KHALSA COLLEGE AMRITSAR
(An Autonomous College)

M.A. (ECONOMICS) SEMESTER – I

MAE–101: Microeconomics–I

Time: 3 Hours   **Max. Marks: 100**
                                                                          Theory : 75
                                                                          Internal Assessment : 25

Note: Instructions for the Paper–Setters/Examiners:

(i)   First question consisting of 8 short answer questions (based upon the entire syllabus), out of which 5 questions are to be attempted (each carrying 3 marks).
(ii)   Students will attempt 1 out of 2 questions from each of four units (15 marks each).

Unit – I

Basic Economic Problem – Choice and Scarcity; Deductive and Inductive Methods of Analysis; Role of assumptions in theory formulation; Positive and Normative Economics; Economic Models.

Elasticities (Price, cross, income) of demand – theoretical aspects and empirical estimation; elasticity of supply.

Unit – II

Theories of demand – utility; indifference curve (price,income and substitution effects, Slutsky theorem, compensated demand curve) and their applications; Revealed preference theory.

Unit – III

Consumer's choice involving risk: describing risk, preference towards risk, the demand for risky assets; Consumer's behaviour under asymmetric information; implications of asymmetric information, market signalling, moral hazard, managerial incentives in an integrated firm,asymmetric information in labour markets–efficiency wage theory; Recent developments indemand analysis (pragmatic approach and linear expenditure systems).

Unit – IV

Production function: Short period and long period; law of variable proportions and returns to scale; Isoquants – Least cost combination of inputs; Returns to scale; Economies of scale; Multiproduct firm; Elasticity of substitution; Euler's theorem; Technical progress and production; Cobb–Douglas, CES and their properties, Traditional and modern theories of costs – Derivation of cost functions from production function; (C–D and CES).

M.A. (ECONOMICS) SEMESTER – I

Suggested Readings:

1.   Kreps, David M. (1990), A Course in Microeconomic Theory, Princeton University Press, Princeton.

2.   Koutsoyiannis, A. (1979), Modern Microeconomics, (2nd Edition), Macmillan Press, London.

3.   Layard, P.R.G. and A.W. Walters (1978), Microeconomic Theory, McGraw Hill, New York.

4.   Sen, A. (1999), Microeconomics: Theory and Applications, Oxford University Press, New Delhi.

5.   Varian, H. (2000), Microeconomic Analysis, W.W. Norton, New York.

6.   Henderson, J.M. and R.E. Quandit (1980), Microeconomic Theory: A Mathematical Approach, McGraw Hill, New Delhi.

7.   Da Costa G.C. (1980), Production Prices and Distribution, Tata McGraw Hill, New Delhi.

8.   Healthfields and Wibe (1987), An Introduction to Cost and Production Functions, Macmillan, London.

9.   Bronfenbrenner, M. (1979), Income Distribution Theory, Macmillan, London.

KHALSA COLLEGE AMRITSAR
(An Autonomous College)

M.A. (ECONOMICS) SEMESTER – I

MAE–102: Macroeconomics–I

Time: 3 Hours   **Max. Marks: 100**
                                                                                        Theory : 75
                                                                          Internal Assessment : 25

Note: Instructions for the Paper–Setters/Examiners:

   (i)   First question consisting of 8 short answer questions (based upon the entire syllabus),
           out of which 5 questions are to be attempted (each carrying 3 marks).
   (ii)   Students will attempt 1 out of 2 questions from each of four units (15 marks each).

Unit – I

National Income and Accounts: Concept of national income, Circular Flow of Income (four
sector economy); Social Accounts and its uses. Classical and Keynesian Models of income
determination.

Unit – II

Consumption Function: Keynes psychological law of consumption; short–run and long–run
consumption function; Empirical evidence on consumption function; income–consumption
relationship–absolute income, relative income, life cycle and permanent income hypotheses.

Unit – III

Investment Function: Inducement to invest – Marginal efficiency of investment and
Marginalefficiency of capital criterion; the accelerator and investment behaviour; Jorgenson's
Model.

Unit – IV
Money: Concept of money; A behavioural model of money supply determination, High powered
money and money multiplier; control of money supply.
Classical and Keynesian approach to demand for money; Post–Keynesian approaches to demand
for money – Patinkin and the Real Balances Effect, Approaches of Baumol and Tobin; Friedman
and modern quantity theory.

Suggested Readings

1. Beckerman, W.: An Introduction to National Income Analysis.

2. Studenski, Paul A.: The Income of Nations: Part 2, Theory and Methodology.

3. Uma Datta Roy (1995), National Income Accounting, Macmillan, Choudhary.

4. Ackley, G. (1978), Macroeconomics: Theory and Policy, Macmillan, New York.

5. Blackhouse, R. and A. Salansi (Eds.) (2000), Macroeconomics and the Real World (2 Vols.), Oxford University Press, London.

6. Branson, W.A. (1989), Macroeconomic Theory and Policy, (3rd ed.), Harper and Row, New York.

7. Dombusch, R. and F. Star (1997), Macroeconomics, McGraw Hill, Inc., New York.

8. Hall, R.E. and J.B. Taylor (1986), Macroeconomics, W.W. Norton, New York.

9. Heljdra, B.J. and V.P. Fred clock (2001), Foundations of Modern Macroeconomics Oxford University Press, New Delhi.

10. Jha, R. (1991), Contemporary Macroeconomic Theory and Policy, Wiley Eastern Ltd., New Delhi.

11. Romer, D.L. (1996), Advanced Macroeconomics, McGraw Hill Company Ltd., New York.

12. Shapiro, E. (1996), Macroeconomic Analysis, Galgotia Publications, New Delhi.

13. Surrey, M.J.C. (Ed.), (1976), Macroeconomic Themes, Oxford University Press, Oxford.

KHALSA COLLEGE AMRITSAR
(An Autonomous College)
M.A. (ECONOMICS) SEMESTER – I
MAE–103: Quantitative Methods for Economists–I

Time: 3 Hours   **Max. Marks: 100**
                                                                        Theory : 75
                                                                        Internal Assessment : 25

Note: Instructions for the Paper–Setters/Examiners:

   (i)   First question consisting of 8 short answer questions (based upon the entire syllabus),
           out of which 5 questions are to be attempted (each carrying 3 marks).
   (ii)   Students will attempt 1 out of 2 questions from each of four units (15 marks each).
   (iii)   Candidates are allowed to use non-scientific calculator .

Unit – I

Concept of function and types of functions; Rules of differentiation; Application to revenue,
cost, demand, supply functions;Elasticities and their types; production function; Rules of
partialdifferential and interpretation of partial derivatives; homogeneous functions and Euler's
theorem.

Unit – II

Problem of maxima and minima in single and multivariable (upto 3) functions;
Unconstrainedand constrained optimization in simple economic problems; Simple applications in
marketequilibrium; Concept of integration; Simple rules of integration; Application to
consumer'ssurplus and producer's surplus.

Unit – III

Determinants and their basic properties; Solution of simultaneous equations through
Cramer'srule, Concept of matrix–their types, simple operations on matrices, matrix inversion and
rank ofa matrix; Concept of quadratic form, Eigen roots and Eigen vectors; Introduction to
input–outputanalysis.

Unit – IV

Linear Programming –Formulation and solution through graphical and simplex method.
Statement of basic theorems of linear programming; Formulation of the dual of primal and its
interpretation; Concept of duality;
Concept of a game; Strategies –simple and mixed; Value of a game; Saddle point solution;
Simple applications.

Suggested Readings:

1.   Allen, R.G.D. (1974), Mathematical Analysis for Economists, Macmillan Press and ELBS, London.

2.   Chiang, A.C. (1986), Fundamental Methods of Mathematical Economics, McGraw Hill, New York.

3.   Gupta, S.C. (1993), Fundamentals of Applied Statistics, S. Chand & Sons, New Delhi.

4.   Handry, A.T. (1999), Operations Research, Prentice Hall of India, New Delhi.

5.   Speigal, M.R. (1992), Theory and Problems of Statistics, McGraw Hill Book Co., London.

6.   Taha, H.A. (1977), Operations Research : An Introduction (6th Edition), Prentice Hall of India Pvt. Ltd., New Delhi.

7.   Yamane, Taro (1975), Mathematics for Economists Prentice Hall of India, New Delhi.

8.   Vygodsky, G.S. (1971), Mathematical Handbook (Higher Mathematics), Mir Publishers, Moscow.

9.   Kothari, C.R. (1992), An Introduction to Operations Research, Vikas Publishing House, New Delhi.

10.   Mustafi, C.K. (1992), Operations Research : Methods and Practice, Wiley Eastern, New Delhi.

KHALSA COLLEGE AMRITSAR
(An Autonomous College)

M.A. (ECONOMICS) SEMESTER – I
MAEO-4: Money, Banking and Finance

Time: 3 Hours   Max. Marks: 100
                                                                      Theory : 75
                                                         Internal Assessment : 25

Note: Instructions for the Paper–Setters/Examiners:

(i)   First question consisting of 8 short answer questions (based upon the entire syllabus), out of which 5 questions are to be attempted (each carrying 3 marks).
(ii)   Students will attempt 1 out of 2 questions from each of four units (15 marks each).

Unit – I
Money : Definition, functions, role of money in socialistic and capitalistic economy, kinds of money, Inside and Outside money, money supply-components and sources, money multiplier process, Analysis of money supply in India : Significance and Determinants. Demand for Money: The traditional quantity theory; Fisher's equation ofexchange; Cambridge cash balance approach. Keyensian theory, Friedman's wealth theory, Baumol's and Tobin's analysis, empirical evidence.

Unit – II

Commercial Banks: Systems, Balance Sheet of a bank. Portfolio management-objectives and theories,Innovative banking, Credit creation by Commercial banks. Non-Bank Financial Intermediaries (NBFI's)- meaning and functions. Development banking in India- meaning and functions. impact on Indian economy.

Unit – III

Indian Banking Sector: Commercial Banks: Structure, Nationalisation of banks in India-Introduction, progress, achievements and failures. Banking Sector reforms-review of NarasimhamCommittee reports, implementation and impact. Regional Rural Banks(R.R. B's); Cooperative Banks in India- Structure, importance and weaknesses.

Central Banking: meaning and functions, role in developing countries, credit control, Reserve Bank of India : limitations of RBI .Monetary policy:Objectives, Targets and Indicators. Lags in Monetary policy

Unit – IV
Rate of Interest: Determination; Theories of the term structure of interest rates, Interest rate policy in India. Money and Capital markets: Structure, Treasury Bills Market,Call money market and Stock markets in India. Dichotomy in Indian money market.

Suggested Readings:

1.   Thorn, Richard S., (1976), Introduction to Money and Banking, New York, Harper & Row.

2.   Luckett, D.G., (1976), Money and Banking, McGraw Hill, New York.

3.   Ritter, L.S. and Sibler, W.L., (1977), Principles of Money, Banking and Markets, Basic Books, New York, 3rd ed.

4.   Laidler, D.E.W. (1972), The Demand for Money, Theories and Evidence, Allied Publisher, Delhi.

5.   Bhole, L.M., (1998), Financial Institutions and Markets Structure, Growth and Innovations, 2nd ed.

6.   Government of India, Economic Survey (various issues).

7.   Reserve Bank of India (1985), Report of the Committee to review the working of the Monetary System.

8.   Reserve Bank of India (1991), Report of the Committee on the Financial System (Narasimha Committee Report).

KHALSA COLLEGE, AMRITSAR
(AN AUTONOMOUS COLLEGE)
M.A. (ECONOMICS) SEMESTER – I

MAEO-10: Economics of Public Enterprises

Time: 3 Hours   **Max. Marks: 100**
                                                       Theory : 75
                                                       Internal Assessment : 25

Note: Instructions for the Paper–Setters/Examiners:

(i)   First question consisting of 8 short answer questions (based upon the entire syllabus), out of which 5 questions are to be attempted (each carrying 3 marks).
(ii)   Students will attempt 1 out of 2 questions from each of four units (15 marks each).

Unit – I

Role of Public Sector in economic development. Objectives, scope and growth of public sector in India. Cost-benefit analysis, shadow prices, social rate of discount, practical approaches in project selection.

Unit – II

Organisational Pattern of public enterprises. Management of Public enterprises. Personal Management in Public Enterprises, Financial management in Public enterprises.

Unit – III

Evaluation of performance of public enterprises, Measurement of efficiency in public enterprises, Pricing Policy of Public Enterprises.

Unit – IV

Accountability of Public Enterprises, Relationship with the government, Auditing of Public Enterprises. Role of Bureau of Public Enterprises, Special Committees in Public Enterprises. Case study of public sector steel industry in India-growth performance, pricing and management.

Suggested Readings:

1. Institute of Public Enterprises, Pricing and Investment in Public Enterprises Lavinge, M., Socialist Economies of Soviet Union and Europe.

2. Khera, S.S., Management and Control in Public Enterprises.

3. Sinha, J.B.S., Some Problems of Public Sector Organisation.

4. Sharma, B.S., Financial Planning in Indian Public Sector.

5. Government of India, Annual Reports on the Industrial and Commercial Undertakings of Central Government.

6. Narayan Laxmi, Principles and Practices of Public Enterprises Management.

7. Aggarwal, G.C., Public Sector Steel Industrial in India

KHALSA COLLEGE AMRITSAR
(An Autonomous College)

M.A. (ECONOMICS) SEMESTER – II
MAE-201: Microeconomics-II

Time: 3 Hours   Max. Marks: 100
                                                                        Theory : 75
                                                              Internal Assessment : 25

Note: Instructions for the Paper–Setters/Examiners:

(i)   First question consisting of 8 short answer questions (based upon the entire syllabus), out of which 5 questions are to be attempted (each carrying 3 marks).
(ii)   Students will attempt 1 out of 2 questions from each of four units (15 marks each).

Unit I

Perfect Competition: Short run and long run equilibrium of the firm and industry, price and output determination, supply curve.
Monopoly – short run and long run equilibrium, price discrimination, inter-temporal price discrimination and peak-load pricing, monopoly control and regulation.
Monopolistic competition – General and Chamberlin approaches to equilibrium, equilibrium of the firm and group with product differentiation and selling costs, excess capacity under monopolist competition, criticism of monopolistic competition.

Unit II

Oligopoly – Non-collusive (Cournot, Bertrand, Edgeworth, Chamberlin, Kinked demand curve and Stackelberg's solution) and collusive (Cartels and Mergers, price leadership and basing point price system) models.
Price and output determination under monopsony and bilateral monopoly.

Unit III

Baumol's sales revenue maximization model; Williamson's model of managerial discretion; Marris model of managerial enterprise; Full cost pricing rule, limit pricing theory.
Game theory and competitive strategy : dominant strategies and nash equilibrium, repeated games, threats, commitments and credibility.

Neo-classical approach – Marginal productivity theory; Modern Theory of distribution; technical progress and factor shares.

Unit IV
Pigovian welfare economics; Measurement of social welfare, Pareto optimal conditions; Perfect competition and pareto optimality; Compensation principle; Social welfare function : Burgeson's

criterion, grand utility possibility frontier and welfare function; market failure, externalities and property rights, public goods, incomplete information; Theory of Second Best, Arrow's impossibility theorem.

Partial and General Equilibrium, equity-efficiency trade off; existence, stability and uniqueness of equilibrium and general equilibrium.

Suggested Readings:

1.   Kreps, David M. (1990), A Course in Microeconomic Theory, Princeton University

        Press, Princeton.

2.   Koutsoyiannis, A. (1979), Modern Microeconomics, (2nd Edition), Macmillan Press,

        London.

3.   Layard, P.R.G. and A.W. Walters (1978), Microeconomic Theory, McGraw Hill, New

        York.

4.   Sen, A. (1999), Microeconomics : Theory and Applications, Oxford University Press,

        New Delhi.

5.   Varian, H. (2000), Microeconomic Analysis, W.W. Norton, New York.

6.   Henderson, J.M. and R.E. Quandit (1980), Microeconomic Theory : A Mathematical

        Approach, McGraw Hill, New Delhi.

7.   Da Costa G.C. (1980), Production Prices and Distribution, Tata McGraw Hill, New

        Delhi.

8.   Healthfields and Wibe (1987), An Introduction to Cost and Production Functions,

        Macmillan, London.

9.   Bronfenbrenner, M. (1979), Income Distribution Theory, Macmillan, London.

KHALSA COLLEGE AMRITSAR
(An Autonomous College)

M.A. (ECONOMICS) SEMESTER – II

MAE–202 : Macroeconomics–II

Time: 3 Hours   **Max. Marks: 100**
                                                                          Theory : 75
                                                        Internal Assessment : 25

Note: Instructions for the Paper–Setters/Examiners:

(i)   First question consisting of 8 short answer questions (based upon the entire syllabus), out of which 5 questions are to be attempted (each carrying 3 marks).
(ii)   Students will attempt 1 out of 2 questions from each of four units (15 marks each).

Unit – I

Neo–classical and Keynesian Synthesis: The IS–LM model; Extension of IS–LM model withgovernment sector, labour market and flexible prices. Relative effectiveness of monetary andfiscal policies.

Unit – II

Theory of Inflation : Classical, Keynesian and Monetarist approaches; Structuralist theory ofinflation; Philips curve analysis – Short run and long run Philips curve; Natural Rate of Unemployment hypothesis; Tobin's modified Philips curve; Adaptive expectations and rationalexpectations; Policies to control inflation.

Unit – III

Business Cycles: Theories of Schumpeter, Kaldor, Samuelson, Hicks and Goodwin's model; Control of business cycles.

Unit – IV

Macroeconomics in an Open Economy: Mundell–Fleming model–Asset markets. Monetary approach to balance of payments.
Recent Developments in Macroeconomics: The New classical critique of micro foundations,the New classical approaches; Policy implications of New classical approach; New KeynesianApproach.

Suggested Readings:

1.   Beckerman, W. : An introduction to National Income Analysis.
2.   Studenski, Paul A. : The Income of Nations : Part 2, Theory and Methodology.
3.   Uma Datta Roy (1995), National Income Accounting, Macmillan, Choudhary.

4.   Ackley, G. (1978), Macroeconomics : Theory and Policy, Macmillan, New York.

5.   Blackhouse, R. and A. Salansi (Eds.) (2000), Macroeconomics and the Real World (2 Vols.), Oxford University Press, London.

6.   Branson, W.A. (1989), Macroeconomic Theory and Policy, (3rd ed.), Harper and Row, New York.

7.   Dombusch, R. and F. Star (1997), Macroeconomics, McGraw Hill, Inc., New York.

8.   Hall, R.E. and J.B. Taylor (1986), Macroeconomics, W.W. Norton, New York.

9.   Heljdra, B.J. and V.P. Fred Clock (2001), Foundations of Modern Macroeconomics Oxford University Press, New Delhi.

10.   Jha, R. (1991), Contemporary Macroeconomic Theory and Policy, Wiley Eastern Ltd., New Delhi.

11.   Romer, D.L. (1996), Advanced Macroeconomics, McGraw Hill Company Ltd., New York.

12.   Scarfe, B.L. (1977), Cyce Growth and Inflation, McGraw Hill, New York.

13.   Shapiro, E. (1996), Macroeconomic Analysis, Galgotia Publications, New Delhi.

14.   Surrey, M.J.C. (Ed.), (1976), Macroeconomic Themes, Oxford University Press, Oxford.

KHALSA COLLEGE AMRITSAR
(An Autonomous College)

M.A. (ECONOMICS) SEMESTER – II

MAE–203: Quantitative Methods for Economists–II

Time: 3 Hours   **Max. Marks: 100**
                                                                Theory : 75
                                                                Internal Assessment : 25

Note: Instructions for the Paper–Setters/Examiners:

(i)   First question consisting of 8 short answer questions (based upon the entire syllabus), out of which 5 questions are to be attempted (each carrying 3 marks).
(ii) Students will attempt 1 out of 2 questions from each of four units (15 marks each).
(iii) Candidates are allowed to use non-scientific calculator .

