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# B.M.S. College of Engineering, Bengaluru-560019

**Autonomous Institute Affiliated to VTU**

## August 2024 Supplementary Examinations

**Programme: B.E.** **Semester: VIII**
**Branch: Civil Engineering** **Duration: 3 hrs.**
**Course Code: 21CV8PEUTP** **Max Marks: 100**
**Course: Urban Transport Planning**

**Instructions: 1. Answer Any FIVE Full Questions choosing ONE question from each Unit**
**2. Missing data may be assumed suitably.**
**3. Draw neat sketches wherever required.**





### UNIT - I

| | | | |
|---|---|---|---|
| 1 | a) | Explain the system approach to transport planning using a flow chart. | **10** |
| | b) | Explain the stages in transport planning. | **10** |

### UNIT - II

| | | | |
|---|---|---|---|
| 2 | a) | Explain zoning and study area. | **10** |
| | b) | Explain the following methods of surveys to collect data<br>(i) Home interview survey<br>(ii) Road side interview surveys<br>(iii) Post card questionnaire survey<br>(iv) Registration number surveys<br>(v) Tag surveys | **10** |

### UNIT - III

| | | | |
|---|---|---|---|
| 3 | a) | What is trip generation? Explain the purpose for generation of a trip. | **10** |
| | b) | What is category analysis? what are the advantages and disadvantages of category analysis? | **10** |

**OR**

| | | | |
|---|---|---|---|
| 4 | a) | Explain in detail the various factors governing trip generation. | **10** |
| | b) | What is multiple linear regression analysis and mention the assumptions made. | **10** |

### UNIT - IV

| | | | |
|---|---|---|---|
| 5 | a) | What is trip distribution? Explain the methods of trip distribution. | **10** |
| | b) | Explain intervening opportunities model and competing opportunity model. | **10** |

**OR**

| | | | |
|---|---|---|---|
| 6 | a) | What is Gravity model? Explain the calibration of the Gravity model. | **10** |
| | b) | 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 as below: | **10** |

| Zone | Trips Produced | Trips Attracted |
|---|---|---|
| **A** | 2000 | 3000 |
| **B** | 3000 | 4000 |
| **C** | 4000 | 2000 |

It is known that the trips between two zones are inversely proportional to the second power of the travel time between zones, which is uniformly 20 minutes. If the trip interchange between zones B and C is known to be 600, calculate the trip interchange between zones A and B, A and C, B and A, C and B.

**UNIT - V**

7 a) Define Modal Split. Explain the factors affecting the Modal Split. **10**

b) Explain the purpose of traffic trip assignment and mention the different assignment techniques available. **10**

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