Ph.D. Entrance Test - SYLLABUS - 2019

Economics
Part - 1

Research Methodology (50%)

Course Contents:
Unit - I
Theory of research: pure and applied research, methodological issues in social sciences, formulation of research problems, theoretical frame and hypothesis formulation. Research Plan: criteria for good research, broad aspects of research in social sciences: ideal research plan and its different stages. Types of research: descriptive study, analytical study, historical study, survey study and case study

Unit - II
Selection, definition and measurement of variables - reliability and validity of measurement, data collection methods: primary and secondary sources of data; time-series and cross-sectional data; participant observation method, interview method, and questionnaire method - translation of data - presenting and revision - selection and training of field work - field problems in data collection. Sampling techniques - economics and logic of sampling - sampling procedure - random sampling, purposive sampling and stratified sampling; Analysis and interpretation of data - editing, coding, tabulation and preparation of report writing and bibliography

Unit - III
Statistical methods - basic statistical concepts and techniques - measurement of central tendency - measurement of variability - skewness and kurtosis - correlation - bivariate regression technique - statistical description and inference

Unit - IV
Theory of Probability: Concepts - Events, sample space, Random variable, probability distribution functions, Norma and Binomial Distributions
Part- 2
Core Subject (50 %)

Subject: ECONOMICS

Unit-1 : Micro Economics

- Theory of Consumer Behaviour
- Theory of Production and Costs
- Decision making under uncertainty Attitude towards Risk
- Game Theory – Non Cooperative games
- Market Structures, competitive and non-competitive equilibria and their efficiency properties
- Factor Pricing
- General Equilibrium Analysis
- Efficiency Criteria: Pareto-Optimality, Kaldor – Hicks and Wealth Maximization
- Welfare Economics: Fundamental Theorems , Social Welfare Function
- Asymmetric Information: Adverse Selection and Moral Hazard

Unit-2 : Macro Economics

- National Income: Concepts and Measurement
- Determination of output and employment: Classical & Keynesian Approach
- Consumption Function
- Investment Function
- Multiplier and Accelerator
- Demand for Money
- Supply of Money
- IS – LM Model Approach
• Inflation and Phillips Curve Analysis
• Business Cycles
• Monetary and Fiscal Policy
• Rational Expectation Hypothesis and its critique

Unit- 3: **Statistics and Econometrics**

• Probability Theory: Concepts of probability, Distributions, Moments, Central Limit theorem
• Descriptive Statistics – Measures of Central tendency & dispersions, Correlation, Index Numbers
• Sampling methods & Sampling Distribution
• Statistical Inferences, Hypothesis testing
• Linear Regression Models and their properties – BLUE
• Identification Problem
• Simultaneous Equation Models – recursive and non-recursive
• Discrete choice models
• Time Series Analysis

Unit-4: **Mathematical Economics**

• Sets, functions and continuity, sequence, series
• Differential Calculus and its Applications
• Linear Algebra – Matrices, Vector Spaces
• Static Optimization Problems and their applications
• Input-Output Model, Linear Programming
• Difference and Differential equations with applications

Unit-5: **International Economics**

• International Trade: Basic concepts and analytical tools
• Theories of International Trade
• International Trade under imperfect competition
• Balance of Payments: Composition, Equilibrium and Disequilibrium and Adjustment Mechanisms
• Exchange Rate: Concepts and Theories
• Foreign Exchange Market and Arbitrage
• Gains from Trade, Terms of Trade, Trade Multiplier
• Tariff and Non-Tariff barriers to trade; Dumping
• GATT, WTO and Regional Trade Blocks; Trade Policy Issues
• IMF & World Bank

Unit-6: Public Economics

• Market Failure and Remedial Measures: Asymmetric Information, Public Goods, Externality
• Regulation of Market – Collusion and Consumers’ Welfare
• Public Revenue: Tax & Non-Tax Revenue, Direct & Indirect Taxes, Progressive and non-Progressive Taxation, Incidence and Effects of Taxation
• Public expenditure
• Public Debt and its management
• Public Budget and Budget Multiplier
• Fiscal Policy and its implications

Unit-7: Money and Banking

• Components of Money Supply
• Central Bank
• Commercial Banking
• Instruments and Working of Monetary Policy
• Non-banking Financial Institutions
• Capital Market and its Regulation

Unit-8: Growth and Development Economics

• Economic Growth and Economic Development
• Theories of Economic Development: Adam Smith, Ricardo, Marx, Schumpeter, Rostow, Balanced & Unbalanced growth, Big Push approach.
• Models of Economic Growth: Harrod-Domar, Solow, Robinson, Kaldor
• Technical progress – Disembodied & embodied; endogenous growth
• Indicators of Economic Development: PQLI, HDI, SDGs
• Poverty and Inequalities – Concepts and Measurement
• Social Sector Development: Health, Education, Gender
Unit-9: **Environmental Economics and Demography**
- Environment as a Public Good
- Market Failure
- Coase Theorem
- Cost-Benefit Analysis and Compensation Criteria
- Valuation of Environmental Goods
- Theories of Population
- Concepts and Measures: Fertility, Morbidity, Mortality
- Age Structure, Demographic Dividend
- Life Table
- Migration

Unit-10: **Indian Economy**
- Economic Growth in India: Pattern and Structure
- Agriculture: Pattern & Structure of Growth, Major Challenges, Policy Responses
- Industry: Pattern & Structure of Growth, Major Challenges, Policy Responses
- Services: Pattern & Structure of Growth, Major Challenges, Policy Responses
- Rural Development – Issues, Challenges & Policy Responses
- Foreign Trade: Structure and Direction, BOP, Flow of Foreign Capital, Trade Policies
- Infrastructure Development: Physical and Social; Public-Private Partnerships
- Reforms in Land, Labour and Capital Markets
- Centre-State Financial Relations and Finance Commissions of India; FRBM
- Poverty, Inequality & Unemployment