

**UNIT I****Chapter 1 : Fundamentals of Traffic Engineering****1-1 to 1-20****Syllabus :****Traffic Engineering** : Definition, objects, scope**Road user's characteristics** : physical, mental, emotional actors.**Vehicular characteristics** : width, length, height, weight, speed, efficiency of breaks**Road characteristics** : gradient, curve of a road, design speed, friction between road and tyre surface**Reaction Time** : factors affecting reaction time, PIEV Theory

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|---------|--|------|
| 1.1     | Introduction .....                           | 1-1  |
| 1.1.1   | Definition of Traffic Engineering .....      | 1-1  |
| 1.1.1   | Objectives of Traffic Engineering .....      | 1-2  |
| 1.1.2   | Scope of Traffic Engineering .....           | 1-2  |
| 1.2     | Road User's Characteristics .....            | 1-3  |
| 1.3     | Vehicular Characteristics .....              | 1-6  |
| 1.3.1   | Static Characteristics.....                  | 1-6  |
| 1.3.2   | Dynamic Characteristics.....                 | 1-8  |
| 1.4     | Road Characteristics .....                   | 1-9  |
| 1.4.1   | Gradient.....                                | 1-9  |
| 1.4.1.1 | Factors affecting gradient.....              | 1-9  |
| 1.4.1.2 | Various types of gradient.....               | 1-10 |
| 1.4.2   | Curve of Road .....                          | 1-11 |
| 1.4.2.1 | Summit Curves.....                           | 1-12 |
| 1.4.2.2 | Valley Curves .....                          | 1-13 |
| 1.4.3   | Design Speed.....                            | 1-14 |
| 1.4.4   | Friction Between Road and Tyre Surface ..... | 1-16 |
| 1.5     | Reaction Time .....                          | 1-17 |
| 1.5.1   | PIEV Theory .....                            | 1-17 |

**UNIT II****Chapter 2 : Traffic Studies****2-1 to 2-30****Syllabus :****Traffic Studies** : types, purpose, information required for traffic studies**Traffic Volume Studies** : definition, purpose

Methods of collection of traffic volume count data : manual, automatic recorders, moving car method

**Traffic Volume Count Data** : representation and analysis of data

Necessity of Origin and Destination Study and its method.

**Speed Studies** : Spot Speed Studies, and its presentation

Need and method of parking study

|       |   |      |
|-------|---|------|
| 2.1   | Introduction .....  | 2-1  |
| 2.1.1 | Types of Traffic Studies.....                               | 2-2  |
| 2.1.2 | Purpose of Traffic Studies.....                             | 2-3  |
| 2.1.3 | Information Required for Traffic Studies .....              | 2-4  |
| 2.2   | Traffic Volume Study .....                                  | 2-4  |
| 2.2.1 | Definition of Traffic Volume Study.....                     | 2-4  |
| 2.2.2 | Purpose of Traffic Volume Study.....                        | 2-5  |
| 2.3   | Methods of Collection of Traffic Volume Count Data.....     | 2-5  |
| 2.3.1 | Manual Counting Method .....                                | 2-6  |
| 2.3.2 | Automatic Recorders Method.....                             | 2-7  |
| 2.3.3 | Moving Car Method.....                                      | 2-8  |
| 2.4   | Traffic Volume Count Data Representations and Analysis..... | 2-9  |
| 2.4.1 | Passenger Car Unit (PCU).....                               | 2-12 |
| 2.4.2 | Factors Affecting PCU Values.....                           | 2-12 |
| 2.5   | Origin and Destination Studies .....                        | 2-14 |
| 2.5.1 | Necessity of Origin and Destination Studies .....           | 2-15 |
| 2.5.2 | Methods of Origin and Destination Studies .....             | 2-15 |
| 2.6   | Speed Studies .....   | 2-17 |
| 2.6.1 | Spot Speed Studies.....                                     | 2-19 |
| 2.6.2 | Methods of Conducting Spot Speed Studies .....              | 2-21 |
| 2.6.3 | Methods of Data Representation .....                        | 2-24 |
| 2.7   | Parking Studies.....  | 2-25 |



|       |                                  |      |
|-------|----------------------------------|------|
| 2.7.1 | Need for Parking Studies .....   | 2-26 |
| 2.7.2 | Methods of Parking Studies ..... | 2-27 |

|                 |
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| <b>UNIT III</b> |
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**Chapter 3 : Road Signs and Traffic Markings****3-1 to 3-31****Syllabus :****Traffic Control Devices** : Definition, Necessity, types**Road Signs** : Definition, objects of road signs

