead base do not check rusting of iron.

Select your answer according to the coding system given below : [**A**]

A) Both A and R are true and, R is the correct explanation of A.
B) Both A and R are true but R is not the correct explanation of A
C) A is true but R is false D) A is false but R is true

18. The amount of water used for one kg of distemper is [**C**]

A) 0.2 liter B) 0.4 liter C) 0.6 liter D) 0.8 liter

19. The vehicle used in case of enamel paints is usually [**C**]

A) linseed oil B) water C) varnish D) none of the above

20. Assertion A : Normally turpentine oil is recommended as thinner for indoor painting.
Reason R : Turpentine oil is costlier than other thinners.
Select your answer according to the coding system given below : [B]
- A) Both A and R are true and R is the correct explanation of A.
B) Both A and R are true but R is not the correct explanation of A.
C) A is true but R is false. D) A is false but R is true.
21. In brick masonry the bond produced by laying alternate headers and stretchers in each course is known as [B]
- A) English bond B) double flemish bond C) zigzag bond D) single flemish bond
22. The stretcher bond in brick masonry can be used only when the thickness of wall is [A]
- A) 90 mm B) 180 mm C) 190 mm D) 280 mm
23. The pressure acting on the stones in stone masonry construction should be [D]
- A) along the direction of bedding planes
B) at 45° to the direction of bedding planes
C) at 60° to the direction of bedding planes
D) perpendicular to the direction of bedding planes
24. Which of the following should be used for hearting of thicker walls ? [A]
- A) headers B) stretchers C) brick bats D) queen closer
25. A queen closer is a [C]
- A) brick laid with its length parallel to the face or direction of wall
B) brick laid with its breadth parallel to the face or direction of wall
C) brick having the same length and depth as the other bricks but half the breadth
D) brick with half the width at one end and full width at the other
26. Minimum thickness of wall where single flemish bond can be used is [C]
- A) half brick thick B) one brick thick C) one and a half bricks thick D) two bricks thick
27. The most important tool in brick laying for lifting and spreading mortar and for forming joints is [A]
- A) trowel B) square C) bolster D) scutch
28. Expansion Joints in masonry walls are provided in wall lengths usater than [D]
- A) 10 m B) 20 m C) 30 m D) 40 m

29. The type of bond provided in brick masonry for carrying heavy loads is [C]
A) single flemish bond B) double flemish bond C) English bond D) zigzag bond
30. A mortar joint in masonry which is normal to the face of wall is known as [C]
A) bed joint B) wall joint C) cross joint D) bonded joint
31. The slenderness ratio for masonry walls should not be more than [B]
A) 10 B) 20 C) 30 D) 40
32. The proportions of lime and sand in the mortar normally used in brick construction are [A]
A) 1:2 B) 1:4 C) 1:6 D) 1:8
33. Number of vertical joints in a stretcher course is x times the number of joints in the header course, where x is equal to [A]
A) $\frac{1}{2}$ B) 1 C) 2 D) $\frac{1}{4}$
34. As compared to stretcher course, the thickness of joints in header course should be [A]
A) less B) more C) equal D) equal or more
35. As compared to English bond, double flemish bond is [B]
A) stronger B) more compact C) costly D) none of the above
36. Single flemish bond consists of [A]
A) double flemish bond facing and English bond backing in each course
B) English bond facing and double flemish bond backing in each course
C) stretcher bond facing and double flemish bond backing in each course
D) double flemish bond facing and header bond backing in each course
37. The differential settlement in case of foundations on sandy soils should not exceed [A]
A) 25 mm B) 40 mm C) 65 mm D) 100 mm
38. In case of foundations on black cotton soils, the most suitable method to increase the bearing capacity of soils is to [D]
A) increase the depth of foundation B) drain the soil
C) compact the soil D) replace the poor soil
39. The type of footing which is used to transmit heavy loads through steel columns is [B]
A) raft foundation B) grillage foundation C) well foundation D) isolated footing

40. The maximum total settlement for isolated foundations on clayey soils should be limited to [C]
- A) 25 mm B) 40 mm C) 65 mm D) 100 mm

