

**University of Mumbai**  
**Civil Engineering Examination**

**Sub: CE-C 304/ Architectural Planning and Design of Building**

**Year/Sem:- SE/ III<sup>rd</sup> Sem**

**Max. Marks: 80**

**Duration: - 2Hrs**

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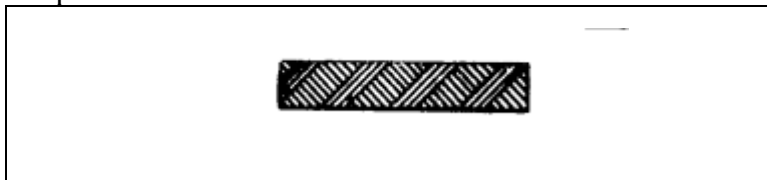
**Q1. Attempt all the MCQS**

**(20 X 2 mark= 40 marks)**

1. In perspective projection, the observer sees the object through transparent \_\_\_\_\_ from \_\_\_\_\_ position relative to the object called the station point (SP).
  - a) Picture Plane, infinite.
  - b) Horizon, definite.
  - c) Picture Plane, definite.
  - d) Horizon, infinite.
  
2. To obtain a good perspective view of the object, the distance between \_\_\_\_\_ and \_\_\_\_\_ shall \_\_\_\_\_ the greatest dimension of the object.
  - a) Station Point (SP), Picture Plane (PP), equal.
  - b) Station Point (SP), Ground Level (GL), twice.
  - c) Station Point (SP), Horizon, equal
  - d) Station Point (SP), Picture Plane (PP), twice.
  
3. The horizontal line drawn parallel to the Ground level, i.e., (Horizon) at the level of the view is generally taken as \_\_\_\_\_ m, considering the average height of a man.
  - a) 1.4.
  - b) 1.5.
  - c) 1.6.
  - d) 1.7.
  
4. For drawing a Two-Point Perspective, if the Length of the object is equal to the Width of the object; then while drawing the object it will be paced at \_\_\_\_\_ angle to the Picture Plane (PP)
  - a) 30.
  - b) 45.
  - c) 55
  - d) 60.
  
5. According to which Principle of Architectural Composition enhances the form of the structure with its incorporation such that as \_\_\_\_\_ decreases, \_\_\_\_\_ increases.
  - a) Duality, unity.
  - b) Uniformity, Contrast.
  - c) Duality, contrast.
  - d) Uniformity, unity.
  
6. According to Principles of Architectural Composition the different type of scale used for design of building in consideration with gathering of the people in enormous quantity, the scale used shall be?
  - a) Domestic.

- b) Monumental.
  - c) Public.
  - d) Industrial.
7. According to Object of Convenience for Town Planning is undertaken by provision of \_\_\_\_\_ , \_\_\_\_\_ and \_\_\_\_\_ amenities are to be given to the people.
- a) social, political and cultural.
  - b) recreational, political, basic.
  - c) economic, Political, cultural.
  - d) social, economic and recreational.
8. According to building by-laws the minimum height of parapet wall for a residential building should be \_\_\_\_\_ m.
- a) 1.
  - b) 1.05.
  - c) 1.1.
  - d) 1.2.
9. According to classification of buildings based on fire-resistance, type 1 construction is the one in which:
- a) Whole structural member can resist 3 hour fire.
  - b) Structural member can resist fire for 2 hours.
  - c) Structural member can resist 1 hour fire.
  - d) all the structural members shall be 4 hour fire resistant
10. The gang way between desk should not be less than \_\_\_\_\_ cm.
- a) 30.
  - b) 40.
  - c) 45.
  - d) 50.
11. The footing most suitable for Black cotton soil or soil with low soil bearing capacity is \_\_\_\_\_
- a) Strip footing.
  - b) Strap footing.
  - c) Isolated pad footing.
  - d) Mat footing.
12. The headroom that should be provided for a staircase should not be less than \_\_\_\_\_ m.
- a) 2.1.
  - b) 2.2.
  - c) 2.3.
  - d) 2.4.
13. The minimum and maximum number of steps in one flight should be \_\_\_\_\_& \_\_\_\_\_NOS respectively.
- a) 9, 12.
  - b) 10, 11.
  - c) 9, 11.

- d) 10,12.
14. The standard size of door for a residential W.C. is
- (900 x 2100) mm.
  - (900 x 2000) mm.
  - (1000 x 2100) mm.
  - (1000 x 2000) mm.
15. For LEED certification, the credits points required to gain silver certification is \_\_\_\_ .
- 40-49
  - 60-79
  - 50-59
  - 80 points and above.
16. The position of the PP relative to object, determines the size of the object in perspective.
- 1] If the object is \_\_\_\_\_ of the PP, the size of the object will be \_\_\_\_\_. 2] If the object is \_\_\_\_\_ from PP, the size of the object will \_\_\_\_\_ than true size.
- 1] On, Enlarged; 2] On, Smaller.
  - 1] Front, Smaller, 2] Away, Larger.
  - 1] Front, enlarged; 2] Away, Smaller.
  - 1] Front, enlarged; 2] Away, Smaller.
17. Identify the one which does not fall under list of Principles of Town Planning
- Beauty.
  - Green Belt.
  - Zoning.
  - Housing.
18. The Standard Size of A1 drawing sheet is ( \_\_ x \_\_\_\_ )mm.
- 841 x 1189.
  - 594 x 841.
  - 420 x 594.
  - 297 x 420.
19. The color code for drainage and sewage works is \_\_\_\_\_.
- Black dotted.
  - Green dotted.
  - Yellow hatched.
  - Red dotted.
20. This symbol represents which material?



- Earth.
- Brick.
- Concrete.
- Natural or reconstructed stone.

**Q2. Attempt any FOUR****(04 X 05 marks= 20 marks)**

1. Design a dog-legged staircase for a residential building having floor-to-floor height of 2.8m. Design all the components of staircase considering the standard dimensions. Sketch the plan and elevation for the same showing all the details of the staircase.
2. What is Green building? What is LEED certification? State the different level of LEED certification. Enlist the factors based on which LEED certification is achieved.
3. What is Town Planning? Explain its objectives and principles.
4. What is Architectural Composition? Explain its principles.
5. Explain principles of planning for a residential building.
6. Enlist and explain any ONE sub-head entire classification of buildings.

**Q3. Attempt any TWO****(01 X 20 marks= 20 marks)**

1. A. Design a G+1 residential bungalow with the following requirements: **(15 Marks)**
  - i. Living area 25 sqm.
  - ii. Kitchen 20 sqm.
  - iii. Dining 15 sqm.
  - iv. Master bedroom (1 NOS) 30 sqm.
  - v. Bedroom (2 NOS) 20 sqm.
  - vi. Pooja room 15 sqm.

Provide sanitary units, staircase, passages as per building by-laws.

B. Draw line plan for first floor **(05 Marks)**

**OR**

2. Design a School building for Vasai taluka for Primary children with the following requirements:
  - i. Classrooms (8 NOS): 35 sqm.
  - ii. Staff room: 25 sqm.
  - iii. Principal's office: 20 sqm.
  - iv. Laboratory (3 NOS): 25 sqm.
  - v. Administration Office: 25 sqm.
  - vi. Library: 50 sqm.

Provide sanitary units, staircase, passages as per building by-laws.