

NIRMA UNIVERSITY

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| Institute: | Institute of Technology |
| Name of the Programme: | B. Tech. (All Programmes) |
| Course Code: | 2HS401 |
| Course Title: | Economics |
| Course Type: | Common |
| Year of introduction: | 2023-24 |

| L | T | Practical component | | | | C |
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Course Learning Outcomes (CLOs):

At the end of the course the students will be able to:

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| 1. interpret the various basic economic principles | BL2 |
| 2. relate the economic fundamentals with engineering practices | BL2 |
| 3. infer the macroeconomic aspects | BL3 |
| 4. apply microeconomic and macroeconomic aspects in engineering projects | BL3 |

Syllabus:

Total Teaching hours: 30

| Unit | | Teaching hours |
|----------|--|----------------|
| Unit I | Introduction: Fundamental principles of economics, thinking like an Economist, Interdependence and the gains from Trade. | 2 |
| Unit II | Consumer Behavior: The theory of Cardinal Utility. The Law of Diminishing Marginal Utility and Consumer Equilibrium. The market forces of demand and supply, Law of Demand and Law of Supply. Elasticity and its application. | 2 |
| Unit III | Firm Behavior and Organization of Industry: Production Function, Cobb Douglas Production Function, Short Run Production Function – Law of Variable Proportion and Long Run Production Function – Laws of Returns to Scale – Cost Function – Types of Costs – Fixed Cost and Variable Cost. Average Cost and Marginal Cost, Typical Cost Curves, short run cost output relationship and long run cost output relationship | 4 |
| Unit IV | Market and Firm's Behavior: Type of Market - Revenue – Total Revenue, Average Revenue and Marginal Revenue, features of Competitive Market, Profit Maximization and price determination in Perfect Competitive market, Monopoly – meaning, features of monopoly market and price determination in monopoly market, Price Discrimination in Monopoly Market , Monopolistic Competition-meaning and features and price determination in monopolistic competitive market Oligopoly Market – features, strategies in oligopoly market, Case study of OPEC and global oil market | 6 |

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| Unit V | Overview of Macroeconomics: Measuring National Income, Components of GDP, Methods of National Income Accounting – value added method, income method, expenditure method, Aggregate Demand and Aggregate Supply Curves, Effects of shifts in aggregate demand and aggregate supply curves Real vs. Nominal GDP | 4 |
| Unit VI | Saving and Investment: Overview of Classical and Keynesian Economics, Saving Function, Investment Function, Consumption Function, Keynesian Cross | 3 |
| Unit VII | Financial System: Overview of Financial Market, Financial Intermediaries, Money – meaning, the functions of money, the forms of money Banks and Money Supply, Functions of Commercial Banks and Central Bank, Reserve Bank of India – Case Study of Central Bank Digital Currency [CBDC] | 3 |
| Unit VIII | Inflation: Measuring Cost of Living, The Cost Price Index – Inflation-Types of Inflation, Causes of Inflation - Demand Pull Inflation and Cost Push Inflation. Effect of Inflation | 2 |
| Unit IX | International Trade and Finance: The International Flows of Goods and Capital, Exports, Imports, Net Exports, Exchange Rate, Theory of Exchange Rate Determination-, The Bretton Woods System, Flexible Exchange Rate Purchasing Power Parity Theory and Balance of Payment Accounts-Current Account and Capital Account, The International Monetary Fund and The World Bank | 4 |

Tutorials: Around 16 tutorials will be given to students in alignment with the theory classes. In the batch of 25-20 students, these tutorials will enhance practical application of microeconomics and macroeconomics.

| SR NO | Session | TITLE | HOURS |
|-------|---------|---|-------|
| 1 | I | Numerical related to Price Elasticity | 02 |
| 2 | II | Numerical related to Production Function – calculation of Total Product, Average Product and Marginal Product | 02 |
| 3 | III | Numerical related to Cost Function – calculation of Total Cost, Average Cost and Marginal Cost | 02 |
| 4 | IV | Case Study of OPEC – Oligopoly Market Strategy | 02 |
| 5 | V | Computation of National Income under Value Added Method and Expenditure Method | 02 |
| 6 | VI | Computation of National Income under Income Method | 02 |
| 7 | VII | Computation of APC, MPC, APS, MPS and Multiplier Effect | 02 |
| 8 | VIII | Credit Creation by Commercial Banks and case Study of Central Bank Digital Currency in India | 02 |

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Self-Study:

Self-study contents will be declared at the commencement of the semester. Around 10 % of the questions will be asked from the self-study contents.

Suggested Readings/ References:

1. Mankiw, N. G. Principles of Economics. South-Western Cengage Learning.
2. Samuelson P. A. & Nordhaus, W.D. Economics. India: Tata McGraw Hill Education.
3. Pindyck R.S., Rubinfeld D. L. & Mehta P. L. Microeconomics. New Delhi, India: Pearson.
4. Ahuja H.L. Modern Economics. New Delhi, India: S. Chand & Company Ltd.
5. Dornbusch, R., Fisher, S, & Startz, R. Macro Economics. India: Tata McGraw Hill Education.
6. Gupta, G. S. Macroeconomics Theory and Applications. India: Tata McGraw Hill.

L = Lecture, T = Tutorial, P = Practical, C = Credit

^ this is not an exhaustive list

