5: TRANSPORTATION PLANNING

Course Objectives :

To familarises the students about the planning process and techniques for urban areas. The course also introduces the state level planning, regional planning and corridor planning.

Course Content :
Hierarchical Level of Planning, Passenger and Goods Transportation, General Concept and Process, Urban Travel Characteristics, Private & Public Travel Behaviour Analysis Travel Demand Estimation and Forecasting, Trip Generation Methods and their Comparison, Modal Split Analysis, Behavioural Approach, Two stage Modal Split Models. Trip Distribution – Growth Factor Method, Gravity Model, Intervening Opportunity and Competing Opportunity Models, Entropy Maximizing and Linear Programming Methods. Network Assignment, Capacity Restrained and Simultaneous Distribution, Direct Demand Models. Land-use Transport Planning, Transport Related Land use Models. Corridor Type Travel Planning, Statewide and Regional Transportation Planning.

Pre-requisite : Nil

Reference Books :
1. Hutchinson, B.G., “Principles of Urban Transport Systems Planning “ Mc Graw Hill, New York, 1974
2. Kadiyali, L. R. “Traffic Engineering and Transport Planning”, Khanna Publishers, 1997
3. Florian Michael, “Transportation Planning Models”, Elsevier Science Publishers, B.V. Netherlands, 1984
4. Wright H, and Paquette, R. J., “Highway Engineering”, John Wiley & Sons, U.S.A., 1987
5. Ortuzar, J. D., Willumsen, L. G. “Modelling Transport”, John Wiley & Sons, Newyork.

Practical

Based on the content following problems will be solved using computers:

1. Four Stage Modelling in Transportation Planning
2. Trip Generation models: Regression model
3. Trip generation model: Cross- classification
4. Trip distribution methods
5. Mode choice/ modal split problems
6. Network coding
7. Trip Assignment
8. Land-use planning models.
9. Semester problem