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18CV745

Seventh Semester B.E. Degree Examination, Dec.2023/Jan.2024

Urban Transport Planning

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. What is Urbanisation? What are the advantages and disadvantages of Urbanisation? (10 Marks)
- b. List and explain various Urban transportation problems. (10 Marks)

OR

- 2 a. Briefly explain various steps involved in Urban transportation planning process. (10 Marks)
- b. Explain various types of Co-ordination in Passenger transport. (10 Marks)

Module-2

- 3 a. Define External Cordon Line. What factors are considered while selecting external Cordon line? (06 Marks)
- b. What are various points to be considered when dividing the Urban are into zones? (06 Marks)
- c. Briefly explain the procedure for conducting home interview surveys. What are the advantages and disadvantages of Home interview surveys? (08 Marks)

OR

- 4 a. Explain Registration number plate survey and Tag on vehicle survey method with their advantages and disadvantages. (10 Marks)
- b. List and explain inventory of transport facilities. (10 Marks)

Module-3

- 5 a. Explain Category analysis. What are the advantages and disadvantages of this method? (10 Marks)
- b. The following data is collected for a town :

Zone	1	2	3	4	5	6	7
Population in Thousand	25	20	28	18	19	21	22
Trips generated in Hundreds	18	15	20	13	14	16	17

Develop a linear regression model for trips generated from a zone and compute the coefficient of correlation. Predict the expected trip for a zone with population 50000.

(10 Marks)

OR

- 6 a. List the various growth factor methods of trip distribution. Explain any one method in detail with the advantages and disadvantages. (10 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.

- b. Calculate the future trip distribution based on Furness method (up to two iteration) from the following data :

O \ D	Present trips				Future Trips
	1	2	3	4	
1	10	20	15	18	140
2	21	16	17	14	150
3	30	21	25	27	200
4	10	9	16	13	100
Future Trips	150	110	170	160	

(10 Marks)

Module-4

- 7 a. Explain : i) Gravity model ii) Intervening opportunity model. (10 Marks)
 b. Distribute 650 work trips from zone – 3 to zones 1, 2, 3, 4, and 5 from the data given below.

Zone No	Total work trip attractions	Travel time in minutes	Travel time factor
1	1080	20	6
2	531	7	29
3	76	5	45
4	47	10	18
5	82	25	4

(10 Marks)

OR

- 8 a. Define Modal Split. Explain in brief factors affecting modal split. (10 Marks)
 b. With a neat flow diagram, explain pre distribution modal split. What are the advantages and disadvantages of this method? (10 Marks)

Module-5

- 9 a. Define Traffic assignment. What are the applications of traffic assignment? (10 Marks)
 b. Write short notes on :
 i) All or nothing assignment technique.
 ii) Capacity restraint assignment. (10 Marks)

OR

- 10 a. With a neat flow chart, explain the principle components of the Lowry model. (10 Marks)
 b. Discuss the points for the selection of Land use transport modal. (10 Marks)

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