

DEPARTMENT OF ECONOMICS

SCHEME OF STUDIES FOR 4 YEARS BS ECONOMICS

Main Features:

The program will be of eight (8) Semesters duration with 130 credit hours.

Semester-I:

<u>Course No.</u>	<u>Subject</u>	<u>Credit Hours</u>
ENGL 101	English Basic Skills	3
PAKS 103	<i>Pakistan Studies</i>	2
STAT 105	<i>Statistics-I</i>	3
SOCI 107	<i>Sociology</i>	3
GENS 109	<i>General Science</i>	3
ECON 111	<i>Introduction to Economics</i>	3

Semester-II:

<u>Course No.</u>	<u>Subject</u>	<u>Credit Hours</u>
ENGL 102	English Composition & Study Skills	3
ISLS 104	<i>Islamic Studies</i>	2
STAT 106	<i>Statistics-II</i>	3
EDUC 108	<i>Education</i>	3
PHIL 110	<i>Philosophy</i>	3
ECON 112	<i>Microeconomics-I</i>	4

Semester-III:

<u>Course No.</u>	<u>Subject</u>	<u>Credit Hours</u>
ENGL 201	English Communication Skills	3
COMP 203	<i>Introduction to Computer</i>	3
MATH 205	<i>Mathematics-I</i>	3
PSYC 207	<i>Psychology</i>	3
ECON 209	<i>Macroeconomics-I</i>	4

Semester-IV:

<u>Course No.</u>	<u>Subject</u>	<u>Credit Hours</u>
ENGL 202	English Literature	3
HIST 204	<i>History</i>	3
MATH 206	<i>Mathematics-II</i>	3
SSCI 208	<i>Sports Science</i>	3
ECON 210	<i>Economics of Pakistan</i>	4

Semester-V:

<u>Course No.</u>	<u>Subject</u>	<u>Credit Hours</u>
ECON 301	Microeconomics-II	3
ECON 303	<i>Macroeconomics-II</i>	3
ECON 305	<i>Mathematical Economics-I</i>	3
ECON 307	<i>Islamic Economics</i>	3
ECON 309	<i>Development Economics</i>	3

Semester-VI:

<u>Course No.</u>	<u>Subject</u>	<u>Credit Hours</u>
ECON 302	International Economics-I	3
ECON 304	<i>Mathematical Economics-II</i>	3
ECON 306	<i>Innovation & Entrepreneurship</i>	3
ECON 308	<i>Econometrics-I</i>	3
ECON 310	<i>Managerial Economics</i>	3

Semester-VII:

<u>Course No.</u>	<u>Subject</u>	<u>Credit Hours</u>
ECON 401	<i>International Economics-II</i>	3
ECON 403	<i>Econometrics-II</i>	3
ECON 405	<i>Research Methodology</i>	3
ECON 407	<i>Monetary Economics</i>	3
ECON 409	<i>Public Finance</i>	3

Semester-VIII:

<u>Course No.</u>	<u>Subject</u>	<u>Credit Hours</u>
ECON 402	Research Project / Internship	3
ECON 404	<i>Microeconomic Analysis</i>	3
ECON 406	<i>Macroeconomic Analysis</i>	3
ECON 408	<i>Financial Economics</i>	3

ECON	<i>Elective –I</i>	3
ECON	<i>Elective –II</i>	3

List of Elective Subjects:

- ECON 408 *Transport Economics*
- ECON 410 *Human Resource Development*
- ECON 412 *Economics of Population*
- ECON 414 *Economics of Marketing*
- ECON 416 *Corporate Governance*
- ECON 418 *Cross Cultural Management*
- ECON 420 *Agricultural Economics*
- ECON 424 *Economics of Income Distribution and Poverty*
- ECON 426 *Labor Economics*
- ECON 428 *Operations Research*
- ECON 430 *Econometrics with Computer Applications*
- ECON 432 *Environmental Economics*
- ECON 434 *Industrial Economics*
- ECON 436 *General Equilibrium and Welfare Economics*

DETAIL OF COURSES

FIRST SEMESTER:

Eng-101 ENGLISH BASIC SKILLS

Part-I: GRAMMAR

- Time
- Tense (Past, Present, Future)
- Aspect (Continuous, Perfect, Perfect Continuous)
- Mood (Indicative, Imperative, Subjective)
- Voice (Active, Passive)
- Narration (Direct, Indirect)
- Clause (Structural----Main, Subordinate, Coordinating etc)
(Functional----Declamative, Interrogative, Imperative etc)
- Sentence (Structural---Simple, Complex, Compound, Mixed, Elliptical, Unfinished etc)
(Notional/Functional---Statement, Question, Command, Exclamation etc)
- Parts of Speech (Noun, Pronoun, Adjective, Verb, Adverb, Conjunctions Interjection, Preposition)

Part-II:

Punctuation (comma, Semi-colon, Colon, Quotation marks, Apostrophe, Short Forms, Hyphen, Bracket etc)

Part-III: VOCABULARY

- Basic Vocabulary of three thousand words
- High Frequency Idioms
- High Frequency Phrasal Verbs
- Words likely to be confused
- High Frequency Synonyms and Antonyms
- One word Substitution

Part-IV: WORD-FORMATION

- Inflection
- Derivation
- Conversion
- Compounding

Books Recommended:

1. High School English Grammar and Composition by Wren and Martin (1997)
2. General Certificate English by Allen Etherton (1987)
3. English Grammar for Communication by Devitiis et al (1991)

Pak.Std-103 PAKISTAN STUDIES

1. Ideology of Pakistan: Definition and explanation; the Historical factor; the Political factor; the Religious factor; the Cultural factor; the Two-Nations Theory; Allama Iqbal and the Ideology of Pakistan; Quaid-e-Azam and the Ideology of Pakistan.
2. The Pakistan Movement: The Muslim Renaissance; Shaikh Ahmad Sirhindi; Shah Waliullah; Sir Syed Ahmad Khan; Darul-Ulum Deoband; Nadwatul-Ulema, Lukhnow; Anjuman Himayat-e-Islam, Lahore; Sindh Madrasatul Islam, Karachi; Islamia College, Peshawar.
3. Landmarks of the Freedom Movement; Minto-Morley Reforms; Lucknow Pact; Montago - Chelmsford Reforms; the Khilafat Movement; Nehru Report; Jinnah's Fourteen Points; Round-Table Conferences; the Government of India Act, 1935; 1937 Elections and the Congress Rule; Lahore Resolution, 1940; General Elections, 1946; Cabinet Mission Mission Plan; the 3rd June Plan and the Transfer of Power.
4. The Emergence of Pakistan; Early problems and main events.
5. The Struggle for Islamic System; Objectives Resolution; Islamic provisions in the Constitution of 1956, 1962 and 1973; the Promulgation of Islamic System in Pakistan.

6. The Land of Pakistan: Physical Features; People and Population; Climate and Seasons; Natural Resources.
7. The Foreign Policy of Pakistan; Definition and determinist of Foreign Policy; Important Phases of Pakistan's Foreign Policy; Pakistan relations with the Islamic World.
8. Economy of Pakistan: Economic Development, Economic Planning, Agriculture, Industry, Human Resource Development.

Books Recommended:

1. Ahmad, Justice (Retd.) Masud. Pakistan: A Study of its Constitutional History 1857-1975, Lahore: 1983
2. Arif, K. (ed.). Pakistan's Foreign Policy: Indian Perspective, Lahore: 1984.
3. Burke, SM. Pakistan's Foreign Policy: An Historical Analysis, Oxford: 1969.
4. Hamid, Abdul. Muslim Separation in India: A Brief Survey, 1857-1947, Lahore: 1967.
5. Salamat, Zarina, Pakistan, 1947-1958: An Historical Review, Islamabad: 1992.
6. Sarwar, Gul Shahzad, Pakistan Studies, Karachi: 1989.
7. Waheed-uz-Zaman, Dr. Towards Pakistan, Lahore: 1978.
8. Ziring, Lawrence. The Ayub Khan Era: Politics in Pakistan, 1958-1969. New York: 1971.
9. Muahammad Ramzan Sheikh and Muhammad Khursheed Khan, "Economics of Pakistan", MKG Publications, Multan. (Latest edition).
10. Zaib, S. Akbar, "Economy of Pakistan", Oxford Printing Press, 2nd.
11. Nisar, Saeed, "Economics of Pakistan", Imtiaz Publication, Lahore 2005.
12. Khan, Hamid, "Political and Constitutional Development in Pakistan", Oxford Printing Press, 2001.

