

College of Environmental Science (COEVS)

FIRST SEMESTER EXAMINATION, 2023/2024  
DEPARTMENT OF ARCHITECTURE

ARC 207: BUILDING COMPONENTS AND METHODS I (2 UNITS)

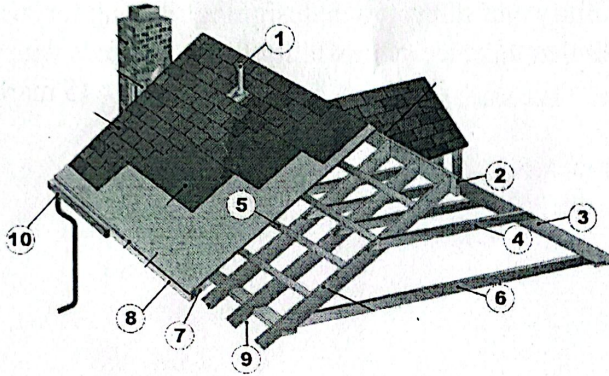
**INSTRUCTION:** This paper contains six questions. Answer Questions 1 and 2 and any other two (2) questions in all TIME ALLOWED: 2 hours

**USE WELL LABELED DIAGRAM(S) WHERE APPLICABLE**

**WARNING:** Please note that you are not allowed to bring mobile phone(s) into the examination hall. Non-compliance will amount to examination misconduct and attract stiff penalty.

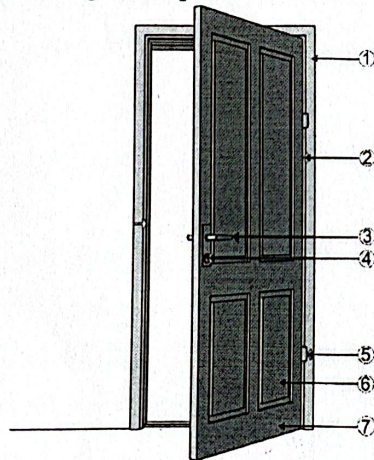
1. (a) (i) Foundation is one of the building components, briefly discuss any 3 types with sketches. (8marks)  
(ii) Briefly discuss External wall and internal wall of a building. (4 marks)  
(iii) Explain with the aid of diagram Simply supported beam and Fixed beam. (3 marks)

(b) Label the following Roof parts.



(10 marks)

2. (a) Label the following Door parts.



(7 marks)

(b) A space is to be designed by you as an Architect, to ensure comfort of the users with respect to ventilation, lighting and aesthetics. Enumerate four factors for the choice of a suitable opening in the space. (8 marks)

(c) Define the following stresses with the aid of diagram.

- i. Compressive Stress
- ii. Live load and Dead Load
- iii. Shear Stress and Tensile Stress
- iv. Torsion and Bending
- v. Deflection and Buckling.

(10 marks)

3. (a) Briefly discuss four types of window with the aid of sketches. (8 marks)  
(b) Briefly discuss Parapet Wall with the aid of a sketch. (2 marks)
4. (a) List and briefly describe three common type of roof used in residential buildings. (5 marks)  
(b) Explain the term building components with diagram in respect to its division and composition. (5 marks)
5. Compare and contrast different between the following  
i. Damp Proof Course and Damp Proof membrane.  
ii. Load bearing and non-load bearing wall.  
iii. Beams and column.  
iv. Roof Eaves and Rafter.  
v. Frame structure and solid structure. (10 marks)
6. (a) Explain two important levels in window placement on walls with the aid of good sketches. (4 marks)  
(b) Discuss the importance of considering accessibility and safety when designing flooring for public spaces. Provide examples of design features that enhance accessibility for individuals with disabilities. (5 marks)