Unit – I
Meaning, assumptions and limitations of a simple correlation and regression analysis; Karl Pearson'sproduct moment and Spearman's rank correlation coefficients and their properties; Concept ofthe least–square technique and the lines of regression; Standard error of estimate; Partial andmultiple correlation and regression (applications only).

Unit – II
Analysis of Time Series : Definition, components of time series, measurement of trend by different methods, measurement of seasonal variations.
Methods of estimation of non–linear equations – parabolic, exponential, geometric, modified exponential, Gompertz and logistic, Growth rate and simple properties of time path of continuous variables.

Unit – III
Deterministic and non–deterministic experiments; Various types of events; Classical and empirical definitions of probability; Laws of addition and multiplication; Conditional probabilityand concept of independence; Baye's theorem and its applications.Elementary concept ofrandom variable; Probability, mass and density functions; Expectation, moments and momentgenerating functions; Properties (without derivations) of binomial, Poisson and normaldistributions.

Unit – IV

Basic concepts of sampling – random and non–random sampling; Simple random sampling; Stratifiedrandom and p.p.s. sampling; Concept of an estimator and its sampling distribution; Concepts ofstatistical hypotheses – Null and alternative ; level of significance; Type–1 and Type–2 errors;Confidence interval; Hypothesis testing in respect of means and proportions.

M.A. (ECONOMICS) SEMESTER – II

Suggested Readings:

1. Chou, Y. (1975), Statistical Analysis, Holt Reinhart, General Statistics, Prentice Hall of India, New Delhi.
2. Croxton, Crowden and Klein (1971), Applied General Statistics, Prentice Hall of India, New Delhi.
3. Millar, J. (1996), Statistics for Advanced Level, Cambridge University Press, Cambridge.
4. Nagar, A.L. and R.K. Das (1993), Basic Statistics, Oxford University Press, New Delhi.
5. Hogg, R.V. and A.T. Crag (1970), Introduction to Mathematical Statistics (3rd Edition),Macmillan Publishing Co. New York.
6. Sukhtame, P.V. and B.V. Sukhtame (1970), Sampling Theory of Survey with Applications, Iowa State University Press, Ames.

KHALSA COLLEGE AMRITSAR
(An Autonomous College)
M.A. (ECONOMICS) SEMESTER – II

MAEO-9: Economics of Agriculture

Time: 3 Hours   Max. Marks: 100
                                                                      Theory : 75
                                                                      Internal Assessment : 25

Note: Instructions for the Paper–Setters/Examiners:

(i)   First question consisting of 8 short answer questions (based upon the entire syllabus), out of which 5 questions are to be attempted (each carrying 3 marks).
(ii)   Students will attempt 1 out of 2 questions from each of four units (15 marks each).

Unit I

Basic Agricultural Economics – Meaning and scope .Role of agriculture in Economic development .Interdependence between agriculture and industry. Farm Organisation – Introduction, peasent farming, capitalistic farming, state farming ,collective farming, cooperative farming.Models of agricultural development – Lewis, Fei-Ranis, Gorgenson's, Mellor, Schultz and Boserup's model.

Unit II

Basic Inputs – Irrigation, HYV seeds, mechanization, distribution mechanism of inputs; New agricultural strategy and its impact on employment and income distribution.
Food security and international trade, concept, threat, indicators and mechanism to food security.
Food assistance programme (Domestic and International).

Unit III

Institutional Structure – Nature of emerging agrarian structure – co-operative farming and its evaluation with reference to productivity, employment and income distribution, Environment and soil erosion, sustainable development.
Organic farming – meaning, techniques of organic farming and its scope in India.

Unit IV

Agricultural Marketing in India– Nature of supply and demand for agricultural products; income andprice elasticity of demand and supply, rationale for stateintervention; agricultural price policy (recent). Agricultural credit in India- Sources and problems.
Main features of International trade in Agri-products.
WTO – subsidies and Indian agriculture.

Suggested Readings:

1.   Southworth, H.M. and Johnston, B.F. (ed.) (1967), Agricultural Development and EconomicGrowth.

2.   Heady, E.O. (1952), Economics of Agricultural Production and Resources Use.

3.   Schultz, T.W. (1964), Transforming Traditional Agriculture.

4.   Mellor, J.W. (1960), The Economics of Agriculture Development.

5.   Dasgupta, B. (1980), The New Agricultural Technology in India, Mcmillan.

6.   Peter, Domo (1972), Land Reforms and Economic Development.

7.   KaurRajbans, Agriculture Price Policy in Economic Development.

8.   Dantwala, M.L. (1986), Agricultural Growth India, I.S.A.E.

9.   Kahlon, A.S. (1984), Pricing Policy in India.

10.   Bhalla, G.S. and Tyagi, D.S. (1989), Patterns in Indian Agricultural Development, RSID.

11.   Bansal, P.C. (1981), Agricultural Problems of India.

12.   Economic and Political Weekly, Regular Features on Review of Agriculture.

KHALSA COLLEGE AMRITSAR
(An Autonomous College)

M.A. (ECONOMICS) SEMESTER – II
MAEO-12: Operations Research

Time: 3 Hours   **Max. Marks: 100**
                                                      Theory : 75
                                                      Internal Assessment : 25

Note: Instructions for the Paper–Setters/Examiners:

  (i)   First question consisting of 8 short answer questions (based upon the entire syllabus), out of which 5 questions are to be attempted (each carrying 3 marks).
  (ii)   Students will attempt 1 out of 2 questions from each of four units (15 marks each).
  (iii)   Candidates are allowed to use non-scientific calculator .

Unit – I

Definition, significance, scope and limitations of operations research.
Linear Programming: Assumptions, formulation and solution by graphic method, simplex and two phase simplex method.

Unit – II

Transportation Problems, Assignment Problems.
Game Theory: Competitive games, Pure strategy, by Dominance, Mixed strategy (2x2, mx2 and2xm), Two persons zero sum games, 'n' persons zero sum games, Solution of Game problemswith Linear Programming.

Unit – III

Queuing Models: Characteristics
Single channel Queuing models:
Model I (M/M/I) : (FCFS/_/_)
Model II (M/M/I) : (SIRO/_/_)
Model III (M/M/I) : (FCFS/N/_) – (Finite Queue Length Model)
Model IV (M/M/I) : (FCFS/n/N) - (Limited Source Model)
Inventory Model with Deterministic Demand and Probabilistic Demand.

Unit – IV

Replacement models of items that deteriorate (money value constant and changes), For items thatfail suddenly (Individual replacement policy and Group replacement policy) Project Schedulingby PERT and CPM

Suggested Readings:

1.   Wagner, H.M. (1973), Principles of Operations Research with Applications to Managerial Decisions.

2.   Levin, R.I. and Kirk Patrick, C.A., (1978), Quantitative Approaches to Management.

3.   Hartley, R.V., (1976), Operations Research: A Managerial Emphasis.

4.   Hardy, A. Taha, (1976), An Introduction to Operations Research, 2nd ed.

5.   Gauss, F., Linear Programming.

6.   Kambo, N.S., Mathematical Programming Techniques.

KHALSA COLLEGE AMRITSAR

(An Autonomous College)
M.A. (ECONOMICS) SEMESTER – III

MAE-301: Economics of Development

Time: 3 Hours   **Max. Marks: 100**
                                                              Theory : 75
                                                              Internal Assessment : 25

Note: Instructions for the Paper–Setters/Examiners:

   (i)   First question consisting of 8 short answer questions (based upon the entire syllabus), out of which 5 questions are to be attempted (each carrying 3 marks).
   (ii)   Students will attempt 1 out of 2 questions from each of four units (15 marks each).

Unit I

Economic growth and economic development – Meaning and measurement Concept of sustainable development. Human Development Index and Physical Quality of Life Index (PQLI). Obstacles to economic development, Sources of economic growth, Growth and Income Distribution : The Kuznets Hypothesis.

Growth models – Harrod-Domar, Solow, Meade, Joan Robinson, Kaldor.

Unit II

Theories of Development – Classical, Marxian, Schumpeter, Stage theory.

Approaches to Development – Myrdals theory of circular causation, Social Dualism, Technological Dualsim, Models of Dualistic growth (Lewis, Ranis and Fei and Jorgenson models).

Unit III

Strategies of development: Big push, Balanced growth, Unbalanced growth, Critical Minimum Efforts thesis, Low level equilibrium trap, Dependency theory.Agriculture and economic development.

Unit IV

Trade and development, two-gap theory, import substitution vs. export-led strategies. Role of capital formation, internal and external sources of capital formation, human capital formation

and economic development, Role of foreign investment in economic development.

M.A. (ECONOMICS) SEMESTER – III

Suggested Readings:

1.   Yotopoulos and Nugent (1976), Economics of Development – Empirical Investigation, Harper and Row, New York.

2.   Higgins, B. (1966), Economic Development – Problems, Patterns and Policies, Central Book Depot, Allahabad.

3.   Todaro, M.P. (1966), Economic Development in Third World, Orient Longman, Hyderabad.

4.   Meier, G. (ed.) (1995), Leading Issues in Economic Development, Oxford University, New Delhi.

5.   Thirlwall, A.P. (1976), Financing Economic Development, Macmillan, London.

6.   Griffin &Enos. (1970), Planning Development, Edison-Wesley, London.

7.   Eckaus and Parikh (1968), Planning for Growth, MIT Press, Cambridge.

8.   Rudra, A. (1975), Indian Plan Models, Allied, Bombay.

9.   U.N.I.D.O. (1978), Guidelines for Project Evaluation, Oxford & IBH, New Delhi.

10.   Chenery, H. and T.N. Srinivasan (Eds.) (1989), Handbook of Development Economics, Vols. 1 & 2, Elsevier, Amsterdam.

11.   Ghatak, S. (1986), An Introduction to Development Economics, Allen and Unwin, London.

12.   Hogendorn, J. (1996), Economic Development, W.W. Norton, New York.

13.   Meier, G.M. and D. Seers (Eds.) (1987), Pioneers in Development, Oxford University Press, New York.

14.   Mehrotra S. and J. Richard (1998), Development with a Human Face, Oxford University Press, New Delhi.

KHALSA COLLEGE AMRITSAR

(An Autonomous College)

M.A. (ECONOMICS) SEMESTER – III

MAE-302: International Economics-I

Time: 3 Hours   **Max. Marks: 100**
                                                                   Theory : 75
                                                     Internal Assessment : 25

Note: Instructions for the Paper–Setters/Examiners:

  (i)   First question consisting of 8 short answer questions (based upon the entire syllabus), out of which 5 questions are to be attempted (each carrying 3 marks).
  (ii)   Students will attempt 1 out of 2 questions from each of four units (15 marks each).

Unit – I

The pure theory of international trade – theories of absolute advantage, comparative advantageand opportunity costs, modern theory of international trade; Theorem of factor priceequalization; Empirical testing of theory of absolute cost and comparative cost – Heckscher-Ohlin theory of trade.

Unit – II

Kravis and Linder theory of trade, Role of dynamic factors, i.e. changes in tastes, technology andfactor endowments in explaining the emergence of trade; The Rybnszynski theorem – conceptand policy implications of immiserzing growth; Causes of emergence and measurement of intraindustrytrade and its impact of developing economies.

Unit – III

Measurements of gains from trade and their distribution; Concepts of terms of trade, their usesand limitations; Hypothesis of secular deterioration of terms of trade, its empirical relevance andpolicy implications for less developed countries; Trade as an engine of economic growth.

Unit – IV

The theory of interventions (Tariffs, Quotas and non-tariff barriers); Economic effects of tariffsand quotas on national income, output, employment, terms of trade, income distribution, balanceof payments on trade partners both in partial and general equilibrium analysis. The politicaleconomy of non-tariff barriers and their implications; nominal, effective and optimum rates oftariffs – their measurement, impact and welfare implications.

Suggested Readings:

1.   Bhagwati, J. (Ed.) (1981), International Trade : Selected Readings, Cambridge University Press, Massachusetts.

2.   M. (1990), International Trade : Theory and Policy, McGraw Hill, Kogakusha, Japan.

3.   Kenen, P.B. (1994), The International Economy, Cambridge University Press, London.

4.   Kindleberger, C.P. (1973), International Economics, R.D. Irwin, Homewood.

5.   Krugman, P.B. and M. Dkstfeld (1994), International Economics, Theory and Policy, Glenview, Foresman.

6.   Salvatore, D. (1997), International Economics, Prentice Hall, Upper Saddle, NJJ. New York.

7.   Soderston, Bo (1991), International Economics, TheMcmillan Press Ltd. London.

8.   Corden, W.M. (1965), Recent Developments in the Theory of International Trade, Princeton University Press, Princeton.

9.   Greenway, D. (1983), International Trade Policy, Macmillan Publishers Ltd., London.

10.   Aggarwal, M.R. (1979), Economic Cooperation, South Aisa, S. Chand and Co., New Delhi.

11.   Godstein, M. (1998), The Asian Financial Crisis : Causes and Systematic Implication, Institute for International Economics, Washington, D.C.

12.   Heller, H. Robert (1968), International Monetary Economics, Prentice Hall, India.

13.   Niehand, J. (1984), International Monetary Economics, John Hopkins University Press, Baltimore.

14.   Brahmananda, P.R. (1982), The IMF Loan and India's Economic Failure, Himalaya Publishing House, Bombay.

15.   Kenen, P.B. (1995), Economic and Monetary Union in Europe, Cambridge University Press, U.K.

16.   Soloman, R. (1982), The International Monetary System 1946-85 Harper and Row Publishers, New York.

17.   Tew, B. (1985), The Evaluation of the International Monetary System, 1945-85, Hutchinson.

18.   Whalley, John (1985), Trade Liberalization Among Major Trading Areas, Cambridge University Press, Mass.

KHALSA COLLEGE AMRITSAR

(An Autonomous College)

M.A. (ECONOMICS) SEMESTER – III

MAE-303: Indian Economy

Time: 3 Hours   **Max. Marks: 100**
                                                   Theory : 75
                                     Internal Assessment : 25

Note: Instructions for the Paper–Setters/Examiners:

(i) First question consisting of 8 short answer questions (based upon the entire syllabus), out of which 5 questions are to be attempted (each carrying 3 marks).

(ii) Students will attempt 1 out of 2 questions from each of four units (15 marks each).

Unit – I

Indian Economy

National Income of India: Growth, Structure, Inter-state variations; limitations of national income estimates. Indian Planning: Need, objectives, Types, Strategies and Evaluation. Achievements and Appraisal of 11th Five Year Plan. 12th Five Year Plan- Introduction. NITI Aayog: Introduction and Objectives

Unit – II

Major Economic Problems : Unemployment, Poverty and inequalities, Inflation,
Regional imbalances, Parallel Economy

Unit – III

Agriculture : Production and productivity trends, Green Revolution, Role of institutional and technological factors, Agriculture Price Policy, Food Security and sustainable agricultural development.

Unit – IV

Industrial sector : Policy, pattern and performance, Public vs Private Sector, Public-private partnership.
Foreign sector : Composition, growth, pattern and trends, Role of MNCs, Balance of payments, W.T.O. and India.

Suggested Readings:

1.   Ahluwalia, I.J. and I.M.D. Little (Eds.) (1999), India's Economic Reforms and Development (Essay in honour of Manmohan Singh, Oxford University Press, New Delhi.
2.   Bardhan , P.K. (9th Edition) (1999), The Political Economy of Development in India, Oxford University Press, New Delhi.
3.   Bawa, R.S. and P.S. Raikhy (Ed.) (1997), Structural Changes in Indian Economy, Guru Nanak Dev University Press, Amritsar.
4.   Brahmananda, P.R. and V.R. Panchmukhi (Eds.) (2001), Development Experience in the Indian Economy : Inter-State Perspectives, Bookwell, Delhi.
5.   Chakravarty, S. (1987), Development Planning : The Indian Experience, Oxford University Press, New Delhi.
6.   Dantwala, M.L. (1996), Dilemmas of Growth : The Indian Experience, Sage Publications, New Delhi.
7.   Datt, R. (Ed.) (2001), Second Generation Economic Reforms in India, Deep & Deep Publications, New Delhi.
8.   Government of India, Economic Survey, (Annual), Ministry of Finance, New Delhi.
9.   Jain, A.K. (1986), Economic Planning in India, Ashish Publishing House, New Delhi.
10.   Jalan, B. (1992), The Indian Economy – Problems and Prospects, New Delhi.
11.   Jalan, B. (1996), India's Economy Policy – Preparing for the Twenty Fist Century, Viking, New Delhi.
12.   Joshi, V. and I.M.D. Little (1999), India : Macro Economics and Political Economy, 1964-1991, Oxford University Press, New Delhi.
13.   Parikh, K.S. (1999), Indian Development Report – 1999-2000, Oxford University Press, New Delhi.
14.   Handbook on Indian Economy – RBI Publication.
15.   Sandesara, J.C. (1992), Industrial Policy and Planning, 1947-1991 : Tendencies, Interpretations and Issues, Sage Publications, New Delhi.
16.   Sen, R.K. and B. Chatterjee (2001), Indian Economy : Agenda for 21st Century (Essays in honour of Prof. P.R. Brahmananda), Deep & Deep Publications, New Delhi.
17.   Bawa, R.S. and P.S. Raikhy (2000), Punjab Economy : Emerging Issues, G.N.D.U., Amritsar.

KHALSA COLLEGE AMRITSAR

(An Autonomous College)

M.A. (ECONOMICS) SEMESTER – III

MAEO-1: Public Finance

Time: 3 Hours   **Max. Marks: 100**
                                                                                                        Theory : 75
                                                                                        Internal Assessment : 25

Note: Instructions for the Paper–Setters/Examiners:

   (i)   First question consisting of 8 short answer questions (based upon the entire syllabus),
            out of which 5 questions are to be attempted (each carrying 3 marks).
   (ii)   Students will attempt 1 out of 2 questions from each of four units (15 marks each).

Unit – I

Meaning and scope of Public Finance, Role of Public Finance in developing countries.

Distinction between public, private and merit goods.

Public revenue : sources, taxation, tax elasticity and buoyancy, taxable capacity and tax effort;

Theory of incidence; equity in taxation; principles of taxation; direct and indirect taxes; effect of taxation on production and distribution; major taxes in India; tax reforms in India.

Goods and Services Tax: Merits and Demerits.

Unit – II

Theory of public expenditure, structure and growth of public expenditure, reasons for growth in public expenditure; Wagner's law; Effects of public expenditure on production and distribution. Role of public expenditure in developing countries.