Stat-105 STATISTICS-I

Introduction to Statistics

Descriptive and inferential statistics; population and sample, parameter and statistic; The four basic activities in statistics: Designing a plan for data collection, Exploring the data, Estimating an unknown quantity, Hypothesis testing; Type of measurement scales: Nominal, Ordinal, Interval and Ratio; Types of data: Univariate, Bivariate and Multivariate data, Primary and secondary data, Quantitative data and qualitative data, Time series, Cross-sectional and pooled data; Significant digits and rounding off numbers. Numerical examples and questions relating to all contents given in this topic.

Presentation of Data and Measures of Central Tendency

Introduction; Classification; Tabulating numerical data: The frequency distribution, the cumulative frequency distribution, the relative frequency distribution, the percentage frequency distribution; Graphic and diagrammatic representation: Bar chart, Pi chart, Histograms, Frequency curves and Histograms;' Histograms by Hand: Stem-and-Leaf. Measure of central tendency; Introduction; Types of Averages: Mean: Arithmetic mean, Geometric mean, Harmonic mean, Trimmed and Winsorized means; Quintiles: Median,

Quartiles, Deciles, Percentiles; The mode; Box plot and detailed box plot; Empirical relation between Mean, Median and Mode; The cumulative distribution function.

Measures of Dispersion, Skewness and Kurtosis

Absolute and relative measures of dispersion; Different measures of dispersion: The Range, Quartile deviation, Mean deviation, Variance and standard deviation: Definition and interpretation of variance and standard deviation, Computation of Variance and standard deviation, Step deviation method or coding method, Coefficient of variation, Standardized variable, Properties of standard deviation and variance; Skewness: Karl Pearson's coefficient of Skewness, Bowley's coefficient of Skewness; Kurtosis.

Simple Linear Regression and Correlation Analysis

Scatter diagram; Standard methods for obtaining regression line: (i) Inspection, (ii) .Semi average, (iii) Least squares principle; Assumptions underlying linear regression and its properties; Measures of variations: Standard error of the estimate, Coefficient of determination; Prediction in Regression Analysis; Interpolation versus extrapolation; Correlation analysis; Scatter diagram; The coefficient of correlation: Properties/characteristics of coefficient of correlation, Correlation and causation; The relationship among the correlation coefficient, the coefficient of determination and the standard error of estimate; Inference about the correlation coefficient; t-test for correlation coefficient; Rank correlation coefficient; Some Economic Applications.

Index Numbers

Index Numbers, Un-weighted index numbers; Simple aggregative index; Weighted indexes; Laspeyre's price index, Paaseche's price index; MarshalEdgeworth price index; Fisher's ideal index; Consumer Price Index (CPI), Producer Price Index (PPI), CPI versus GDP Deflator; Issues in constructing and using index numbers; Application of index numbers to business and economics.

Time Series

An overview of time series analysis; Component Factors of the classical multiplication time series model and their estimation: Secular trend; Cyclical variation, Seasonal variation, Irregular variation; Smoothing the annual time series and using it in forecasting: Moving averages, Weighted moving averages, Exponential smoothing; Using trend and seasonal component in forecasting; Time series and forecasting; Some Economic Applications.

Recommended Books:

- 1) H.K. Chow et al., *Introductory Statistics*, 2nd edition, Prentice Hall, 2007.
- 2) Barrow, M., *Statistics for Economics, Accounting and Business Studies*, 4th edition (Longman), 2005.
- 3) Agresti, Alan, *Statistical methods for the social sciences*, 3rd Edition, Upper Saddle River, N.J., London, Prentice Hall, 1997.
- 4) Mc Clave, J.M., Benson, P. G., Sincich, T., *Statistics for Business and Economics* (9th or 10th ed.) Pearson Publishing, 2005.
- 5) Berenson M L., D. M. Levine, and T. C. Krehbiel, *Basic Business Statistics*, 11th edition, Pearson Prentice Hall, 2009.
- 6) Lind, Marchal, Wathen, *Statistical Techniques in Business and Economics*, McGraw-Hill Companies, 12th Edition, 2005.

- 7) Chaudhry, Sher Mohammad and Kamal, Shahid, *Introduction to Statistical Theory 1 & 2*, Lahore: IImi Kitab Khana, 2009.
- 8) J. Siegel, .Andrew F., *Practical Business Statistics* (5th edition). Boston: McGraw Hill, 2003.
- 9) New bold, Paul, Carlson, William L. and Thorne, Betty M, *Statistics for Business and Economics* (5th edition), New Jersey: Prentice Hall, 20m.
- 10) Keller, Gerald and Warrack, Brian, *Statistics for Management and Economics* (5th edition). Boston: Duxbury Thomson Learning, 2000.
- 11) Stephan and Spegal, *Statistics*, latest Edition, Schum's Outline Series.

Additional Readings

1. Stock, James H. and Mark W. Watson, *Introduction to Econometrics*, 2nd edition, Pearson Addison Wesley, 2007
2. Carlson, William L. and Thorne, Belly, *Applied Statistical Methods for Economics and Social Sciences* (Latest edition). New Jersey: Prentice Hall.
3. Moore, David S, *The Basic Practice of Statistics'* (2nd edition). New York: freeman,2000.

Soc-107 SOCIOLOGY

Introduction to Sociology

- Nature, scope and subject matter of Sociology
- Brief historical development of Sociology
- Introduction to Quranic Sociology
- Society and community
- Relationship with other social
- Social Interaction Processes

Social groups:

- Definition and functions
- Types of social groups

Social institutions:

- Definition
- Structure and function of social institutions
- Inter-relationships among various social institutions

Culture and related concepts:

- Definition and aspects of culture
- Elements of culture
- Organization of culture
- Other concepts, cultural relativism, sub cultures, ethnocentrism, cultural lag

Socialization and personality:

- Role and status

- Socialization
- Culture and personality

Deviance and social control:

- Definition and types of deviance
- Juvenile delinquency
- Formal and informal methods of social control

Social stratification:

- Approach to study social stratification
- Caste class and race as basics of social stratification

Concept of social movement:

- Theories of social movement
- Social and cultural change

Social and cultural change:

- Definition of social change
- Dynamics of social change
- Impact of globalization on society and culture
- Resistance to change

Collective behavior:

- Definition
- Characteristics
- Causes
- Types
- Social movements
- Mob and crowd behavior

Books Recommended:

1. Richard, T. Schaefer, 2003, Sociology, 5th Edition, McGraw Hill College.
2. Tischer, L. Henery, 2002, Introduction to Sociology, 7th Edition, The Harcourt Press, London.
3. Stark, Rodney, 2004, Sociology, 9th Edition, Thomson Wads Worth, USA.
4. Browne, Ken, 2005, An Introduction to Sociology, 3rd Edition, Polity Press, USA.
5. Stephens, P. Etc., 1998, Think Sociology, Stanley Thornes Publishers (Ltd.), UK.
6. Macionis, J. Jhon and Plummer, Ken, 2005, Sociology: a Global Introduction, 3rd Edition, Pearson Prentice Hall, London.
7. Neulreck, Kenneth, J. 2005, Sociology: Diversity, Conflict and Change, Boston.
8. Barnard, Andy, 2004, Sociology, Cambridge University Press.
9. Giddens, Anthony, 2004, Sociology, 4th Edition, Cambridge Polity Press.
10. Albrow, Martin, 2003, Sociology, London Routledge.

Gen.Sc-109 GENERAL SCIENCE

Physical Science:

Big Bang and the expanding universe, Galaxies, Milky Way, Stars, black holes, Solar System, Earth.

Earth Sciences:

Atmosphere and life on earth, Plate tectonic, Drifting continents, Continental shelf, Earthquakes, Volcanoes, Hurricanes, Minerals.

Chemistry:

Atomic theory of matter, Elements, Compounds and mixtures, Chemical symbols, Chemical bonding, Chemical reactions, Oxidation/Reduction, Carbon and carbon cycle, Nitrogen and nitrogen cycle, Oxygen and its properties/Hydrogen and its properties, Fertilizers.

