



BOWEN UNIVERSITY (Of the Nigerian Baptist
Convention) IWO

College of Environmental Science (COEVS)

FIRST SEMESTER EXAMINATION, 2023/2024

DEPARTMENT OF ARCHITECTURE

ARC 307: BUILDING COMPONENTS AND METHODS III (2 UNITS)

INSTRUCTION: This paper contains six questions. Answer Questions 1 and any other three (3) 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) What are the characteristics of good stones? (5 marks)
(ii) Briefly discuss the various classification of rocks. (5 marks)
(iii) List 5 types of preservatives applied on stone surface. (5 marks)
(b) What are the various factors responsible for deterioration of stones? (5 marks)
(c) List 5 advantages of artificial stones. (5 marks)
2. (a) (i) List 8 properties of a good timber. (8 marks)
(ii) Differentiate between soft wood and hardwood. (4 marks)
(b) (i) What is seasoning of timber? (3 marks)
3. (a) As an Architect on a building site, with clay being the soil type, what are the properties of clay that makes it unsuitable for construction, explain the other areas where it can be of benefit. (10 marks)
(b) With the aid of sketches, explain the natural defects in timber. (5 marks)
4. (a) (i) What is cement and what are its uses? (5 marks)
(ii) What is setting time of cement? (2 marks)
(iii) Explain the initial setting time and final setting time of cement. (5 marks)
(b) What are aggregates? State the classification of aggregates based on;
Grain size
Density
Geographical origin. (3 marks)
5. (a) Distinguish between quarrying and quarry. (4 marks)
(b) List and explain the different methods of quarrying. (8 marks)
(c) List the precautions to be taken in blasting operation. (3 marks)
6. (a) List and explain all the various type of boards. (7 marks)
(b) What are the advantages and disadvantages of Artificial Seasoning? (8 marks)