EASTERN UNIVERSITY, SRI LANKA
FACULTY OF COMMERCE AND MANAGEMENT
Fourth Year Frist Semester Examination in
Bachelor of Commerce Honours in Business Economics - 2021/2022
March 2024

ECN 4123 TRANSPORTATION ECONOMICS

Answer All Questions   Time: Three hours (03 hrs.)

01. a. What is meant by **"Non-economic impacts"** of transportation?   03 Marks

     b. Describe what is the **"Adapting the Vehicle Unit to Volume and Nature of**   07 Marks
         Traffic" as one of the important principles of transportation? Explain the
         importance of "**Adapting the Vehicle Unit to Volume and Nature of**
         Traffic" in minimizing the transportation cost in the Sri Lankan
         transportation economy.

     c. Assume that the government has decided to expand the Colombo-Kandy   05Marks
         Road from two lanes into four lanes. Critically examine the "**Cost of Delay**"
         of the proposed construction project.

     d. Distinguish between **"Terminal Services"** and **"Value Added Services"** in   05 Marks
         transportation.

                                                              (Total 20 Marks)

02. a. What is meant by **"external cost and benefits"** of transportation?   05 Marks

     b. What is meant by **"yield management"** in transportation? Distinguish   05 Marks
         between **"dynamic yield management"** and **"price discrimination"** in
         transportation.

     c   Assume that Sri Lankan highway network charges flat toll from the highway   10 Marks
         users. With this current pricing strategy, the Ministry of Transportation is
         facing the problem of slow recovery of construction cost incurred to construct
         the highway network. Apply your knowledge on **"price discrimination in**
         transportation" and explain how price discrimination strategy can be used
         to speed up the recovery of construction cost?

                                                              (Total 20 Marks)

03. a. Critically examine why the "**First-Best Pricing**" policy cannot be   05 Marks
         realistically achieved in transportation.

     b.(i) Most transportation revenues of "**Roadway Pricing**" do not base user fees   07 Marks
            on **"marginal social-cost pricing".** Critically examine.

     (ii) Apply pricing strategies recommended by Litman (2011) and propose how   03 Marks
           the Sri Lankan Roadway Pricing strategy can be revised to better reflect user
           costs?

     d. Distinguish between "**Static Pricing**" and "**Dynamic Pricing**"   05 Marks
                                                              (Total 20 Marks)

04. **a (i).** What is meant by **Congestion Pricing?**   03 Marks

  (ii). **Following information is given**

  Meerigama-Kurunegala highway is a 35 km length 4-lane highway having   07 Marks
  15000 vehicles per hour with a 100km/hr. Free-Flow Speed (FFS). Initial
  travel time based on Free-Flow Speed is 20 minutes. The average Value of
  Travel Time is Rs.40/hr. When the Meerigama-Kurunegala highway has the
  capacity of 14,999 vehicles, the average travel time is 25 minutes 42.20
  seconds. When the highway has 15,000 vehicles, the average travel time is
  25 minutes 42.38 seconds.

  Calculate the optimal congestion price for the last or "marginal" vehicle
  entering into the Meerigama-Kurunrgala highway?

  b (i). Distinguish between "**Horizontal equity**" and "**Vertical equity in income**   02 Marks
  and social class" in transportation.

  (ii). What measures can be proposed to improve the equity in Sri Lankan   03 Marks
  transportation system?

  c While infrastructure development is providing a certain level of mobility and   05 Marks
  accessibility as a key to stimulating economic growth, the "**law of**
  diminishing returns" tends to apply to infrastructure development and
  economic growth.

  Critically examine the above statement comparing the transport
  infrastructure systems between developed and developing countries.

                                                                (Total   20 Marks)

05   **Write short notes on the following**.
        i.   Accessibility and Mobility
        ii.   Transportation cost and wage
        iii. Types and Levels of Economic Benefits from Transportation
              Investment
        iv.   Transportation cost and the "**Central Place Theory**" (Christaller
              1966) prediction
        v.   Transportation cost and Industrial location Theory (Weber 1929)
                                                                (Total   20 Marks)

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