

# CONSTRUCTION TECHNOLOGY

1. In case of Raymond pile

- A. lengths vary from 6 m to 12 m
- B. diameter of top of piles varies from 40 cm to 60 cm
- C. diameter of pile at bottom varies from 20 cm to 28 cm
- D. thickness of outer shell depends upon pile diameter
- E. all the above.

**Answer:** Option E

2. Queen closer may be placed

- A. in header course
- B. in stretcher course
- C. in header course next to first brick
- D. in stretcher course next to first brick
- E. in any position.

**Answer:** Option C

3. Dado is usually provided in

- A. dining halls
- B. bath rooms
- C. living rooms
- D. verandah
- E. roofs

**Answer:** Option B

4. The foundation in which a cantilever beam is provided to join two footings, is known as

- A. strip footing
- B. strap footing
- C. combined footing
- D. raft footing
- E. none of these

**Answer:** Option B

5. The foundations are placed below ground level, to increase

- A. strength
- B. workability
- C. stability of structure
- D. all the above.

**Answer:** Option C

6. Stud(s) of a common wooden partition

- A. are vertical wooden members
- B. is the upper horizontal wooden member

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C. is the lower horizontal wooden member

D. are the intermediate horizontal wooden members.

**Answer:** Option A

7. Pick up the correct statement from the following :

A. inclined borings are made for taking samples under existing structures

B. inclined borings are occasionally used instead of vertical holes.

C. the spacing of inclined borings is kept such that one bore hole is vertically above the bottom of an adjacent bore hole.

D. all the above.

**Answer:** Option D

8. Pick up the commonly adopted geophysical method in civil engineering from the following :

A. the seismic method

B. electrical resistivity method

C. gravitational method

D. magnetic method

E. both (a) and (b) of the above.

**Answer:** Option E

9. To ensure that supporting area of an offset footing of a boundary wall is fully compressive, the C.G. of load must act

A. at the centre of the base

B. within the middle third of the base

C. within the middle fifth of the base

D. neither (a), (b) nor (c).

**Answer:** Option B

10. The 9 cm x 9 cm side of a brick as seen in the wall face, is generally known as

A. stretcher

B. face

C. front

D. header

E. side.

**Answer:** Option D

11. The taper of precast concrete pile should not be more than

A. 1 cm per metre length

B. 2 cm per metre length

C. 4 cm per metre length

D. 5 cm per metre length.

**Answer:** Option B

12. The under surface of an arch, is called

A. soffit

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- B. intrados
- C. haunch
- D. back.

**Answer:** Option **A**

13. The raft slab is projected beyond the outer walls of the structure by

- A. 5 to 10 cm
- B. 15 to 20 cm
- C. 25 to 30 cm
- D. 30 to 45 cm
- E. 60 cm.

**Answer:** Option **D**

14. The process of making the back ground rough, before plastering, is

- A. dubbing
- B. hacking
- C. blistering
- D. peeling.

**Answer:** Option **B**

15. Black cotton soil is unsuitable for foundations because its

- A. bearing capacity is low
- B. permeability is uncertain
- C. particles are cohesive
- D. property to undergo a volumetric change due to variation of moisture content.

**Answer:** Option **D**

16. The loose pockets in soil mass can be bridged safely by providing a raft foundation provided the soft area is smaller than

- A. the column spacing
- B. one-third the column spacing
- C. half the column spacing
- D. three-fourth the column spacing
- E. none of these.

**Answer:** Option **B**

17. The portion of a brick cut across the width, is called

- A. closer
- B. half brick
- C. bed

D. bat.

**Answer:** Option **D**

18. The concrete slump recommended for beams and slabs ; is

- A. 25 to 50 mm
- B. 25 to 75 mm
- C. 30 to 125 mm
- D. 50 to 100 mm
- E. none of these.

**Answer:** Option **C**

19. The member which is placed horizontally to support common rafter of a sloping roof, is

- A. purlin
- B. cleat
- C. batten
- D. strut.

**Answer:** Option **A**

20. Pick up the correct statement from the following:

- A. Louvered door is generally provided in bath rooms
- B. Flush door is generally provided in dining room
- C. Revolving door is generally provided in cinema halls
- D. Sliding door is generally provided in show rooms
- E. All the above.

