



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: DECEMBER 2016

TIME: 2 HOURS

DATE: Pick Date Dec 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.

a) Do not write on the question paper.

QUESTION ONE

- a) Define the following terms in reference to vehicle timetabling and scheduling
 - i) Service trip edges
 - ii) Waiting edges
 - iii) Pull in/Pull out edges
 - iv) Dead head edges (4 marks)
- b) Identify three factors considered in vehicle scheduling (3 marks)
- c) State FIVE characteristics of Clerk and Wright classical vehicle routing problem based on saving concept. (5 marks)
- d) State the FOUR steps in the nearest neighbour procedures (4Marks)
- e) List SIX transport challenges in Kenya and briefly explain what is being done to address the challenges (12 Marks)
- f) Explain the term transport supply (2 Marks)

QUESTION TWO

- a) Explain the causes of RUSH/PEAK hour in passenger transport in Kenya's urban centres (5 marks)
- b) How can the peak transport demand be managed (5 Marks)
- c) State SEVEN factors that affect passenger transport demand in Kenya (7 Marks)
- d) Explain the reasons why air transport is still not being utilized to full capacity in Kenya (3 marks)

QUESTION THREE

- a) Cargo off take from the port of Mombasa, traffic congestion and lengthy transit time still characterize freight transportation from the port of Mombasa along the Northern Corridor.
 - i) Explain the possible causes of this challenges
 - ii) Suggest how best the challenges can be addressed (12 Marks)
- b) In your opinion what are the possible implications in the transport sector of the introduction of the standard gauge railway in Kenya? (8 Marks)

QUESTION FOUR

- a) Define transport planning (2 marks)
- b) Transport planning of a region is done to achieve various objectives. Identify EIGHT of these objectives (8 marks)
- c) Outline the various steps for a successful transport planning (10 marks)

QUESTION FIVE

- a) Explain the considerations transport planners make in determination of reasonable frequency of a transport service in a given route. (6 Marks)

- b) State Mohrings formula used in the determination of the reasonable frequency of transport service in a given route and define all the parameters in the equation. (6 marks)
- c) i) Determine the frequency of transport service in a route with value of passenger waiting time of 15 US dollars per passenger hour, 750 passenger boarding's per hour on both sides of the route, operating cost of 80 US dollars per vehicle hour and round trip travel time of 1.75 hours.
- ii) From the frequency determined in c(i) suggest the possible headway. (4 Marks)
- d) State FOUR factors used to arrive at the stop density and stop location (4 Marks)