Physics:

The nature of matter, Atomic number and atomic mass, Symbol and isotope, Quantum theory, Nucleus of an atom, Radioactivity and half life, Hook's law, elasticity, The kinetic theory of gases, Gravity, Thermodynamics, Electricity, Magnetism.

Biological Sciences:

Basis of life, Classification of animals and man, Cell and cell organelles, Nucleic acids, genes, Proteins, enzymes, Metabolism, hormones and endocrine glands, Balanced food, Vaccines, antibiotics, Photosynthesis/respiration, Cell divisions and cell cycle.

Human physiology and anatomy:

Bones and muscles, Digestive system, Nervous system, Respiratory system, the human heart.

Recommended Books:

1. General Science, Student Edition, AGS Publishing (2004).
2. Twenty First Century Science by Science Foundation Group, University of New York (2006).
3. A Text Book of General Science by H. Brownell (Latest Ed.).
4. General Science by Sharon Wyme Xam online (2006).
5. Everyday Science by Dogar Publishers.

Econ-111 INTRODUCTION TO ECONOMICS

Introduction

Nature, scope and importance of Economics, Microeconomics vs Macroeconomics, Scarcity and choice, Opportunity cost, Factors of production, Production possibility frontier.

Demand, Supply and Equilibrium

Concepts of demand and supply, Determinants of demand and supply, Laws of demand and supply, Market Equilibrium, Shifts in demand and supply curves, and market equilibrium. Concept of elasticity, Price, Income and cross elasticity of demand, Laws of supply, Price

elasticity of supply, Different Determinants of elasticity of demand and supply, importance of elasticity of demand and supply.

Theory of Consumer Behavior

Utility Function, Different types of utility, Law of diminishing marginal utility, Law of Equi-marginal utility, Consumer equilibrium.

Theory of Production Cost and Revenue

Factors of production and their rewards, Production Function, Laws of returns, Cost of production (Short run and Long run), Revenue Analysis under perfect and imperfect competition, Concept of profit

Market Structures

Perfect competition and Imperfect competition, assumptions and price /output determination under Perfect competition and Imperfect competition.

National Income

Concepts of National Income, Measurement of National Income, Importance and difficulties in measurement of National Income.

Macroeconomic Issues

Concept of inflation, unemployment, Balance of payment, Exchange rate and Business Cycles. Monetary and Fiscal policies and their role in the economy.

Recommended Books:

- Michel Parkin. 2004, Economics, 5th Ed., AddisonWesley
- Paul A. Samuelson and W.D Nordhaus. 2004 Economics, 18th Ed.McGraw Hills, Inc.
- John Sloman, Economics (latest edition)
- Miller, Microeconomic Theory (latest edition)

SEMESTER-II:

Eng-102 ENGLISH COMPOSITION & STUDY SKILLS

1. GENERAL STUDY SKILLS

- Getting Organized
- Knowing One's Target
- Dictionary Skills
- Using the Library
- Remembering and Learning
- Techniques for Reading
- Critical Thinking
- Tackling a Book

2. SPECIFIC WRITING SKILLS

- Note-taking from Lectures
- Note-making from Books
- Brainstorming
- Outlining
- Summarizing
- Paragraph Writing
- Essay Writing
- Writing Assignments and Term Papers
- Dealing with Examinations

3. **SPECIFIC ORAL SKILLS**

- Discussion in Tutorials
- Effective Classroom Interaction

Recommended Books:

1. Study Skills in English by Michael Wallace (1980)
2. English Skills by John Langan (1981)
3. College Reading and Study Skills by Kathleen T. McWhorter (1983)
4. Developing Reference Skills by O'Brien and Jordan (1985)

Isl.St-104 ISLAMIC STUDIES

1. The Prophet of Islam – His Biography
1. The Preservation of the Original Teachings of Islam
2. The Islamic Conception of Life
3. Faith and Belief
4. Devotional Life and Religious Practices of Islam
5. The Cultivation of Spiritual Life
6. The System of Morality
7. The Political System of Islam
8. The Judicial System of Islam
9. The Economic System of Islam
10. The Muslim Woman
11. Status of Non-Muslims in Islam
12. Muslim Contribution to the Sciences and Arts
13. General History of Islam
14. Daily Life of a Muslim
15. Difference of Schools (Sunni, Shiah etc.)
16. The Service of Worship; Why in Arabic alone?
17. Why a Purely Lunar Calendar?

Recommended Books:

1. S. Hamidullah

Stat-106 STATISTICS-II

Probability and Probability Distribution

A survey of probability concepts: Classical probability, Empirical concept, Subjective probability; some rules of probability: Rules of addition, Rules of multiplication; Conditional Probability, Bayes Theorem; Counting rules: The multiplication formula, The permutation formula, The combination formula; Discrete probability distribution, Random variables, Discrete random variable Continuous random variable; The mean, variance and standard deviation of a probability distribution; Binomial probability distribution, and its computation, Cumulative probability distributions, Properties of Binomial probability distribution; The normal probability distributions: Properties of normal distribution, Applications of the standard normal distribution, Areas under the normal curve, Finding areas under the normal curve; the normal approximation to the binomial; Continuity correction factor.

Survey Sampling and Sampling Distributions

Sampling and Sample: Advantages of sampling, Representative samples, design and sample survey, Sampling frame; Probability and non-probability sampling; Sampling with and without replacement; Sampling and non-sampling error, sampling bias; Sampling distribution of the mean; The central limit theorem; Sampling distribution of differences between means; Sampling distribution of sample proportion; Sampling distribution of differences between proportions; Sampling distribution of the variance.

Estimation Theory & Hypothesis Testing

Point estimates and confidence intervals; Criteria for good estimators; The t-distribution; Point estimators of mean and variance; Estimation by confidence interval: Confidence interval estimate of a population mean (Known & Unknown Variances), Confidence interval for differences of means, Confidence interval for population proportion, Confidence interval for differences between proportions; Types of hypotheses; Type I versus Type II errors; Tests of population means and variances; Two sample tests; The F distribution; Testing for the variances of two populations

Chi Square Application & Analysis of Variance

Introduction; Goodness-of-fit test: Equal and unequal expected frequencies; Limitations of Chi square; Using the goodness-of-fit test to test for normality; Contingency Table Analysis. Introduction, The F-distribution; Comparing two population variances; ANOVA assumptions; ANOVA test; Inferences about pairs of treatment means; Two-way analysis of variance.

Recommended Books:

1. H.K. Chow et al., Introductory Statistics, 2nd edition, Prentice Hall, 2007.
2. Barrow, M., *Statistics for Economics, Accounting and Business Studies*, 4th edition (Longman), 2005.
3. Agresti, Alan, *Statistical methods for the social sciences*, 3rd Edition, Upper Saddle River, N.J., London, Prentice Hall, 1997.
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5. Berenson M L., D. M. Levine, and T. C. Krehbiel, *Basic Business Statistics*, 11th edition, Pearson Prentice Hall, 2009.
6. Lind, Marchal, Wathen, *Statistical Techniques in Business and Economics*, McGraw-Hill Companies, 12th Edition, 2005.
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8. J. Siegel, .Andrew F., *Practical Business Statistics* (5th edition). Boston: McGraw Hill, 2003.
9. New bold, Paul, Carlson, William L. and Thorne, Betty M, *Statistics for Business and Economics* (5th edition), New Jersey: Prentice Hall, 20m.
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2. Carlson, William L. and Thorne, Belly, *Applied Statistical Methods for Economics and Social Sciences* (Latest edition). New Jersey: Prentice Hall.
3. Moore, David S, *The Basic Practice of Statistics'* (2nd edition). New York: freeman,2000.