Unit – III

Public budgets: kinds of budget, programme budgeting and zero-base budgeting; different concepts of budget deficits, budget of Union Government in India.

Public debt: classification, significance and burden of public debt, principles of debt management, external debt servicing, Public debt in India.

Unit – IV

Fiscal federalism – theory and problems. Criteria for resource transfer from Union to States, Centre-State financial relations in India, recommendations of the latest Finance Commission. Fiscal policy – objectives, interdependence of monetary and fiscal policies.

M.A. (ECONOMICS) SEMESTER – III

Suggested Readings:

1. Musgrave, R.A. (1959), The Theory of Public Finance, McGraw Hill, Kogakusha, Tokyo.

2. Musgrave, R.A. and P.B. Musgrave (1976), Public Finance in Theory and Practice, McGrawHill, Kogakusha, Tokyo.

3. Shome, P. (Ed.) (1995), Tax Policy : Handbook, Tax Division, Fiscal AffairsDepartment,International Monetary Fund, Washington D.C.

4. Herber, B.P. (1967), Modern Public Finance, Richard D. Irwin, Homewood.

5. Chelliah, Raja J. (1971), Fiscal Policy in Underdeveloped Countries, George Allen and Unwin, London.

6. Srivastava, D.K. (Ed.) (2000), Fiscal Federalism in India, Har-Anand Publications Ltd., NewDelhi.

7. Government of India (1992), Reports of the Tax Reforms Committee – Interim and Final (Chariman : Raja J. Chelliah).

8. Mundle, S. (1999), Public Finance Policy : Issues for India, Oxford University Press, NewDelhi.

KHALSA COLLEGE AMRITSAR

(An Autonomous College)

M.A. (ECONOMICS) SEMESTER – III

MAEO-3: Theory of Statistics

Time: 3 Hours   **Max. Marks: 100**
                                                                          Theory : 75
                                                         Internal Assessment : 25

Note: Instructions for the Paper–Setters/Examiners:

(i)   First question consisting of 8 short answer questions (based upon the entire syllabus), out of which 5 questions are to be attempted (each carrying 3 marks).
(ii)   Students will attempt 1 out of 2 questions from each of four units (15 marks each).
(iii)   Candidates are allowed to use non-scientific calculator .

Unit –I

Axiomatic definition of probability, Laws of addition and multiplication, conditional probability, Baye'stheorem ,Chebychev's inequality.   Meaning oftheoretical probability distributions; derivation of main properties of binomial, poisson, normal,gamma and beta distributions.

Unit – II

Meaning of sampling distribution of a statistic; desirable properties of point estimators; interval estimation; derivation of main properties of   2, t and F distributions; maximum likelihood estimation (properties without derivation) and applications.

Unit – III

Basic concepts of hypotheses testing; tests of significance based upon Z, Chi-square 2, t and F distributions.

Unit – IV

Non-parametric tests (without derivations; stress on numerical examples): Ordinary sign test,

Wilcoxon's signed rank test, test of randomness, Wald-Wolforutz run test, Mann-Whitney test,Kruskel-Wallis test, Kendall's concordance test.

M.A. (ECONOMICS) SEMESTER – III

Suggested Readings:

1.   Anderson, T.W. (1972), An Introduction to Multivariate Analysis, Wiley Eastern Pvt.

        Ltd., New Delhi.

2.   Chou, Y. (1975), Statistical Analysis, Holt, Reinhart and Winton, New York.

3.   Goon, A.M., Gupta, M.K. and Das Gupta, B. (1977), An Outline of Statistical Theory

        Vols. I & II, The World Press Ltd., Calcutta.

4.   GujratiDamoder, N. (1995), Basic Econometrics, (3rd Edition), McGraw Hills, New
        York.

5.   Hoel, P.G., Introduction to Mathematical Statistics, IIIrd Edition, Asia Publishing House,
        New Delhi.

6.   Hogg, R.V. and Graig, A.T. (1989), Introduction to Mathematical Statistics (4th Edition),
        Maxwell Macmillan International Edition.

7.   Hogg, R.V. and Tanis, E.A. (2001), Probability and Statistical Inference (6th Edition),

        Pearson Education, Asia.

8.   Kapur, J.N. and Saxena, H.C. (1997), Mathematical Statistics (11th Edition), S. Chand &
        Co., New Delhi.

9.   Lind, D.A., Marshall, W.C. and Mason, R.D. (2002), Statistical Techniques in Business
        and Economics (11th Edition), McGraw-Hill, New York.

10.   Lindeman, R.H., P.F. Merenda and R.Z. Gold (1980), Introduction to Bivariate and
        Multivariate Analysis, Scott Forseman.

11.   Miller, J. (1996), Statistics for Advanced Level, Cambridge University Press,
        Cambridge.

12.   Mood, A.M., Graybill, F.A., and Boes, C., An Introduction to Theory of Statistics,

        McGraw Hill, Kogakusha.

13.   J.Wichern, Applied Multivariate Statistical Analysis.

14.   Walpole, R.E., Myers, H., Myers, S.L. and Ye, K. (2002), Probability and Statistics for
        Engineers and Scientists (7th Edition), Pearson Education, Asia.

KHALSA COLLEGE AMRITSAR

(An Autonomous College)

M.A. (Economics) Semester-III

Paper: Economics of Labour (MAEO-2)

Time: 3 Hours   **Max. Marks: 100**
                                                                              Theory : 75
                                                                              Internal Assessment : 25

Note: Instructions for the Paper–Setters/Examiners:

   (i)   First question consisting of 8 short answer questions (based upon the entire syllabus),
            out of which 5 questions are to be attempted (each carrying 3 marks).
   (ii)   Students will attempt 1 out of 2 questions from each of four units (15 marks each).

Unit – I

Nature, scope and subject matter of labour economics; Labour Market : Concept, characteristics,

nature and characteristics and growth of labour markets in India. Theories of Labour markets :

Classical, Neo-classical, Dualistic Labour Markets.

Unit – II

Employment and Unemployment – Concept, types and measurements; nature of unemployment

in India, Employment policy in five year plans.

Wages: classical and neo-classical and bargaining theories of Wages. Concept of Wages –

minimum wage, living wage and fair wages in India. Wages and productivity.

Unit – III

Trade Unions; Objectives and functions, Trade unions in India.

Industrial Relations in India. Industrial Disuputes – Causes and extent. Dispute settlement

Machinery in India in the framework of Industrial Disputes Act.

Unit – IV

Social Security – social assistance, social insurance and social security policy in India. Labour Welfare: State policies with respect to labour welfare in India. Labour market reforms in India exit policy and measures to make labour market flexible; Second National Commission on labour. Globalization and labour markets.

Suggested Readings:

1. Datar, B.N. : Labour Economics

2. Dobb, Maurice : Wages

3. Dunlop J.T. (ed) : Theory of Wages Determination.

4. Dunlop, J.T. : Wages Determination under Trade Unionism.

5. Dunlop, J.T. : Industrial Relations Systems.

6. Government of India : Indian Labour Year Book, 1967. Labour Investigation Committee, Main Report, 1946. Report of the Fair Wages Committee, 1949, Report of the National Commission on Labour in India, 1969.

7. Hajela, P.D. (1998), Labour Restructuring in India : A Critique of the New Economic Policies, Commonwealth Publishers, New Delhi.

8. I.L.O. : Approaches to Social Society.

9. Lester, R.A. (1964), Economics of Labour, (2nd Edition), Macmillan, New York.

10. McConnell, C.R. and S.L. Brue (1986), Contemporary Labour Economics, McGraw-Hill, New York.

11. Pant, S.C. : Indian Labour Problems.

12. Papola, T.S. : Principles of Wages Determination.

13. Papola, T.S., P.P. Ghosh and A.N. Sharma (Eds.) (1993), Labour, Employment and Industrial Relations in India, B.R. Publishing Corporation, New Delhi.

14. Reynolds, L.G. : Labour Economics and Labour Relations.

15. Rothschild : Theory of Wages.

16. Rosenberg M.R. (1988), Labour Markets in Low Income Countries in Chenergy, H.B. and T.N. Srinivasan, (Eds), The Handbook of Development Economics, North-Holland, New York.

17. Sexena, S.R. : Labour Problems and Social Welfare.

18. Singh, V.B. : An Introduction to the Study of Labour Problems.

19. Venkata Ratnam, C.S. (2001), Globalization and Labour-Management Relations Dynamics of Change, Sage Publications/Response Books, New Delhi.

KHALSA COLLEGE AMRITSAR

(An Autonomous College)

M.A. (ECONOMICS) SEMESTER – IV

MAE-401: Economics of Planning

Time: 3 Hours   **Max. Marks: 100**
                                                                        Theory : 75
                                                                        Internal Assessment : 25

Note: Instructions for the Paper–Setters/Examiners:

   (i)   First question consisting of 8 short answer questions (based upon the entire syllabus), out of which 5 questions are to be attempted (each carrying 3 marks).
   (ii)   Students will attempt 1 out of 2 questions from each of four units (15 marks each).

Unit – I

Economic Planning : Meaning, objectives, rationale and types of planning; Different planning systems, Requisites for successful planning.Planning in third world countries in the context of Globalisation and Liberalisation.

Unit – II

Investment criteria: Rationale and types. Choice of Technique: Sen-Dobb Thesis, labour

intensive vs. capital intensive technology; Choice of technique in underdeveloped countries and appropriate technique for UDC's. International transfer of technology- channels, importance and problems in the transfer of technology.

Unit – III

Project evaluation: Meaning, origin, rationale, project planning and commercial profitability

criteria; social cost benefit analysis-meaning, technique and importance. Shadow Prices: Meaning,importance and methods to compute shadow prices, Little Mirrless and UNDIO approaches – A comparison.

UNIT – IV

Indian plan models: Harrod-Domar, Mahalanobis, Frisch and Sandee, Manne and Rudra, CELP model and its applications.

Indian Planning: Objectives, strategy and evaluation of Indian planning. Resource mobilization for Indian plans.

Suggested Readings:

1.   Griffin, K.D. and Enos, J. L., Planning and Development.

2.   Rudra, Ashok, Indian Plan Models.

3.   Eckaus, P.S. and Parikh, K.S., Planning for Growth.

4.   Todaro, P., Development Planning : Models & Methods

5.   Sen, A.K., Choice of Techniques.

6.   United Nations, Guidelines for Project Evaluation.

7.   Bhathacharya, D., India's Five Year Plans: Economic Analysis.

8.   Yotopoulous, P.A. and Nugent, G., Economics of Development and Planning: An

        Empirical Analysis.

9.   Meier, G (Ed.), Leading Issues in Economic Development (selected readings).

KHALSA COLLEGE AMRITSAR

(An Autonomous College)

M.A. (ECONOMICS) SEMESTER – IV

MAE-402: International Economics-II

Time: 3 Hours
Max. Marks: 100
Theory : 75
Internal Assessment : 25

Note: Instructions for the Paper–Setters/Examiners:

(i)   First question consisting of 8 short answer questions (based upon the entire syllabus), out of which 5 questions are to be attempted (each carrying 3 marks).

(ii)   Students will attempt 1 out of 2 questions from each of four units (15 marks each).

Unit – I

Meaning and components of Balance of Payments; Equilibrium and disequilibrium in the balance of payments; The process of adjustment under systems of gold standard, fixed exchange rates and flexible exchange rates; Expenditure-reducing and expenditure-switching policies and direct controls for adjustment; Policies for achieving internal and external equilibrium simultaneously under alternative exchange rate regimes.

Unit – II

Exchange rate; meaning and theories for the determination of exchange rate (PPP, monetary,

Portfolio, and balance of payments). A critical review of the monetary approach to the theory of balance of payments adjustment.

Relative merits and demerits of Fixed and Flexible exchange rates in the context of growth and development in developing countries.

Unit – III

Forms of economic cooperation; Reforms for the emergence of trading blocs at the global level; Static and Dynamic effects of a custom union and free trade area; Rationale and economic progress of SAARC/SAPTA and ASEAN regions.Problems and prospects of forming a custom union in the Asian Regionalism (EU, NAFTA); Multilateralism and WTO; Theory of short-term capital movements and East-Asian Crisis and lessons for developing countries.

Unit – IV

Emerging International Monetary System with special reference of Post-Maastrishit developments and developing countries; Reform of the International Monetary System.

India anddeveloping countries; Portfolio and Foreign Direct Investments; International Debt Crisis.

International trade and financial institutions – Functions of GATT/WTO (TRIPS, TRIMS), UNCTAD.

IMF: Need, adequacy and determinants of international reserves; Conditionality clause of IMF.World Bank and Asian Development Bank – Their achievements and failures;WTO and World Bank from the point of view of India.

Suggested Readings:

1.   Bhagwati, J. (Ed.) (1981), International Trade : Selected Readings, Cambridge University Press, Massachusetts.

2.   M. (1990), International Trade : Theory and Policy, McGraw Hill, Kogakusha, Japan.

3.   Kenen, P.B. (1994), The International Economy, Cambridge University Press, London.

4.   Kindleberger, C.P. (1973), International Economics, R.D. Irwin, Homewood.

5.   Krugman, P.B. and M. Dkstfeld (1994), International Economics, Theory and Policy, Glenview, Foresman.

6.   Salvatore, D. (1997), International Economics, Prentice Hall, Upper Saddle, NJJ. New York.

7.   Soderston, Bo (1991), International Economics, The Mcmillan Press Ltd. London.

8.   Corden, W.M. (1965), Recent Developments in the Theory of International Trade, Princeton University Press, Princeton.

9.   Greenway, D. (1983), International Trade Policy, Macmillan Publishers Ltd., London.

10.   Aggarwal, M.R. (1979), Economic Cooperation, South Aisa, S. Chand and Co., New

        Delhi.

11.   Godstein, M. (1998), The Asian Financial Crisis : Causes and Systematic Implication,

        Institute for International Economics, Washington, D.C.

12.   Heller, H. Robert (1968), International Monetary Economics, Prentice Hall, India.

13.   Niehand, J. (1984), International Monetary Economics, John Hopkins University Press,
        Baltimore.

14.   Brahmananda, P.R. (1982), The IMF Loan and India's Economic Failure, Himalaya

        Publishing House, Bombay.

15.   Kenen, P.B. (1995), Economic and Monetary Union in Europe, Cambridge University

        Press, U.K.

16.   Soloman, R. (1982), The International Monetary System 1946-85 Harper and Row

        Publishers, New York.

17.   Tew, B. (1985), The Evaluation of the International Monetary System, 1945-85,
        Hutchinson.

18.   Whalley, John (1985), Trade Liberalization Among Major Trading Areas, Cambridge

        University Press, Mass.

KHALSA COLLEGE AMRITSAR

(An Autonomous College)

M.A. (ECONOMICS) SEMESTER – IV

MAE-403: Punjab Economy

Time: 3 Hours   **Max. Marks: 100**
                                                                                   Theory : 75
                                                                                   Internal Assessment : 25

Note: Instructions for the Paper–Setters/Examiners:

   (i)   First question consisting of 8 short answer questions (based upon the entire syllabus),
          out of which 5 questions are to be attempted (each carrying 3 marks).
   (ii) Students will attempt 1 out of 2 questions from each of four units (15 marks each).

Unit – I

Introduction to Punjab Economy

Structure of the economy; Population problem, Unemployment, Physical infrastructure : Role,growth and performance.

Unit – II

Agriculture: Output and cropping pattern, Green Revolution, its impact and implications.

Agricultural Diversification; Need, potential and constraints; Rural credit, Agricultural

Marketing; Contract farming : Need, growth and problems.

Unit – III

Industrial Development: Pattern, performance and potential, State and Industrial development;Recent development in Industrial Policy in Punjab; Disinvestments in industries, Impact ofW.T.O. on Punjab's Industrial Development.

Unit – IV

Financial relations between centre and states, Recommendations of the latest Finance Commission; Pattern of devolution of resources from Centre to Punjab.

State Finances : Emerging pattern of revenue and expenditure in Punjab, Fiscal crisis in Punjab :Causes, impact, solutions.

M.A. (ECONOMICS) SEMESTER – IV

Suggested Readings:

1.   Ahluwalia, I.J. and I.M.D. Little (Eds.) (1999), India's Economic Reforms and Development (Essay in honour of Manmohan Singh, Oxford University Press, New Delhi.

2.   Bardhan, P.K. (9th Edition) (1999), The Political Economy of Development in India, Oxford University Press, New Delhi.

3.   Bawa, R.S. and P.S. Raikhy (Ed.) (1997), Structural Changes in Indian Economy, Guru Nanak Dev University Press, Amritsar.

4.   Brahmananda, P.R. and V.R. Panchmukhi (Eds.) (2001), Development Experience in the Indian Economy: Inter-State Perspectives, Bookwell, Delhi.

5.   Chakravarty, S. (1987), Development Planning: The Indian Experience, Oxford University Press, New Delhi.

6.   Dantwala, M.L. (1996), Dilemmas of Growth: The Indian Experience, Sage Publications, New Delhi.

7.   Datt, R. (Ed.) (2001), Second Generation Economic Reforms in India, Deep & Deep Publications, New Delhi.

8.   Government of India, Economic Survey, (Annual), Ministry of Finance, New Delhi.

9.   Jain, A.K. (1986), Economic Planning in India, Ashish Publishing House, New Delhi.

10.   Jalan, B. (1992), The Indian Economy – Problems and Prospects, New Delhi.

11.   Jalan, B. (1996), India's Economy Policy – Preparing for the Twenty Fist Century, Viking, New Delhi.

12.   Joshi, V. and I.M.D. Little (1999), India: Macro Economics and Political Economy,

1964-1991, Oxford University Press, New Delhi.

13.   Parikh, K.S. (1999), Indian Development Report – 1999-2000, Oxford University Press, New Delhi.

14.   Handbook on Indian Economy – RBI Publication.

15.   Sandesara, J.C. (1992), Industrial Policy and Planning, 1947-1991: Tendencies, Interpretations and Issues, Sage Publications, New Delhi.

16.   Sen, R.K. and B. Chatterjee (2001), Indian Economy: Agenda for 21st Century (Essays in honour of Prof. P.R. Brahmananda), Deep & Deep Publications, New Delhi.

17.   Bawa, R.S. and P.S. Raikhy (2000), Punjab Economy: Emerging Issues, G.N.D.U., Amritsar.

18.   P.S. Raikhy and Paramjit Nanda: Impact of WTO Regime on Punjab Industry.

KHALSA COLLEGE AMRITSAR

(An Autonomous College)

M.A. (ECONOMICS) SEMESTER – IV

MAEO-8: Econometrics

Time: 3 Hours   **Max. Marks: 100**
                                                     Theory : 75
                                                     Internal Assessment : 25

Note: Instructions for the Paper–Setters/Examiners:

(i)   First question consisting of 8 short answer questions (based upon the entire syllabus), out of which 5 questions are to be attempted (each carrying 3 marks).
(ii)   Students will attempt 1 out of 2 questions from each of four units (15 marks each).
(iii)   Candidates are allowed to use non-scientific calculator .

Unit – I

Nature, meaning and scope of econometrics; Simple and general linear regression model –

Assumptions, estimation (through OLS approach) and properties of estimators; Gauss-Markov's theorem; Concepts and derivation of R2 and adjusted R2.

