SIDDHARTH GROUP OF INSTITUTIONS :: PUTTUR
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QUESTION BANK AND OBJECTIVES

Subject with Code : BMC(15A01302) **Course & Branch**: B.Tech - CE

Year & Sem: II-B.Tech & I-Sem **Regulation:** R15

UNIT – IV
STRUCTURAL COMPONENTS

1. Explain the structural components of building?
2. Explain the requirements of good foundation?
3. Explain the causes for the foundation failures?
4. Explain the functions of foundation?
5. What is stone masonry? Explain the uses of stone masonry?
6. Compare the merits and demerits of stone masonry and brick masonry?
7. Explain the sources of dampness and its effects?
8. Explain the methods of preventing dampness?
9. Classify the flat roof and explain it?
10. (a) Name any four methods of preventing dampness?
    (b) What is cavity walls?
    (c) What is the purpose of foundation?
    (d) Define roofs?
    (e) What are the structural components of a building?

Objectives

1. The slenderness ratio for masonry walls should not be more than [ ]
   a) 10 b) 20
   c) 30 d) 40
2. The proportions of lime and sand in the mortar normally used in brick construction are [ ]
   a) 1:2 b) 1:4
   c) 1:6 d) 1:8
3. 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) ½ b) 1
   c) 2 d) 1/4
4. As compared to stretcher course, the thickness of joints in header course should be [ ]
   a) less b) more
   c) equal d) equal or more
5. As compared to English bond, double flemish bond is [ ]
   a) stronger b) more compact
   c) costly d) none of the above
6. Single flemish bond consists of [ ]
   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

7. The differential settlement in case of foundations on sandv soils should not exceed [ ]
a) 25 mm b) 40 mm
c) 65 mm d) 100 m

8. In case of foundations on black cotton soils, the most suitable method to increase the bearing capacity of soils is to [ ]
a) increase the depth of foundation b) drain the soil
c) compact the soil d) replace the poor soil

9. The type of footing which is used to transmit heavy loads through steel columns is [ ]
a) raft foundation b) grillage foundation
c) well foundation d) isolated footing

10. The maximum total settlement for isolated foundations on clayey soils should be limited to [ ]
a) 25 mm b) 40 mm
c) 65 mm d) 100 mm

11. The type of pile which is driven at an inclination to resist inclined forces is known as[ ]
a) friction pile b) sheet pile
c) batter pile d) anchor pile

12. The minimum depth of foundation in clayey soils is [ ]
a) 0.5 m b) 0.7 m
c) 0.9 m d) 1.2 m

13. The maximum total settlement for raft foundation on clayey soils should be limited to [ ]
a) 25 mm b) 25 to 40 mm
c) 40 to 65 mm d) 65 to 100 mm

14. The bearing capacity of a water logged soil can be improved by [ ]
a) compacting the soil b) draining the soil
c) increasing the depth of foundation d) grouting

15. The type of flooring suitable for use in churches, theatres, public libraries and other places where noiseless floor covering is desired is [ ]
a) cork flooring b) glass flooring
c) wooden flooring d) linoleum flooring

16. The vertical distance between the springing line and highest point of the innercurve of an arch is known as [ ]
a) intrados b) rise
c) spandrel d) extrados

17. Depth or height of the arch is the [ ]
a) perpendicular distance between intrados and extrados
b) vertical distance between springing line and intrados
c) perpendicular distance between springing line and extrados
d) none of the above

18. The triangular space formed between the extrados and the horizontal line drawn through the crown of an arch is known as [ ]
a) haunch b) spandril
c) voussoirs d) skewbacks

19. The lintels are preferred to arches because [ ]
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

20. In the construction of arches, sand box method is used for [ ]
a) centring b) actual laying of arch work
c) striking of centring d) none of the above

21. 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 [ ]
a) segmental arch b) pointed arch
c) relieving arch d) flat arch

22. The type of joint commonly used at the junction of a principal rafter and tie beam in timber trussess is [ ]
a) mortise and tennon joint b) oblique mortise and tennon joint
c) butt joint d) mitred joint

23. The type of roof suitable in plains where rainfall is meagre and temperature is high is[ ]
a) pitched and sloping roof b) flat roof
c) shell roof d) none of the above

24. Pitched and sloping roofs are suitable for [ ]
a) coastal regions b) plain regions
c) covering large areas d) all of the above

25. The type of roof which slopes in two directions with a break in the slope on each side is known as [ ]
a) gable roof b) hip roof
c) gambrel roof d) mansard roof

25. Mansard roof is a roof which slopes in [ ]
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

27. The horizontal timber piece provided at the apex of a roof truss which supports the common rafter is called [ ]
a) ridge board b) hip rafter
c) eaves board d) valley rafter

28. The lower edge of the pitched roof, from where the rain water of the roof surface drops down, is known as [ ]
a) hip b) gable
c) ridge d) eaves

29. 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) (i) and (iii) b) (i) and (iv)
c) (ii) and (iii) d) (ii) and (iv)

30. Couple close roof is suitable for maximum span of [ ]
a) 2.5 m b) 3.5 m
c) 4.5 m d) 5.5 m

31. In a colar beam roof [ ]
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

32. The function of king post in a king post roof truss is [ ]

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

33. The function of cleats in a roof truss is [ ]
a) to support the common rafter
b) to support purlins
c) to prevent the purlins from tilting
d) all of the above

34. The term string is used for [ ]
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

35. The vertical posts placed at the top and bottom ends of a flight supporting the hand rail are known as [ ]
a) balusters
b) newal posts
c) balustrades
d) railings

36. The maximum number of steps in a flight should generally be restricted to [ ]
a) 10
b) 12
c) 15
d) no limit

37. The number of steps in a flight generally should not be less than [ ]
a) 2
b) 3
c) 5
d) no limit

38. Sum of tread and rise must lie between [ ]
a) 300 to 350 mm
b) 400 to 450 mm
c) 500 to 550 mm
d) 600 to 650 mm

39. Minimum width of landing should be [ ]
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

40. In any good staircase, the maximum and minimum pitch respectively should be [ ]
a) 90° and 0°
b) 75° and 30°
c) 60° and 10°
d) 40° and 25°