Edu-108 EDUCATION

Foundation of Education

Educational Process, Role of education, Philosophical Foundations of Education, Psychological Foundations of Education, Sociological Foundations of Education, Islamic Concept of Education

Curriculum Development and Implementation

Elements of Curriculum, Foundations of Curriculum. Philosophical Foundations; Relationship of Education and Curriculum; Curriculum Development Process; Process of Curriculum Development in Pakistan; Process of Development of Test books and National Textbook Policy

Learning and the Process of Learning

Principles of Growth and Development; Types of Development: Cognitive; Moral; Emotional; Social; The process of Learning; Theories of Learning; Factors affecting Learning

Process of Teaching and Teaching Strategies

Process of Classroom Communication; Factors affecting Classroom Communication; Barriers to Classroom Communications; Use of Instructional Materials and Media; Information and Communication Technologies (ICTs)

Education in Pakistan

History of Education in Pakistan, Aims of Education, System of Education in Pakistan, Educational Policies and Development Plans. Roles and Responsibilities in Education, Role of various stakeholders in Education, Role of Globalization in Education.

Recommended Books:

1. Ornstein. Foundations of Education 9thed. 2006.
2. Fraenkel. How to Design and Evaluate Research in Education 6thed. 2006.
3. Briggs. Managing Effective Learning and Teaching 2006.
4. Dennis. Child Psychology & the Teacher, 7thedition. 2004.
5. JW Best. Research in Education, 7thedition. 2004.
6. AV Kelly. The Curriculum Theory & Practice, 5thedition. 2004
7. Roblyer. Integrating Educational Technology into Teaching, 2nded. 2000
8. J. E. Cohen. Educating All Children – A Global Agenda. 2006.
9. Robert L. Ebel. Essential Educational Measurement, Prentice Hall. 1991.
10. Louis Cohen. Research Methods in Education, Routledge. 2007
11. Bloom, B. S., Hastings, J. T., & Madaus, G.F. (1971). Handbook on formative and summative evaluation of student learning; New York: McGraw-Hill.
12. Gagne, R.M. (1974). Essentials of learning for instruction. New York: Deyden Press.
13. Goodlad, J.I., & Associates. (1979). Curriculum Inquiry: The study of curriculum practice. New York: McGraw-Hill.
14. Hass, G. (1987). Curriculum Planning: A new approach (5th ed.). Boston: Allyn & Bacon.
15. Saylor, J.G., Alexander, W.M., & Lewis, A.J. (1981). Curriculum Planning for better teaching and learning. (4th ed.). New York: Holt, Rinehart & Winston.

Phil-110 PHILOSOPHY

- Basic concepts of human life and its place in the universe
- Freewill, the relation of body and mind, immortality, skepticism, self-knowledge, causality and a priori knowledge
- Religions and secular ethics codes and theories
- Intuition, rationality and faith by classic and current philosophies (eg. Plato, descries, hume, the business russxell and satre)

Recommended Books:

- Philosophy by N. Warburton (Routlegde 2004).
- Fundamentals of Philosophy by J. Shand (Routledge 2003).
- A short history of modern Philosophy by R. Scruton (Routledge 2001).

Econ-112 MICROECONOMICS-I

Introduction

Overview of microeconomics, Consumer, firm and market, laws of demand and supply, Market equilibrium, Shifts in demand and supply curves, and market equilibrium. Price

elasticity of demand, Income elasticity of demand, price elasticity of supply, Application of elasticity.

Consumer Behavior

Consumer's Problem, Utility theory, Laws of diminishing marginal utility and equi-marginal utilities, Consumer Equilibrium and Consumer's Demand Curve – Indifference Curve, Slope of Indifference Curve, Properties of Indifference Curves, Budget Constraint, Consumer's Equilibrium.

Theory of Production

Production Functions, Short-run verses Long-run, Law of variable proportions, Laws of Returns, Iso-quant and Iso-cost, Least Cost Combination of factors of production, Concept of expansion path.

Theory of Cost & Revenue

Cost Function, Derivation of Cost Curve from production function, Cost Concepts, Short-run and Long-run cost function, Revenue Function, Relationship between Total Average & Marginal Revenue Curves under perfectly competitive and imperfect competitive markets.

Market Structure

Market structure, Price and output determination under different market structure (Perfect and imperfect competition, Monopoly, duopoly, Oligopoly, Monopolistic competition).

Factor Pricing and Productivity

Introduction of factor pricing, Marginal productivity theory.

Books Recommended:

1. Gragory Mankiv. 2001, Principles of Economics, Dryden Press.
2. Samulson and Nordrons, 2004, Economics, McGraw Hill, Inc.
3. McConnel and Bruce, Principles of Economics, Latest edition.
4. Lipsey and Goerant, Principles of Economics, Latest edition.
5. Dr. Muhammad Hussain Chaudhry, Microeconomic Theory Part-1, Latest edition.
6. Abdul Haleem Khawaja, Microeconomic Theory.

SEMESTER-III:

Eng-201 ENGLISH COMMUNICATION SKILLS

SPEAKING

- Introduction to Communication
- Importance of Communication
- Expressing Opinions
- Making Judgments
- Modifying People's Feelings
- Expressing Personal Feelings

- Requesting and Giving Information
- Expressing Thought Processes
- Interacting Socially
- Preparing for an Interview
- Oral Presentations
- Presenting in Seminars/Conferences
- Problems in Oral Communication
- Business English (Business Opportunities-I)

WRITING

- Introduction to Writing Communication
- Letter Formatting
- Punctuation Styles
- Meetings
- Minutes of Meeting
- Agenda (Meeting)
- Meeting Notices
- Job Applications
- Notices/Advertisements
- Reading Comprehension and Précis
- Translation from Urdu to English and from English to Urdu
- Basic Vocabulary of English
- High Frequency Idioms
- Correct use of words
- Correct use of sentences

Recommended Books:

1. Alexander, L.G. (1965) A First Book in Comprehension, Précis and Composition. London: Longman.
2. Hedge, T. (1988) Writing. ELBS.
3. McMurrey & Campman (1983) Writing Fundamentals. Macmillan.
4. Robey et al (2002) New Handbook of Basic Writing Skills. Harcourt College Publisher.
5. Murphy R. et al. Business Communication
6. O' Locker, Kitty Business and Administrative Writing
7. Bover & Hall. Business Communication for Today.

Int.Com-203 INTRODUCTION TO COMPUTER SYSTEM

Introduction

Introduction to Computers Concepts (Types of Computers, Generations of Computers, Classification of Computers etc.).

- The Basic Computer Architecture.
- Input and Output Devices

- Storage Media
- Introduction to Data Communication and Networking

Operating System (Windows)

What is an Operating System?

- Introduction

What is Windows?

- Starting Windows

Organizing your Files and Folders

- Making new Folders
- Moving and Copying Items between Folders
- Copying Files and Folders to and from Floppy Disks
- Copying, Moving and Deleting Block of Files and Folders

Word Processing (Ms Word)

Word Processing and its need

Documents Operations

- Starting a new Document
- Saving your work
- Spell Checking your work
- Previewing and Printing your work
- Opening and existing document
- Switching between Multiple Open Documents
- Formatting Text
 - o Changing the Font
 - o Changing the Font Size
 - o Changing the Type Style
 - o Highlighting Characters
 - o Creating a Block and different Operations on a Block
- Setting Alignment
 - o Centering, Left-Aligning, Right-Aligning, Justifying Text
- Page Formats
 - o Adjusting Page Numbering

Spread Sheet (Ms Excel)

- Spread Sheet and its Applications
- Starting a New Worksheet
- Saving, Opening, Editing, and Printing your Worksheet
- Entering and Editing Data
- Entering Series
- Formulas and Functions

- Creating Formulas
- Mathematical, Exponentiation, and Percentage Operators
- Copying Formulas
- What-if Analysis
- Functions
- Charting your Data
- Inserting a Chart

Recommended Books:

1. The Nature of Computers, by James A. O'Brien.
2. A Textbook of Computer Studies, published by NWFP Textbook Board, Peshawar.
3. Mastering Windows, by Robert Cowart.
4. Mastering Microsoft Office Professional for Windows, by Lrnnie E. Mosely and David M. Boodey.
5. Mastering Excel, by Thomas Chester & Richard H. Aklen.
6. Fundamentals of Information Technology, by Deepak Bharihoke, published by Excel Books.

Math-205 MATHEMATICS-I

Number System

Rational Numbers and Irrational Numbers, Properties of Real numbers, Complex Number, Properties of Complex Number. The Real Line, The Real Plan or the Co-ordinate Plan. The Complex Plan.