Unit – II

Concept of analysis of variance approach and its applications in regression analysis.Nature, test, consequences and remedial steps of the problems of heteroscedasticity and multicollinearity.

Unit – III

Nature, test, consequences and remedial steps of the problem of auto-correlation; Concepts of

stationarity, random walk model, unit roots (Dicky-Fuller test and Augmented Dicky-Fuller test), Cointegration, Causality analysis (Granger and Sim's test).

Unit – IV

Dummy variables technique: Alternative applications – Testing structural stability of regression models, comparing two regression equations, interaction effect, seasonal analysis; dummy dependent variable technique (profit and logit analyses).

M.A. (ECONOMICS) SEMESTER – IV

Suggested Readings:

1.   Gujarati, D.N. (1995), Basic Econometrics (2nd Edition), McGraw Hill, New Delhi.

2.   Kmenta J. (1997), Elements of Econometrics (Reprint Edition), University of Michigan Press, New York.

3.   Koutsoyiannis, A. (1997), Theory of Econometrics (2nd Edition), The Macmillan Press Ltd., London.

4.   Krishna, K.L. (ed.) (1997), Econometric Applications in India, Oxford University Press, New Delhi.

5.   Maddala, G.S. (Ed.) (1993), Econometric Methods and Applications (2 Vols.) Aldershot U.K.

6.   Theil, H. (1981), Introduction to Econometrics, Prentice Hall of India, New Delhi.

7.   Intrilligator, M.D. (1978), Econometric Methods : Techniques and Applications, Prentice Hall, Englewood Cliffs, New Jersey.

8.   Johnston, J. (1991), Econometric Methods, McGraw Hill Book Co., London.

9.   Chow, G.C. (1983), Econometrics, McGraw Hill, New York.

10.   Franses, P.H. (1998), Time Series Models for Business and Economic Forecasting, Cambridge University Press, New York.

11.   Greene (2000), Econometric Analysis, 4th Ed., Pearson Education, Delhi.

12.   Dougherty, C. (2007), Introduction to Econometrics, 3rd Edition., Oxford University Press, New Delhi.

13.   Stock, J.H. and M.W. Watson (2004), Introduction to Econometrics, Pearson Educatiion, New Delhi.

KHALSA COLLEGE AMRITSAR
(An Autonomous College)

M.A. (ECONOMICS) SEMESTER – IV

MAEO-13: Economics of Environment and Demography

Time: 3 Hours   **Max. Marks: 100**
                                                          Theory : 75
                                                          Internal Assessment : 25

Note: Instructions for the Paper–Setters/Examiners:

(i)   First question consisting of 8 short answer questions (based upon the entire syllabus), out of which 5 questions are to be attempted (each carrying 3 marks).
(ii)   Students will attempt 1 out of 2 questions from each of four units (15 marks each).

Unit – I

Environment-economy-population linkage, environment as a public good, common property resources.

Environmental Economics and Ecological Economics

Environmental benefits – use value and non-use values, methods of measurement, costs of environmental protection, environment and development trade-off, sustainable development, neo-classical and ecological views, integrated environmental and economic accounting.

Unit – II

Environmental policies, Pigouvian taxes and subsidies, marketable pollution permits, Coase theorem, environmental regulations – command and control, incentive based, promoting cleantechnology, energy policy.
Global issues – poverty, population and environment, global agreements, trade and environmentunder WTO regime.

Unit – III

Demography and its concepts, population and economic development, theories of population –
Malthus, optimum theory, theory of demographic transition.
Factors affecting fertility, nuptiality-concept and analysis, mortality-concepts and factors affecting.

Unit – IV

Population policy in India – shift in population control to family welfare to women empowerment, population and human development issues, new population policy, tasks beforeNational Population Commission.

M.A. (ECONOMICS) SEMESTER – IV

Suggested Readings:

1.   Kolstad, C.D. (1999), Environmental Economics, Oxford, New Delhi.

2.   Goodstein, E.S. (2002), Economics and the Environment, John Wiley, New York.

3.   Bhattacharya, R.N. (ed) (2001), Environmental Economics : An Indian Perspective, Oxford, New Delhi.

4.   Sengupta, R.P. (2001), Ecology and Economics : An Approach to Sustainable Development, Oxford, New Delhi.

5.   Kadekodi, G.K. (2004), Environmental Economics in Practice, Oxford, New Delhi.

6.   Bogue, D.J. (1971), Principles of Demography, John Wiley, New York.

7.   Novell, C. (1988), Methods and Models in Demography, Bellhaven Press, London.

8.   Srinivasan, K. (1998), Basic Demographic Techniques and Applications, Sage, New Delhi.

9.   Simon, J.L. (1992), Population and Development in Poor Countries, Princeton University Press.

10.   Bose, A (1996), India's Basic Demographic Statistics, B.R. Publishing Corporation, New Delhi.

11.   Agarwala S.N. (1972), India's Population Problem, Tata McGraw-Hill, Bombay.

12.   Chaubey, P.K. (2000), Population Policy in India, Kanisha Publications, New Delhi.

KHALSA COLLEGE AMRITSAR
(An Autonomous College)
M.A. (ECONOMICS) SEMESTER – IV
Paper: Industrial Economics (MAEO-5)

Time: 3 Hours   **Max. Marks: 100**
                                                                                          Theory : 75
                                                                                          Internal Assessment : 25

Note: Instructions for the Paper–Setters/Examiners:

  (i)   First question consisting of 8 short answer questions (based upon the entire syllabus),
         out of which 5 questions are to be attempted (each carrying 3 marks).
  (ii)   Students will attempt 1 out of 2 questions from each of four units (15 marks each).

Unit – I

Framework and Problems of Industrial Economics
Concept and organization of a firm – ownership, control and objectives of the firm; Passive and
Active behaviour of the firm.
Market Structure:
Sellers' concentration; Product differentiation; Entry conditions; Economies of Scale; Market
structure and innovation; Theories of industrial location – Weber and Sargent Florence; Factors
affecting location.

Unit – II

Market Conduct:
Product Pricing - Theories and evidence. Mergers and Acquisitions; diversification.
Market Performance:
Growth of the firm – Theory and evidence; Constraints on firm's growth; Productivity,
efficiency and capacity utilization – Concept and measurement including evidence from Indian
Economy.

Unit – III

Indian Industrial Growth and Pattern:
Industrial Policy in India – evolution and paradigm shift; Recent trends in Indian industrial
growth; MNCs, transfer of technology and issues related with TRIMS; Privatization: Forms and
global and Indian evidence; Regional industrial growth and concentration in India and dispersal
policy; economic concentration and remedial measures; Issues in Industrial proliferation and
environmental preservation.

Unit -IV

Project Appraisal:
Cost benefit analysis – Net Present Value (NPV) and internal rate of return (IRR) criteria –
balancing private and social returns.
Industrial Labour:
Structure of industrial labour; Globalization and labour; Exit Policy and safety nets.

Suggested Readings:

1. Hajela, F.D. (1998), Labour Restructuring in India : A Critique of the New Economic Policies, Commonwealth Publishers, New Delhi.

2. .Jhabvala, R. and R.K. Subrahmanya (Eds.) (2000), The Unorganized Sector : Work Security and Social Protection, Sage Publications, New Delhi.

3. Lester, R.A. (1964), Economics of Labour (2nd Edition), Macmillan, New York.

4. McConnel, C.R. and S.L. Brue (1986), Contemporary Labour Economics, McGraw-Hill, New York.

5. Papola, I.S., P.P. Ghosh and A.N. Sharma (Eds.) (1993), Labour Employment and Industrial Relations in India, B.R. Publishing Corporation, New Delhi.

6. Rosenberg, M.R. (1988), "Labour Market in Low Income countries", in H.B. Chenery and T.N. Srinivasan (eds.) The Handbook of Development Economics, North-Holland, New York.

7. VenkataRatnam, C.S. (2001), Globalization and Labour Management Relations : Dynamics of Change, Sage Publications Response Books, New Delhi.

8. Chadha, V. and G.S. Bhalla (1999), Industrial Development in India: The Post-Reform Scene, Kalyanai Publishers, New Delhi.

KHALSA COLLEGE AMRITSAR
(An Autonomous College)

B.A./B.Sc. (Semester System) (12+3 System of Education)

SEMESTER–I
ECONOMICS
Micro Economics

Time: 3 Hours   **Max. Marks: 100**
                                                      Theory : 75
                                                      Internal Assessment : 25

Note: Instructions for the Paper–Setters/Examiners:

   (i)   First question consisting of 8 short answer questions (based upon the entire syllabus),
           out of which 5 questions are to be attempted (each carrying 3 marks).
   (ii)   Students will attempt 1 out of 2 questions from each of four units (15 marks each).
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UNIT–I

Introductory: Definition of Economics, Adam Smith, Marshall and Robbins, Nature and Scope
of Microeconomics. Basic Concepts: Human wants, Utility and Satisfaction, Basic Economic
Problems.
Demand Function, Supply Function, Price Determination, Slope and Elasticity, Elasticity of
Demand – Price, Income and Cross and their Measurement. Utility Analysis

UNIT–II

Indifference Curve Analysis
Theory of Production and Costs: Concept of Production Function. Laws of Returns to Scale
and Law of Variable Proportions .
Cost: Traditional and Modern Costs Theory, Concepts and Costs curves in the short run and
long run. Revenue Curves and their relationship with elasticity of demand.

UNIT–III

Price determination under Various Market forms:
Perfect Competition- Features and Equilibrium of firm and Industry in Short run and Long run;
Monopoly- Features and Equilibrium under short run and Long run, Discriminating Monopoly.
Monopolistic Competition – Features, equilibrium of firm and Group in Short run and Long run

UNIT–IV

Marginal Productivity Theory of Factor Pricing (with reference to labour) under Perfect Competition and Imperfect Competition, Modern Theory of Distribution.
Rent: Concept; Ricardian Theory and Modern Theory of Rent.
Interest: Concept of interest; classical theory, lonable funds theory.
Profit: Concept of profit; Risk theory and uncertainty theory.

Recommended Texts:

1. R.G. Lipsey: Introduction to positive economics, EL BS, London, 1969.

2. Stonier & Hague: A Text book of Economics Theory, 9th ed., ELBS, London, 1973.

3. Paul Samuelson : Economics, Mcgraw Hill, Kogakushad, Tokyo, 1973.

4. N.C. Ray : Microeconomic Theory, Macmillan, Delhi, 1975.

5. D. Salvatore : Microeconomics.

6. A. Koutsoyiannis: Modern microeconomics.

KHALSA COLLEGE AMRITSAR
(An Autonomous College)
B.A./B.Sc. (Semester System) (12+3 System of Education)

SEMESTER–I
QUANTITATIVE TECHNIQUES
QUANTITATIVE TECHNIQUES–I

Time: 3 Hours   **Max. Marks: 100**
                                                                Theory : 75
                                                                Internal Assessment : 25

Note: Instructions for the Paper–Setters/Examiners:

(i)   First question consisting of 8 short answer questions (based upon the entire syllabus), out of which 5 questions are to be attempted (each carrying 3 marks).
(ii)   Students will attempt 1 out of 2 questions from each of four units (15 marks each).
(iii)   Candidates are allowed to use non-scientific calculator .

UNIT–I

Solution of Linear Equations: Solution of Simultaneous Linear Equations(upto two variable case), Applications of Linear Equations in Economics; Solution of Quadratic Equations. Series: Arithmetic Progression Series, Geometric Progression Series and their applications in Economics.

UNIT–II

Elements of Analytical Geometry:
Straight line: Slope and Intercept of straight line, Equations of straight line- Intercept form and two-point form.
Circle: Standard form and General Equation of the Circle.
Set theory: Union, intersection, difference, symmetric difference, complementation.

UNIT–III
Difference between a constant and a variable, concept of functions, classifications of functions, Limits and continuity of a function (Excluding Trigonometric and Inverse functions): Concept of differentiation (ab-intio principle).

UNIT–IV

Derivatives (Excluding Trigonometric and Inverse Functions): Rules of derivatives; functions of functions rule; derivatives of implicit functions, parametric functions, exponential functions, logarithmic functions; successive derivatives.

Books Recommended:

1. Monga, G.S.: Mathematics and Statistics for Economics.

2. Yamane, Taro: Mathematics for Economists.

3. Allen, R.G.D.: Mathematical Analysis for Economists.

4. Edward T Dowling: Introduction to Mathematical Economics.

KHALSA COLLEGE AMRITSAR

(An Autonomous College)

B.A./B.Sc. (Semester System) (12+3 System of Education)

SEMESTER–II
ECONOMICS

INDIAN ECONOMY

Time: 3 Hours   **Max. Marks: 100**
Theory : 75
Internal Assessment : 25

Note: Instructions for the Paper–Setters/Examiners:

  (i)   First question consisting of 8 short answer questions (based upon the entire syllabus), out of which 5 questions are to be attempted (each carrying 3 marks).
  (ii)   Students will attempt 1 out of 2 questions from each of four units (15 marks each).

UNIT–I

Nature of Indian Economy. Agriculture in India: Nature and Importance of Agriculture, Causes of Decline in Productivity, Sustainable Agricultural Growth. Green Revolution and New Agricultural Strategy. Land Reforms: Need, Implementation and Critical Evaluation.

UNIT–II

Industry: Performance and Problems of Industrial Development in India, Public Sector and PrivateSector, Privatization of Public Sector Enterprises.Role of Small scale and Cottage Industries.
Latest Industrial Policy
.
UNIT–III

Foreign Trade: Direction and Composition of Exports and Imports Since 1991, Recent Foreign Trade Policy, Balance of Payments Problem. Foreign Capital and Multinational Corporations in India.

UNIT–IV

Features of Population Growth in India.Major Problems of the Economy - Unemployment, Poverty and Inequality, Indian Tax Structure, Centre-State Financial Relations and Inflation.
Planning- Objectives, Strategy, Evaluation of Planning in India. A Brief Idea of the Objectives, Targets, Resources of the Latest Five Year Plan.

Recommended Texts:

1. Mishra and Puri: Inidian Economy, Himalaya Publication House, Mumbai, 2003.
2. Rudder Dutt and: Indian Economy (Latest), S. Sundharam Chand & Co. Ltd., New Delhi, 1998.
3. A.N. Aggarwal: Indian Economy, Vikas Publications, Delhi, 1975.
4. C.D. Wadhwa: Indian Economic Policy (1980), Tata McGraw Hill, Bombay,1973

KHALSA COLLEGE AMRITSAR
(An Autonomous College)

B.A./B.Sc. (Semester System) (12+3 System of Education)
SEMESTER–II
QUANTITATIVE TECHNIQUES

QUANTITATIVE TECHNIQUES–II

Time: 3 Hours   **Max. Marks: 100**
Theory : 75
Internal Assessment : 25

Note: Instructions for the Paper–Setters/Examiners:

(i)   First question consisting of 8 short answer questions (based upon the entire syllabus), out of which 5 questions are to be attempted (each carrying 3 marks).
(ii)   Students will attempt 1 out of 2 questions from each of four units (15 marks each).
(iii)   Candidates are allowed to use non-scientific calculator .

UNIT–I

Statistics: Definition, Scope in Economics, Significance, Limitations. Tabulation, Classification and Graphical representation of data (Pie Chart, Bar Diagram, Histogram, Frequency Polygon, Ogive Curve, etc.).

UNIT–II

Concepts and Measures of Central Tendency: Mean, Median and Mode; Concepts and Measures of Dispersion; Concepts and Measures of Skewness and Kurtosis.

UNIT–III

Correlation Analysis: Introduction, Importance, Karl-Pearson's Coefficient of Correlation, Spearman's Rank Correlation Coefficient, Simple Regression Analysis; Difference between Correlation and Regression, Lines of Regression, Inter-relationships between Correlation and Regression Coefficients.

UNIT–IV

Index Numbers: Concept of Index Number, Purpose Construction & Problems, Laspeyre, Paasche and Fisher's Formulae, Tests of Consistency, Concept of Consumer Price Index & Whole Sale Price Index.
Analysis of Time Series: Definition, Components of Time Series, Measurement of Trend by different methods

Books Recommended:

1. Gupta, S.P.: Statistical Methods (1981).
2. Croxton, Cowden & Klein: Applied General Statistics (1973).
3. Ya-lun-chou: Statistical Analysis (1975)
4. Kapur and Sexena: Mathematical Statistics (1970)
5. Murry, R. Speigal: Theory and Problems of Statistics (1972).

KHALSA COLLEGE AMRITSAR
(An Autonomous College)

B.A./B.Sc. (Semester System) *(12+3 System of Education)*

SEMESTER–III
ECONOMICS
MACRO ECONOMICS

Time: 3 Hours   **Max. Marks: 100**
                                                            Theory : 75
                                                            Internal Assessment : 25

Note: Instructions for the Paper–Setters/Examiners:

(i)   First question consisting of 8 short answer questions (based upon the entire syllabus), out of which 5 questions are to be attempted (each carrying 3 marks).
(ii)   Students will attempt 1 out of 2 questions from each of four units (15 marks each).
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UNIT–I

Distinction between Micro and Macro Economics; Determination of Income and Employment : Classical and Keynesian models; Say's Law of Market and aggregate demand and aggregate supply.
Consumption functions; average (short-run and long run) and marginal propensity to consume; Static and dynamic multipliers.

UNIT–II

Investment: Meaning, Demand schedules and factors affecting investment decision. Marginal Efficiency of Capital.Accelerator, multiplier-accelerator interaction.
Trade cycles-meaning, characteristics and phases.Samuelson and Hicks Models of trade cycles.

UNIT–III

Money: Its functions and role. Money and Capital Markets (Introductory). Quantity Theory of Money.Fisher's and Cambridge's equations.Liquidity preference theory.
Banking: Definitions of banks. Credit creation and credit control.

UNIT–IV
Inflation: Concept, Causes and cures. Inflation-unemployment Trade-off (only Phillips' contribution).
Macroeconomic Policies: Fiscal policy – meaning, objectives and instruments.
Monetary policy – meaning, objectives and instruments

Recommended Texts:

1.   Shapiro, E. Macroeconomic Analysis, Harcourt, Brach and World, New York, 1978.

2.   Dernaburg, T.F. and MC Dougall D.M., Macroeconomics : the Measurement, Analysis and Control of Aggregate Economic Activity, McGraw-Hill, Kogakusha, Tokyo, 1972.

3.   Gupta, S.B. Monetary Economics : Institutions, Theory and Policy, S. Chand, New Delhi, 2000.

KHALSA COLLEGE AMRITSAR
(An Autonomous College)

B.A./B.Sc. (Semester System) *(12+3 System of Education)*

SEMESTER–III

QUANTITATIVE TECHNIQUES

QUANTITATIVE TECHNIQUES–III

Time: 3 Hours   **Max. Marks: 100**
                                                                          Theory : 75
                                              Internal Assessment : 25

Note: Instructions for the Paper–Setters/Examiners:

(i)   First question consisting of 8 short answer questions (based upon the entire syllabus), out of which 5 questions are to be attempted (each carrying 3 marks).
(ii)   Students will attempt 1 out of 2 questions from each of four units (15 marks each).
(iii)   Candidates are allowed to use non-scientific calculator .

UNIT–I
Differentiation: Maxima and Minima of Functions, Partial derivatives, Higher order partial derivatives.