**Answer:** Option **C**

21. Grillage foundation

- A. is used to transfer heavy structural loads from steel columns to a soil having low bearing capacity
- B. is light and economical
- C. does not require deep cutting as the required base area with required pressure intensity is obtained at a shallow depth
- D. is constructed by rolled steel joists (R.S.J.) placed in single or double tier
- E. all the above.

**Answer:** Option **E**

22. The exterior angle between outer faces of a wall, is known as

- A. turn
- B. junction
- C. quion
- D. all the above.

**Answer:** Option **C**

23. In jack arch floor, the rise is kept

- A. 1/6th of the span

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- B.** 1/8th of the span
- C.** 1/10th of the span
- D.** 1/12th of the span
- E.** 1/15th of the span.

**Answer:** Option **D**

24. While designing a stair, the product of rise and going is approximately kept equal to

- A.** 350
- B.** 420
- C.** 450
- D.** 500
- E.** 600.

**Answer:** Option **B**

25. For constructing a terrazzo floor. Pick up the incorrect statement from the following :

- A.** a base course is prepared as in cement concrete flooring
- B.** a 32 mm thick layer of cement concrete (1 : 2 : 4) is laid on the base course and the surface is made smooth by trowelling
- C.** glass strips are driven into the layer according to the pattern required
- D.** after final grinding is over, oxalic acid mixed with water is spread over and rubbed hard with soft material
- E.** none of these.

**Answer:** Option **B**

26. The entrained concrete is used in lining walls and roofs for making

- A.** heat insulated
- B.** sound insulated
- C.** neither (a) nor (b)
- D.** both (a) and (b).

**Answer:** Option **D**

27. The pile which is provided with a bulb filled with concrete at its lower end, is known as

- A.** Simplex pile
- B.** Mac-Arthur pile
- C.** Raymond pile
- D.** Franki pile
- E.** none of these.

**Answer:** Option **B**

28. In case of multi-storeyed buildings, the forms to be removed first are

- A.** sides of beams and girders
- B.** column forms

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- C. bottom of beams and girders
- D. all the above at the same time.

**Answer:** Option A

29. The maximum permissible deflection of a timber beam supporting a roof, is

- A.  $L/100$
- B.  $L/150$
- C.  $L/260$
- D.  $L/360$
- E. none of these.

**Answer:** Option D

30. The angular steps used for changing direction of the stairs, are called

- A. round steps
- B. angular steps
- C. winders
- D. radial steps
- E. circular steps

**Answer:** Option C

31. During percussion drilling

- A. ground water observations are hindered due to entry of the slurry in the soil below the bottom of the hole
- B. caving or mixing of strata are caused in soft soils or cohesionless soils
- C. the soil to a considerable depth below the bottom of the hole gets disturbed
- D. all the above.

**Answer:** Option D

32. In English garden wall bond

- A. one course of headers to three or five course of stretchers
- B. queen closer is provided in each heading course
- C. the middle course of stretchers is started with a header to give proper vertical joints
- D. all the above.

**Answer:** Option D

33. A projecting piece usually provided to support a truss, is

- A. cornice
- B. coping
- C. frieze
- D. lintel.

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**Answer:** Option C

34. The line of intersection of the surfaces of a sloping roof forming an external angle exceeding  $180^\circ$ , is

- [A.](#) ridge
- [B.](#) hip
- [C.](#) valley
- [D.](#) none of these.

**Answer:** Option B

35. The single stage well point system of dewatering an excavation can be used if the depth of excavation does not exceed

- [A.](#) 5 m
- [B.](#) 10 m
- [C.](#) 15 m
- [D.](#) 20 m
- [E.](#) 25 m.

**Answer:** Option A

36. A solid core of rock is formed inside the cylinder in the case of

- [A.](#) auger boring
- [B.](#) percussion drilling
- [C.](#) diamond drilling
- [D.](#) wash boring.

**Answer:** Option C

37. The piece of a brick cut with its one corner equivalent to half the length and half the width of a full brick, is known as

- [A.](#) queen closer
- [B.](#) bevelled closer
- [C.](#) king closer
- [D.](#) half king closer.

**Answer:** Option C

38. The brick laid with its breadth parallel to the face of a wall, is known as

- [A.](#) header
- [B.](#) stretcher
- [C.](#) closer
- [D.](#) none of these.

**Answer:** Option A

39. A wooden block hinged on post outside a door, is known

- [A.](#) cleat
- [B.](#) stop

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- C. horn
- D. none of these.

