

UNIVERSITY OF FORT HARE

Transport Economics

ETE 311/311E

JUNE EXAMINATION PAPER

2023

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Time: 3hours

Subject: ETE 311/311E

Marks: 100

This paper consists of 7 pages including the cover page

Internal Examiners

Dlwangushe S.

External Examiners

Mr P Senzangakhona

INSTRUCTIONS

SECTION A COMPULSORY

CHOOSE ONLY 3 QUESTIONS FROM SECTION B.

ALL QUESTIONS CARRY EQUAL MARKS

SECTION A

Question 1

1.1 Value of travel time (VOTT) is the type of implicit opportunity costs which includes the following components:

- a) Wage rate
- b) Value of reliability
- c) Value of enjoyment of work
- d) Social Welfare
- e) Value of enjoyment of travel
- f) (a), (c) and (e)

1.2 Internal costs are borne by.....

- a) Community members
- b) System operators
- c) Non-users
- d) Noise and air pollution costs
- e) Marginal costs

1.3 Determinants of demand for transport exclude:

- a) Income changes
- b) Popularity effect
- c) Population changes
- d) Ecological impacts
- e) All of the above

1.4 Disadvantages of railroad are

- a) Monopoly
- b) Lack of flexibility
- c) Massive capital expenditure
- d) Lack of door to door service
- e) All of the above

1.5 Transportation play a significantin our societies.

- a. Economic role
- b. Social role
- c. Social welfare
- d. Political role
- e. (a), (b) and (d)
- f. (a), (c) and (d)

1.6.....refers to fees and financial incentives incurred by travelers, including but not limited to transit fares, cargo fees, fuel taxes, variable and flat rate tolls, parking fees, vehicle registration fees and insurance payments.

- a) Transportation planning
- b) Transportation pricing
- c) Transportation demand
- d) Pipeline transportation

1.7 In theory, each trip provides each user with some net benefit known as

- a) Trip generation
- b) Trip rate analysis
- c) Consumer surplus
- d) Trip distribution
- e) (b), (c) and (d)

1.8 Under the perfect competition the transportation costs

- a) Is considered to be negligible and thus, ignored
- b) Is considered to be vital for the calculation of total cost
- c) Is charged along with the price of the commodity
- d) Excluded from the prime cost

1.9 Air transport has the following features except

- a) Unbroken journey
- b) Only mode of transport that does not require any materials or goods handling.
- c) Special preparation
- d) Rapidity

1.10 The following basic procedure types are used to estimate transportation project construction costs.

- a) Design estimate
- b) Bid item estimates
- c) Quantity takeoffs-material costs
- d) Conceptual costs estimates
- e) All of the above

1.11 Non-motorized transport provide

- a) A potential solution to urban challenges
- b) Time savings for individuals
- c) Financial savings for individuals
- d) All of the above

1.12..... conveys the ease of reaching quality destinations, reflecting both the attractiveness of potential destinations and the ease of reaching them.

- a) Mobility
- b) Accessibility

- c) Business location theory
- d) Central place theory
- e) All of the above

1.13 The need for travel is a.....

- a) Direct demand
- b) Derived demand
- c) Kinked demand
- d) Joint demand
- e) All of the above

1.14 Transportation infrastructure also influences emissions by changing

- a) Travel patterns
- b) Shaping land use
- c) Affecting speeds
- d) Acceleration profiles
- e) All of the above

1.15 A key element in roadway infrastructure is.....

- a) Bridges
- b) Economic development
- c) Crashes
- d) New road

1.16 The potential project benefits fell under these categories:

- a) Livability
- b) Economic competitiveness
- c) Safety
- d) State of good repair
- e) All of the above

1.17.....is a method to measure and evaluate all relative direct economic impacts of public investment projects.

- a) External costs and benefits
- b) Cost benefit analysis
- c) Life cycle cost analysis
- d) User costs and benefits

1.18.....is a decision-making model that has been used widely to compare relative performance of units within systems, such as park-and ride facilities, bus routes, airports, and urban traffic facilities.

