MADHYANCHAL
PROFESSIONAL UNIVERSITY
Ratibad, Bhopal, M.P.

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Syllabus for

Economics

Ph. D Entrance Examination

(2018-19)

Paper I Mathematics

Linear Algebra: Vector space, basis, linear dependence and independence, matrix algebra, eigen values and eigen vectors, rank, solution of linear equations – existence and uniqueness.

Calculus: Mean value theorems, theorems of integral calculus, evaluation of definite and improper integrals, partial derivatives, maxima and minima, multiple integrals, line, surface and volume integrals, Taylor series.

Differential Equations: First order equations (linear and nonlinear), higher order linear differential equations, Cauchy's and Euler's equations, methods of solution using variation of parameters, complementary function and particular integral, partial differential equations, variable separable method, initial and boundary value problems.

Vector Analysis: Vectors in plane and space, vector operations, gradient, divergence and curl, Gauss's, Green's and Stoke's theorems.

Complex Analysis: Analytic functions, Cauchy's integral theorem, Cauchy's integral formula; Taylor's and Laurent's series, residue theorem.

Numerical Methods: Solution of nonlinear equations, single and multi-step methods for differential equations, convergence criteria.

Probability and Statistics: Mean, median, mode and standard deviation; combinatorial probability, probability distribution functions - binomial, Poisson, exponential and normal; Joint and conditional probability; Correlation and regression analysis.

ECONOMICS PAPER - II

PAPER-II

1. **Micro-economic Analysis**
   Demand analysis — Marshallian, Hicksian and Revealed preference approaches
   Theory of Production and Costs
   Pricing and output under different forms of market structure
   Factor Pricing analysis
   Elements of general equilibrium and new welfare economics

2. **Macro-economic Analysis**
   Determination of output and employment — Classical approach, Keynesian approach, Consumption hypotheses
   Demand for Money — Fisher and Cambridge versions, Approaches of Keynesian, Friedman, Patinkin, Baumol and Tobin
   Supply of Money, Determinants of money supply, High-powered money, Money multiplier
   Phillips Curve analysis
   Business cycles — Models of Samuelson, Hicks and Kaldor.
   Macro-economic Equilibrium — Relative roles of monetary and fiscal policies

3. **Development and Planning**
   Economic Growth, Economic Development and sustainable Development — Importance of institutions — Government and markets — Perpetuation of underdevelopment — Vicious circle of poverty, circular causation, structural view of underdevelopment — Measurement of development conventional, HDI and quality of life indices
   Theories of Development — Classical, Marx and Schumpeter; Economic Growth — Harrod-Domar model, instability of equilibrium, Neoclassical growth — Solow's model, steady state growth. Approaches to development : Balanced growth, critical minimum effort, big push, unlimited supply of labour, unbalanced growth, low income equilibrium trap
   Indicators and measurement of poverty
   Importance of agriculture and industry in economic development — choice of techniques and appropriate technology — Investment criteria — Elementary idea of cost-benefit analysis
   Trade and Aid — International trade as 'engine of growth' — Globalization and LDC's
   Objectives and role of monetary and fiscal policies in economic development
   Techniques of planning; Plan Models in India; planning in a market-oriented economy

4. **Public Finance**

Role of the Government in Economic activity — Allocation, distribution and stabilization functions; Private, Public and Merit goods

The Public Budgets — Kinds of Budgets, Zero-base budgeting, different concepts of budget deficits; Budgets of the Union Government in India

Public Expenditure — Hypotheses; effects and evaluation

Public Revenue — Different approaches to the division of tax burden, incidence and effects of taxation; elasticity and buoyancy; taxable capacity

Public Debt — Sources, effects, burden and its management

Fiscal Federalism —Theory and problems; Problems of Centre-State Financial relations in India

Fiscal Policy — Neutral and compensatory and functional finance; balanced budget multiplier

5. **International Economics**

Theories of International Trade : Empirical verification and Relevance

International Trade under Imperfect competition

Terms of Trade and Economic Growth — Secular

Deterioration of Terms of Trade Hypothesis — a critical review

Equilibrium/disequilibrium in Balance of Payment — Traditional, Absorption and Monetary approaches for adjustment in the Balance of Payments, Foreign Trade multiplier

Impact of Tariffs, Partial and general equilibrium analysis; Political economy of Non-Tariff Barriers

Theory of regionalism at Global level — Collapse of Bretton-Wood System — Recent Monetary reforms

Trade Policy and Reforms in India

6. **Indian Economy**

Basic Economic indicators — National income, performance of different sectors

Trends in prices and money supply

Agriculture — Institutional and technological aspects, new agricultural policy

Industry — New industrial policy and liberalization

Money and banking — Concepts of money supply, inflation, monetary policy and financial sector reforms

Public finance — Trends in revenue and expenditures of the Central and State Governments, Public debt; analysis of the Union Budget

Foreign trade — Trends, Balance of payments and trade reforms

Poverty, unemployment, migration and environment

7. **Statistical Methods**

Measures of Central tendency, dispersion, skewness and kurtosis
Elementary theory of probability — Binomial, Poisson and Normal distributions
Simple correlation and regression analysis
Statistical inferences — Applications, sampling distributions (t, χ^2 and F tests), sampling of attributes, testing of Hypothesis
Index numbers and time series analysis
Sampling and census methods, types of sampling and errors

PAPER –III

General Aptitude (GA)

Verbal Ability: English grammar, sentence completion, verbal analogies, word groups, instructions, critical reasoning and verbal deduction.

Numerical Ability: Numerical computation, numerical estimation, numerical reasoning and data interpretation.