UNIT – IV

FLOORS , ROOFS, DOORS AND WINDOWS

1. The type of pile which is driven at an inclination to resist inclined forces is known as [C]
- A) friction pile B) sheet pile C) batter pile D) anchor pile
2. The minimum depth of foundation in clayey soils is [C]
- A) 0.5 m B) 0.7 m C) 0.9 m D) 1.2 m
3. The maximum total settlement for raft foundation on clayey soils should be limited to [D]
- A) 25 mm B) 25 to 40 mm C) 40 to 65 mm D) 65 to 100 mm
4. The bearing capacity of a water logged soil can be improved by [B]
- A) compacting the soil B) draining the soil
C) increasing the depth of foundation D) grouting
5. The type of flooring suitable for use in churches, theatres, public libraries and other places where noiseless floor covering is desired is [A]
- A) cork flooring B) glass flooring C) wooden flooring D) linoleum flooring
6. The vertical distance between the springing line and highest point of the innercurve of an arch is known as [B]
- A) intrados B) rise C) spandrel D) extrados
7. Depth or height of the arch is the [A]
- A) perpendicular distance between intra-dos and extrados
B) vertical distance between springing line and intrados
C) perpendicular distance between springing line and extrados
D) none of the above

8. The triangular space formed between the extrados and the horizontal line drawn through the crown of an arch is known as [**B**]
- A) haunch B) spandrel C) voussoirs D) skewbacks
9. The lintels are preferred to arches because [**D**]
- A) arches require more headroom to span the openings like doors, windows etc.
B) arches require strong abutments to withstand arch thrust
C) arches are difficult in construction
D) all of the above
10. In the construction of arches, sand box method is used for [**C**]
- A) centring B) actual laying of arch work
C) striking of centring D) none of the above
11. The type of arch generally constructed over a wooden lintel or over a flat arch for the purpose of carrying the load of the wall above is [**C**]
- A) segmental arch B) pointed arch C) relieving arch D) flat arch
12. The type of joint commonly used at the junction of a principal rafter and tie beam in timber trussess is [**B**]
- A) mortise and tennon joint B) oblique mortise and tennon joint
C) butt joint D) mitred joint
13. The type of roof suitable in plains where rainfall is meagre and temperature is high is [**B**]
- A) pitched and sloping roof B) flat roof
C) shell roof D) none of the above
14. Pitched and sloping roofs are suitable for [**A**]
- A) coastal regions B) plain regions C) covering large areas D) all of the above
15. The type of roof which slopes in two directions with a break in the slope on each side is known as [**C**]
- A) gable roof B) hip roof C) gambrel roof D) mansard roof
16. Mansard roof is a roof which slopes in [**D**]
- A) two directions without break in the slope on each side

- B) two directions with break in the slope on each side
C) four directions without break in the slope on each side
D) four directions with break in the slope on each side
17. The horizontal timber piece provided at the apex of a roof truss which supports the common rafter is called [**A**]
A) ridge board B) hip rafter C) eaves board D) valley rafter
18. The lower edge of the pitched roof, from where the rain water of the roof surface drops down, is known as [**D**]
A) hip B) gable C) ridge D) eaves
19. Higher pitch of the roof i) results in stronger roof ii) results in weaker roof
iii) requires more covering material iv) requires less covering material
The correct answer is [**A**]
A) (i) and (iii) B) (i) and (iv) C) (ii) and (iii) D) (ii) and (iv)
20. Couple close roof is suitable for maximum span of [**C**]
A) 2.5 m B) 3.5 m C) 4.5 m D) 5.5 m
21. In a collar beam roof [**C**]
A) there is no horizontal tie beam
B) there is a horizontal tie at the feet of rafters only
C) there is a horizontal tie at almost the middle of rafters only
D) there are two horizontal ties, one at the feet and other at the middle of the rafters
22. The function of king post in a king post roof truss is [**D**]
A) to support the frame work of the roof B) to receive the ends of principal rafter
C) to prevent the walls from spreading outward
D) to prevent the tie beam from sagging at its centre
23. The function of cleats in a roof truss is [**C**]
A) to support the common rafter B) to support purlins
C) to prevent the purlins from tilting D) all of the above
24. The term string is used for [**C**]
A) the underside of a stair B) outer projecting edge of a tread
C) a sloping member which supports the steps in a stair
D) a vertical member between two treads
25. The vertical posts placed at the top and bottom ends of a flight supporting the