Sets and Functions

Sets and Types of Sets, Operations on Sets Venn-Diagrams, Properties of Union and Intersections. Proofs of De Morgan's Laws Relations, Functions and Types of Functions, Linear and Quadratic Function, Inverse of a Function, Graph of a Function, Limits of Function, Continuity, Properties of Continuous Function.

Matrices and Determinants

Concept of Matrices and Determinants. Algebra of Matrices, Inverse of a Matrices, Elementary Row Operation, Rank of Matrix, Determinants, Minor and Cofactors, Properties of Determinants.

System of linear equations

Homogeneous Linear Equations and Non-homogeneous Linear Equations Solution Methods of Non-homogeneous Linear Equations (i) Using Matrices, (ii) Using Elementary Row Operations (iii) Cramer Rule, Gauss's Elimination Methods, Solutions of Quadratic Methods (i) By Factorization (ii) By Completing Square (iii) By Formula Method. Synthetic Division, Formation of Equation whose roots are given, System of two equations.

Recommended Books:

1. Calculas and Analytic Geometary by Dr. M..N.M. Talpur, Ferozson (Pvt.) Limited.

2. Mathematical Methods by S.M. Yusuf, Abdul Majeed & Muhammad Amin, Ilmi Kitab Khana, Kaber Street, Urdu Bazar, Lahore.
3. Introgductor Linear Algebra with application (7th Ed) by Barnard Kolman and David R. Hill.
4. Calculas by Thomas Fenny.

Psyc-207 PSYCHOLOGY

- History of basic and applied fields of Psychology
- Scientific reasoning and Psychological methods
- Evolution of human motivation, development and social relationships
- Brain, Perception, Learning and Memory
- Normal and abnormal individual differences

Recommended Books:

- Personality Psychology by N.Brody and H. Ehrlichman (Englewood cliffs 1998)
- Personality by J.Burges (Belmont, CA, 2008)
- Psychology: An introduction by B. Lahey (Amazon Laker Ed.).
- Introduction to Psychology by E.R. Higlard (Latest Ed.)
- Introduction to Psychology by R. Plotnik (Latest Ed.)

Econ-209 MACROECONOMICS-I

Introduction:

Definition of macroeconomics, Brief account of the development of macro-economics after the World War-II, Concept of business cycles; Boom and Depression, Concepts of Inflation and Unemployment, Macroeconomic variables and their mutual relationship, real and nominal variables.

National Income:

Definition and concept of national income, Measures of national income; Gross Domestic Product (GDP) and Gross National Product (GNP), GDP at factor cost and at market prices, concept of depreciation and NNP, Personal Income and Disposable Income etc., Different methods of computation of national income; Product, Income and Expenditure approaches, Circular flow of income, Real versus Nominal Income, GNP deflator, Per capita income and standard of living, Study of Pakistan Economic Survey (latest).

Classical Theory of Employment:

Production function, Labour Market; Money Market, Capital Market, Wage-Price flexibility and full employment level. Aggregate supply curve. Role of money in classical economy. Wage rigidity and full employment. Effects of population growth, technological progress.

Components of Aggregate Demand:

Consumption, Saving, Investment (to be explained with simple linear functions) Govt. expenditure. Different types of investment, Determinants of investment.

Determination of National Income:

The Keynesian model for a simple two-sector economy, injections into and leakages from the economy, inflationary and deflationary gaps, Equilibrium of aggregate demand and supply; the concept of multiplier and accelerator, concepts of full-employment and under employment.

Money and Banking:

Definition, forms, functions of money, Central Bank and its functions, the role of State Bank of Pakistan, Commercial banking, Demand for money; the Quantity Theory of money, Inflation measurement and impacts, causes of inflation and remedies, Monetary policy; brief introduction.

Public Finance:

Sources of public revenue and various forms of taxes, Major heads of public expenditure, Concept of budget deficits and sources of filling the gaps, deficit financing, study of the Federal budget of Pakistan (latest) and Provincial / Local government budgets (relevant areas), Fiscal policy; meaning and objectives.

International Trade:

Concept of imports and exports, Theory of absolute and comparative advantage, custom duties, Currency exchange rates, and Balance of Payments, causes of deficits in BOP of Pakistan and remedial measures, the problem of external debt.

Books Recommended:

1. Mankiw, Gregory – Principles of Economics, 2nd Edition, South-West Publishers (2001).
2. Parkin, Michael – Macroeconomics, 7th Edition, Prentice Hall (2004).
3. Miller, R.L.-Economics Today: The Macro View, Addison Wesley (2005).
4. Pakistan Economic Survey (current issue), Economic Advisor Wing, M/O Finance, Government of Pakistan.

SEMESTER-IV:

Eng-202 English Literature

NOVEL:

Tess by Thomas Hardy

PROSE:

Short Stories:

- The Kite
By Somerset Maugham

PLAYS:

- The Storm

- By John Drink Water
- Julius Caesar
- By Shakespeare

POETRY:

- John Milton
First 35 lines from the Paradise Lost
- John Keats
Ode on a Grecian Urn
- William Wordsworth
Lucy Poems
- P.B. Shelley
Ode to the West Wind
- Alfred Tennyson
- Break, Break, Break

Hist-204 History

Personal introduction and course outline (objectives).; Introducing concepts, to be used in the course; Oral History Vs. Written Documents – constructing history; Carr’s idea on history and historical process; Analyzing society and Environment; Mechanical Vs. Organic Societies; Development of individuality and individualism; Past and present in history; Contemporary Vs. modern history; Structural changes: Why Europe?; What is modern and modernism; Dawn of the Modern Era: The West Torn Apart; Evolution and Revolution in European history: Economy and Culture; Renaissance and Enlightenment, Luther, Erasmus, and Reformation; Scientific and Intellectual Revolution in Europe; Ottomans and the Eastern divide; Copernicus, Galileo, Francis Bacon, Rene Descartes, Spinoza, Pascal and Newtonian Revolution; Synopsis of the Western political history; Constitutionalism and Absolutism: England and France; The idea of rebellion and revolution: The western heritage; Background to the Revolution: Constitutionalism Vs. Absolutism; Europe: Economy, society, thinking process and conflicts; Prelude to revolution: France under Louis XVI; Aristocratic revolt (1787 – 89); Origins and the chaotic conditions – 1789 93; The Estates: rivalries and revolts; Rise of Middle Classes in Europe; Dynamics of the Middle Class; Bonapartism vs. Mechiavelianism; Industrialization: Old and Modern (Indian vs. European); Seeds of Individualism: Mercantile Capital, decline of feudalism; British case: Why exceptionalism – Industrial Revolution – 1760 1840; Critical variables of Industrial Revolution: Technological changes and socio-economic growth with culture; Scientific approach to life and industrial work; The making of the Working Class: extraction of surplus from low wages; From feudalism to Capitalism: what was the process? ;Cost benefits of industrialization; From Russian Revolution to Industrialism in the USSR.

Recommended Books:

- | | |
|-----------------------|------------------------------------------------------------|
| 1. E.H. Carr: | <u>What is History?</u> |
| 2. G. Barraclough: | <u>An Introduction to Contemporary History</u> |
| 3. Carl G. Gustavson: | <u>A Preface to History</u> |
| 4. Jacob Burckhardt: | <u>The Civilization of the Renaissance in Italy</u> |

5. Eric Hobsbawm: **The Age of Extremes: A History of the World 1914-1991**
6. Paul Kennedy: **The Rise and Fall of the Great Powers: Economic Change and Military - Conflict from 1500 to 2000 (NY 1987)**
7. Harrison, Selig, **India and Pakistan: The First Fifty Years (CUP 1999)**
Kreisberg, Klux (eds)
8. Alun Munslow: **Rethinking of History: The Journal of Theory and Practice (UK)**
Deconstructing History (Routledge, London, UK 1997)
9. Richard Evans: **In Defence of History (1997)**
10. Arthur Marwick: **The New Nature of History: Knowledge, Evidence, Language (2001UK)**

Math-206 Mathematics-II

Partial Fraction & Sequences and Series

Concept of Partial Fraction, Sequences and types of sequences, Arithmetic Progression and Arithmetic mean, Geometric Progression and Geometric mean, Harmonic Progression and Harmonic mean, Arithmetic sense, Geometric series and Harmonic series, Sign Notation.

