



TECHNICAL UNIVERSITY OF MOMBASA

SCHOOL OF BUSINESS

DEPARTMENT OF MANAGEMENT SCIENCE

UNIVERSITY EXAMINATION FOR:

DIPLOMA IN LOGISTIC AND TRANSPORT

BLT 2106: TRANSPORT PLANNING

END OF SEMESTER EXAMINATION

SERIES: APRIL 2016

TIME: 2 HOURS

DATE: Pick Date May 2016

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.

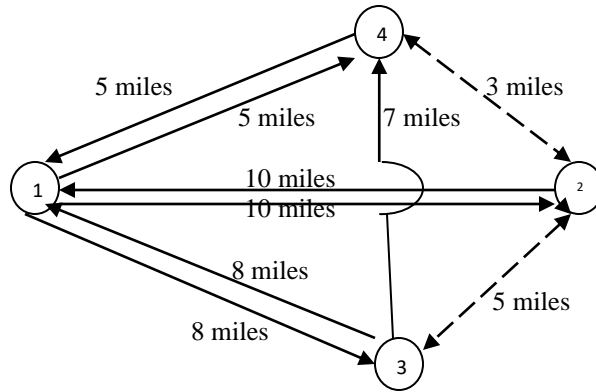
Do not write on the question paper.

Question ONE

- (a) With the aid of a diagram, describe the following road networks:
- (i) The hub and the spoke
 - (ii) Radial network
 - (iii) Grid-like road network
 - (iv) Circular road network
 - (v) Amorphous road network (10 marks)
- (b) (i) Explain the term “price elasticity” with reference to transport demand
 (ii) Sketch on the same axes, transport demand and transport supply graphs (6 marks)
- (c) Differentiate between Third party transportation and own account transportation (4 marks)
- (d) Define the following terms
- (i) Vehicle timetabling
 - (ii) Vehicle scheduling (2 marks)
- (e) State steps of the Clark and Wright Savings in vehicle routing to determine the complete tour with the highest savings over one vehicle per node given the following nodes relative location: (5 marks)

(f) Using Clark and Wright savings to determine the complete tour with the highest savings over the one vehicle per node given the following nodes relative location.

(3 marks)



Question TWO

Identify and explain the factors that affect freight transport demand

(20 marks)

Question THREE

- (a) List 8 steps in transport planning process (8 marks)
- (b) State seven reasons for carrying out transport planning (7 marks)
- (c) Trucks carrying cargo from the port often delay after loading at the port thereby contributing to longer transit times.

Suggest the possible reasons for this delay before the official departure. (5 marks)

Question FOUR

There are two possible approaches that can be followed to solve the traffic congestion problem on the Mombasa Roads. One is through the expansion and improvement of the town’s infrastructure while the other is through better traffic management practices.

Make suggestions of what could be done through both of the approaches to solve the problem.

Question FIVE

(a) The mode of transport a traveler is most likely to choose is guided by the utility theory and discrete choice conceptual frameworks.

State the three central ideas behind this. (3 marks)

(b) Explain the considerations that makes a traveler choose one mode of transport over the other (10 marks)

(c) By use relevant equation, explain how a traveler chooses a particular route to use over the possible options, defining all the parameters in the equation. (7 marks)