Classification as per IRC: 67-1977-Mandatory or regulatory, Cautionary or Warning, Informatory Signs,

Location of Cautionary or Warning sign in urban and non urban areas, Points to be considered while

Designing the road signs, points to be considered while erecting the road signs

**Traffic Markings** : Definition**Classification of Traffic Markings** : Carriage way, Kerb, Object marking and Reflector markers

|         |   |      |
|---------|---|------|
| 3.1     | Traffic Control Devices .....                               | 3-1  |
| 3.1.1   | Requirements of traffic control devices .....               | 3-1  |
| 3.1.2   | Communication tools.....                                    | 3-2  |
| 3.1.3   | Type of Traffic Control Devices .....                       | 3-4  |
| 3.2     | Road Signs .....  | 3-4  |
| 3.2.1   | Objectives of Road Signs .....                              | 3-5  |
| 3.3     | Classification as per IRC: 67-1977 .....                    | 3-5  |
| 3.3.1   | Regulatory Signs .....                                      | 3-5  |
| 3.3.1.1 | Types of Regulatory Signs .....                             | 3-6  |
| 3.3.2   | Warning Signs .....   | 3-11 |
| 3.3.3   | Informatory Signs .....                                     | 3-12 |
| 3.3.4   | Points to be Considered While Designing the Road Signs..... | 3-15 |
| 3.3.5   | Points to be Considered While Erecting the Road Signs ...   | 3-16 |
| 3.4     | Traffic Markings .....                                      | 3-18 |
| 3.5     | Classification of Traffic Markings .....                    | 3-19 |
| 3.5.1   | Types of Marking.....                                       | 3-19 |
| 3.6     | Traffic Islands .....                                       | 3-25 |
| 3.6.1   | Types of Traffic Island.....                                | 3-26 |

**UNIT IV****Chapter 4 : Traffic Signals and Traffic Islands****4-1 to 4-29****Syllabus :****Traffic Signals :** Definition**Types of Signals :** Traffic Control Signals, pedestrian signals, special type of traffic signals**Types of Traffic Control Signals :** Fixed time, manually Operated, traffic actuated signals

Location of signals

Compute Signal time by fix time cycle, trail cycle, approximate, Webster's and IRC method and sketch timing Diagram for each face

**Traffic Islands :** Definition, advantages and disadvantages of providing islands**Types of traffic islands :** rotary or central, channelizing or refuge islands**Road Intersections or Junctions :** Definition, Types of road intersection**Intersection at grade :** Types, basic requirements of good intersection at grade**Grade Separated intersection :** advantages and disadvantages, **types :** over pass or flyovers-cloverleaf pattern, Trumpet type, underpass**Segregation of traffic :** Definition, purpose, type

|       |                                       |     |
|-------|---------------------------------------|-----|
| 4.1   | Traffic Signals .....                 | 4-2 |
| 4.1.1 | Advantages of Traffic Signals .....   | 4-2 |
| 4.1.2 | Disadvantages of Traffic Signals..... | 4-3 |
| 4.2   | Types of Traffic Signals .....        | 4-3 |
| 4.2.1 | Traffic Control Signals .....         | 4-4 |
| 4.2.2 | Pedestrian Signal .....               | 4-5 |
| 4.2.3 | Special Traffic Signal.....           | 4-5 |
| 4.3   | Types of Traffic Control Signals..... | 4-6 |
| 4.4   | Location of signals .....             | 4-8 |
| 4.5   | Computation of Signal Time .....      | 4-9 |
| 4.5.1 | Trail Cycle Method .....              | 4-9 |



