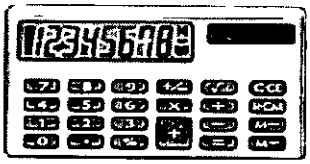
UNIVERSITY EXAMINATIONS



UNIVERSITEITSEKSAMENS

UNISA university of south africa

TRL2033

October/November 2009

TRANSPORT THEORY (TRANSPORT ECONOMICS 203)

Duration 2 Hours

100 Marks

EXAMINERS
FIRST MR RI MAVUNDA
SECOND MR JW BARENDRECHT

Use of a non-programmable pocket calculator is permissible

This paper consists of two (2) pages.

SECTION A

ANSWER ALL THE QUESTIONS IN THIS SECTION
TOTAL OF 40 MARKS

QUESTION 1

(i) Explain the difference between the concepts **movement**, **traffic** and **transport** **(6)**

(ii) Define the functions of technical means of transport **(6)**

(iii) What are the advantages and disadvantages of containerisation? **(10)**

(iv) Indicate, by means of example, what is the difference between multimodal and intermodal transport chains **(4)**

(v) Name and briefly discuss the various elements that are considered important for the configuration of rail and water transport networks **(6)**

(vi) Name and define three (3) types of analytical transport models **(6)**

(vii) Define main road network **(2)** **[40]**

SECTION B
ANSWER ANY TWO (2) OF THE THREE (3) QUESTIONS IN THIS SECTION
TOTAL OF 60 MARKS

QUESTION 2

Explain the ratio between speed, density and traffic flow, relating to uninterrupted traffic facilities Make use of sketches **[30]**

QUESTION 3

Fully discuss the duality of transport process Distinguish clearly between the supply and usage cylces Use appropriate diagrams to explain your answer **[30]**

QUESTION 4

(i) Explain the seven (7) steps of Transport System analysis (TSA) **(14)**

(ii) In analytical transport systems modelling, models are constructed

"Models have certain desirable characteristics that should be striven for in their construction"

"Model building should follow a systematic procedure "

Explain these "desirable characteristics" and the steps of the "systematic procedure" **(14)**

(iii) Define spider web network **(2)** **[30]**

TOTAL **[100]**