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Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER I
SESSION 2013/2014**

COURSE NAME : TRANSPORTATION PLANNING
AND SYSTEMS
COURSE CODE : BFT 40103 / BFT4013
PROGRAMME : 4BFF
EXAMINATION DATE : DECEMBER 2013/JANUARY 2014
DURATION : 3 HOURS
INSTRUCTION : ANSWER **FOUR (4)** QUESTIONS
ONLY

THIS QUESTION PAPER CONSISTS OF **FOUR (4)** PAGES

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- Q1**
- (a) Using your own sentence, explain what the transportation planning is?
(5 marks)

 - (b)
 - (i) Describe basic difference between traffic planning and traffic management
(4 marks)

 - (ii) Outline the important of traffic planning and traffic management.
(4 marks)

 - (c) With the suitable flow diagram, explain stages in transportation planning
(12 marks)
- Q2**
- You have been made responsible for reviewing your new highway construction project waste production and disposal.
- (a) Discuss **FIVE (5)** environmental impacts associated with waste disposal from the project.
(10 marks)

 - (b) Explain **TWO (2)** ways in which the project cause climate change.
(5 marks)

 - (c) Explain how you would go about identifying sources of waste in the construction project.
(10 marks)

- Q3** (a) In Malaysia, traffic congestion, air pollution from traffic, and the high rates of death and injury experienced on road networks (road safety) are the greatest road transport issues. Suggest and explain **THREE (3)**, technological developments prospects that can be implemented to reduce road casualties and road traffic emissions. (9 marks)
- (b) Based on your answer in **Q3 (a)** in your opinion how realistic is it to foresee technological developments then making car driving so automated and controlled that people then have much less desire to own and use cars, thus eventually reducing congestion? (6 marks)
- (c) Support your answer to questions **Q3 (b)** with relevant examples of innovative technological developments. (10 marks)

- Q4** (a) The purpose of transportation demand studies are to collect and analyzed data pertaining to present future transportation needs. Elaborate the **THREE (3)** processes involved. (12 marks)

- (b) A simple linear regression is estimated for employment trip generation. The model is based on trip during a peak hour. The equation is

$$Y = 0.21 + 0.09X_1 + 0.011X_2 - 0.12X_3$$

Where,

Y = number of peak-hour vehicle-based trip per household.

X_1 = household size

X_2 = annual household income (in thousand of RM)

X_3 = employment in the household neighborhood (in hundred)

A particular household has six members and annual income of RM50,000, they live in neighborhood with 450 retail employees. After a few years they move to a new home in a neighborhood with 150 retail employees.

- (i) Explain what is the indication of negative sign in employment coefficient. (3 marks)
- (ii) Calculate the predicted number of peak hour employment trips the household makes before and after the move. Make a conclusion from both of your answer. (10 marks)

- Q5**
- (a) Explain what mass transportation is? (3 marks)
 - (b) Briefly discuss **FIVE (5)** factors that may influence the design of bus rapid transit operation in Europe and Asia. Support your discussion with relevant example. (15 marks)
 - (c) Discuss the prospects of Bus Rapid Transit System to be introduced in Batu Pahat. (7 marks)

- END OF QUESTION -