



TECHNICAL UNIVERSITY OF MOMBASA

Faculty of Engineering and Technology

Department of ARCHITECTURE & BUILT ENVIRONMENT

UNIVERSITY EXAMINATION FOR:

BACHELOR OF ARCHITECTURAL STUDIES/BACHELOR OF ARCHITECTURE

EAR 4407: URBAN DESIGN

END OF SEMESTER EXAMINATION

SERIES: MAY 2025

TIME: 2 HOURS

DATE: Pick Date May 2025

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of **FIVE** questions. Attempt question ONE (Compulsory) and any other TWO questions.

Do not write on the question paper.

Question ONE (Compulsory)

- a) Identify and explain FIVE core principles of urban design that are used to create sustainable and livable environments in urban areas. (5 marks)
- b) With the use of illustrations, explain the following models of urban structure used in the distribution of social groups and activities in cities:
 - i. Concentric zone model; (3 marks)
 - ii. Sectoral model; (3 marks)
 - iii. Multiple nuclei model. (3 marks)
- c) State and explain four pull factors that make people migrate into urban areas (4 marks)
- d) State and explain FIVE basic design features that are used in the development of sustainable neighborhoods. (5 marks)
- e) Identify and explain FIVE factors that impact the permissible Floor Space Index (FSI) to ensure that urban development is balanced, sustainable and aligned with the overall planning objectives of an area. (10 marks)

Question TWO

- a) Identify and explain FIVE key challenges caused by rapid urbanization that need to be addressed in the redevelopment of the cities in Kenya. (10 marks)

- b) Identify and explain FIVE strategies that can be used in the redevelopment of the cities of Kenya to resolve the challenges caused by rapid urbanization. (10 marks)

Question THREE

- a) Identify and explain the FIVE elements which Kelvin Lynch studied in 1960 that enable us perceive the physical form of a city. (10 marks)
- b) State the FIVE key features of public spaces in urban areas that can promote the social and cultural lives of the users. (5 marks)
- c) State the FIVE building design considerations that urban designers collaborate with architects to ensure that buildings in cities fit well into the urban landscapes. (5 marks)

Question FOUR

- a) Explain the following interventions that are used for transforming the urban built environments in many developing countries.
- i. Redevelopment (2 marks)
 - ii. Renewal (2 marks)
 - iii. Rehabilitation (2 marks)
 - iv. Regeneration (2 marks)
 - v. Integration (2 marks)
- b) Explain FIVE general provisions in urban design that have been allowed for in the physical and land use planning regulations of Kenya. (10 marks)

Question FIVE

- a) State what conversion of land uses and buildings refers to in the development of urban areas. (2 marks)
- b) State FOUR factors that planning authorities evaluate when assessing a land use conversion request. (4 marks)
- c) Identify and explain four examples of land use conversion. (8 marks)
- d) Identify and explain THREE key benefits of floor space index (FSI) regulation in the development of urban areas. (6 marks)