



KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2018/2019

SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF
SCIENCE (ARCHITECTURAL STUDIES / BACHELOR OF ARCHITECTURE)

ARC 304: BUILDING SERVICES II

DATE: Wednesday 10th April 2019

TIME: 11.00a.m. - 1.00p.m.

INSTRUCTIONS TO CANDIDATES;

This paper consists of two sections.

Section A is compulsory (30 Marks). Answer ALL questions in this section.

Section B (Each Question 20 Marks). Answer ANY TWO questions in this section.

Maximum marks for each question are as indicated.

SECTION A

QUESTION ONE (COMPULSORY: 30 MARKS)

- a) Explain the building system and why it is essential for the design of most of the components of the building system to be flexible (5 Marks)
- ✓ b) State and explain any 5 advantages of off-site production of buildings. (5 Marks)
- skills - materials - money and accuracy
- ✓ c) State any five defects in building construction and explain how they can be avoided. (5 Marks)
- Peeling of paint - Rising dampness - cracking of walls - Timber decay - Pest infestation
- * d) Explain any five considerations in providing services to complex buildings. (5 Marks)
- Acc. brief - public stat. - obtaining and go-als - consens - other
- e) Explain the main stages of architectural services. (5 Marks)
- * f) Outline and explain specification writing standards. (5 Marks)
- method by - Page first

SECTION B

Answer any TWO (2) Questions.

QUESTION TWO (20 MARKS)

- a) Prefabrication is a term used to describe construction of buildings or building components at a location, usually a factory, away from the building site.

- ① i) Describe any five (5) of decision criteria that might influence the choice of this method. (5 Marks)
- access - type of mechanism - strength - cost - Time - location - flexibility - Site selection - materials used

ii) Discuss the limitations of this delivery model in respect to Kenyan construction industry. ^{Skills and labor} (5 Marks)

b) Discuss standardization as relates to building design and construction. ^{organizational} (5 Marks)

c) Briefly discuss any two recent advances in building technology. ^{small building sustainability} (5 Marks)

QUESTION THREE (20 MARKS)

a) i) What are the qualities of a good specification? (2 Marks)

ii) Distinguish between performance and prescriptive specification giving examples when each could be applied. (3 Marks)

b) i) Discuss the objectives of building maintenance. (5 Marks)

ii) What is preventive and corrective maintenance? (2 Marks)

iii) Describe the factors that influence maintenance of buildings. (3 Marks)

c) Define the following:

- i) Plot Ratio - ^{ratio}
- ii) Plot Coverage - ^{ratio}
- iii) Building Line - ^{foot}
- iv) Riparian Line/Reserve - ^{rule}
- v) Development Zoning - ^{law}

QUESTION FOUR (20 MARKS)

a) i) Define the major information that a building owner's manual should contain. (3 Marks)

ii) What's the importance of a building owner's manual? (2 Marks)

iii) Discuss ways of accommodating building services in a high rise office complex. (10 Marks)

iv) Define modular/volumetric construction? (2 Marks)

v) Explain the major tolerances that will impact on the quality/workmanship of the final product of modular/volumetric construction. ^{temperature and} (3 Marks)

QUESTION FIVE (20 MARKS)

a) Discuss the structure of the building industry in Kenya. (10 Marks)

b) i) Outline the main information that would be managed by a construction information management system (CIMS). (5 Marks)

ii) Discuss the main considerations in establishing an effective construction information management system (CIMS). (5 Marks)