

**NORTH-EASTERN HILL UNIVERSITY**  
**Proposed TDC Syllabus in Economics under Semester System**

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**Paper—V**  
**MATHEMATICS FOR ECONOMISTS**

**Unit-I**

**Basic Concepts:** Sets, Variables, Functions, Equations, Identities, Systems of Simultaneous Linear Equations, Homogenous functions, The Straight line and its slope.

**Unit-II**

**Matrix and Determinants:** Types of Matrices; Rules of addition and multiplication; Determinants; Definition and properties; Solution of linear equations: Matrix Inversion Method and Cramer's Rule; Concept of Linear Programming- Solution by Graphic Method.

**Unit-III**

**Differential Calculus:** Concepts of Limit and Continuity; Rules of Differentiation, Partial and Total Differentiation; Maxima and Minima (one variable); Elasticity; Equilibrium of a firm and consumer; Inter-relationships among total, marginal and average costs and revenues.

**Unit-IV**

**Integration:** Concept, Rules of Integration, Methods of Integration, Integration by parts; Definite Integrals; Consumer's and Producer's surplus.

**Suggested Readings:**

1. Allen, R.G.D. (1980), *Mathematical Analysis for Economists*, Macmillan Press, London.
2. Black, J. and J.F. Bradley (1973), *Essential Mathematics for Economists*, John Wiley and Sons.
3. Ciliang, A.C. (2005), *Fundamental Methods for Mathematical Economics*, McGraw Hill, New Delhi.
4. Hoy, Livernois, McKenna, Rees and Stengos (2004), *Mathematics for Economics*, Prentice Hall, New Delhi.
5. Mehta, B.C. and G.M.K. Madnani (1992), *Mathematics for Economists*, S. Chand, New Delhi.
6. Taro, Yamane (1999), *Mathematics for Economists: An Elementary Survey* (2e), Prentice Hall of India, New Delhi.

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**Paper – VI**  
**INTERNATIONAL ECONOMICS**

**Unit-I**

**Introduction, Basic tools and Trade theories:** Nature and significance of international economics, production possibility curves, community indifference curves, offer curves, box diagrams, the law of absolute advantage, the law of comparative advantage, the Heckscher – Ohlin trade model, factor reversal and leontief paradox.

**Unit-II**

**Terms of trade and Gains from trade:** Concepts of terms of trade, factors affecting terms of trade, theory of reciprocal demand, gains from exchange and gains from specialization, gains from trade and income distribution, the theory of immiserising growth.

**Unit-III**

**Tariffs and Quotas:** Types of tariffs and quotas, effects of tariffs under partial equilibrium and optimum tariff, effects of import quotas, Tariff-quota controversy and less developed countries with reference to India, non-tariff barriers to trade.

**Unit-IV**

**Balance of Payments and Foreign Exchange:** Problems, adjustment process, absorption approach, foreign trade multiplier, spot and forward rates of exchange, purchasing power parity theory, current account convertibility of the rupees, move towards capital account convertibility; Functions of IMF, World Bank and W.T.O., India and W.T.O.

**Suggested Readings:**

1. Bhagwati, J. (ED) (1981), *International Trade, Selected Readings*, Cambridge University Press, Mass.
2. Carbaugh, R.J. (2004), *International Economics* (9e), Thomson South Western, Singapore.
3. Joshi, V. and I.M.D. Little (1998), *India's Economic Reforms*, Oxford University Press, Delhi.
4. Kindleberger, C.P. (1973), *International Economics*, R.D. Irwin, Homewood.
5. Mannur, H.G. (1997), *International Economics*, Vikas Publishing House, Pvt. Ltd.
6. Panchamukhi, V.R. (1978), *Trade Policies of India: A Quantitative Analysis*, Concept Publishing Company, New Delhi.
7. Salvatore, D.L. (1997), *International Economics*, Prentice Hall, Upper Saddle River, N.J.
8. Singh, M. (1994), *Indian Export Trends and Prospects for Self-sustained Growth*, Oxford University Press, Oxford.
9. Sodersten, Bo (1991), *International Economics*, Macmillan Press Ltd., London.