- a) Sensitivity analysis
- b) Binary model

- c) Data envelope analysis
- d) Multicriteria analysis

1.19 The *guideway* is what the vehicles move along. The guideway consists of and (infrastructure) that together form a network.

- a. Traffic and nodes
- b. Links and nodes
- c. Traffic and links
- d. None of the above

1.20 Which one of the following interventions is used to reduce traffic congestion?

- a. Subsidizing public transport
- b. Road user charges
- c. Negative externality
- d. Speed flow curve

1.21 A kind of transportation where no empty wagons or containers are bought back:

- a. Pipeline
- b. Rail
- c. Road
- d. Ocean

1.22 Road user charges generally take the form of

- (a) Tolls
- (b) Vehicle licence fees
- (c) Fuel levies
- (d) All of the above
- (e) A and C only

1.23 Governments normally recover the cost of road infrastructure from the general public and road users through

- (a) Income tax,
- (b) Indirect taxes,
- (c) Road user charges incorporated in the price of road transport inputs.
- (d) All of the above

1.24 Which one of the following is incorrect? The advantages of railroad transport

- a. Expensive
- b. Safety
- c. Suitability for bulky and heavy goods
- d. Larger capacity
- e. All of the above

1.25are set by multiple government entities to enhance procedures and behaviors, and these regulations impact market outcomes including competition across modes and within modes (e.g., airlines and railroads).

- a) Economic
- b) Safety
- c) Environmental
- d) Social regulations
- e) All of the above
- f) (b) and (c) only

1x25=25 marks

SECTION B

ANSWER ANY THREE (3) QUESTIONS

Question 2

The Department of Transport (DoT) is responsible for legislation and policies for rail, pipelines, roads, airports, harbours, and the intermodal operations of public transport and freight. As such, it is responsible for conducting sector research, formulating legislation and policy to set the strategic direction of subsectors, assigning responsibilities to public entities, regulating through setting norms and standards, and monitoring implementation.

NB: Briefly discuss public entities under the Ministry of transport in South Africa. **25 marks**

Question 3

Travel is a byproduct of the need to work, shop, run errands- essentially, produce and consume. The need for travel is regarded as a derived demand, as opposed to a direct demand (which consumers get direct satisfaction from), such as the need for food, clothes, and other consumer goods.

NB: Explain factors that influence the demand for transport with reference to transport. **25 marks**

Question 4

South African National Road Agency SOC Limited (SANRAL) in 2021 invested an estimated amount of R430 million in upgrade of the Breidbach and Belstone interchange in King Williams Town in the Eastern Cape Province of South Africa. The project was estimated to create approximately 200 job opportunities for the local community and this upgrade will also ease the mobility between East London and King Williams Town, lastly but not least it will also enhance pedestrian and motorist safety.

NB: Given the information above, briefly discuss the steps that were undertaken during planning process to build Breidbach and Belstone interchange in King Williams Town. **25 marks**

Question 5

Assume that the Eastern Cape department of transport is considering three alignment options for a new route highway and has decided to compare the alignments based on the following hierarchy of criteria and their weights:

Criterion (Weight)	Alt A	Alt B	Alt C
Congestion (0.15)	0	3	3
Safety (0.15)	1	2	2
Network connectivity (0.05)	0	3	3
Noise pollution (0.1)	3	2	2
Air pollution (0.1)	3	2	2
Landscape & Historical sites (0.1)	3	2	1
Construction costs (0.2)	3	1	2
Efficiency of construction (0.05)	3	2	1
Community preferences (0.05)	2	1	3
Political acceptability (0.05)	0	3	3

8.1 Calculate simple additive weighting (SAW) and indicate which alternative should be selected. **15 marks**

8.2 Concisely discuss the impact measures that may cause a change in an economic indicator. **10 marks**

.....**END**.....