



KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2019/2020

FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE
(REAL ESTATE MANAGEMENT)

BRE 213: ENVIRONMENTAL BUILDING SERVICES

DATE: Tuesday, 10th December 2019

TIME: 2.00p.m-4.00p.m

INSTRUCTIONS: Answer Question I and any other TWO questions

Question 1 (Compulsory)

- (a) Define Solid waste management (2 marks)
- (b) Differentiate between a combined and separate sewer system (2 marks)
- (c) State and explain four principles of drainage systems (8 marks)
- (d) Discuss 4 principles of waste management (8 marks)
- (e) Describe the biological waste stabilization treatment process in a septic tank (4 marks)
- (f) Describe the following water treatment processes:
 - (i) Disinfection (3 marks)
 - (ii) Filtration (3 marks)

Question 2

- (a) In the event that a fire occurs in a building, occupants should be able to exit the building safely. State 5 requirements of an adequate means of escape that would facilitate a safe exit. (5 marks)
- (b) Mr. Otieno, a real estate developer, has consulted you to advise him on how to secure his upcoming commercial building in Westlands area. Discuss the various components of a fire protection system that you would recommend. (15 marks)

Question 3

- (a) Kenyatta University is looking to set up a constituent college in Nakuru County. You have been contracted by the institution as an expert in the real estate sector to advise them on the requisite building services system that they would need to set up. Discuss the various

elements that would influence the building services systems that you would recommend.

(10marks)

- (b) Discuss 3 building services systems that you are likely to find within Kenyatta University citing relevant examples. (10 marks)

Question 4

- (a) (i) Give three causes of accidents in workshops (3 marks)
(ii) State any Four precautions to be observed when working on an electrical circuit (4 marks)

- (b) Draw the electrical symbols used for the following:

- (i) General symbol for a lamp
(ii) Fluorescent lamp
(iii) Socket outlet
(iv) Two-way switch (4 marks)

- (c) (i) Using a schematic diagram, draw the equipment at the consumer's intake point of a domestic installation. (3 marks)
(ii) Describe the main features of a consumer control unit. (6 marks)

Question 5

- (a) State two ways of heating water in a domestic building (2 marks)
(b) Explain four causes of loss of water seal in sanitary traps. (8 marks)
(c) With the help of a sketch, describe the cold water supply system that would be suitable for a two storey building stating three reasons for the choice of system (10 marks)