UNIT–II
Integration (Excluding Trigonometric and Inverse Functions): Indefinite Integrals; Integration by Partial Fractions; Integration by substitution; Integration by parts; Definite Integrals.
Application of Integration in Consumer Surplus and Producer Surplus.

UNIT–III
Matrices: Definition, Types, Addition, Subtraction and Multiplication of Matrices, Scalar Multiplication, Transpose of Matrix, Determinants and their Properties, Minors and Co-factors, Rank of a Matrix, Inverse of a Matrix, Crammer's Rule for the Solution of Simultaneous system of equations.
Applications of matrices in Economics.

UNIT–IV

Linear Programming: Formulation of problem, Assumptions, Graphical solution, Simplex method. Use of Artificial Variables, Dual Simplex method.

Input-Output Analysis: Basic concepts, Input-Output tables for closed and open economies, Leontief Basic Input-Output Model, Simple Applications of Input-Output Analysis.

Recommended Texts:

1. Yamane Taro: Mathematics for Economics, Prentice Hall of India, New Delhi, 1995.

2. Allen R.G.D.: Mathematical Analysis for Economists, ELBS and Macmillan Press, 1971.

3. Chaing, A.: Fundamental Methods of Mathematical Economics.

KHALSA COLLEGE AMRITSAR
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B.A. /B.Sc.(Semester System) (12+3 System of Education)

SEMESTER–III
COMPUTER SCIENCE
Computer Oriented Numerical and Statistical Methods
(Theory)

Time: 3 Hours   **Total Marks: 100**
4Hours/week   **Theory Marks: 56**
                              Theory Internal Assessment M: 19
                                             Practical Marks: 18
                          Practical Internal Assessment M: 07

Section A: It will have Question No.1 consisting of 10 very short answer questions from the entire syllabus. Students will attempt 6 questions. Each Question will carry 2 marks with answer to each question upto 10 lines in length. The total weightage being **12 marks**

Section B: It will consist of essay type/numerical questions upto five pages in length. Four questions numbering 2, 3, 4 and 5 will be set by the examiner from unit -1 of the syllabus. The students will be required to attempt any two questions. Each question will carry 11 marks.
The total weightage of this section shall be **22 marks**.

Section C: It will consist of essay type/numerical questions upto five pages in length. Four questions numbering 6, 7, 8 and 9 will be set by the examiner from Unit -I1 of the syllabus The students will be required to attempt any two questions. Each question will carry 11 marks.
The total weightage of this section shall be **22 marks**

UNIT-I
Introduction:
1 Numerical methods, Numerical methods versus numerical analysis, Errors and Measures of Errors.
2 Non-linear Equations, Iterative Solutions, Multiple roots and other difficulties, Interpolation methods, Methods of bisection, False position Method, Newton Raphson-method.
3 Simultaneous Solution of Equations, Gauss Elimination Method Gauss Jordan method. Gauss Siedel Method, Matrix Inversion Method.
4 Interpolation and Curve Fitting, Lagrangian Polynomials, Newton Methods : Forward Difference Method, Backward Difference Method Divided Difference Method.
5 Numerical Integration and Different Trapezoidal Rule, Simpson's 1/3 Rule Simpson's 3/8 Rule.
UNIT II

Numerical differentiation by Polynomial Fit Statistical Techniques
1 Measure of Central Tendency, Preparing frequency distribution table, Mean Arithmetic, Mean geometric, Mean harmonic, Mean median Mode.
2 Measure of dispersion, Skewness and Kurtosis Range, Mean deviation, Standard deviation,

Co-efficient of variation, Moments Skewness Kurtosis.
1. Correlation Bivariate Distribution Multivariate distribution.
2. Regression B.C., Linear Regression, Multiple Regression .
3. Trend Analysis least square fit linear trend, Non-linear trend
$Y=ax^b$
$Y=ab^x$
$Y=ae^{bx}$
Polynomial fit: $Y=a+bx+cx^2$

Practical based on Computer Oriented Numerical and Statistical Methods.

Books Recommended:
1 B.S. Grewal: *Numerical Methods for Engineering,* Sultan Chand Publications.
2 V. Rajaraman: *Computer Oriented Numerical Methods,* Prentice Hall of India Private Ltd.

KHALSA COLLEGE AMRITSAR
(An Autonomous College)

B.A./B.Sc. (Semester System) *(12+3 System of Education)*

SEMESTER–IV
ECONOMICS

INTERNATIONAL ECONOMICS AND PUBLIC FINANCE

Time: 3 Hours   **Max. Marks: 100**
Theory : 75
Internal Assessment : 25

Note: Instructions for the Paper–Setters/Examiners:

   (i)   First question consisting of 8 short answer questions (based upon the entire syllabus), out of which 5 questions are to be attempted (each carrying 3 marks).
   (ii)   Students will attempt 1 out of 2 questions from each of four units (15 marks each).
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UNIT–I

International Trade: Internal and External Trade. Classical and Heckscher Ohlin Theories, Gains from Trade, Terms of Trade, (gross, net and income terms of trade). Trade and economic development.

Commercial Policy: Free trade vs. protection, rationale of a protectionist policy in less developed area. GATT & WTO (Introductory).

UNIT–II

Balance of Payments: Meaning and components of balance of payments, Methods for correcting adverse balance of payments, devaluation and direct control.

Rate of Exchange: Meaning and determination, Fixed and flexible exchange rates.

UNIT–III

Public Finance: Nature, scope importance.
Public Expenditure: Meaning, principles, importance, effect of public expenditure on production and distribution.

UNIT–IV

Taxes: Meaning, classification, features of a good taxation system, canons of taxation, incidence and impact of taxation.

Public Debt: Meaning, objectives, importance, its burden.

Recommended Texts

1.   Sodersten, B.O.: International Economics, Macmillan, London, 1980 .

2.   Salvatore, B.: International Economics (1990), Macmillan Publishing Company, New York, 1975.

3.   Maclean and: International Institutions in Trade Snowdown and Finance (1981).

4.   Aggarwal, M.R.: International Institutions and Development in Developing Countries, Deep & Deep Publications, New Delhi, 2001.

5.   Musgrave, R.A.: Theory of Public Finance.

6.   Taylorm Philip: The Economics of Public Finance.

7.   Buchanan, J.M.: The Public Finance.

8.   Baltin, H.: Public Finance.

9.   Herber, B.P.: Modern Public Finance.

KHALSA COLLEGE AMRITSAR
(An Autonomous College)
B.A./B.Sc. (Semester System) *(12+3 System of Education)*

SEMESTER–IV
QUANTITATIVE TECHNIQUES–IV

Time: 3 Hours
Max. Marks: 100
Theory : 75
Internal Assessment : 25

Note: Instructions for the Paper–Setters/Examiners:

(i)   First question consisting of 8 short answer questions (based upon the entire syllabus), out of which 5 questions are to be attempted (each carrying 3 marks).
(ii)   Students will attempt 1 out of 2 questions from each of four units (15 marks each).
(iii) Candidates are allowed to use non-scientific calculator .

UNIT–I

Multiple Linear Regression: Concepts, Estimation and Applications (without derivations) of: Partial and Multiple Correlation.
Non-Linear Regression: Quadratic and Exponential; Estimation of Fitting of Various Growth Curves (Modified Exponential, Gempertz and Logistic).

UNIT–II

Probability: Definition, Additive & Multiplicative Laws and their Applications, Concept of Random Variable, Probability Mass Function & Density Function, Mathematical Expectation (meaning and properties), Moments, Moment Generating Function and Characteristic Function.

UNIT–III

Theoretical Probability Distributions: Derivations of the properties and numericals of Binomial, Poisson, Normal distributions.

UNIT–IV

Sampling: Various concepts – Population, Sampling Units, Complete Enumeration sample Surveys, Concept of an Estimator and The Standard Error, Standard Error of Estimates. Features of a Good Sample, Random and Subjective Sampling, Simple Random Sampling (with and without replacement), Stratified Random Sampling (applications only).

Books Recommended:

1. Mood Graybill and Boes: Introduction to the Theory of Statistics (1974)

2. Snedecor and Cochran: Statistical Methods.

3. Sukhatme and Sukhatme: Sampling Theory of Surveys with Applications (1970).

4. Croxton Cowden and Applied General Statistics (I 973).

5. Kapur and Gupta: Fundamentals of Mathematical Statistics.

6. Murray R. Spiegel: Theory and Problems Statistics (1972).

KHALSA COLLEGE AMRITSAR
(An Autonomous College)

B.A./B.Sc. (Semester System) *(12+3 System of Education)*

SEMESTER–V
ECONOMICS

ECONOMICS OF DEVELOPMENT

Time: 3 Hours   **Max. Marks: 100**
                                                                              Theory : 75
                                                                              Internal Assessment : 25

Note: Instructions for the Paper–Setters/Examiners:

   (i)   First question consisting of 8 short answer questions (based upon the entire syllabus), out of which 5 questions are to be attempted (each carrying 3 marks).
   (ii)   Students will attempt 1 out of 2 questions from each of four units (15 marks each).

UNIT–I

Economic Development: Meaning and Measurement, Economic and Non-Economic Factors, Nature of Underdevelopment, Characteristics of Undeveloped Countries. Human Development Index.
Dualism: Social and Technological Dualism, Lewis Model of Unlimited Supply of Labour, Problems of Unemployment and Disguised Unemployment.

UNIT–II

Models of Growth: Classical, Marxian, Schumpeter's, Harrod-Domar and Solow's Growth Models.

Unit-III

Rostow's Stage Theory, Strategies of Economic Development-Balanced vs. Unbalanced Growth; Theory of Big Push; Liebenstein's Critical Minimum Efforts Thesis, Export Promotion and Import Substitution.

UNIT–IV

Capital Formation – Meaning and Sources. Choice of Technique, Role of Planning in Under Developed Countries, Need, Objective, Strategy, Types and Problems of Planning.

Suggested Readings:

1. Rostow W.W.: Stages of Growth
2. G.M. Meier: Leading Issues in Economic Development.
3. MichealTodaro: Economic Development in the Third World.
4. Higgins: Economic Development: Theory and Politics
5. Meier, G.M.: Leading Issues in Economic Development, Oxford University Press, New Delhi, 1995.
6. Thirlwall, A.P.: Growth and Development, Macmillan, London, 1999.
7. Todaro, M.P.: Economic Development in Third World, Oxford University, London.
8. Yotopoulous, P.A. and Nugent, J.: Economics of Development, Harper and Row, New York.

(An Autonomous College)
B.A./B.Sc. (Semester System) *(12+3 System of Education)*
SEMESTER–V
QUANTITATIVE TECHNIQUES

QUANTITATIVE TECHNIQUES–V

Time: 3 Hours   **Max. Marks: 100**
Theory : 75
Internal Assessment : 25

Note: Instructions for the Paper–Setters/Examiners:

  (i)   First question consisting of 8 short answer questions (based upon the entire syllabus), out of which 5 questions are to be attempted (each carrying 3 marks).
  (ii)   Students will attempt 1 out of 2 questions from each of four units (15 marks each).
  (iii)   Candidates are allowed to use non-scientific calculator .

UNIT–I

Sampling Distributions: Derivation of properties of Z, T, Chi Square and F distributions.

UNIT–II

Statistical Inference: Point & Interval Estimation; Properties of a Good Estimator, Maximum Likelihood Method of Estimation, its applications for Binomial, Poisson and Normal distributions. Basic Concepts of Null and Alternative Hypotheses, Types of Errors; One Tailed and Two Tailed Tests, Power of Test, Critical Region.

UNIT–III

Tests of significance based on normal deviate (Z), T, Chi square and F statistics.

UNIT–IV

Analysis of Variance: Introduction, Assumptions, Techniques of Analyzing Variance, Analysis of Variance of one-way and two-way classified data.

Books Recommended:

1.   Sukhatne and Sampling Theory of Surveys with Sukhatme Applications (1970).

2.   Goon, Gupta and An Outlines of Statistical Theory, Dass Gupta Vol. 1(1977).

3.   Kapur and Gupta Fundamentals of Mathematical Statistics, Sultan Chand, New Delhi.

4.   Murry, R. Spiegal Statistics: Theory & Practical (1972), McGraw Hill, New York.

KHALSA COLLEGE AMRITSAR
(An Autonomous College)

B.A./B.Sc. (Semester System) *(12+3 System of Education)*

SEMESTER–VI
ECONOMICS
QUANTITATIVE METHODS FOR ECONOMISTS

Time: 3 Hours   **Max. Marks: 100**
                                                                          Theory : 75
                                                       Internal Assessment : 25

Note: Instructions for the Paper–Setters/Examiners:

(i)   First question consisting of 8 short answer questions (based upon the entire syllabus), out of which 5 questions are to be attempted (each carrying 3 marks).
(ii)   Students will attempt 1 out of 2 questions from each of four units (15 marks each).
(iii)   Candidates are allowed to use non-scientific calculator .

UNIT–I

Sets, Relations and functions and continuity, Derivative of simple functions only (excluding log & exponential functions).Maxima/Minima for single variable functions. Introduction to matrices - definition, properties & inverse.

UNIT–II

Measures of central tendency — Mean, Mode, Median and Geometric Mean; Measures of dispersion.

UNIT–III

Concepts and Measure of skewness and kurtosis: Boyle's & Karl Pearson's measures. Simple correlation& regression (ungrouped & grouped data).

UNIT–IV

Interpolation: Concepts and Methods — Binomial expansion, Newton and Lagrange's Method (with emphasis on missing values only). Price Index Numbers–Weighted and Unweighted Index Numbers, various formulae and consistency tests.

Suggested Readings:

1.   Archibald, G. & R.G. Lipsey (1973); Introduction to a Mathematical Treatment of Economics, 2nd Ed. Weisdenfeld and Nicholson, London.
2.   Yamane, Taro (1968); Mathematics for Economists, 2nd ed. Prentice Hall, Englewood Cliffs, New Jersey.
3.   Croxton, F.E. Cowden D.J. and Klein, S. (1973); Applied General Statistics, 3rd. Ed., Prentice Hall of India, New Delhi.
4.   Fox, I.A. (1972); Intermediate Economic Statistics, Wiley Eastern Pvt. Ltd., New Delhi.
5.   Nagar, A.L. and Das, R.K. (1976); Basic Statistics, Oxford University Press, Bombay.
6.   Baumol (1973); Economic Theory and Operations Analysis, Prentice Hall of India, Private Ltd., New Delhi.

KHALSA COLLEGE AMRITSAR
(An Autonomous College)

B.A./B.Sc. (Semester System) *(12+3 System of Education)*

SEMESTER–VI
QUANTITATIVE TECHNIQUES–VI

Time: 3 Hours   **Max. Marks: 100**
                                                                              Theory : 75
                                                                 Internal Assessment : 25

Note: Instructions for the Paper–Setters/Examiners:

(i)   First question consisting of 8 short answer questions (based upon the entire syllabus), out of which 5 questions are to be attempted (each carrying 3 marks).
(ii)   Students will attempt 1 out of 2 questions from each of four units (15 marks each).
(iii)   Candidates are allowed to use non-scientific calculator .

UNIT–I

Definition, Nature and scope of Econometrics. Simple Linear Regression Model (OLS method) with applications.

UNIT–II

General Linear Regression Model, assumptions, properties (BLUE).
Gauss-Markov Theorem, Concepts of R^2 and R^2, Test of Significance (Stress on Numericals).

UNIT–III

Econometric Problems of Heteroscedasticity and Multicollineraity in the Regression Analysis: Sources, Consequences, Tests and Remedial Measures.Specification Bias.

UNIT–IV

Problems of Auto-Correlation in the Regression Analysis: Sources, Consequences, Tests and Remedial Measures. Distributed Lag Models and Auto-Regressive Models. Dummy Variable Technique and its Uses.

Books Recommended:

1. Koutoyannis, A.: Theory of Econometrics.

2. Gujarati: Basic Economics (2003).

3. Mehta and Madnani: Basic Economics.

4. Stock and Watson: Introduction to Econometrics (2004).

5. Dougherty C.: Introduction to Econometrics (2007).

Khalsa College, Amritsar

An Autonomous College

MASTER OF COMMERCE (SEMESTER – I)

MC–101: Managerial Economics

Time: 3 Hours   **Max. Marks: 100**

Theory: 75

Internal Assessment: 25

Note: The question paper covering the entire course shall be divided into three sections.

Section A: It will consist of 10 very short answer questions from the entire syllabus with answer to each question upto ten lines in length. Students will attempt 10 questions. Each question will carry 1.5 marks; the total weightage being 15 marks.

Section B: It will consist of essay type/numerical questions with answer to each question upto five pages in length. Four questions will be set by the examiner from Part–I of the syllabus and the candidates will be required to attempt two questions. Each question will carry 15 marks. The total weightage of the section shall be 30 marks.

Section C: It will consist of essay type/numerical questions with answer to each question upto five pages in length. Four questions will be set by the examiner from Part–II of the syllabus and the candidates will be required to attempt two questions. Each question will carry 15 marks. The total weightage of the section shall be 30 marks.

<div align="center">

Part–I

</div>

• Managerial Economics: Meaning, Nature, Scope and Concepts

• Marginal Analysis: Law of Diminishing Marginal Utility, Law of Equimarginal Utility

• Law of Demand: Meaning, Determinants, Exceptions, Kinds of Demand, Change in Demand and Importance.

- Elasticity of Demand: Meaning, Types and Degrees of Elasticity of Demand, Methods of Measuring Price Elasticity of Demand, Factors Determining Elasticity of Demand, Importance.

- Indifference Curve Analysis: Meaning, Assumptions, Properties, Consumer Equilibrium, Importance.

- Production Function: Meaning, Types: Short Run and Long Run Production Function, Economies and Diseconomies of Scale.

Part–II

- Theory of Costs: Types of Costs, Traditional Theory: Long Run & Short Run, Modern Theory: Long Run & Short Run.

- Managerial Theories: Profit maximization and Sales Maximization.

- Market Structure: Meaning, Assumptions and Equilibrium of Perfect Competition, Monopoly, Monopolistic Competition.

- Oligopoly: Sweezy Model.

- National Income: Conceptual Framework, Measures of National Income, Methods of Measurement, Limitations of National Income.

- Consumption Function: Meaning, and Nature, Determinants and Measures to Raise Propensity to Consume. Keynes Psychological Law of Consumption – Meaning, Properties and Implications.

- Inflation: Meaning, Types, Theories, Causes, Effects and Control. Unemployment trade off-Philips curve analysis.

Suggested Readings:

1.   Thomas, Christopher R. and Maurice, S. Charles, "*Managerial Economics – Concepts and Applications"*, 8th Edition (2006), Tata McGraw Hills, New Delhi.

2.   Mehta, P L, "*Managerial Economics – Analysis, Problems and Cases*", 13th Edition (2007), Sultan Chand & Sons, Delhi.

3.   Peterson and Lewis, "*Managerial Economics*", 4th Edition, Prentice Hall of India Pvt. Ltd. New Delhi.

4.   Joel, Dean, "*Managerial Economics*", Prentice Hall of India, Pvt. Ltd., New Delhi.

5.   Hirschey, M. "*Fundamental of Managerial Economics*", 9th Edition (2009), South Western Cengage Learning.

6.   Koutsyannis A., "*Modern Microeconomics*", 2nd Edition (1977), Macmillan 7. Dwivedi, D.N., "*Managerial Economics*", 7th Edition, Vikas Publication.

