URBAN TRANSPORT ALTERNATIVES

Course Code: 13CE2114

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Course Educational Objectives:

1. To impart the knowledge on transport planning and traffic survey forecasting.
2. To familiarize the student with transport economics and transport systems.

Course Outcomes:

1. The students will demonstrate the ability to select land use transport models and economic evaluation of transport plans.
2. To impart the students, with the knowledge of transport planning process, traffic surveys and forecasting.
3. To impart the students, with the knowledge of transport planning process, traffic surveys and forecasting.
4. To impart the students, with the knowledge of transport economics and environment.

UNIT-I

TRANSPORT PLANNING PROCESS: Systems approach to transport planning- Land use transport interaction.

TRAFFIC SURVEYS AND FORECASTING

Survey and analysis of existing conditions – Forecast analysis of future conditions and plan synthesis – Transportation surveys analysis and application.

UNIT-II

STAGES IN TRANSPORT PLANNING:

Trip generation – theory and modeling techniques – Trip distribution – theory and modelling techniques and methodologies.

Trip assignment – theory and modelling techniques and methodologies – Modal split- theory and analytical techniques.

UNIT-III

LAND USE TRANSPORT MODELS: Selection of land use transport models – Systems dynamics principles and application – Model building techniques and validation – Transport modes, technology and selection.

UNIT-IV

TRANSPORT ECONOMICS AND ENVIRONMENT: Economic evaluation of transport plans – Vehicle operating costs – Value of travel time savings and accident costs – Fuel crisis and promotion of public transport. Severance and land consumption.

UNIT-V

TRANSPORT SYSTEMS

Planning and design issues of various transport systems – Bus, Train, Tram, LRT, Waterways – Capacity and space utilization – Containers in transportation – Integrated planning of various transport systems.

TEXT BOOKS

1. Michael D. Meyer and Eric J. Miller, "*Urban Transportaion Planning : A Decision Oriented Approach"*, 2nd Edition, McGraw-Hill Book Company, New York, 1984.

2. Dr.L.R. Kadiyali, *"Traffic Engineering and Transport Planning",* 6th edition, Khanna Publishers, 1999.

REFERENCES

1. Thirumurthy A.M., *"Environmental Facilities and Urban Development in India –A System Dynamic Model for Developing Countries, Academic Foundations*, 1st Edition, India, 1992.

2. James H.Banks, *"Introduction to Transportation Engineering",*2nd edition, Tata Mc Graw Hill, 1995.

3. David Hensher and others (Eds), Proceedings of Seventh World Conference on Transport Research : Volume 1 – Travel Behaviour, Volume 2 – Modelling Transport Systems, Volume 3 – Transport Policy, Volume 4 – Transport Management, Pergammon Press, USA, 1996.

4. John W. Dickey, *"Metropolitan Transportation Planning",* 2nd Edition, Tata McGraw-Hill Publishing Company Ltd, New Delhi, 1980.

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