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UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, May 2018

Program: MBA UISC

Subject (Course): Urban Transport Eco., Planning & Mgmt

Course Code : PIUI 7005

No. of page/s: 3

Semester – II

Max. Marks : 100

Duration : 3 Hrs

Section- A

10x2=20

Complete the abbreviation

PHPDT, NHAI, UMTA, NHDP, GIS, OD, MoUD, DMRC, AERA, BRTS

Section- B

4x5=20

1. Write a Short note on 3 types of Interrelationship of TSA
2. What are the social costs that we take into account for calculating Cost Benefit Analysis?
3. Explain Gross Contract for urban bus system.
4. What is the difference between EIRR and FIRR ?
5. Identify the factors that should be considered for Customer satisfaction?

Section-C

2x15=30

Answer any 2 questions

1. Formulate the OD matrix from the following PA matrix data. Take Lamda value as .4.

	Zone 1	Zone 2	Zone 3
Zone 1	30	40	30
Zone 2	60	20	20
Zone 3	40	30	30

2. Write down the models for Modal split analysis and explain them.
3. Draw a flowchart for transport planning process and explain trip generation and Modal split.

Section D**(Answer any one)****30**

- I. Develop a trip production equation and calculate all the relevant statistics to check the validity of the equation using following data (it means you have to find R^2 and standard errors)

Average household size	2	3	4	5	6	7
Average total trips made per day	20	18	9	12	11	10

- II. You are a transport consultant working for the mayor of a growing city in a developing country. The bus network in this city currently looks something like the map shown in Fig. 1 below. The Mayor is going to invest in a central East-to-West exclusive busway and in strategic station facilities as shown in Fig. 2 and Fig. 3 below.

The mayor is unsure whether to regulate bus services after making the investment. He is considering two alternatives, A1 and A2, shown in Fig. 2 and Fig. 3 below. The key regulatory difference between these two alternatives is that in A1 the busway and stations will be available only to operators under contract by the city to operate certain routes. In A2, the busway and stations are available to any bus operator that chooses to participate in the market.

Fig 1: Unregulated Network, no Investment

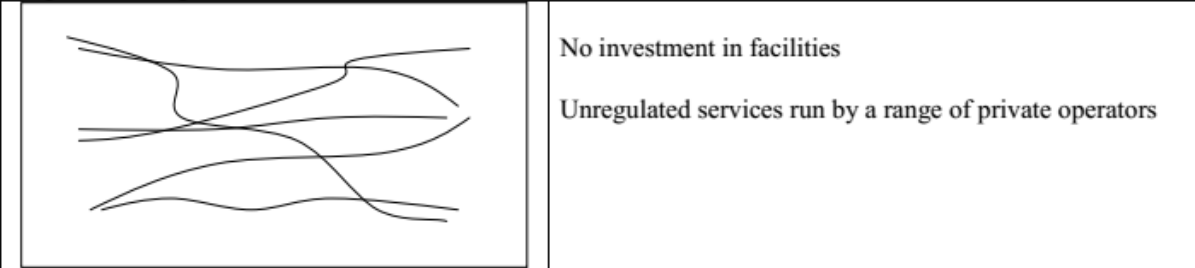


Fig 2: A1: Investment, Closed System, Regulated Trunk & Feeder Services

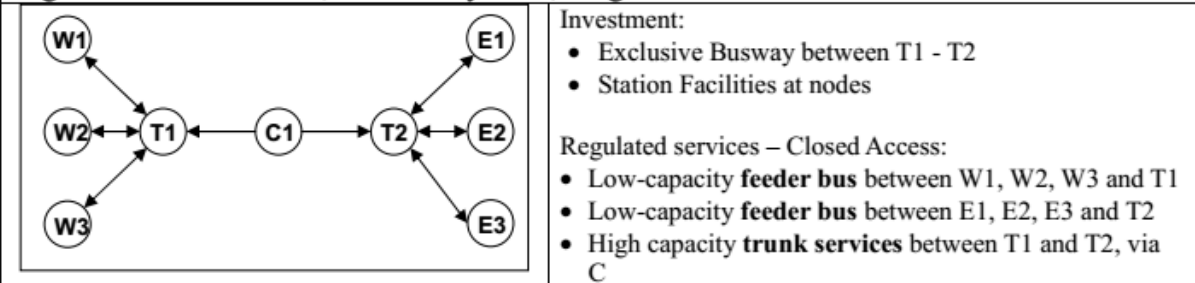
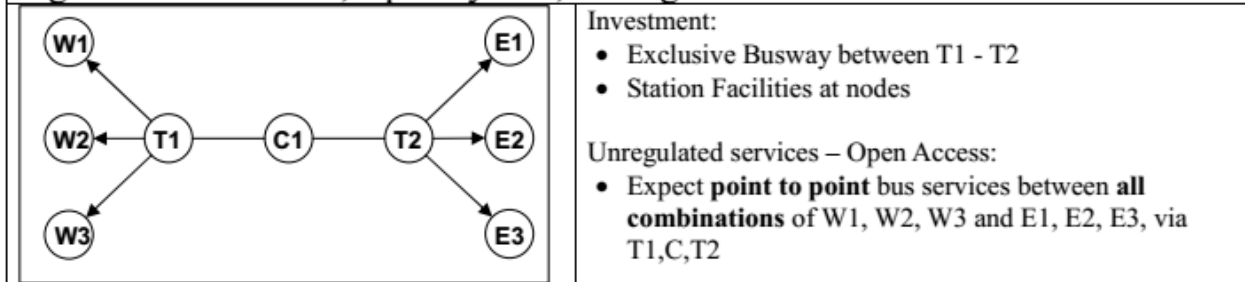


Fig 3: A2: Investment, Open System, no Regulation of Services



The Mayor has hired you because of your expertise in modeling the demand for transportation services. Before the Mayor makes the investment, you will conduct a survey and develop a logit model to understand the way residents of this city choose between the using the Bus and using other modes.

- Before thinking about demand models, it is useful to think about what kind of service is likely to be provided in both alternatives. Under both A1 and A2, the Mayor hopes to make use of competition in the private sector to keep costs low. What kind of competition would we expect to see in A1? What about in A2? Explain. (5).
- How would the two types of competition you answered in part (a) likely affect the actual service that is delivered to passengers? (5)

- c) A1 and A2 represent very different ways to run a bus network. In terms of the factors, that affect passenger demand for buses, what are the three most important ways in which A1 and A2 will differ? This can include factors that result from differences in the regulatory structure or in the network structure. Please be as specific as possible, and feel free to include your answers from part (b). **(10)**
- d) Please specify the function you will use for the Bus mode (don't worry about other modes). You will use this model for forecasting demand for A1 and A2, so it is important that this utility function includes the factors you listed in part (c). **(10)**