**Answer:** Option A

40. Pick up the incorrect statement from the following :

- A. The function of foundation is to distribute the load of super structure over a large bearing area
- B. No timbering is required for shallow trenches
- C. Shallow foundations can be constructed on made-up soil
- D. Grillage foundation is classified as a shallow foundation
- E. Black cotton soil is very good for foundation bed.

**Answer:** Option E

41. In horizontal D.P.C, thickness of cement concrete (1 : 2 : 4) is

- A. 2 cm
- B. 4 cm
- C. 6 cm
- D. 8 cm
- E. 10 cm.

**Answer:** Option B

42. Which one of the following factors is considered for the orientation of buildings :

- A. the direction of the prevailing winds in the area
- B. the exposure of the walls and roof of the buildings to the rays of sun
- C. the extent up to which the sunrays penetrate with the verandah.
- D. all the above.

**Answer:** Option D

43. Pick up the incorrect statement from the following :

- A. Cement is added to lime mortar to increase its hydraulic properties only
- B. Lime surkhi mortar is used for pointing the walls
- C. Lime should be slaked before preparing lime mortar
- D. High early strength concrete is generally used in cold weather.

**Answer:** Option A

44. Which one of the following rocks is used for monumental buildings :

- A. granite
- B. marble
- C. sand stone
- D. slate.



**Answer:** Option B

45. The Auger borings are not common
- A. in soils that require lateral support
  - B. in cohesive soils
  - C. in soft soils
  - D. none of the above.

**Answer:** Option A

46. The form work from the underside of slabs, can be removed only after
- A. 1 day
  - B. 4 days
  - C. 7 days
  - D. 14 days.

**Answer:** Option C

47. Arches in the form of masonry arcs struck from more than four centres, are called
- A. two curved arches
  - B. gothic arches
  - C. ogee arches
  - D. drop gothic arches.

**Answer:** Option C

48. If ( $\phi$ ) is the angle of repose of soil of weight  $w$  kg/m<sup>3</sup>, the horizontal pressure  $p$  at a depth of  $h$  metres per metre length of wall, is

A.  $wh \times \frac{1 - \sin \phi}{1 + \sin \phi}$

B.  $\frac{wh}{2} \times \frac{1 - \sin \phi}{1 + \sin \phi}$

C.  $wh \times \sqrt{\frac{1 - \sin \phi}{1 + \sin \phi}}$

D.  $wh \times \sqrt{\frac{1 + \sin \phi}{1 - \sin \phi}}$

**Answer:** Option A

49. According to Rankine's formula, minimum depth of foundations, is

A.  $\frac{P}{w} \times \left( \frac{1 + \sin \phi}{1 - \sin \phi} \right)^2$

**B.**  $\frac{P}{W} \times \left( \frac{1 - \sin \phi}{1 + \sin \phi} \right)^2$

**C.**  $\frac{P}{2W} \times \left( \frac{1 - \sin \phi}{1 + \sin \phi} \right)^2$

**D.**  $\frac{P}{W} \times \left( \frac{1 + \sin \phi}{1 - \sin \phi} \right)$

**Answer:** Option **B**

50. Cast iron piles

- A.** are suitable for works under sea water
- B.** resist shocks or vibrations
- C.** are suitable for use as batter piles
- D.** are useful for heavy vertical loads.

**Answer:** Option **D**

51. The depth of an arch is the distance between

- A.** ground level and springing line
- B.** crown and springing line
- C.** crown and ground level
- D.** intrados and extrados.

**Answer:** Option **D**

52. Expansion joints in masonry walls are provided if length exceeds

- A.** 10 m
- B.** 20 m
- C.** 30 m
- D.** 40 m
- E.** 50 m.

**Answer:** Option **D**

53. The platform at the end of a series of steps, is known as

- A.** platform
- B.** relief
- C.** rest
- D.** landing
- E.** stop.

**Answer:** Option **D**

54. Raft foundation are generally preferred to when the area required for individual footing, is more than

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- A. 25% to total area
- B. 30% of total area
- C. 40% to total area
- D. 50% of total area.

**Answer:** Option D

55. You are asked to design and supervise a truss for a factory to have spans 6 m to 9 m. The type of the truss you will use, is

- A. mansored truss
- B. queen post truss
- C. king post truss
- D. collar truss
- E. none of these.

