TRL3025

October/November 2011

TRANSPORT PLANNING AND INVESTMENT (TRANSPORT ECONOMICS 302)

Duration   2 Hours   70   Marks

EXAMINERS
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This examination paper consists of twenty (20) pages.

INSTRUCTIONS

1. THIS IS A <u>FILL-IN EXAMINATION</u> - WRITE YOUR ANSWERS IN THIS BOOK AND HAND IT TO THE INVIGILATOR WHEN YOU HAVE FINISHED.

2. DRAW A CIRCLE ON THE FRONT COVER INDICATING WHICH TWO (2) LONG QUESTIONS YOU HAVE ANSWERED.

3. READ THROUGH ALL THE QUESTIONS CAREFULLY.

THIS EXAMINATION PAPER CONSISTS OF TWO SECTIONS

SECTION A: COMPULSORY MULTIPLE- CHOICE QUESTIONS
            (20 MARKS)

SECTION B: COMPLETE ANY TWO (2) OF THE THREE (3) LONG QUESTIONS.
            (50 MARKS)

            PLEASE NOTE: ONLY THE FIRST TWO (2) QUESTIONS THAT YOU COMPLETED WILL BE MARKED. YOU WILL NOT BENEFIT IN ANY WAY IF YOU COMPLETE ALL THREE (3) LONG QUESTIONS.

TOTAL: 70 MARKS

[TURN OVER]

SECTION A

ANSWER ALL THE QUESTIONS IN THIS SECTION
TOTAL: 20 MARKS

QUESTION 1

Read each statement carefully and then choose the correct option. Indicate your answer by colouring in the letter corresponding to the correct option in the book. For example: [C]

1.1 The indirect effect of transport on the linkage between transport and economic development **(1)** relates to

[A] lower transport costs and dispersed markets
[B] large-scale production of a variety of activities
[C] improved transport services due to lower transport costs
[D] the job opportunities created by the development of infrastructure

1.2 Efficiency criteria should comply with three basic requirements Which one is not one of them? **(1)**

[A] Measure the efficiency of the whole system
[B] Be expressed in numerical terms
[C] Measure all the benefits and costs
[D] Be statistically reliable

1.3 The benefit/cost ratio (BCR) is used to evaluate transport investment projects Which of the four **(1)** statements is not correct?

[A] BCR < 1 investment held back
[B] BCR > 1 investment held back
[C] Annual growth over time= $b(1+g)t$
[D] BCR> 1 investment carried out

1.4 Which one of the following statements is false as far as prediction models are concerned? **(1)**

[A] They predict the future performance of the system
[B] They do not rely very much on logical and causative aspects
[C] For them an understanding of the relationship between form and process becomes of decisive importance
[D] They may be used to extrapolate trends

1.5 Which one of the following is not a component of traffic? **(1)**

[A] Usual traffic
[B] Generated traffic
[C] Development traffic
[D] Converted traffic

1.6 Which one of the following is not an element of road infrastructure costs? **(1)**

    [A]   Capital costs
    [B]   Congestion costs
    [C]   Maintenance costs
    [D]   Administration costs

1.7 The overall objective of the airport master plan is to **(1)**

    [A]   establish a schedule of priorities
    [B]   provide a concise and descriptive report
    [C]   provide guidelines for future development which will satisfy aviation demand
    [D]   present the pertinent backup information

1 8 Which one of the following statement is not a requirement for a functional transport model? **(1)**

    [A]   It should measure the efficiency of the whole system
    [B]   It should explain the transport situation /behaviour in simple terms
    [C]   It should make a contribution to policy formulation
    [D]   It should predict the transport situation/behaviour meaningfully

1.9 Which one is correct? Linear programming makes the following assumption. **(1)**

    [A]   The operational formulation of goals
    [B]   Conditions which limit the scope of permissible solutions
    [C]   The linearity of the target function
    [D]   Information on real structural relations

1.10 Which one of the following techniques is not used in the economic evaluation of mutually exclusive alternatives? **(1)**

    [A]   B/C ratio
    [B]   PVOC
    [C]   UMESC
    [D]   IRR

1.11 _____ expresses all cost items in terms of present value **(1)**

    [A]   NPV technique
    [B]   PVOC technique
    [C]   IRR technique
    [D]   B/C ratio

1.12 Which one of the following is not a tax relating to vehicle use? **(1)**

    [A]   Mass-distance tax
    [B]   Tax on vehicles
    [C]   Tyre tax
    [D]   Fuel tax

1.13 _____ in ports refer to the benefits that arise because of the geographical closeness of a   **(1)**
variety of completely different industries

    [A]   Economies of scope
    [B]   Economies of scale
    [C]   Localisation economies
    [D]   Urbanisation economies

1.14 Gain in travel time (GT) can be used as a dimension   **(1)**

    [A]   When the users really gain
    [B]   Only for business travellers
    [C]   When it can be measured
    [D]   When it can be classified according to the different categories

1.15 Which one of the following is not a parameter of sensitivity analysis?   **(1)**

    [A]   Residual value
    [B]   Time costs
    [C]   Traffic Growth rate
    [D]   Discount rate

1.16 Which one of the following is not one of the bond ratings when considering investments in   **(1)**
airports?

    [A]   Best grade
    [B]   High grade
    [C]   Medium grade
    [D]   Lower grade

1.17 Which one of the following is a direct subsidy in port investment?   **(1)**

    [A]   construction subsidy
    [B]   capital equipment
    [C]   real estate
    [D]   wages

1.18 In rail transport an ownership model where there is a separate track organisation on the one   **(1)**
hand and then multiple operators on the other hand is called

    [A]   Vertically integrated model
    [B]   Vertically separated model
    [C]   Track degradation model
    [D]   Track independent mode

1.19 Which one of the following is not a factor to be considered in developing a transport policy?   **(1)**

    [A]   Priorities
    [B]   Ownership
    [C]   Tariffs
    [D]   Degree of subsidisation

1.20 Which one of the following is not one of the policy instruments used by government authorities   **(1)** to achieve their goals?

    [A]   Taxes and subsidies
    [B]   Promotional policy
    [C]   Moral persuasion
    [D]   Licensing

SECTION A TOTAL [20]

ROUGH WORK

SECTION B

ANSWER ANY TWO (2) OF THE THREE (3) QUESTIONS IN THIS SECTION.
TOTAL: 50 MARKS

QUESTION 2

2.1	Fully explain the optimal period of investment	**(10)**
2.2	How is suitability theory applied? Discuss in full	**(10)**
2.3	Write notes on consumer surplus	**(5)**
		[25]

QUESTION 3

3.1	Briefly explain the authorities' role in the provision of road infrastructure	**(5)**
3.2	Discuss port investment in detail.	**(20)**
		[25]

QUESTION 4

4.1	How would the conflict of interests between the owners and operators of rail transport influence the planning and investment of rail transport?	**(13)**
4.2	Name and discuss the six elements of a sound transport policy	**(12)**
		[25]

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[25]

First Examiner   Mr JW Barendrecht
Second Examiner   Prof A Brits
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