Derivatives and Concepts of Derivatives

Rules of Derivatives, Geometrical Interpretation, Derivatives of Combination of functions, Derivatives of Inverse of functions, Concepts of Partial Derivations, Rules of Partial Derivatives, Derivatives of log functions, Derivatives of Trigonometric functions. Anti Derivatives, Concepts, Techniques of Integration Leibnitz-Theorem

Differential equations

Differential equations of first order preliminary theory, Separable variable, Homogenous equations, Linear equations, Exact equations, Equations of Bernoulli, Ricatti, Clairaut's equations.

Higher order linear differential equations

Homogeneous Linear Equations, Non-Homogenous linear equations, The method of undermined coefficients, The Cauchy Euler equation, Reduction of order, The method of variation of parameters, Exact linear equations

Recommended Books:

1. Calculas and Analytic Geometary by Dr. M..N.M. Talpur, Ferozson (Pvt.) Limited.
2. Mathematical Methods by S.M. Yusuf, Abdul Majeed & Muhammad Amin, Ilmi Kitab Khana, Kaber Street, Urdu Bazar, Lahore.
3. Intgrodutor Linear Algebra with application (7th Ed) by Barnard Kolman and David R. Hill.

4. Calculus by Thomas Fenny.
5. Differential equations with boundary Value Problems 3rd Edition by Dennis G. Zill and Michael R. Cullen.

S.Sci.-208 Sports Science

Games and Sports

- a. Human Organism Anatomy Physiology and effect of Exercise
 - i) Muscular System, Circulatory System
 - ii) Respiratory System, Nervous System

- b. Rules and Techniques of the following games:
 1. Football
 - Play of Field & Dimensions, Numbers of Players & Players Equipm ent, Duration of the Match.
 - Start & Re-Start of play / kick off, Ball in and out of play.
 - Methods of scoring, off side.
 - Fouls of Direct Free Kick & Indirect Free Kick, The Penalty Kick, The throw in, The Goal Kick, the Corner Kick.

 2. Volley Ball
 - Playing Area, Dimension of Court Participants Team Composition, Playing Equipment.
 - To Score a point, to win a game & match, Position of players in the court, Rotations, Playing action.
 - The Libero Player, The service, Attach hit, Blocking.
 - Time out & technical time outs misconduct & its sanctioned.

 3. Badminton
 - Dimension of Badminton Court, The shuttle & the racket.
 - Laws of service, fouls, order of service in double.
 - Single game and double game, scoring system.

Track and Field Events

- a. Rules, Regulations and Techniques of Track and Field Events.
 - i) 400 Meter Race
 - Rules of 400 metres race, Staggers, Starting Position, False Start.
 - Heats, Dopping, Finish Line, Tarso.

 - ii) Broad Jump
 - Rules of Long Jump, Runway, Take of Line and Board, Landing Area, Best Valid Performance, Fouls of Long Jump, Tie Break.

 - iii) Discuss Throw
 - Rules of Discuss Throw, Best Valid Performance, Grip, Rotations.
 - Landing Sector of Discuss, Fouls of Discuss Throw, Tie Break.

Nutrition

- Calories and Caloric requirement, Constituents of Food.
- Balanced Diet with special reference to the sources of food available in Pakistan, Effect of Malnutrition on Human Body.

Recommended Books:

Internet Access

Econ-210 Economics of Pakistan

A Perceptive of Economic Development and Growth:

Economic development and economic growth, Comprehensive definition of Economic development, Measurement of economic development, Common characteristics of developing countries.

Determinants and Obstacles of Economic Development:

Factors of economic development. Technology and economic development. Obstacles to economic development. Remedial Measures to overcome economic development. Market Imperfections, Poverty and its measurement, Vicious circle of poverty.

Non-Human and Human Resources in Pakistan

Mineral and Power Resources of Pakistan, Natural Resources and economic development. Capital formation. Qualitative and quantitative aspect of Pakistan's population. Population Explosion. Family Planning. Importance of population for economic development. Unemployment Problem. Human Capital formation. Manpower Planning.

Agriculture Sector:

Role of Agriculture sector. Food and Cash crops. Farm Mechanization. Collective and Cooperative farming. Problems of Agriculture sector and solution. Food shortage problem in Pakistan. Tax on Agriculture income. Livestock. Forests in Pakistan.

Agriculture Credit, Marketing and Policy:

Role of Agriculture credit. Rural credit its types and sources. Rural credit its problems and solutions. Problems of agriculture marketing and solutions. Importance and objectives of agriculture price policy. Land tenure system in Pakistan.

Industrial Sector:

Role of Industrial sector. Problems of Industrial sector and solution. Principal manufacturing industries in Pakistan. Industrial promotion measures taken by Government. Small and Medium Enterprises. Agro-based industries. Localization of industries.

International Trade:

Role of foreign trade in economic development, Major Exports and Imports of Pakistan. Foreign Trade performance of Pakistan. Export Promotion Measures taken by Government. BOP (Causes of deficit and solution). Devaluation of Currency.

Transport and Communication Sectors in Pakistan:

Transport and Communication system in Pakistan. Role of Transport and Communication Sectors in Pakistan. Pakistan Railway. Pakistan Motorways.

Economic Planning:

Meaning and Definition of economic planning. Need and role of economic planning. Aims and objectives of economic planning. Pre-requisites for effective economic planning. Factors inhibiting the effective economic planning.

Budgetary Policy in Pakistan:

Components of Federal Budget. Economic importance of Budget. Fiscal Policy. Deficit Financing. Tax Structure in Pakistan.

Recommended Books:

- Kh. Amjad Saeed, (latest), “The Economy of Pakistan”, S.A. Salman Publications.
- Vaqar Ahmad & Rashid Amad, The management of Pakistan’s Economy, Oxford University Press, Karachi.
- Chaudhary M. Aslam, Human Resource Development.
- Pakistan Economic Surveys, Published by Government of Pakistan, (latest issues).
- Annual Report of State Bank of Pakistan and CBR year books. (latest issue)

SEMESTER-V:

Econ-301 Microeconomics-II

Introduction: Introduction to Microeconomic. Subject matter of Economics

Theory of consumer Behavior: Preferences, Cardinal & Ordinal approaches, Elasticities, Market demand curve. Theory of revealed preference, Labor Supply decisions, Uncertainty and risk: Decision under uncertainty, Expected utility and risk.

Theory of production and Cost: Production function, graphical derivation of total, average and marginal product, law of diminishing returns, Production with two variable inputs, Production isoquants, Elasticity of substitution. Concepts of costs, Short-run cost theory. Economies and diseconomies of scale.

Theory of Firm and Market Organization: Pure, and perfectly competitive market: Imperfect Market: Monopoly, price discrimination, Multi-plant monopoly, Natural monopoly, monopoly and economic efficiency regulations of monopoly, monopolistic competition, equilibrium of firm and industry under monopolistic competition, Oligopoly theory, non-collusive oligopoly/classical solution to oligopoly, collusive oligopoly, market solution to oligopoly.

General Equilibrium: Pareto optimality, production efficiency equilibrium, bilateral equilibrium with production. General equilibrium, Disequilibria in exchange and /or production, multiple equilibrium.

Welfare Economics: Welfare in pure exchange, Unanimity principle: Welfare with production, Pareto optimality and competition. Theory of second best, Externalities and public goods, Welfare and economic policy.

Theory of Distribution: Demand for the supply of factors of production, Equilibrium in factor market under alternative market conditions. Theories of wages, rent, interest and profit.

Recommended Books:

1. W. Nicholson, Microeconomic Theory: Basic Principles and Extension The Dryden Press, New York.
2. A. Koutsoyiannis, Modern Microeconomics English Language Book Society MacMillan.
3. J.P. Gould & Lazaeer Microeconomic Theory Richard D. Irwin, Inc.
4. Eugene Silberberg, The structure of Economics: A Mathematical Analysis 2nd edition, McGraw Hill publishing Company, 1990.
5. J. Hirshleifer Price Theory and Application. Prentice Hall International Editions.
6. J.M.Handerson&R.EQuandt Microeconomic Theory: A Mathematical Approach McGraw-Hill Company.
7. Robert, S.Pindyck Microeconomics, 2nd Ed, Prentice Hall 1995

Econ-303 Macroeconomics-II

Basic Concepts: What is Macroeconomics? Subject matter of Macroeconomics

National Income Accounting: Theory & Measurement of National Income Accounts: Construction and problems, Real VS Nominal GNP

Aggregate Demand and Income Determination: Equilibrium Output, Consumption & Aggregate Demand, Saving Function, Investment & Aggregate Demand and related concepts.

