

KATHMANDU UNIVERSITY  
End Semester Examination  
March, 2024

Marks Scored:

Level : B.Arch.

Year : II

Exam Roll No. :

Time: 30 mins.

Registration No.:

Course : ARCH 203

Semester : I

F. M. : 10

Date

21 MAR 2025

SECTION "A"

[20Q. × 0.5 = 10 marks]

Choose and encircle the most appropriate answer.

1. Basement is part of \_\_\_\_\_ component of building structure.  
a. Super Structure    b. Sub Structure    c. Live Structure    d. Dead Structure
2. Which of the following is not the technique for site layout?  
a. Offset Method    b. Theodolite  
c. Gridline marking    d. Centerline marking for columns and walls.
3. Which of the following is structure that supports the sides of an excavation and protects against cave-ins.  
a. Trench    b. Shield    c. Shoring    d. Shovel
4. In which bond is the brick laid with its length in the direction of a wall?  
a. Header    b. Flemish    c. Stretcher    d. English
5. The following \_\_\_\_\_ **footing** supports a column with an axial load that is not applied at the center of the footing but at some offset  
a. Eccentrically loaded    b. Non eccentrically loaded
6. When working on an archaeological site, which method of following soil investigation technique is used?  
a. Trail Pits    b. Standard Penetration Test (SPT)  
c. Geo physical Survey    d. Cone Penetration Test
7. Which of the damp proofing methods uses a cement gun to apply a layer of cement mortar to the surface.  
a. Cavity wall    b. Guniting  
c. Membrane Damp Proofing    d. Integral Damp Proofing
8. While constructing a triple basement building with Raft footing. Which of the following timbering methods is used.  
a. Stay bracing    b. Box Sheeting    c. Vertical Sheeting    d. Sheet Piling
9. \_\_\_\_\_ is to provide reliable, specific and information about the soil and ground water conditions of the soil.  
a. Seepage    b. Permeability    c. Soil exploration    d. Excavation



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SECTION "B"

[10Q. × 2 = 20 marks]

Attempt *ANY TEN* question. Students are encouraged to support their answers with necessary figures, illustration and drawings.

1. Vertical Sheeting
2. Sketch the semicircular arch and Pointed arch with labels.
3. Fine Ashlar stone masonry
4. Deep well system for dewatering subsoil
5. Raft foundation
6. DPC treatment of Parapet wall
7. Standard Penetration Test (SPT)
8. Composite floor
9. Sketch of RCC Floor structure
10. Course rubble stone masonry
11. Sketch of typical RCC isolated footing

SECTION "C"

[4Q. × 5 = 20 marks]

Attempt *ALL* question.

12. In a rectangular site QRST, with 14M width facing the road (QR is touching road in the south) and 17ft length, a rectangular building ABCD is to be in the site. The width of the building is 9 m, and the length is 12 m. The offset from the East is at 1.5 m, from the North is 2m, from the west is 3.5m and from the road is 3m.  
Explain how setting out of the building is done using 3:4:5 methods. Draw sketches of the process.
13. Explain Pile foundation in detail with necessary sketches.

**OR**

What are cavity walls? Show a section of a cavity wall from foundation to parapet coping.

14. How is damp proofing done in different components of the building. Explain with sketches
15. Explain Brick masonry wall and different types of bonds.