|        |  |      |
|--------|--|------|
| 4.5.2  | Approximate Method .....   | 4-10 |
| 4.5.3  | Webster's Method .....   | 4-10 |
| 4.5.4  | Design Method as per IRC Guidelines .....  | 4-11 |
| 4.6    | Traffic Islands .....  | 4-12 |
| 4.6.1  | Advantages of Providing Traffic Islands.....   | 4-12 |
| 4.6.2  | Disadvantages Advantages of Providing Traffic Islands ...                              | 4-13 |
| 4.7    | Types of Traffic Islands .....   | 4-13 |
| 4.8    | Road Intersections or Junctions .....  | 4-18 |
| 4.8.1  | Types of Intersections .....   | 4-18 |
| 4.9    | Intersection at Grade-Types, Basic Requirements of<br>Good Intersection at Grade ..... | 4-18 |
| 4.9.1  | Intersection at Grade.....   | 4-18 |
| 4.10   | Grade Separated Intersection.....  | 4-21 |
| 4.10.1 | Types of Grade Separators.....   | 4-22 |
| 4.10.2 | Interchanges.....  | 4-24 |
| 4.11   | Segregation of Traffic .....   | 4-26 |
| 4.11.1 | Definition of Segregation of Traffic.....  | 4-26 |
| 4.11.2 | Purpose of Segregation of Traffic .....  | 4-26 |
| 4.11.3 | Purpose of Segregation of Traffic .....  | 4-27 |

## UNIT V

### Chapter 5 : Road Environment and Arboriculture

5-1 to 5-22

#### **Syllabus :**

**Street lighting** : definition, sources, necessity, types-luminaries, foot candle, lumen, factors affecting their Utilization and maintenance

Factors affecting visibility at night

Arboriculture-definition, objectives, factors affecting selection of type of trees

**Maintenance of trees** : Protection and care of road side trees

|       |   |      |
|-------|---|------|
| 5.1   | Street Lighting.....                                      | 5-1  |
| 5.1.1 | Definition and Some Common Terms Used.....                | 5-2  |
| 5.1.2 | Factors Affecting For the Lighting Scheme for Roads ..... | 5-3  |
| 5.2   | Factors Affecting Visibility at Night .....               | 5-5  |
| 5.2.1 | Design Factors Affecting For the Lighting .....           | 5-7  |
| 5.3   | Arboriculture .....                                       | 5-12 |
| 5.3.1 | Road Side Development and Arboriculture.....              | 5-13 |



|         |                                    |      |
|---------|------------------------------------|------|
| 5.3.1.1 | Definition .....                   | 5-13 |
| 5.3.2   | Planning Plantation of Trees ..... | 5-16 |
| 5.3.3   | Species and Their Selection .....  | 5-17 |
| 5.3.3.1 | Choice of Trees .....              | 5-18 |
| 5.3.4   | Types of Trees .....               | 5-18 |
| 5.4     | Maintenance of Trees .....         | 5-20 |
| 5.4.1   | Protection Measures .....          | 5-20 |
| 5.4.2   | Care of Trees .....                | 5-20 |

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| <b>UNIT VI</b> |
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**Chapter 6 : Road Accident Studies****6-1 to 6-29****Syllabus :****Road Accidents :** Definition, types-Collision and Non-Collision accidents

Causes of Accidents

Measures to prevent road accidents

Reporting and recording of road accidents

Collision and condition diagram

Considerations regarding road safety

Legislation and law enforcement, education and propaganda

|       |   |      |
|-------|---|------|
| 6.1   | Road Accidents.....   | 6-1  |
| 6.1.1 | Definition of Road Accident.....                                | 6-2  |
| 6.1.2 | Types of Road Accidents .....                                   | 6-2  |
| 6.2   | Causes of Accidents .....                                       | 6-6  |
| 6.3   | Measures to Prevent Road Accidents .....                        | 6-8  |
| 6.4   | Reporting and Recording of Road Accidents.....                  | 6-13 |
| 6.5   | Collision and Condition Diagrams.....                           | 6-19 |
| 6.6   | Considerations Regarding Road Safety .....                      | 6-24 |
| 6.7   | Legislation and law Enforcement, Education and Propaganda ..... | 6-26 |
| 6.7.1 | Legislative Measures that are Possible.....                     | 6-27 |
| 6.7.2 | Law Enforcements.....   | 6-27 |
| 6.7.3 | Education .....   | 6-28 |
| 6.7.4 | Propaganda.....   | 6-28 |

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