- hand rail are known as [B]
- A) balusters B) newal posts C) balustrades D) railings
26. The maximum number of steps in a flight should generally be restricted to [B]
- A) 10 B) 12 C) 15 D) no limit
27. The number of steps in a flight generally should not be less than [B]
- A) 2 B) 3 C) 5 D) no limit
28. Sum of tread and rise must lie between [B]
- A) 300 to 350 mm B) 400 to 450 mm C) 500 to 550 mm D) 600 to 650 mm
29. Minimum width of landing should be [A]
- A) equal to width of stairs B) half the width of stairs
C) twice the width of stairs D) one fourth the width of stairs
30. In any good staircase, the maximum and minimum pitch respectively should be [D]
- A) 90° and 0° B) 75° and 30° C) 60° and 10° D) 40° and 25°
31. Plywood has the advantage of [C]
- A) greater tensile strength in longer direction B) greater tensile strength in shorter direction
C) same tensile strength in all directions D) none of the above
32. The moisture content in a well seasoned timber is [B]
- A) 4% to 6% B) 10% to 12% C) 15% to 20% D) 100%
33. The age of a tree can be known by examining [B]
- A) cambium layer B) annular rings C) medullary rays D) heart wood
34. The plywood [C]
- A) has good strength along the panel only B) can be spilt in the plane of the panel
C) has greater impact resistance to blows than ordinary wood
D) cannot be bent more easily than ordinary wood of same thickness
35. First class timber has an average life of [D]
- A) less than one year B) 1 to 5 years C) 5 to 10 years **D) more than 10 years**
36. The disease of dry rot in timber is caused by [A]
- A) lack of ventilation B) alternate wet and dry conditions

C) complete submergence in water D) none of the above

37. The radial splits which are wider on the outside of the log and narrower towards the pith are known as [C]

A) heart shakes B) cupshakes C) starshakes D) rindgalls

38. Which of the following timbers is suitable for making sports goods? [A]

A) mulberry B) mahogany C) sal D) deodar

39. Sapwood consists of [B]

- A) innermost annular rings around the pith
- B) portion of timber between heartwood and cambium layer
- C) thin layers below the bark
- D) thin fibre which extends from the pith outwards and holds the annular rings together

40. Spalling hammer is used for [B]

- A) driving wooden headed chisels
- B) rough dressing of stones
- C) carving of stones
- D) breaking small projection of stones

UNIT – V

01. With increase in moisture content, the bulking of sand [C]

- A) increases B) decreases
- C) first increases to a certain maximum value and then decreases
- D) first decreases to a certain minimum value and then increases

02. For testing compressive and tensile strength of cement, the cement mortar is made by mixing cement and standard sand in the proportions of [B]

A) 1:2 B) 1:3 C) 1:4 D) 1:6

03. Early attainment of strength in rapid hardening cement is mainly due to [B]

A) gypsum B) finer grinding C) tricalcium silicate D) tricalcium aluminate

04. For testing compressive strength of cement, the size of cube used is [A]

A) 50 mm B) 70.6 mm C) 100 mm D) 150 mm

05. The initial setting time for ordinary Portland cement as per IS specifications should not be less than [B]

A) 10 minutes B) 30 minutes C) 60 minutes D) 600 minutes

06. Le Chatelier's device is used for determining the [**B**]
A) setting time of cement B) soundness of cement
C) tensile strength of cement D) compressive strength of cement
07. The main ingredients of Portland cement are [**A**]
A) lime and silica B) lime and alumina C) silica and alumina D) lime and iron
08. Hydraulic lime is obtained by [**B**]
A) burning of lime stone B) burning of kankar
C) adding water to quick lime D) calcination of pure clay
09. Quick lime is i) slow in setting ii) rapid in slacking iii) good in strength The correct answer is [**C**]
A) only (i) B) only (ii) C) both (i) and (ii) D) both (ii) and (iii)
10. Glazing is used to make earthenware [**D**]
A) hard B) soft C) porous D) impervious
11. Which of the following bricks are used for lining of furnaces? [**C**]
A) overburnt bricks B) underburnt bricks C) refractory bricks D) first class bricks
12. The internal size of mould used in brick preparation is [**C**]
A) equal to the size of a fully burnt brick B) smaller than the size of a fully burnt brick
C) greater than the size of a fully burnt brick D) none of the above
13. Which of the following pairs gives a correct combination of the useful and harmful constituents respectively of a good brick earth ? [**B**]
A) lime stone and alumina B) silica and alkalies C) alumina and iron D) alkalies and magnesium
14. Excess of silica in brick earth results in [**B**]
A) cracking and warping of bricks B) loss of cohesion
C) enhancing the impermeability of bricks D) none of the above
15. Excess of alumina in brick earth makes the brick [**D**]
A) impermeable B) brittle and weak
C) to lose cohesion D) to crack and warp on drying