**Answer:** Option C

56. Pick up the incorrect statement from the following:

- A. The retaining wall should be structurally capable to resist the applied earth pressure
- B. The section of the retaining wall should be so proportioned that it may not overturn by the lateral pressure
- C. The retaining wall should be safe against sliding
- D. The foundation of the retaining wall should not be stressed beyond safe bearing capacity ; due to its weight and the force resulting from the earth pressure
- E. to drain off water from the earth retained, weep holes are provided near the top of the retaining wall.

**Answer:** Option E

57. The arrangement of supporting an existing structure by providing supports underneath, is known as

- A. shoring
- B. underpinning
- C. jacking
- D. piling

**Answer:** Option B

58. The process of keeping concrete moist for a certain period after its finishing, is known as

- A. finishing of concrete
- B. curing of concrete
- C. placing of concrete
- D. compaction of concrete
- E. none of these.

**Answer:** Option B

59. The inclined surface of an abutment to receive the arch, is known as

- A. skew back
- B. soffit

- C. spandril
- D. haunch.

**Answer:** Option A

60. In grillage foundations, distance between flanges of grillage beams, is kept

- A. 40 cm
- B. equal to flange width
- C. twice the flange width
- D. maximum of (a), (b) and (c).

**Answer:** Option C

61 Herringbone bond is used for

- A. walls having thickness more than 4 bricks
- B. architectural finish to the face work
- C. ornamental panels in brick flooring
- D. all the above.

**Answer:** Option D

62. A cut in frame of a door to receive the shutter, is called

- A. louver
- B. stop
- C. horn
- D. rebate.

Answer: Option D

63. A temporary rigid structure having platforms to enable masons to work at different stages of a building, is known as

- A. scaffolding
- B. dead shore
- C. raking shore
- D. under pinning.

**Answer:** Option A

64. The bearing capacity of piles is determined by

- A. dynamic formula
- B. static formula
- C. pile load tests
- D. all the above.

**Answer:** Option D

65.. Auger boring

- A. is the most primitive method for making a hole in the ground
- B. is generally employed in cohesive and other self soils above water table
- C. is most economical upto a depth of 5 metres
- D. is done by portable power driven helical augers those diameters range from 7.5 to 30 cm

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E. all the above.

**Answer:** Option E

66. A roof which slopes in four directions, is called

- A. shed roof
- B. gable end roof
- C. hipped roof
- D. gambrel roof.

**Answer:** Option C

67. A wall constructed to resist the pressure of an earth filling, is called

- A. retaining wall
- B. breast wall
- C. buttress
- D. parapet wall.

**Answer:** Option A

68. Engineering news formula for obtaining safe bearing capacity of pile for drop hammer, is,

A.  $Q = \frac{W \cdot h}{6(S + 2.5)}$

B.  $Q = \frac{W \cdot h}{2.5(S + 6)}$

C.  $Q = \frac{W \cdot 6}{h(S + 2.5)}$

D.  $Q = \frac{W \times 2.5}{6(S + h)}$

**Answer:** Option A

69. The inclined support at the ends of treads and rises of a stair, is known as

- A. baluster
- B. header
- C. string
- D. beam.

**Answer:** Option C

70. The vertical side member of a shutter frame, is known

- A. style
- B. reveal
- C. mullion
- D. post.

**Answer:** Option A

71. The brick laid with its length parallel to the face of a wall, is a known as

- A. header
- B. stretcher
- C. closer

**D.** none of these.

Answer: Option B

72. Couple roof is used for spans

**A.** 3.5 m or less

**B.** 3.5 m but less than 5 m

**C.** 5 m but less than 6.5 m

**D.** 6.5 m but less than 8 m.

Answer: Option A

73. The type of stone masonry in which stones of same height are laid in layers, is called

**A.** random rubble masonry

**B.** course rubble masonry

**C.** uncoursed rubble masonry

**D.** ashlar masonry.

Answer: Option B

74. The stone whose crushing strength is maximum, is

**A.** granite

**B.** chalk

**C.** slate

**D.** sand stone

**E.** marble.

Answer: Option A

75. The type of bond in which every course contains both headers and stretchers, is called

**A.** English bond

**B.** Flemish bond

**C.** Russian band

**D.** Mixed bond.

Answer: Option B