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Affiliated to Visvesvaraya Technological University, Belagavi. Approved by AICTE, New Delhi. Accredited by NAAC, New Delhi with 'A' Grade. Recognized by UGC, New Delhi with 2(f) and 12(B). Certified by ISO 9001-2015
DEPARTMENT OF CIVIL ENGINEERING

URBAN TRANSPORT PLANNING (18CV745)

ASSIGNMENT-1

Q No	Question	CO mapped
1	Explain the 4-Stage transport planning model?	CO1
2	What are the impacts of transportation on environment?	CO1
3	Explain the various sources of noise generated from road vehicles causing pollution.	CO1
4	Explain the various stages involved in urban transport planning.	CO1
5	Describe how the study area is divided into Zones and mention the factors to be considered while dividing area into zones.	CO1
6	List the various methods available for data collection. Explain a) Home Interview Survey b) Registration Number Survey	CO1
7	Define sampling and explain the methods available for sampling.	CO1
8	State the important criteria for the evaluation of regression equation with relative assumption made in analysis of trip generation and discuss the limitations of multiple linear regression analysis and the suitability	CO2
9	The following information was obtained from a transportation survey of a town:	CO2

Traffic zone number	Population in the zone (in thousand)	Total trip generated (in hundreds)
1	26	12
2	28	11
3	31	17
4	33	15
5	22	12
6	30	15
7	20	9
8	25	13

Develop a linear regression model for estimating the trips generated from a zone. If the population in a particular zone increases to 40,000 predict the expected trip generation from that zone.

10	Explain the various factors governing the trip generation.	CO2

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ASSIGNMENT-2

<table>
<tr><th>Q No</th><th>Question</th><th>CO mapped</th></tr>
<tr><td>1</td><td>The distribution of present trips among zone 1,2 and 3 are given in O-D matrix below. The future trips generated in zone 1,2 and 3 are expected to be 360, 1260 and 3120 respectively. Distribute the future trips among various zone using
i) Uniform factor Method
ii) Average growth factor method and draw the conclusion based on result.
<table>
<tr><td>O/D</td><td>1</td><td>2</td><td>3</td></tr>
<tr><td>1</td><td>60</td><td>100</td><td>200</td></tr>
<tr><td>2</td><td>100</td><td>20</td><td>300</td></tr>
<tr><td>3</td><td>200</td><td>300</td><td>20</td></tr>
</table></td><td>CO2</td></tr>
<tr><td>2</td><td>The following table gives trip distribution between four zones 1, 2,3 and 4. Estimate the future interzonal trip between the four zones. (upto two iteration)
<table>
<tr><td></td><td>1</td><td>2</td><td>3</td><td>4</td><td>Future Trips</td></tr>
<tr><td>1</td><td>10</td><td>20</td><td>15</td><td>18</td><td>140</td></tr>
<tr><td>2</td><td>21</td><td>16</td><td>17</td><td>14</td><td>150</td></tr>
<tr><td>3</td><td>30</td><td>21</td><td>25</td><td>27</td><td>200</td></tr>
<tr><td>4</td><td>10</td><td>9</td><td>16</td><td>13</td><td>100</td></tr>
<tr><td>Future Trips</td><td>150</td><td>120</td><td>180</td><td>160</td><td></td></tr>
</table></td><td>CO2</td></tr>
<tr><td>3</td><td>The total trips produced in and attracted to the three zones A, B, and C of a survey area in the design year are tabulated below
<table>
<tr><td>Zone</td><td>Trip Produced</td><td>Trip Attracted</td></tr>
<tr><td>A</td><td>2000</td><td>3500</td></tr>
<tr><td>B</td><td>3500</td><td>4800</td></tr>
<tr><td>C</td><td>4800</td><td>2000</td></tr>
</table>
It is known that the trips between two zones are inversely proportional to the second power of the travel time between zones, which is equally 25 min. If the trip interchange between zones B and C is 300. Calculate the trip interchange between zones A-B, A-C, B-A and C-B</td><td>CO2</td></tr>
</table>

4	The calibrated utility function for travel in a medium city by automobile, bus and metro is given by $U = a - 0.002X_1 - 0.005X_2$; X_1 = Cost of travel(Rs) , X_2 = Travel time (min) Calculate modal split for given values Is a parking fee of 10/- per trip is imposed on automobile, what would be the split to the other two modes?	CO3
5	State traffic assignment and its applications? Explain its general principle.	CO3
6	Explain the concept of Lowry derivative model with a flow diagram.	CO3

Mode	a	X_1	X_2
Automobile	-0.3	120	30
Bus	-0.35	20	45
Metro	-0.40	60	35

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