

THE TECHNICAL UNIVERSITY OF KENYA
SCHOOL OF ARCHITECTURE AND BUILT ENVIRONMENT

Department of Spatial Planning and Design

Bachelor of Built Environment in Urban and Regional Planning
Bachelor of Built Environment in Urban Design and Development

Year III Semester I MAIN EXAMINATION

EAPQ 3133: TRANSPORTATION AND TRAFFIC PLANNING

EAPR3133: TRANSPORTATION AND TRAFFIC PLANNING

Time: 2hours

INSTRUCTIONS TO CANDIDATES

Answer All Questions from Section A and any other Two Questions of Your Choice from Section B in the Answer Booklet Provided. Start each Question in a Fresh Page.

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Answer 3 Questions. Question One from Section A and any other Two Questions of your choice from Section B.

Section A: compulsory(30 marks)

Question ONE (COMPULSORY QUESTION)

- a. Modern Transportation is a system. Discuss. (10 marks)
- b. Discuss the following concepts in Transportation and Traffic Planning(12 Marks)
 - i. Modal Split
 - ii. Multi-modal planning
 - iii. Non-motorized and Intermediate Means of Transport
- c. Discuss any FOUR elements of a good transport system (8 marks)

Section B: Answer any two Questions (40 marks)

Question TWO

In the context of an urban transportation system,

- a. distinguish between Urban structure and urban form (4 marks)
- b. Using illustrations, discuss any FOUR transit networks (16 marks)

Question THREE

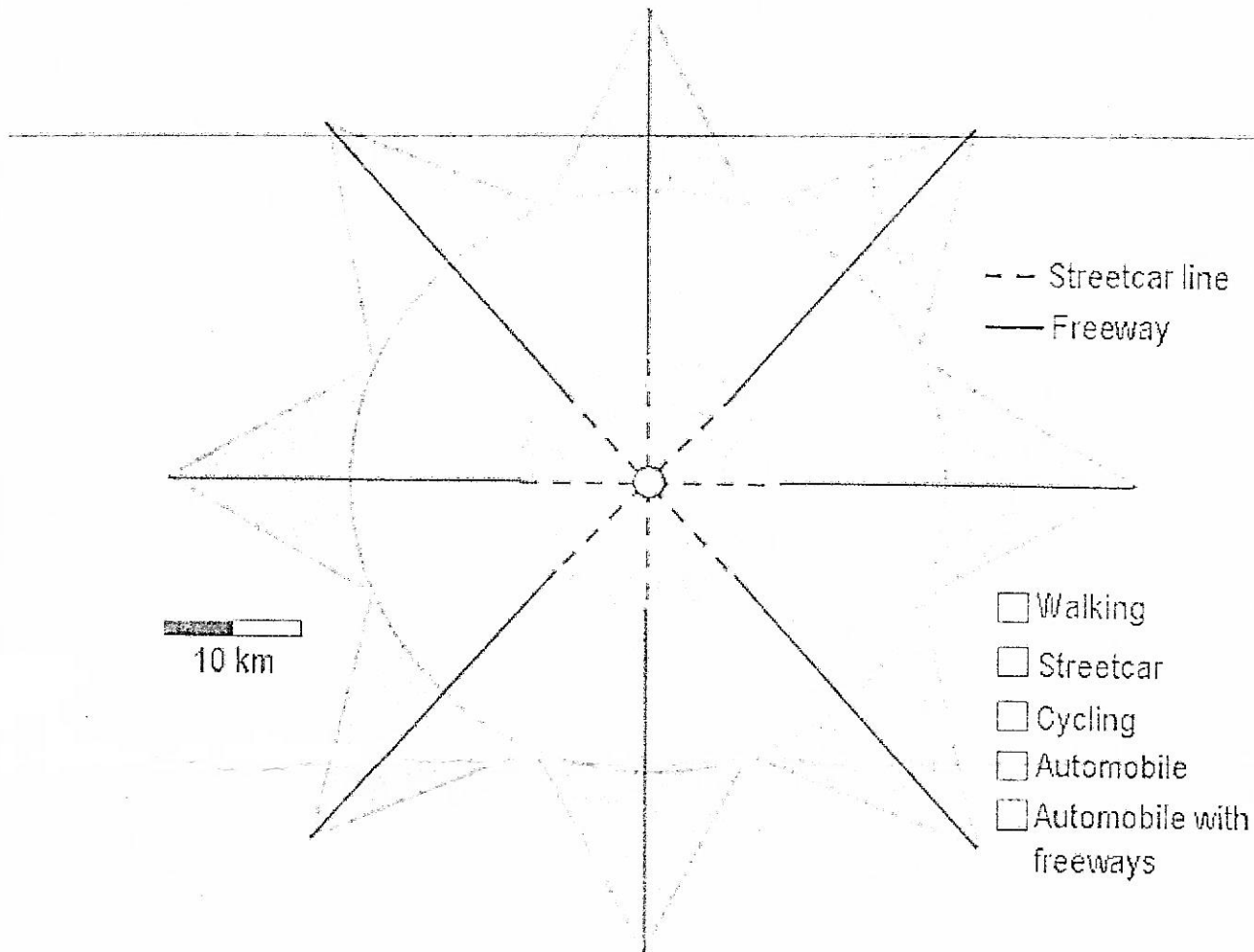
- a. Explain any FOUR traffic management provisions/ measures/ facilities on Kenyan roads (8 marks).
- b. What do you understand by mass rapid transit system (MRTS) (2 marks)
- c. Discuss how you would implement the concept of Bus Rapid Transit System in Nairobi (10 marks)

Question FOUR

- a. Giving examples, distinguish between external and internal urban traffic studies/survey; (4marks)
- b. Discuss any FOUR urban traffic surveys/ studies (16 marks).

Question FIVE

Study the schematic diagram below, and answer the following questions



Source: Adapted from P. Hugill (1992), p. 213.

- Name any **TWO** circumferential roads in Nairobi. (2 Marks)
- With practical examples, highlight the challenges facing any **THREE** radial roads in Nairobi (6 Marks)
- Use the diagram above with appropriate illustrations to discuss ^{the} concept of sub-centres as a strategy for reducing traffic congestion in Nairobi. (6 Marks)
- Using an illustration, discuss how you can fuse this system with another network system to achieve efficiency in the urban area (6 Marks)