5118 B
M.A. / M.Sc. (Final) Geography
Paper - IV (B) : Transportation Geography

Unit - I

a) Meaning, scope and development of transportation geography.
b) Factors associated with the development of transport system: historical, technological, physical, economic, political and social.
c) Spatial interaction: ideas of Edward Ullman; functional approach of M.E. Hurst.
d) Concepts of distance: point to point distance and distance in a group of points.
e) Measures of distance: physical, time, economic and perceptual.

Unit - II

a) The functional region, linkages and nodes, diagrammatic representation of hinterlands and hierarchies.
b) Transportation and spatial processes: regional specialisation and agglomeration economies.
c) Cost of overcoming distance: transportation cost, price and rate structure.
d) Transport costs as factor of production.
e) An idealised process of transport development.

Unit - III

a) Graph theoretic concepts.
b) Networks as models.
c) Types of connectivity: concept and indices of connectivity.
d) Measures of nodal accessibility: the network as a matrix; degree of connectivity: direct and indirect connectivity.
e) Indices of accessibility: accessibility matrix, matrix T, shortest path matrix and valued matrix; sinuosity.

Unit - IV

a) Spatial patterns of flow.
b) Gravity model: basic model and modifications.
c) Gravity model and the traffic and commodity flow.
d) Allocation model: transportation problem and optimum solution.
e) Flow in a capacitated network.

Unit - V

a) Negative impacts of transportation: social, accidents and other impairments.
b) Economic and environmental aspects of urban transport problems and their control.
c) Alternative transport system in mega cities.
d) Transport systems in the developing countries.
e) Development of the Indian surface transport system.

Suggested Readings:

1. Abler, Adams and Gould, Spatial Organisation: The Geographer's View of the World, Prentice Hall, New York.
2. Buchannan, C.D., Traffic in Towns, Buchannan Report, HMSO, London.
3. Hagget, P. et al, Locational Analysis in Human Geography, Edward Arnold, London, 1977.
4. Haggett, P. and R.J. Chorley, Network Analysis in Geography, Arnold, London, 1968.
5. Hay, A. Transport Economy, Macmillan, London, 1973.
6. Hoyle, B.S. (ed.) Transport and Development, Macmillan, London, 1973.
7. Hoyle, B.S. and R. Knowles, Modern Transport Geography, Wiley Europe.
8. Hurst, M.E.E., Transportation Geography: Comments and Readings, McGraw Hill, New York, 1974.
9. Kansky, K.J., Structure of Transportation Network, Research Paper No. 48, Department of Geography, University of Chicago.
10. Knowles, R. and J. Wareing, Economic and Social Geography, Heinemann.
11. Lowe, J.C. and S Moriyadas, The Geography of Movement, Houghton Mifflin Co., Boston.
12. Munby, D., Transport, Penguin.
13. Patankar, P.G., Urban Transport in Distress, Central Institute of Road Transport, Pune.
14. Robinson, H. and C.G. Bamford, Geography of Transportation, McDonald and Evans, London, 1978.
15. Taaffe, E.J. and et al, Geography, Prentice Hall Inc.