8.   Ahuja, H. L., "*Modern Micro Economics*", (2009), Sultan Chand and Co.

9.   Deepashree, "*Principles of Micro Economics*", 2nd Edition, Ane Books Pvt. Ltd.

10. Mithani, D.M., "*Managerial Economics*", 5th Edition (2009), Himalaya Publishing House, New Delhi.

Khalsa College, Amritsar

An Autonomous College

MASTER OF COMMERCE (SEMESTER – II)

MC – 203: Statistical Analysis for Business

Time: 3 Hours   **Max. Marks: 100**
                                                                              Theory: 40
                                                                              Practical: 35
                                                                              Internal Assessment: 25

Note: The question paper covering the entire course shall be divided into three sections

Candidates are allowed to use non-scientific calculator .

Section A: It consists of 8 very short answer questions from the entire syllabus. Students will attempt all 8 compulsory questions. Each question will carry 1 mark; the total weightage being 8 marks.

Section B: It will consist of essay type/numerical questions with answer to each question upto five pages in length. Four questions will be set by the examiner from Part–I of the syllabus and the candidates will be required to attempt two questions. Each question will carry 8 marks. The total weightage of the section shall be 16 marks.

Section C: It will consist of essay type/numerical questions with answer to each question upto five pages in length. Four questions will be set by the examiner from Part–II of the syllabus and the candidates will be required to attempt two questions. Each question will carry 8 marks. The total weightage of the section shall be 16 marks.

Part–I

•   Probability Theory: Probability–classical, relative, and subjective probability; Addition and multiplication probability models.

•   Probability Distributions: Binomial. Poisson, and normal distributions; Their characteristics and applications.

- Sampling and Data Collection: Sampling and sampling (probability and nonprobability) methods; Sampling and non–sampling errors.

- Primary data collection techniques; Survey and Observation methods: Secondary data sources; Commercial (Syndicated) and Non–commercial sources.

Part–II

- Questionnaire design.

- Hypotheses testing; Null and alternative hypothesis, type I and type II error.

- Large and small sampling tests–Z tests, T tests, and F tests. (ANOVA one–way and two–way), (Chi–square test.)

- Correlation: Simple, partial and multiple correlation coefficients;

Suggested Readings:

1. Chou, Y. (1975), Statistical Analysis, Holt Reinhart, General Statistics, Prentice Hall of India, New Delhi.
2. Croxton, Crowden and Klein (1971), Applied General Statistics, Prentice Hall of India, New Delhi.
3. Millar, J. (1996), Statistics for Advanced Level, Cambridge University Press, Cambridge.
4. Nagar, A.L. and R.K. Das (1993), Basic Statistics, Oxford University Press, New Delhi.
5. Hogg, R.V. and A.T. Crag (1970), Introduction to Mathematical Statistics (3rd Edition),Macmillan Publishing Co. New York.
6. Sukhtame, P.V. and B.V. Sukhtame (1970), Sampling Theory of Survey with Applications, Iowa State University Press, Ames.

Khalsa College, Amritsar
An Autonomous College
B.Com (Pass & Hons.) (Semester – I)
BCG-106: BUSINESS STATISTICS

Time: 3 Hours   **Max. Marks: 50**

Theory: 37

Internal assessment : 13

Note: The question paper covering the entire course shall be divided into three sections.

Candidates are allowed to use non-scientific calculator .

Section A: It will have question No.1 consisting of 10 very short answer questions from the entire syllabus with answer to each question up to five lines in length. Students will attempt 9 questions. Each question will carry one mark; The total weightage being 9 marks.

Section B: It will consist of essay type/numerical questions up to five pages in length. Four questions numbering 2, 3, 4 and 5 will be set by the examiner from Part-I of the syllabus. The candidates will be required to attempt any two questions. Each question will carry 7 marks. The total weightage of this section shall be 14 marks.

Section C: It will consist of essay type/numerical questions with answer to each question upto Five pages in length. Four questions numbering 6, 7, 8 and 9 will be set by the examiner from Part-II of the syllabus. The candidates will be required to attempt any two questions. Each question will carry 7 marks. The total weightage of the section shall be 14 marks.

Part - I

Definition, Functions, Scope and Limitations of Statistics.

Measures of Central Tendency: Types of averages – Arithmetic Mean (Simple and Weighted), Median and Mode.

Measures of Dispersion: Range, Quartile Deviation, Mean Deviation, Standard Deviation and Coefficient of Variation.

Simple Correlation and Regression: Meaning, Types, Karl Pearsons & Rank Correlation (Excluding grouped data), Probable error.

Part - II

Index Numbers: Meaning and importance, Methods of construction of Index Numbers: Weighted and unweighted; Simple Aggregative Method, Simple Average of Price Relative Method, Weighted index method: Laspeyres method, Pasches method and Fishers Ideal method including Time and Factor Reversal tests, Consumer Price Index.

Time Series Analysis: Components, Estimation of Trends (Graphical method, Semi Average Method,Moving Averages method and Method of Least Squares for linear path).

Probability: Conceptual meaning and definition of probability, Theorems of probability-addition and multiplication theorem of probability and concept of conditional probability (simple applications only).

Suggested Readings:

1.   Levin, Richard and David S. Rubin. "*Statistics for Management*". 7th Edition, rentice Hall of India, New Delhi.

2.   Chandan, J.S., "*Statistics for Business and Economics*", Ist Edition, (1998), Vikas Publishing House Pvt. Ltd.

3.   Render, B. and Stair, R. M. Jr., "*Quantitative Analysis for Management*", 7th Edition, Prentice-Hall of India, New Delhi.

4.   Gupta C B, Gupta V, "*An Introduction to Statistical Methods*", 23rd Edition (1995), Vikas Publications.

5.   Siegel, Andrew F, *Practical Business Statistics.* International Edition, 5th Edition (2001), McGraw Hill Irwin.

6.   Berenson, L.M., Krehbiel, T.C., Vishwanathan, P.K. and Levine, D.M., "Business Statistics: A First Course", 4th Edition (2008), Pearson Education.

Khalsa College, Amritsar

An Autonomous College

B.Com (Pass & Hons.) (Semester – II)

BCG-205: BUSINESS ECONOMICS

Time: 3 Hours   **Max. Marks: 50**

Theory : 37

Internal Assessment : 13

Note: The question paper covering the entire course shall be divided into three sections.

Section A: It will have question No.1 consisting of 10 very short answer questions from the entire syllabus with answer to each question up to five lines in length. Students will attempt 9 questions. Each question will carry one mark; the total weightage being 9 marks.

Section B: It will consist of essay type/numerical questions up to five pages in length. Four questions numbering 2, 3, 4 and 5 will be set by the examiner from Part-I of the syllabus. The candidates will be required to attempt any two questions. Each question will carry 7 marks. The total weightage of this section shall be 14 marks.

Section C: It will consist of essay type/numerical questions with answer to each question up to five pages in length. Four questions numbering 6,7,8 and 9 will be set by the examiner from Part-II of the syllabus. The candidates will be required to attempt any two questions. Each question will carry 7 marks. The total weightage of the section shall be 14 marks.

Part – I

Theory of Demand: Meaning of demand and its types, law of demand, price elasticity of demand and its measurement.

Consumer's Behaviour: Utility approach: Brief outline of law of diminishing marginal utility and law of equi-marginal utility.

Indifference Curve Approach: Meaning, properties, price, income and substitution effect, Revealed Preference Approach.

Theory of Production: Law of variable proportions and Law of returns to scale. Short and Long run cost curves, Traditional and Modern Theory of Costs.

B.Com (Pass & Hons.) (Semester – II)

Part – II

Revenue: Average revenue, Marginal revenue and Total revenue. Relationship between average revenue and marginal revenue and Elasticity of demand.

Perfect Competition: Meaning, features, price and output determination of firm and industry under perfect competition.

Monopoly: Meaning, features, price and output determination under monopoly.

Monopolistic Competition: Meaning, features, price and output determination under monopolistic competition.

National Income: Definition and Importance of National Income. Gross and Net Domestic Product; Personal Income and Disposable Income. Measurement of National Income:

Income, Output and Expenditure Method, Problems in measurement of National Income particularly in underdeveloped countries.

Consumption: Meaning, determinants (subjective and objective) and importance. Keynes Psychological law of consumption.

Suggested Readings:

1.   Maheswari & Varshney, *Managerial Economics*, S. Chand & Co., New Delhi.

2.   Koutsoyiannis A., "*Modern Micro Economics*", 2nd edition,MacMillan House, New Delhi.

3.   Dwivedi, D.N., "*Managerial Economics*", 7th Edition, Vikas Publication.

4.   Ahuja, H. L., "*Modern Micro Economics*", (2009), Sultan Chand and Co., New Delhi.

5.   Willimson, S. D., "*Macroeconomics*", 4th Edition (2010), Pearson Publication.

6.   Froyen, R., "*Macroeconomics*", 9th Edition (2008), Pearson Publication.

7.   Hirschey, M. "*Fundamental of Managerial Economics*", 9th Edition (2009), South Western Cengage Learning.

Khalsa College, Amritsar

An Autonomous College

B.Com (Pass & Hons.) (Semester – IV)

BCG-404: INDIAN ECONOMY

Time: 3 Hours   **Max. Marks: 50**

Theory : 37

Internal Assessment : 13

Note: The question paper covering the entire course shall be divided into three sections.

Section A: It will have question No.1 consisting of 10 very short answer questions from the entire syllabus with answer to each question up to five lines in length. Students will attempt 9 questions. Each question will carry one mark; the total weightage being 9 marks.

Section B: It will consist of essay type/numerical questions up to five pages in length. Four questions numbering 2, 3, 4 and 5 will be set by the examiner from Part-I of the syllabus. The candidates will be required to attempt any two questions. Each question will carry 7 marks. The total weightage of this section shall be 14 marks.

Section C: It will consist of essay type/numerical questions with answer to each question up to five pages in length. Four questions numbering 6,7,8 and 9 will be set by the examiner from Part-II of the syllabus. The candidates will be required to attempt any two questions. Each question will carry 7 marks. The total weightage of the section shall be 14 marks.

Part - I

Meaning and Characteristics of underdevelopment - salient features of Indian Economy – factors responsible for development - development as distinct from growth - a comparison between Indian and other developing economies like China, Pakistan, Taiwan, Korea will give a better idea of development.

Planning in India - meaning, process, and approaches. Five Year Plans- Objectives in general and targets and performance.

Agricultural role in Indian Economy (Contribution to GNP, employment, etc.,) Problems of low productivity - Land Reforms - need and scope. The food problem and Green Revolution; Mechanisation - desirability and feasibility.

Part – II

Agricultural Marketing - Regulated Markets - warehousing - Role of Agricultural Prices commission (APC) - Procurement Policy - Buffer - Stock - Dual Pricing - Role of FCI. Agricultural Credit: Need and Sources.

Industry - importance - Role of Small Scale Industry - some large scale industries (Iron & Steel, Cotton, Textiles, Sugar, Jute, Petro-chemicals, Tea, etc.,) Industrial Sickness - causes and measures; Industrial Policy Resolutions (of 1956, 1985 & 1991)

Suggested Readings:

1.   Rudar Datt, Sundaram,K.P.M., "Indian Economy", 2012, S. Chand & Co., New Delhi.

2.   Jhingan, M.L. "The Economics of Development & Planning", 22nd Revised Edition, Konark Publications, New Delhi.

3.   Sankaran S, "Indian Economy: Problems, Policies and Development", 1994, Margham Publication, Chennai.

4.   RBI Bulletin, Pramit Chaudhury, The Indian Economy, Poverty and Development, Vikas Publishing House, New Delhi.

5.   Velayutham, "Foreign Trade, Theory & Practice", S. Chand & Co., New Delhi.

Note: Latest edition of text book may be used.

Khalsa College, Amritsar

An Autonomous College

Bachelor in Business Administration (Semester – I)

BBA-105

MANAGERIAL ECONOMICS- I

Time: 3 Hours   **M. Marks: 50**

Theory: 37

Internal assessment: 13

Note: The question paper covering the entire course shall be divided into three sections.

Section A: It will have question No.1 consisting of 10 very short answer questions from the entire syllabus with answer to each question up to five lines in length. Students will attempt 9 questions. Each question will carry one mark; the total weightage being 9 **marks**.

Section B: It will consist of essay type/numerical questions up to five pages in length. Four questions numbering 2, 3, 4 and 5 will be set by the examiner from Part-I of the syllabus. The candidates will be required to attempt any two questions. Each question will carry 7 marks. The total weightage of this section shall be 14 marks.

Section C: It will consist of essay type/numerical questions with answer to each question up to five pages in length. Four questions numbering 6,7,8 and 9 will be set by the examiner from part-II of the syllabus. The candidates will be required to attempt any two questions. Each question will carry 7 marks. The total weightage of the section shall be 14 marks.

Part – I

Theory of Demand: Meaning of demand and its types, Law of demand. Price elasticity of demand and its measurement.

Consumer's Behaviour: Utility approach: Brief outline of law of diminishing marginal utility and law of equi-marginal utility.

Indifference Curve Approach: Consumer equilibrium; Income, Price and Substitution effect, Revealed Preference Approach.

Theory of Supply: Concept and law of supply, factors affecting supply.Bachelor in Business Administration (Semester – I)

Part – II

Theory of Production: Law of variable proportion: total, average and marginal physical product, Law of Returns to scale, Economies and diseconomies of scale.

Theory of Cost: Short and Long period costs, Concept of total cost, Marginal and Average cost; Theory of cost in short-run and long-run. Concept of revenue: Total Revenue; Average Revenue; Relationship between Average and Marginal Revenue and Price elasticity of demand.

Pricing Under Various Market Conditions: Perfect Competition - Equilibrium of Firm and Industry under Perfect Competition, Monopoly - Price determination under Monopoly, Monopolistic Competition - Price and Output, determination under Monopolistic Competition.

Suggested Readings:

1.   Koutosoyiannis, A., "Modern Micro Economics", Palgrave Macmillan.

2.   Dwivedi, D.N.,"Microeconomics: Theory and Applications", Pearson Education, New Delhi.

3.   Gravelle H., and Rees, R., "Microeconomics", Pearson Education, New Delhi.

4.   Ahuja, H.L., "Advanced Economic theory; Microeconomic Analysis",

S.   Chand & Company Ltd. New Delhi.

5.   Mithani, D.M., "Managerial Economics", Himalaya Publishing House, New Delhi.

Note: The latest editions of the books should be followed.

Khalsa College, Amritsar

An Autonomous College

Bachelor in Business Administration (Semester – II)

BBA-205

MANAGERIAL ECONOMICS-II

Time: 3 Hours   **M. Marks: 50**

Theory: 37

Internal Assessment: 13

Note: The question paper covering the entire course shall be divided into three sections.

Section A: It will have question No.1 consisting of 10 very short answer questions from the entire syllabus with answer to each question up to five lines in length. Students will attempt 9 questions. Each question will carry one mark; the total weightage being 9 marks.

Section B: It will consist of essay type/numerical questions up to five pages in length. Four questions numbering 2, 3, 4 and 5 will be set by the examiner from Part-I of the syllabus. The candidates will be required to attempt any two questions. Each question will carry 7 marks. The total weightage of this section shall be 14 marks.

Section C: It will consist of essay type/numerical questions with answer to each question up to five pages in length. Four questions numbering 6,7,8 and 9 will be set by the examiner from part-II of the syllabus. The candidates will be required to attempt any two questions. Each question will carry 7 marks. The total weightage of the section shall be 14 marks.

Part – I

Macroeconomics: Meaning, nature and scope. Basic concepts used: Stock and flow variables, static, comparative static and dynamic analysis.

National Income: Definition and Importance of National Income. Gross and Net Domestic Product; Personal Income and Disposable Income. Measurement of National Income: Income, Output and Expenditure Method, Problems in Measurement of National Income.

Consumption: Meaning, determinants (subjective and objective) and importance. Keynes psychological law of consumption.

Part – II

Investment: Types of investment, determinants of investment, marginal efficiency of capital, net present value, internal rate of return, interest rate determination, classical, neoclassical and Keynesian theories.

Multiplier: Static and Dynamic Analysis. Accelerator and super multiplier.

Inflation: Meaning, types and theories.

Suggested Readings:

1.   Ackley, G., "Macroeconomics: Theory and Policy", Macmillan, New York.

2.   Shapiro, E., "Macroeconomic Analysis", Galgotia Publication, New Delhi.

3.   Gppdwin Neva, J. A. Nelson & J. Harris, "Macroeconomics in Context", PHI Learining Pvt. Ltd, New Delhi.

4.   Dornbusch R., S. Ficher & R. Startz, "Macro Economics", Tata McGraw Hill

        Publishing Company Ltd., New Delhi.

5.   Agarwal, Vanita, "Macroeconomics: Theory and Policy", Pearson Education, New Delhi.

Note: The latest editions of the books should be followed.

Khalsa College, Amritsar

An Autonomous College

Bachelor in Business Administration (Semester – III)

BBA-303

STATISTICS FOR BUSINESS

Time: 3 Hours   **Max. Marks: 50**

Theory : 37

Internal Assessment : 13

Note: The question paper covering the entire course shall be divided into three sections.

Candidates are allowed to use non-scientific calculator .

Section A: It will have question No.1 consisting of 10 very short answer questions from the entire syllabus with answer to each question up to five lines in length. Students will attempt 9 questions. Each question will carry one mark; the total weightage being 9 marks.

Section B: It will consist of essay type/numerical questions up to five pages in length. Four questions numbering 2, 3, 4 and 5 will be set by the examiner from Part-I of the syllabus. The candidates will be required to attempt any two questions. Each question will carry 7 marks. The total weightage of this section shall be 14 marks.

Section C: It will consist of essay type/numerical questions with answer to each question up to five pages in length. Four questions numbering 6,7,8 and 9 will be set by the examiner from Part-II of the syllabus. The candidates will be required to attempt any two questions. Each question will carry 7 marks. The total weightage of the section shall be 14 marks.

Part-I

Matrix Algebra: Types of matrices; basic operations of matrices; determinant of a matrix and its properties; rank and inverse of a matrix; solution of simultaneous linear equations – Cramer's rule and matrix inversion, method, application of matrices. Introduction and Methods of

Presentation of Statistical Information, Collection and Presentation of Data. Frequency distribution. Concept of sampling and sampling Designs.

Measures of Central Tendency:- Mean, Median, Mode, Measure of dispersion. Range quartile deviation, Average deviation and Standard deviation.

Part-II

Simple Correlation and Regression Analysis: Assumptions; Pearsons product moment and Spearmen's rank correlation method; least squares technique; properties of correlations and regression coefficients .

Time Series Analysis: Trend analysis using moving average and regression analysis, easonal, cyclic and regular fluctuations, Index number construction of unweighted and weighted index numbers, quantity Index.

Elementary Probability Theory: Deterministic and non–deterministic experiments; ifferent types of events; a priori and empirical definition of probability. Conditional probability, laws of addition and multiplication of probability. Properties of binomial, Poisson and normal distributions.