Consumption Function: Absolute Income Hypothesis, Relative Income Hypothesis, Permanent Income Hypothesis, Life cycle Hypothesis, Reconciliation of Various Hypothesis, Other factors influencing. Consumption (Role of interest rate, prices, expectation Wealth and Distribution of Income.

Theories of Investment: Basic Concepts. Theories of Investment (profit theory, Accelerator Principle). Role of Interest Rate and Finance in Influencing Investment Demand.

Demand and Supply for Money: Definition, Components and functions of Money Stock, Theories of Money Demand. Money Supply, Money Multipliers, Process of Money Creation and Money Supply Function and its related concepts.

Income, Prices & Employment: Classical theory: Aggregate Supply Curve, Aggregate Curve, Level of Output and employment Wages & Prices, Says law of Maker, Effect of changes in money supply of money, Demand for on output and prices etc.

Keynesian Theory: Aggregate Demand, Goods Market Equilibrium (IS Curve), Money Market Equilibrium (LM Curve), General Equilibrium, Effects of Monetary and Fiscal Policy.

Keynesian- Classical Debate: Effects of Monetary and Fiscal Policy, Real Balance Effect (Pigou and Wealth Effect), Govt. Budget Constraint, Crowding in vs. Crowding out
Inflation, Output and Unemployment: Theories of Inflation, Role of Expectations, Stabilization Policies

Growth Models and Business Cycle Theory: Concepts, Models of Business Cycle End Growth Models

Recommended Books:

1. Abel, Andrew, B & Ben S. Bernanke Macroeconomics 2nd Ed, Addison
2. Richard T. Froyen Macroeconomics: Theorems & Practices (4th Ed)
3. Laurence H. Meyer Macroeconomics: A Model Building Approach
4. E. Shapiro Macroeconomic Analysis 3rd Ed.
5. Dornbusch & Fisher. Macroeconomics McGraw Hill Company 1998
6. Dornbusch & McGougall Macroeconomics
7. Gregory, N. Mankiw Macroeconomics, 2nd Ed, Worth Publishers, 1994

Econ-305 Mathematical Economics-I

Introduction:

Nature of Mathematical Economics. Basic Concepts – Constants, Variables, Parameters and Coefficients. Classification of Numbers and Real Number System. The Concept of Set, Ordered Pairs and Cartesian product.

Economic Models:

Functions and Relations. Types of function – Linear, Quadratic, Hyperbolic, Logarithmic and Exponential Function. Graphic representation and the idea of domain and range. Equations and Identities. Mathematical Model and their ingredients.

Linear Algebra:

Vectors and Matrices. Matrix Operations – Addition, Subtraction, Scalar Multiplication and Multiplication of Matrices. Laws of Matrix Operations – Commutative, Associative and Distributive laws. Determinants and their properties. Minors and Cofactors. Laplace

Expansion. Matrix Inversion. Solution of System of linear equations. Cramer's rule for Matrix Solution. Input-Output Analysis. Jacobian, Hessian and Bordered Hessians and their use in Economics.

Equilibrium Analysis:

Partial market equilibrium - Linear Model partial market equilibrium, Non linear model. General market equilibrium. National Income Equilibrium.

Comparative Statistics And Derivatives:

Concept of limit. Limit theorems. Continuity and differentiability of a function. The derivative and the rules of differentiation. Differentiation of Functions involving more than one choice variable. Partial and higher order partial derivatives. Differentiation of Exponential and Logarithmic Functions. Applications of derivatives in Economics. Total, Average and Marginal Relationships. Elasticities, Production Functions and their average and marginal products. Returns to scale. Cobb-Doughlas production function and the constant elasticity of substitution (CES) production functions.

Optimization:

Optimum values of extreme values. Relative maximum and minimum. First order and second order conditions for the existence of extreme values. Profit maximization. Point of Inflection. Nth – Derivative test for relative extreme. Unconstrained optimization of functions with more than one choice variable. First and second order conditions for optimality under constrained optimization. Utility maximization. Least cost combination of inputs.

Linear Programming:

Linear Programming as a special case of optimization Graphic solutions. Simplex Method.

Recommended Books:

1. Chiang, A.C. Fundamental Methods of Mathematical Economics. 3rd Ed. McGraw Hill, 1985.
2. Yamani, T. Mathematics for Economists
3. Allen R.D.G. Mathematical Economics London, Macmillan ELBS, 1976
4. Lews J.P. Introduction to Mathematics for Students of Economics 2nd Ed. The Macmillan Press Ltd. 1977.
5. J. Weber, Mathematics for Economists
6. Huang D.S. Introduction to the use of Mathematics in Economic analysis John Wiley and Sons, New York.
7. Reston, M.H. Elementary Matrices for Economics Routledge and Kegan Paul, London, 1969.
8. Handerson & Quandt. Micro Economic Theory (A Mathematical Treatment

Econ-307 Islamic Economics

Financial Intermediation in the framework of Shariah:

Definition of Financial Instruments, Aspects, Share in Ownership, Financial Right and Limited Liabilities, Allocation and proceeds of the financial instruments, Negotiability and liquidability of the financial instruments.

Types of financial Instruments:

Bai-Maujjal, Mudaraba, Musharaha, Murabaha, Bai-salam, Ijara, Quad Hasana.

Social and Economic Aspects of Islamic Financial Instruments supplemented by the case studies of different Muslim countries.

Islamic Capital Market:

Appraisal of existing financial instruments and market operations from Islamic perspective. Supplemented by the case studies.

Islamic certificates & Resource Mobilization.

Islamic Banking Modes for house building financing.

Development Finance:

Financing Development in Islamic Strategies for financing Development, Domestic Financing of development, supplemented by the case studies of different countries.

Recommended Books:

1. M. Fahim Khan Islamic Financial Institutions, IRTI, Islamic Development Bank, Jeddah, KSA, 1995.
2. Dmenico Mario Nuti The Economics of Participation, IRTI, Islamic Development Bank, Jeddah, KSA, 1995.
3. Tariquallh Khan Practice & Performance of Mudaraba Companies, A Case Study of Pakistan IRTI, Islamic Development Bank, Jeddah, KSA, 1996
4. M. Ahmad Mahdi Islamic Banking Modes for House Building Finance IRTI, Islamic Development Bank, Jeddah, KSA, 1995.
5. M.A. Manan Financing Development in Islam IRTI, Islamic Development Bank, Jeddah, KSA, 1996
6. M. Fahim Khan Comparative Economics of Some Islamic Financing Technique IRTI, Islamic Development Bank, Jeddah, KSA, 1995.
7. M. Arif & M.A. Mannan Developing a System of financial Instruments IRTI, Islamic Development Bank, Jeddah, KSA, 1995.

8. M. Fahim Khan Human Resource Mobilization Through the Profit Loss Sharing Based Financial System, IRTI, Islamic Development Bank, Jeddah, KSA, 1995.
9. Muhammad Taqi Usmani An Introduction to Islamic Finance Idaratul Ma'arif, Karachi, Pakistan, 1998.

Econ-309 Development Economics

Meaning of Development; Characteristics and criteria of Development; historical theories of growth and development; neo classical theories; measures of economic inequality, poverty and their applications; theories of industrial and agricultural development.

Internal and External resource mobilization; agricultural pricing policy; human capital; employment problems; rural-urban migration and urban informal sector; trade and development; multi-national corporations; regional economic integration; new international economic orders; international debt problem.

Recommended Books:

1. Todaro, Michal P. Economic Development in the Third World 1995
2. Thirlwall, A.P. Growth & Development with special reference to Developing Economics 5th Ed, McMillan Press London 1994
3. Mier, G.M. Leading Issues In Economic Development 5th Ed Oxford University Press New York, 1989
4. Higgins, B. Economic Development, Problems, Principles and Policies, W.Norton & Co. New York 1968
5. Haq, M. The Strategy of economic Planning Oxford University press, Karachi 1963

SEMESTER-VI:

Econ-302 International Economics-I

Introduction to International Economics: The scope and significance of international economics.