16. The main function of alumina in brick earth is [A]
- A) to impart plasticity B) to make the brick durable
C) to prevent shrinkage D) to make the brick impermeable
17. The maximum quantity of calcium chloride used as an accelerator in cement in percentage by weight of cement is [B]
- A) 1 B) 2 C) 3 D) 4
18. Which of the following cements contains maximum percentage of dicalcium silicate? [B]
- A) ordinary Portland cement B) low heat cement
C) rapid hardening cement D) sulphate resisting cement
19. Three basic raw materials which are needed in large quantities for production of steel are [C]
- A) iron ore, coal and sulphur B) iron ore, carbon and sulphur
C) iron ore, coal and lime stone D) iron ore, carbon and lime stone
20. Which of the following gradients exerts maximum influence on properties of steel? [B]
- A) iron B) carbon C) manganese D) sulphur
21. The ratio of the thickness of web to that of flange of steel rolled structural beams and channels is [A]
- A) less than 1 B) equal to 1 C) greater than 1
D) less than 1 in beams but greater than 1 in channels
22. Assertion A : Paints with white lead base are not recommended for painting of iron works.
Reason R : Paints with white lead base do not check rusting of iron.
Select your answer according to the coding system given below : [A]
- A) Both A and R are true and, R is the correct explanation of A.
B) Both A and R are true but R is not the correct explanation of A
C) A is true but R is false D) A is false but R is true
23. The vehicle used in case of enamel paints is usually [C]
- A) linseed oil B) water C) varnish D) none of the above
24. In brick masonry the bond produced by laying alternate headers and stretchers in each course is known as [B]
- A) English bond B) double flemish bond C) zigzag bond D) single flemish bond
25. A queen closer is a [C]
- A) brick laid with its length parallel to the face or direction of wall
B) brick laid with its breadth parallel to the face or direction of wall
C) brick having the same length and depth as the other bricks but half the breadth

D) brick with half the width at one end and full width at the other

26. The type of bond provided in brick masonry for carrying heavy loads is [**C**]

A) single flemish bond B) double flemish bond C) English bond D) zigzag bond

27. The slenderness ratio for masonry walls should not be more than [**B**]

A) 10 B) 20 C) 30 D) 40

28. Single flemish bond consists of [**A**]

A) double flemish bond facing and English bond backing in each course
B) English bond facing and double flemish bond backing in each course
C) stretcher bond facing and double flemish bond backing in each course
D) double flemish bond facing and header bond backing in each course

29. Single flemish bond consists of [**A**]

A) double flemish bond facing and English bond backing in each course
B) English bond facing and double flemish bond backing in each course
C) stretcher bond facing and double flemish bond backing in each course
D) double flemish bond facing and header bond backing in each course

30. In case of foundations on black cotton soils, the most suitable method to increase the bearing capacity of soils is to [**D**]

A) increase the depth of foundation B) drain the soil
C) compact the soil D) replace the poor soil

31. The maximum total settlement for isolated foundations on clayey soils should be limited to [**C**]

A) 25 mm B) 40 mm C) 65 mm D) 100 mm

32. Hydraulic lime is obtained by [**B**]

A) burning of lime stone B) burning of kankar
C) adding water to quick lime D) calcination of pure clay

33. Quick lime is i) slow in setting ii) rapid in slacking iii) good in strength The correct answer is [**C**]

A) only (i) B) only (ii) C) both (i) and (ii) D) both (ii) and (iii)

34. Glazing is used to make earthenware [**D**]

A) hard B) soft C) porous D) impervious

34. The frog of the brick in a brick masonry is generally kept on [**B**]
A) bottom face B) top face C) shorter side D) longer side
35. Pug mill is used for [**A**]
A) preparation of clay B) moulding of clay C) drying of bricks D) burning of bricks
36. Advantage of a clamp compared to a kiln for burning bricks is that [**C**]
A) it takes less time for burning B) it gives more output of first class bricks
C) it has less initial cost D) it is suitable when bricks are required in large numbers
37. Which of the following pairs gives a correct combination of the useful and harmful constituents respectively of a good brick earth ? [**B**]
A) lime stone and alumina B) silica and alkalies C) alumina and iron D) alkalies and magnesium
38. Proper amount of entrained air in concrete results in
i) better workability ii) better resistance to freezing and thawing
iii) lesser workability iv) less resistance to freezing and thawing The correct answer is [**A**]
A) (i) and (ii) B) (i)and(iv) C) (ii) and (iii) D) (iii) and (iv)
39. Which of the following cements is suitable for use in massive concrete structures such as large dams ? [**B**]
A) ordinary Portland cement B) low heat cement
C) rapid hardening cement D) sulphate resisting cement
40. The nominal size of the modular brick is [**C**]
A) 190 mm x 90mmx 80 mm B) 190 mm x 190 mm x 90 mm
C) 200 mm x 100 mm x 100 mm D) 200 mm x 200 mm x 100 mm

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