Suggested Readings:

1.   Chiang A.C., "Fundamental Methods of Mathematical Economics", McGraw Hill, Kogakusha.

2.   Hopfe, M.M., Mathematics – "Foundations for Business Science, Research Association".

3.   Mizrahi, A. and Sullivan M., "Mathematics for Business and Social Sciences", John Wiley and Sons.

4.   Raghawachari, M., "Mathematics for Management – An Introduction", Tata McGraw Hill, New Delhi.

5.   Webber, J.E., "Mathematical Analysis: Business and Economic Applications", Harper & Row,

6.   Yamuna, T., "Mathematics for Economics – An Elements Survey", Prentice Hall of India Pvt.Ltd., New Delhi.

7.   Chou, Y. "Statistical Analysis", Holt, Rinehart and Winston, New York.

8.   Croxton, F.E., Cowden, D.J. and Klien, S., "Applied General Statistics", Prentice Hall of India Pvt. Ltd.

9.   Karmel, P.H. and Polar, K.M., "Applied Statistics for Economists", Pitman London.

10.   Wetherill, G.B., "Elementary Statistical Methods", Chapman and Hall, London.

Note: The latest editions of the books should be followed.

2020 - 2021
B.A. Social Sciences
Semester–I
Economics (Major-I)
BSS-105Micro Economics

Time:-3 Hours
Max Marks: 100
Theory: 75 Marks
Internal Assessment: 25Marks

Note: - The Syllabus is divided into four equal units. Medium of instruction is English.
Instructions for the Paper Setter:

The question paper consists of five units: I, II, III, IV and V. Units I, II, III and IV will have two questions from each unit. The students are to attempt one question carrying 15 marks from each unit approximately in 1000 words. Unit-V consists of eight short answer questions to be set from the entire syllabus. The students are to attempt five questions from this unit. Each short answer question carries 3 marks, to be attempted in about 100 words.

UNIT-I

Micro Economics – Meaning, Nature and Scope. Consumer Behaviour: Utility Analysis, Theory of Demand, Elasticity of Demand: Price, Income and Cross Elasticity of Demand and their measurement. Indifference Curve Analysis.

UNIT-II

Theory of cost: Traditional and Modern Theory of Costs, Concepts and cost curves in the short and the long run.
Revenue: Total Revenue, Average Revenue and Marginal Revenue Curves and their relationship with elasticity of Demand.

UNIT-III

Production function: Concept of production function.
The concepts of Iso-quants and Iso-cost-curves, Law of variable proportions and Law of returns to scale

UNIT-IV

Markets: Different Forms, Perfect Competition, Monopoly, Monopolistic Competition - Their features and equilibrium of firm and industry in short run and long run.
Welfare Economics: meaning and importance

Suggested Readings:-

1. Koutsoyiannis, *Modern Micro Economics*, 2nd ed., London: Macmillan press, 1990.
2. A.Sen, *Micro Economics: Theory and Application*, New Delhi: OUP,1999.
3. K.K. Dewett, *Modern Economic Theory*, S. Chand & Company Ltd., New Delhi: Multicolour Illustrating Edition, 2005.
4. K.N.Verma: *Micro Economic Theory*, Jalandar: Vishal Publishing Co., 2009-10.
5. H.L. Ahuja, *Advanced Economic Theory*, New Delhi: S.Chand& Company Ltd., Revised Edition, 2013

2020 - 2021
B.A. Social Sciences
Semester–II
Economics (Major-II)
BSS-205 Macro Economics

Time:-3 Hours   **Max Marks: 100**
                                                                                Theory: 75 Marks
                                                                 Internal Assessment: 25 Marks

Note: - The Syllabus is divided into four equal units. Medium of instruction is English
Instructions for the Paper Setter:

　　　The question paper consists of five units: I, II, III, IV and V. Units I, II, III and IV will have two questions from each unit. The students are to attempt one question carrying 15 marks from each unit approximately in 1000 words. Unit-V consists of eight short answer questions to be set from the entire syllabus. The students are to attempt five questions from this unit. Each short answer question carries 3 marks, to be attempted in about 100 words.

UNIT-I

Macro Economics: Nature and Scope, National Income-Meaning and Methods of Measurement of National Income: Production, income and expenditure Methods.
Problems in Measurement of National Income.Circular flow of Income.

UNIT-II

Classical & Keynesian Theories of Income and Employment, Say's law of markets, Keynes'consumption function and psychological law of consumption.Static and Dynamic concepts of Multiplier.
Investment: Meaning, types and factors affecting Investment.

UNIT-III

Inflation: Types of inflation, causes of inflation, effects of inflation, policy instruments to control inflation, Phillips curve. Monetary and Fiscal policies-elementary view.

UNIT-IV

Theories of Interest Rate Determination-Classical, Loanable funds, Keynes'Liquidity Preference theory.
Business cycles – Meaning, types and phases of business cycles.

Suggested Readings:-
1.　　　Edward Shapiro, *Macro Economics Analysis*, New Delhi: Tata McGrew Hill Co., 1996
2.　　　W. Beckerman, *An Introduction of National Income Analysis*, London: EIBS, 1998.

3.   G.Acklety, *Macro Economics: Theory and Policy*, New Delhi: Mecmillan& Co., 1988.

4 .   K.C.Rana, K.N.Verma, *Macro Economics Analysis*, Jalandar: Vishal PublishingCo.,2007.

5 .   K.K. Dewet, *Modern Economic Theory*, S.Chand& Company Ltd. New Delhi, Multicolour Illustrating Edition, 2005.

6.   M.L.Jhingan, *Macro Economic* Theory, Delhi: Vrinda Publication (p) Ltd., Twelevth Revised Edition 2010.

7.   D.M.Mithani, *Macro Economics*, Mumbai: Himalaya Publishing   House, Pvt. Ltd.

2020 – 2021
B.A. Social Sciences
Semester–III
Economics (Major-III)
BSS-305 Macro-Economic Theory

Time:-3 Hours

Total Marks: 100
Theory: 75 Marks
Internal Assessment: 25 Marks

Note: - The Syllabus is divided into four equal Units. Medium of instruction is English
Instructions for the Paper Setter:

The question paper consists of five units: I, II, III, IV and V. Units I, II, III and IV will have two questions from each unit. The students are to attempt one question carrying 15 marks from each unit approximately in 1000 words. Unit-V consists of eight short answer questions to be set from the entire syllabus. The students are to attempt five questions from this unit. Each short answer question carries 3 marks, to be attempted in about 100 words.

UNIT-I

Macro Economics: Nature and Scope. Difference between Micro and Macro Economics.Classical & Keynesian Theories of Income and Employment, Say's law of markets, Keynes'consumption function and psychological law of consumption.Static and Dynamic concepts of Multiplier.

UNIT-II

Investment: Meaning, types and factors affecting Investment. Marginal Efficiency of Capital, Acccelartor, Multiplier- Accelerator interaction.
Trade cycles – Meaning, types and phases of Trade cycles.

UNIT-III

Inflation: Types of inflation, causes of inflation, effects of inflation, policy instruments to control inflation, Phillips curve. Monetary and Fiscal policies-elementary view.

UNIT-IV

Banking: Definition of Banks, credit creation and credit control.

Theories of Interest Rate Determination-Classical, Loanable funds, Keynes'Liquidity Preference theory.

Suggested Readings:-

1. Edward Shapiro, *Macro Economics Analysis*, New Delhi: Tata McGrew Hill Co., 1996
2. W. Beckerman, *An Introduction of National Income Analysis*, London: EIBS, 1998.
3. G.Acklety, *Macro Economics: Theory and Policy*, New Delhi: Mecmillan& Co., 1988.
4. K.C.Rana, K.N.Verma, *Macro Economics Analysis*, Jalandar: Vishal PublishingCo.,2007.
5. K.K. Dewet, *Modern Economic Theory*, S.Chand& Company Ltd. New Delhi, Multicolour Illustrating Edition, 2005.
6. M.L.Jhingan, *Macro Economic* Theory, Delhi: Vrinda Publication (p) Ltd., Twelevth Revised Edition 2010.
7. D.M.Mithani, *Macro Economics*, Mumbai: Himalaya Publishing   House, Pvt. Ltd.

2020-2021
B.A. Social Sciences
Semester–III
Economics (Honors-I)
BSS-314 Economics of Agriculture

Time:-3 Hours   Max Marks: 100
                                                                                      Theory: 75 Marks
                                                                       Internal Assessment: 25 Marks

Note: - The Syllabus is divided into four equal units. Medium of instruction is English
Instructions for the Paper Setter:
        The question paper consists of five units: I, II, III, IV and V. Units I, II, III and IV will
have two questions from each unit. The students are to attempt one question carrying 15 marks
from each unit approximately in 1000 words. Unit-V consists of eight short answer questions to
be set from the entire syllabus. The students are to attempt five questions from this unit. Each
short answer question carries 3 marks, to be attempted in about 100 words.

Unit I

Economics of Agriculture: Nature, scope and its importance in the economy. Role of agriculture
in economic development.Reasons for slow growth of Indian agriculture.Transforming
traditional agriculture.

Unit II

Institutional changes and agricultural development: Land reforms – consolidation of holdings,
abolition of intermediaries, ceiling on land holdings and tenurial reforms – need, nature and
evaluation with special reference to India. New agricultural technology – Its impact on
production, income distribution and labour absorption.

Unit III

Institutional Structure – Nature of emerging agrarian structure – co-operative farming and its
evaluation with reference to productivity, employment and income distribution, Environment and
soil erosion, sustainable development. Organic farming – meaning, techniques of organic
farming and its scope in India.

Unit IV

Agricultural credit: Need, role of co–operative and commercial banks. Agricultural Price Policy:
Need and objectives. Mobilisation of agricultural surpluses, Terms of trade between agriculture
and industry, Public Distribution System: Critical Evaluation.

Suggested Readings:

13. Southworth, H.M. and Johnston, B.F. (ed.) (1967), Agricultural Development and EconomicGrowth.

14. Heady, E.O. (1952), Economics of Agricultural Production and Resources Use.

15. Schultz, T.W. (1964), Transforming Traditional Agriculture.

16. Mellor, J.W. (1960), The Economics of Agriculture Development.

17. Dasgupta, B. (1980), The New Agricultural Technology in India, Mcmillan.

18. Peter, Domo (1972), Land Reforms and Economic Development.

19. KaurRajbans, Agriculture Price Policy in Economic Development.

20. Dantwala, M.L. (1986), Agricultural Growth India, I.S.A.E.

21. Kahlon, A.S. (1984), Pricing Policy in India.

22. Bhalla, G.S. and Tyagi, D.S. (1989), Patterns in Indian Agricultural Development, RSID.

23. Bansal, P.C. (1981), Agricultural Problems of India.

24. Economic and Political Weekly, Regular Features on Review of Agriculture.

2020 – 2021
B.A. Social Sciences
Semester–IV
Economics (Major-IV)
BSS-405 Money, Banking, Finance and International Trade

Time:-3 Hours   **Max Marks: 100**
Theory: 75 Marks
Internal Assessment: 25 Marks

Note: - The Syllabus is divided into four equal Units. Medium of instruction is English
Instructions for the Paper Setter:

The question paper consists of five units: I, II, III, IV and V. Units I, II, III and IV will have two questions from each unit. The students are to attempt one question carrying 15 marks from each unit approximately in 1000 words. Unit-V consists of eight short answer questions to be set from the entire syllabus. The students are to attempt five questions from this unit. Each short answer question carries 3 marks, to be attempted in about 100 words..

UNIT--I

Definition of Money, Static and Dynamic Functions of Money, The Concept of Money Supply-Components of Money Supply. The Demand for Money- Fisher, Pigou, Friedman's and Keynes' theories on Demand for money.

UNIT-II

Commercial Banking- Definition of Bank, Kinds of Banks, Functions of Commercial Banks, Credit Creation by banks, Bank Nationalisation in India- Achievements and Failures.Central Bank- Functions, Methods to Control Credit.Monetary Policy- Meaning and Objectives.

UNIT-III

Public Finance- Meaning and Scope.Public Finance Vs Private Finance.The Principle of Maximum Social Advantage. Public Revenue- Meaning and Sources, Canons of Taxation, Types of Taxes, Taxable Capacity, Concepts of Impact, Shifting and Incidence of Taxes. Public Expenditure- Importance, Objectives, Causes of Increasing Public Expenditure. Public Debt: meaning and sources.

UNIT-IV

International Trade- Features, Differences between Internal and International Trade, Advantages and Disadvantages of International Trade. The Theory of Comparative Advantage, Modern

Theory (Heckscher-Ohlin) of International Trade, The Balance of Payments- Structure, Causes of Disequilibrium, Measures for Correcting Disequilibrium, Free Trade Vs Protection.

Suggested Readings: -

1. Richard S.Thorn, *Introduction to Money and Banking*, New York: Harper &Row, 1976.

2. D.G. Luckett, *Money and Banking*, New York: McGraw Hill, 1976.

3. Reserve Bank of India, *Report of the Committee to review the working of the Monetary System,* 1985.

4. Reserve Bank of India, *Report of the Committee on the Financial System,*Narasimha Committee Report, 1991

5. D.Salvatore, *International Economics*, NewYork: Prentice Hall, Upper Saddle, NJJ 1997,

6. Soderston, Bo, *International Economics*, London: The Mcmillan Press Ltd, 1991.

7. Government of India, *Reports of the Tax Reforms Committee – Interim and Final*,   Chairman: Raja J. Chelliah, 1992.

8. S. Mundle, *Public Finance Policy: Issues for India*, NewDelhi: Oxford University Press,   1999.

2020 – 2021
B.A. Social Sciences
Semester–IV
Economics (Minor-I)
BSS-406 Economic Theory

Time:-3 Hours   **Max Marks: 100**
                                                             Theory: 75 Marks
                                          Internal Assessment: 25 Marks

Note: - The Syllabus is divided into four equal Units. Medium of instruction is English
Instructions for the Paper Setter:

The question paper consists of five units: I, II, III, IV and V. Units I, II, III and IV will have two questions from each unit. The students are to attempt one question carrying 15 marks from each unit approximately in 1000 words. Unit-V consists of eight short answer questions to be set from the entire syllabus. The students are to attempt five questions from this unit. Each short answer question carries 3 marks, to be attempted in about 100 words.

UNIT-I

Definition of Economics, Basic concepts- Human wants utility and satisfaction. Basic Economic problems. Demand Function, Supply Function and Price determination. Law of demand, Elasticity of Demand, Types and Measurement of Price Elasticity, Utility Analysis.

UNIT-II

Concepts of Cost and Revenue– Types of costs and cost curves, Revenue curves (TR, AR, MR curves). Production Function: Concept of Production Function, Law of VariablProportions and Laws of Returns to Scale. **Markets –** Perfect competition, Monopoly and Monopolistic Competition (Meaning and Features).

UNIT-III

Macro Economics– Meaning, scope and importance. Difference between Micro and Macro economics, Classical and Keynesian Theories of Income and Employment, Say's law of markets.

UNIT-IV

Consumption Function– Meaning, Technical Attributes, Keynesian Psychological Law of Consumption, Investment – Meaning and Types.
Money: Meaning, Types and Functions,
Commercial Bank: Meaning and functions.
Central Bank: Meaning and functions.

Suggested Readings:

1. Koutsoyiannis, *Modern Micro Economics* (2nd edition), London: Macmillan press, 1990.

2. A.Sen, *Micro Economics: Theory and Application*, New Delhi: OUP, 1999.

3. K.K. Dewett, *Modern Economic Theory*, New Delhi: S.Chand& Company Ltd.,Multicolour Illustration Edition, 2005.

4. Edward Shapiro, *Macro Economic Analysis*, New Delhi: Tata McGrew Hill Co., 1996.

5. W.Beckerman, *An Introduction of National Income Analysis*, London: EIBS, 1998.

6. G.Acklety, *Macro Economics: Theory and Policy*, New Delhi: Mecmillan& Co., 1988.

7. K.C.Rana and K.N.Verma, *Macro Economics Analysis*, Jalandar: Vishal Publishing Co.,2007.

8. M.L. Jhingan, *Macro Economics Theory*, Delhi: Vrinda Publication (p) Ltd., Twelevth Revised Edition, 2010.

9. D.M. Mithani, *Macro Economics*, Mumbai: Himalaya Publishing House, Pvt. Ltd., strating Edition, 2005.

2020-2021
B.A. Social Sciences
Semester–IV
Economics (Honors-II)
BSS-414 Mathematics for Economists

Time:-3 Hours   **Max Marks: 100**
Theory: 75 Marks
Internal Assessment: 25 Marks

Note: - The Syllabus is divided into four equal units. Medium of instruction is English
Instructions for the Paper Setter:

The question paper consists of five units: I, II, III, IV and V. Units I, II, III and IV will have two questions from each unit. The students are to attempt one question carrying 15 marks from each unit approximately in 1000 words. Unit-V consists of eight short answer questions to be set from the entire syllabus. The students are to attempt five questions from this unit. Each short answer question carries 3 marks, to be attempted in about 100 words.

UNIT-I

Solution of Linear Equations: Solution of Simultaneous Linear Equations(upto two variable case),
Solution of Quadratic Equations.
Series: Arithmetic Progression Series, Geometric Progression Series.
.

UNIT-II
Set theory: Union, intersection, difference, symmetric difference, complementation of sets
Matrices- Types of Matrices, Addition, Subtraction and Multiplication of matrices, Transpose, determinants and Inverse.
Solution of Simultaneous Equations using Crammer Rule and Matrix Rules.

UNIT-III

Input-Output Analysis: Basic concepts, Input-Output tables for closed and open economies, Leontief Basic Input-Output Model.
Derivative of simple functions (excluding log and exponential functions), product rule and division rule.
UNIT-IV

Maxima and Minima, Constrained Optimization,
Concept of Integration, Simple Rules of Integration (excluding inverse and trigonometric functions)
Suggested Readings:

1. Allen, R.G.D. (1974), Mathematical Analysis for Economists, Macmillan Press andELBS, London.

2. Chiang, A.C. (1986), Fundamental Methods of Mathematical Economics, McGraw Hill, New York.

3. Gupta, S.C. (1993), Fundamentals of Applied Statistics, S. Chand & Sons, New Delhi.

4. Handry, A.T. (1999), Operations Research, Prentice Hall of India, New Delhi.

5. Speigal, M.R. (1992), Theory and Problems of Statistics, McGraw Hill Book Co.,London.

6. Taha, H.A. (1977), Operations Research: An Introduction (6th Edition), Prentice Hall of India Pvt. Ltd., New Delhi.

7. Yamane, Taro (1975), Mathematics for Economists Prentice Hall of India, New Delhi.

8. Vygodsky, G.S. (1971), Mathematical Handbook (Higher Mathematics), Mir Publishers, Moscow.

9. Kothari, C.R. (1992), An Introduction to Operations Research, Vikas Publishing House, New Delhi.

10. Mustafi, C.K. (1992), Operations Research: Methods and Practice, Wiley Eastern, New Delhi.

2020– 2021
B.A. Social Sciences
Semester–V
Economics (Major-V)
SS503-Economics of Development and Planning

Time: 3 Hours   **Total Marks: 100**
Theory: 75 Marks
Internal Assessment: 25 Marks

Note: The Syllabus is divided into four equal units. Medium of instruction is English
Instructions for the Paper Setter:

The question paper consists of five units: I, II, III, IV and V. Units I, II, III and IV will have two questions from each unit. The students are to attempt one question carrying 15 marks from each unit approximately in 1000 words. Unit-V consists of eight short answer questions to be set from the entire syllabus. The students are to attempt five questions from this unit. Each short answer question carries 3 marks, to be attempted in about 100 words.

