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3.3 : Management of Basic Urban Amenities—Housing, Water supply, Sewerage, Solid waste management.

3.4 : Role of Local Self Governments in managements of urban areas, concept of good governance, different scenarios : BAU, SD.

UNIT - IV : *Contemporary Urban Issues and case study of Kolkata*

4.1 : Urban Environmental Issues : Pollution—Air, Water, Noise.

4.2 : Urban Social Issues : Urban Poverty, Crime and Violence.

4.3 : Issues associated with Urban Transport-Emissions and Accidents, Traffic Accident Scenario in Kolkata, Road Safety Measures.

4.4 : Traffic and Transport Planning of Kolkata.

Urban and Transport Planning (Practical)

Module : 17

(Marks : 50)

UNIT - I : *Analysis of Urban Dynamics*

1.1 : Urban growth differentials : Absolute growth, Decadal growth rate and Index of growth.

1.2 : Urban density.

1.3 : Rank size distribution of Towns : Normal graph and Log graph.

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1.4 : Relationship between Variables and Correspondence.

UNIT - II : *Accessibility and Connectivity*

2.1 : Network as a Graph : Topology and Direct connectivity.

2.2 : Accessibility by Detour Index.

2.3 : Accessibility by Shortest Path Matrix.

2.4 : Gravity Model.

UNIT - III : *Perception of the Urban Environment*

3.1 : Preparation of Survey Schedule.

3.2 : Preparation of Questionnaire for Perception study.

3.3 : Valuation of Urban Ecological units.

3.4 : Environmental Impact Assessment.

UNIT - IV : *Laboratory Note-Book and Viva-voce*

Module - 18 : GIS & Remote Sensing (Practical)

(Marks : 50)

UNIT - I : *Geographical Information System*

(Marks : 10)

1.1 : Scanning and Geo-referencing of maps.

1.2 : Generation of Vector layers and Buffers. Vector overlaying.

1.3 : Attaching and Editing attribute tables. Querying the Database.