UNIT I

Meaning and Measurement of Economic Development: Physical Quality of Life Index (PQLI), Human Development Index (HDI) and The Basic Needs Approach. Characteristics of Underdeveloped Countries.Determinants of Economic Growth.
Dualism: Social and Technological Dualism. Lewis Model of Development with Surplus Labour.

UNIT II

GrowthModels: Classical, Marxian, Schumpeter, Rostow, Harrod-Domar.
Strategies of Economic Development- Balanced vsUnbalanced Growth; Theory of Big Push.

UNIT III

Economic Development and International Trade.Role of Foreign Capital and Multinationals in Economic Development.Human Capital and Economic Growth.Role of Research and Development in the Economic Development of a Country.
Environmental Degradation.Development and Environmental Sustainability.

UNIT IV

Economic Planning: Meaning, Objectives, Rationale and Problems of Planning. Types of Planning. Investment Criteria, Choice of Technique, Appropriate technology for under develop Country.
Role of Private–Public Partnership in Indian Planning and Development.

Suggested Readings:-

1. Myer, R.M. and Taneja, M.L., *Economics of Development and Planning with Reference to India*, Vishal Publication Co.

2. Shrivastava, O.S. (1996), *Economics of Growth*, *Development and Planning*, Vikas Publishing, New Delhi.

3. Todaro, M.P. and Smith, S.C. (2003). *Economic Development*, Pearson Education.

4. G.M. Meier, *Leading Issues in Development Economics*, Oxford University Press, Inc., 2004.

5. S. Ghatak, *An Introduction to Development Economics*, Allen and Unwin, London, 1986.

6. C.P. Kindleberger, *Economic Development*, McGraw Hill, New York, 1993.

2020– 2021
B.A. Social Sciences
Semester–V
Economics (Minor-II)
SS513-International Trade and Public Finance

Time: 3 Hours   **Total Marks: 100**
                                                                              Theory: 75 Marks
                                                              Internal Assessment: 25Marks

Note: The Syllabus is divided into four equal units. Medium of instruction is English
Instructions for the Paper Setter:

The question paper consists of five units: I, II, III, IV and V. Units I, II, III and IV will have two questions from each unit. The students are to attempt one question carrying 15 marks from each unit approximately in 1000 words. Unit-V consists of eight short answer questions to be set from the entire syllabus. The students are to attempt five questions from this unit. Each short answer question carries 3 marks, to be attempted in about 100 words.

UNIT –I

International trade: Internal and External trade,Theories of International Trade-The Theory of Comparative Advantage, Modern Theory (Heckscher-Ohlin) of International Trade,Gains from trade, Trade and economic development, Free trade vs. protection.

UNIT-II

Terms of Trade (Gross, Net and Income Terms of Trade); **Balance of Payments**: Meaning and Components of balance of Payments, methods for Correcting adverse Balance of Payment, Devaluation and Direct Control.

UNIT-III

Public Finance: Nature Meaning and Scope.
Public Expenditure: Principles and Effects of Public Expenditure. Causes of increase in public expenditure.

UNIT-IV

Taxes: meaning, Classification, Features of a good taxation system, Cannons of Taxation, Incidence and Impact of taxation
Public Debt: Meaning, Objectives and Sources.

Suggested Reading:-

1. M.L.Jhingan:Money and International Trade and Public Finance, StosiesInc/Advent Books Division,1989.

2. M.L. Seth: Money Banking and International Trade, LNA Publication, Agra Publishers,2014.

3. D.M.Mithani: Money,Banking,International Trade and Public Finance, Himalaya Publishing House Pvt. Ltd.2010.

4. T.N.Hajela:Money,Banking,International Trade and Public Finance, Ane Books Pvt. Ltd., New Delhi,2009.

5. D.G.Luckett, Money and Banking,McGrew Hill, New York,1976.

6. A.R.Mugrave& P.B.Musgrave, Public Finance in Theory and Practice, M c Grew Hill,1997

7. S.K.Mishra and V.K.Puri,Indian Economy, Himalya Publishing House, New Delhi,2012.

2020– 2021
B.A. Social Sciences
Semester–VI
Economics (Major-VI)
SS603-Paper: Indian Economy

Time: 3 Hours   **Total Marks: 100**
                                                                                          Theory: 75 Marks
                                                                        Internal Assessment: 25 Marks
Note: The Syllabus is divided into four equal units. Medium of instruction is English
Instructions for the Paper Setter:

The question paper consists of five units: I, II, III, IV and V. Units I, II, III and IV will have two questions from each unit. The students are to attempt one question carrying 15 marks from each unit approximately in 1000 words. Unit-V consists of eight short answer questions to be set from the entire syllabus. The students are to attempt five questions from this unit. Each short answer question carries 3 marks, to be attempted in about 100 words.

UNIT –I

Nature of Indian Economy
National and per capita income of India: Patterns, trends and changing composition of sectoral shares in national income.
Major Economic Problems, poverty, Unemployment, Population, Regional inequalities, Parallel Economy.

UNIT – II

Agriculture: Land reforms-Need Implementation and Critical Evaluation, Green Revolution. Agriculture price policy and Public distribution system (PDS), Food security and sustainable agricultural development, Agriculture and WTO (Introductory).

UNIT-III

Industrial sector: Pattern, performance and Problems of Industrialisation, Small Scale and Cottage Industries in India and MSMEs. Role of public and private sector, Disinvestment issues, Latest Industrial Policy.

UNIT-IV

Foreign Sector: Composition, growth and pattern of foreign trade in India, Export Promotion and Import Substitution. Latest foreign trade policy, Balance of payments,
Indian Planning: Need, Objectives, strategiesand Evaluation. Latest Five Year Plan, NITI Aayog: Introduction and Objectives.

Suggested Readings:-

1. Misra, S.K and V. K. Puri "Indian Economy", Himalaya Publications.

2. Dhar, P.K. "Indian Economy-Its Growing Dimensions" Kalyani Publishers, New Delhi.

3. Dutt, Ruddar, "Indian Economy", S. Chand and Company, New Delhi.

4. Dhar, P.K. "Indian Economy and Its Problems", Kalyani Publishers.

5. Economic Survey of India, Go.

2020– 2021
B.A. Social Science
Semester-VI
Economics (Minor III)
SS613-Economics of Development and Indian Economy

Time: 3 Hours   **Total Marks: 100**
Theory: 75 Marks
Internal Assessment: 25 Marks

Note: The Syllabus is divided into four equal units. Medium of instruction is English
Instructions for the Paper Setter:

The question paper consists of five units: I, II, III, IV and V. Units I, II, III and IV will have two questions from each unit. The students are to attempt one question carrying 15 marks from each unit approximately in 1000 words. Unit-V consists of eight short answer questions to be set from the entire syllabus. The students are to attempt five questions from this unit. Each short answer question carries 3 marks, to be attempted in about 100 words.

UNIT I

Meaning and Measurement of Economic Development: Physical Quality of Life Index (PQLI) and Human Development Index (HDI). Characteristics of Underdeveloped Countries.Determinants of Economic Growth.

UNIT II

Dualism: Social and Technological Dualism. Lewis Model of Development with Surplus Labour.Harrod- Domar Model of Growth.
Economic Planning: Meaning, Objectives, Rationale and Problems of Planning with Special reference to Indian Economy (along with latest five year plan).

UNIT III

Nature of Indian Economy; Trends and Composition of Sectoral Share in National Income of India, Changing Composition of Indian Economy.
Major Economic Problems; Population, Poverty and Unemployment.

UNIT IV

Agriculture in India: Need and Importance, Green Revolution and New Agricultural Strategy.
Industry: Performance and Problems of Industrial Development in India, Role of MNCs in Indian Economy, Foreign Trade: Direction of Foreign Trade, Balance of Payments Problem.

Suggested Readings:-

1. Myer, R.M. and Taneja, M.L., *Economics of Development and Planning with Reference to India*, Vishal Publication Co.

2. Todaro, M.P. and Smith, S.C. (2003). *Economic Development*, Pearson Education.

3. C.P. Kindleberger, *Economic Development*, McGraw Hill, New York, 1993.

4. Misra, S.K and V. K. Puri "Indian Economy", Himalaya Publications.

5. Dhar, P.K. "Indian Economy-Its Growing Dimensions" Kalyani Publishers, New Delhi.

6. Dutt, Ruddar, "Indian Economy", S. Chand and Company, New Delhi.

M.Sc. Agriculture SEM-I

STA-415: Statistical Methods for Research Workers

Time: 3 Hours   **Max. Marks: 150**
Theory: 75
Practical: 37
Internal assessment: 38
Periods per week : 04+3

Instructions for the Paper Setters:
1. Question paper should be set strictly according to the syllabus.
2. The language of questions should be straight & simple.
3. In all nine questions should be asked, of which first question (Comprising of 8 short answer type questions covering the whole syllabus) will be compulsory.
4. Of the remaining eight questions, two questions should be asked from each section, of which the candidates are required to attempt one question from each section. All questions carry equal marks.

Theory

Section-A: Probability and fitting of standard frequency distribution, sampling techniques, sampling distributions, mean and standard error.

Section-B: Simple partial, multiple and intra- class correlation and multiple regression.

Section-C: Tests of significance, students'-t, chi-square and large sample tests, confidence intervals.

Section-D: Analysis of variance for one way and two way classification with equal cell frequencies, transformation of data.

Practical: **Time: 3 Hours**

Fitting of distributions, samples and sampling distributions, correlation and regression, tests of significance and analysis of variance.

Note: Students shall be trained to use computer to analysis the data, using available softwares. However, during university examination students will use scientific calculators to analyse the data.

M.Sc. Agriculture SEM-II

STA-425: Experimental Designs for Research Workers

Time: 3 Hours   **Max. Marks: 150**

Theory: 75

Practical: 37

Internal assessment: 38

Periods per week : 04+3

Instructions for the Paper Setters:

1. Question paper should be set strictly according to the syllabus.
2. The language of questions should be straight & simple.
3. In all nine questions should be asked, of which first question (Comprising of 8 short answer type questions covering the whole syllabus) will be compulsory.
4. Of the remaining eight questions, two questions should be asked from each section, of which the candidates are required to attempt one question from each section. All questions carry equal marks.

Theory:

Section-A: Need for designing of experiments- characteristics of a good design, basic principles- randomization, replication and local control, uniformity trials- size and shape of plots and blocks, analysis of variance and interpretation of data.

Section-B: Completely randomized, randomized block and latin square design, multiple comparison tests, factorial experiments- interpretation of main effects and interactions,

Section-C: Orthogonality and partitioning of degrees of freedom confounding in 2^3 , 2^4 and 3^3 designs, split and strip plot designs, crossover designs and balanced incomplete block designs, response surface designs, switch over trials and long term experiments;

Section-D: Selection of experimental design, mechanical errors in field experiments and methods of reducing it, presentation of research results.

Practical: **Time: 3 Hours**

Uniformity trials, completely randomized, randomized block and latin square designs, missing plot and analysis, of covariance, 2^3 ,2^4 and 3^3 simple and confounded experiments, split and strip plot designs, cross over and balanced incomplete block designs.

Note: Students shall be trained to use computer to analysis the data, using available softwares. However, during university examination students are allowed to use scientific calculators to analysis is the data.

Note: Students are allowed to use scientific calculator in University examinations; statistical tables will be provided to students in examinations. No rigorous mathematical proofs are expected from students; stress will be on application only.

B.Sc. AGRICULTURE (HONS.) Semester – III

STA-218: Statistical Methods

Time: 3 Hours   **Max. Marks: 50**

Theory:25

Practical: 12

Internal assessment 13

Periods per week 3+3

Instructions for the Paper Setters:

1. Question paper should be set strictly according to the syllabus.
2. The language of questions should be straight & simple.
3. There will be total of nine questions, out of which first question (comprising of 5 short answer type questions of 1 mark each) covering the whole syllabus will be compulsory.
4. Of the remaining 8 questions, two questions will be asked from each section (A,B,C,D) and the candidate will attempt 4 questions (one from each section). All questions will carry equal marks (5).

Theory:

Section-A: Introduction to Statistics and its Applications in Agriculture, Graphical Representation of Data, Measures of Central Tendency

Section-B: Dispersion, Definition of Correlation, Scatter Diagram. Karl Pearson's Coefficient of Correlation. Linear Regression Equations.

Section-C: Introduction to Test of Significance, One sample & two sample test t for Means, Chi-Square Test of Independence of Attributes in 2×2 Contingency Table.

Section-D: Introduction to Analysis of Variance, Analysis of One Way Classification. Introduction to Sampling Methods, Sampling versus Complete Enumeration, Simple Random Sampling with and without replacement,

Practical

Graphical Representation of Data. Measures of Central Tendency (Ungrouped data) with Calculation of Quartiles, Deciles & Percentiles. Measures of Central Tendency (Grouped data) with Calculation of Quartiles, Deciles & Percentiles. Measures of Dispersion (Ungrouped Data). Measures of Dispersion (Grouped Data). Moments, Correlation & Regression Analysis. Application of One Sample t-test. Application of Two Sample Fisher's t-test. Chi-Square test of Goodness of Fit. Chi-Square test of Independence of Attributes for 2×2 contingency table. Analysis of Variance One Way Classification. Analysis of one way.

MASTER OF PHYSIOTHERAPY (CARDIOPULMONARY, ORTHOPEDICS & NEUROLOGY) SEMESTER I

Research Methodology & Biostatistics

Paper: MPT-01   **Max Marks: 100**
Time: 3 hrs   **Theory: 75**
                                                       Internal Assessment: 25

Section A (10 Marks): There will be 10 questions of one mark each. All questions are compulsory. The questions may be short answer type or objective type. The questions should be equally distributed in whole syllabus.
Section B (50 Marks): It consists of eight questions. Each question carries 10 marks. The candidate will have to attempt any five questions. The questions should be equally distributed in whole syllabus.
Section C (15 Marks): It consists of two questions. Each question carries 15 marks. The candidate will have to attempt any one question.

Description:

Research in physiotherapy: Introduction, Need for Research in Physical Therapy, Research Definition, Concepts, Purpose and Significance, Types of Research, Ethical issues in Research.

Research Design: Meaning, Need, Features and Various concepts relating to research design, Types of research design, research Approaches: Quantitative and Qualitative- assumptions and problems, Experimental design: Basic principles of experimental research designs, single system and group or Multiple factor design- Problems, Characteristics and limitations, Non Experimental design: Survey research-Scope, types & Implementation. Clinical case reports, Qualitative Research designs & methods

Research Process: Research problems, Questions and Hypothesis, Various steps involved in Research process, criteria of good research and problems encountered by researchers.

Measurement of Scaling techniques: Measurement in Research- Definition, Various Scales, Errors in Measurement and Scaling Technique, Reliability and validity in research.

Methods of Data Collection: Types of Data sources- Primary and secondary. Collection of Primary data (Observation and Oral Interview method, Questionnaire, Schedules); Collection of secondary data (published and unpublished sources)

Statistical Reasoning, Processing & Analysis: Introduction to Data set, Frequency Distribution, Central tendency, Variability in Distribution, Measures of Asymmetry (Skewness),

Measures of Relationship, Correlation-Simple, Partial and Multiple. Regression - Simple and Multiple.

Sampling Fundamentals: Basic concepts, Need of sampling, Sample design- Steps in Sample Design, Characteristics of Good Sample Design, Types of Sampling.

Sampling Theory: Principles of Sampling, Sampling and Non Sampling Errors, Theory of Estimation, Sampling Distributions, Central limit theorem, Sample size & its determination.

Measures of Central Tendency and Dispersion- Arithmetic mean, median, mode and standard deviation (application).

Correlation and Regression: Karl Pearson's correlation method, Rank correlation method, Regression Equation and their coefficients (numerical)

Hypothesis Testing: Null Hypothesis, Alternative Hypothesis, Acceptance and Rejection Region, Level of Significance, Type I & II errors, Hypothesis Testing for Means, Sample Proportions and Variances, Chi-Square Test for comparing variances, Conditions and steps involved in applying Chi-Square Test, Analysis of Variance (ANOVA)- Basic Principles Techniques, Coding Method, Two way ANOVA and Analysis of Covariance (ANCOVA); Importance and characteristics of Non Parametric or Distribution- Free Tests.

Parametric and Non-Parametric Tests (Simple Applications): Z-test, t-test, F-test, chi-square test, ANOVA (One way and two way), ANCOVA, Spearman's rank Correlation and Kendall's Coefficient of Concordance.

Multivariate Analysis Techniques: Characteristics, Classifications and Variables in Multivariate Analysis, Techniques of Factor Analysis.

Writing an Research Proposal, Critiquing a Research Article: Defining a problem, Locating the Literature, Types of Literature, Evaluating Literature- Evaluating Single Studies and Review Articles, Elements of Research article- Inclusion and Exclusion Criteria, Funding, Data Collection & Analysis, Results, Interpretation, Conclusion, Discussions.

Interpretation and Report writing: Meaning, Techniques, Precautions, Significance, Steps and Types

Publication and Presentation of Research

BOOKS RECOMMENDED:

1. Cooper D.R and Schindler, P.S., Business Research Method, Tata McGraw Hill Publishing Co.
2. Carolyn. M. Hicks, Research for Physiotherapists, Project Design and Analysis, Elsevier Health Sciences, Second Edition.
3. C.R Kothari. Research Methodology-Methods and Techniques, New Age International Limited, Publishers, Second Edition.

BACHELOR OF PHYSIOTHERAPY (PART-III)

Paper – V Research Methodology and Biostatistics

Time: 3 Hrs.   **M. Marks: 100**
                                                                                          Theory: 75
                                                                       Internal Assessment: 25

1. There will be Ten Questions of equal Marks distribution. Candidate will have to answer any eight questions.
2. The questions should be equally distributed in the whole syllabus.

Section – I
1. Introduction: Importance of research in clinical practice, scientific approach, characteristics, Purposes and limitations.
2. Ethical issues in research, elements of informed consent.
3. Structure of a research proposal.

Section – II
1. Research Question including literature review.
2. Measurement: Principles of measurement, reliability and validity.
3. Experimental sampling and design.
4. Descriptive research.

Section – III
Biostatistics:
1. Descriptive statistics
2. Comparison of means, T – tests.
3. Analysis of Variance.
4. Qualitative and quantitative observations, Measures of Central Tendency – Arithmetic Mean, Median and Mode, Position of averages. Graphical representation of data.
5. Measures of dispersion – range, variance, mean deviation, standard deviation and co eff. of variation.
Frequency distribution
6. Correlations

Books Recommended:

1. Methods in Biostatistics – Mahajan - J.P.
2. Statistics in Medicine - Colton - Little Brown, Boston.
3. Research for Physiotherapist: Project Design and Analysis - Hicks - Churchill Livingstone.
4. Biostatistics: The manual for Statistical methods for use in health and nutrition - K.V. Rao- J.P.
5. Research methods in Behavioural Sciences - Mohsin - Orient Publication