The Pure Theory of International Trade; The basis of trade. The classical and Heckscher-Ohlin models. Empirical evidence and critical appraisal of these models. Factor intensity reversals. The Leontief paradox.

Commercial Policy: The case for free trade. Theory of tariffs, infant industry arguments. The effective rate of protection. Optimum tariffs. Retaliation. Trade barriers-taxes, subsidies and quantitative restrictions.

International Trade And Economic Growth: Trade and growth mutual effects of growth and trade in the context of small and large countries. Immiserizing growth.

Economic Integration: Types and reasons for economic integration. The theory of customs union.

Recommended Books:

1. Chacholiades & Multiades Principles of International Economics New York, McGraw Hill Co. 1981.
2. Sodersten, B.O. International Economics New York, Harper and Row, Latest Edition.
3. Caves, R.E. & Jones, R.W. World Trade and Payments. An Introduction Boston, Little, Brown, and Company, (Inc.) Latest Edition.
4. James C. Ingram International Economics 3rd ed. John Wiley & Sons, 1994.
5. Grubel, Herbert G. International Economics Homwood Illinoesa, Richard D. Irwin (Ins), Latest edition.

Econ-304 Mathematical Economics-II

Economic Dynamics and Integral Calculus.

Dynamic and Integration; economic applications of integrals;

First order Differential equations.

Linear and Non-linear differential equations; the qualitative graphic approach; Solow growth model.

Higher order Differential Model.

Second order differential equation, a market model with market expectations; the interaction of inflation and unemployment; differential equation with variable term; higher order differential equations.

First Order Difference Equation.

Difference equation; Solutions; The dynamic stability of equilibrium; The Cobweb model; A market with inventory; Non- linear difference equations

Higher Order Difference Equations.

Second order linear difference equations; Samuelson multiplier accelerator model; inflation and unemployment in discrete time; Generalization to variable term and higher order equations; Schur theorem

Simultaneous Differential Equations and Difference Equations.

The genesis of dynamic systems; solving simultaneous Dynamic Equations; Dynamic input output models; the inflation unemployment model; the two variable phase diagram; Linearization of non-linear differential equation system

Linear Programming:

Some example of linear programming; General formulation of linear programming; convex set and linear programming; simplex method; Duality; economic interpretation of dual.

Non-Linear Programming.

The nature of non-linear program, Kuhn-Tucker conditions; the constraint qualification.

Games Theory:

Constant and zero sum games; Saddle point solution; mixed strategy; the rectangular game as a linear program; Duality

Theory of Demand.

Utility functions; Ordinary Demand functions; indirect utility function; Roy identity; Expenditure function; Compensated demand function; Hotellings Theorem; Slutsky equation.

Recommended Books:

1. Brichenhall C. & P. Grout: Mathematics for Modern Economics
2. Chaing A.C Fundamental Methods of Mathematical Economics 3rd Ed, McGraw hill, 1989
3. Dowling, E.T Mathematics For Economists
4. Intrilligator, M.D: Mathematical Optimization and Economic Theory
5. Kooros, A.: Elements of Mathematical Economics
6. Varian, H.R: Microeconomic Analysis

Econ-306 Innovation & Entrepreneurship

Chapter-1 The Entrepreneurial Perspective

- 1.1 The natures and importance of entrepreneurs
 - i) Definition of entrepreneur today
 - ii) Entrepreneur as an innovator
- 1.2 The entrepreneurial decision process
 - i) Desirability of new venture formation
 - ii) Possibility of new venture formation
- 1.3 Types of start-ups
- 1.4 Role of entrepreneurship in economic development

Chapter-2 The Entrepreneurial and Intrapreneurial Mind

- 2.1 What is intrapreneurship and entrepreneurship

- 2.2 The entrepreneurial process
 - i) Identify and evaluate the opportunity
 - ii) Develop a business plan
 - iii) Determine the resources required
- 2.3 Managerial versus entrepreneurial decision making
- 2.4 Corporate versus intrapreneurial culture

Chapter-3 The Individual Entrepreneur

- 3.1 Entrepreneur background and characteristics
 - i) Childhood family environment
 - ii) Education
 - iii) Work history
- 3.2 Comparison of male and female entrepreneur
- 3.3 Entrepreneur versus innovators

Chapter-4 International Entrepreneurship Opportunities

- 4.1 The nature of international entrepreneurship
- 4.2 Importance of international business to the firm
- 4.3 International versus domestic entrepreneurship
 - i) Political legal environment
 - ii) Cultural environment
 - iii) Technological environment
 - iv) Strategic issues
- 4.4 Barriers to international trade
- 4.5 Entrepreneur's strategy and trade barriers

Chapter-5 Creating and Starting the Venture

- 5.1 Creativity and business idea
 - i) Sources of new ideas
 - ii) Methods of generating ideas
- 5.2 Opportunity recognition
- 5.3 Product planning and development process
- 5.4 E-Commerce and business start-up

Chapter-6 The Business Plan: Creating and Starting the Venture

- 6.1 What is business plan
 - i) Scope and value of the business plan
 - ii) Who should write the plan
- 6.2 How do potential lenders and investors evaluate the plan
- 6.3 Information needs
 - i) Market information
 - ii) Operation information needs
 - iii) Financial information needs
- 6.4 Writing the business plan
 - i) Industry and environmental analysis
 - ii) Description of venture

- iii) Production plan
 - iv) Operations plan
 - v) Marketing plan
 - vi) Financial plan
- 6.4 Using and implementing the business plan

Chapter-7 The Marketing Plan

- 7.1 Industry analysis
 - Competitor analysis
- 7.2 Marketing research for the new venture
- 7.3 Understanding the marketing plan
- 7.4 Marketing mix
- 7.5 Steps in preparing the marketing plan
- 7.6 Contingency plan

Chapter-8 The Organizational Plan

- 8.1 Developing the management team
- 8.2 Legal forms of business
 - i) Ownership
 - ii) Costs of starting a business
 - iii) Capital requirements
 - iv) Management control
- 8.3 Designing the organization
- 8.4 Building the management team

Chapter-9 The Financial Plan

- 9.1 Operating and capital budget
- 9.2 Proforma income statement
- 9.3 Proforma cash flows
- 9.4 Proforma balance sheet
- 9.5 Breakeven analysis

Chapter-10 Going Public

- 10.1 Advantages and disadvantages of going public
- 10.2 The alternatives to going public
- 10.3 Timing of going public
- 10.4 After going public

Chapter-11 Cases

- a) Developing women entrepreneurship
- b) Selling in a non-traditional market
- c) Dual pane company
- d) The Winslow clock company

Recommended Books

- (i) Innovation and Entrepreneurship by Robert D. Hisrich and P. Peters

- (ii) Entrepreneurship by Richard M. Hodgetts
- (iii) Entrepreneurship New Venture Creation by David H. Holt

Econ-308 Econometrics-I

Introduction to Econometrics

Definition and scope of econometrics; Methodology of econometrics; Types of Econometrics; The Role of the Computer

Two Variables Regression Analysis

Some basic ideas of Regression analysis; OLS estimation; Interpretation and economic meanings of the Results; Goodness of fit; Properties of the OLS estimator; Scaling and Units of Measurement; Functional Forms of Regression Models; Interval estimation; Hypothesis Testing; Prediction; Some extensions of the simple linear regression model.

Multiple linear regression analysis

Some basic ideas; OLS estimation; Interpretation and economic meanings of the Results; Multiple Coefficient of Determination; Hypotheses testing; R^2 and F; Testing for parameter stability; Prediction.

Dummy Variables And Qualitative Response Regression Models

Illustration of the use of a Dummy Variable; Extension to more than two categories and to multiple sets of dummy variables: ANOVA models, ANCOVA models; Dummy variable alternative to Chow test ; Interaction Effects; Seasonal Analysis; Piecewise linear regression. Introduction of Qualitative Response Regression Models; The linear probability model; The Logit model; The Probit model; The Tobit model

Recommended Books:

- | | | |
|----|-------------------------------|----------------------------------------------------------------------------------|
| 1. | Gujrati, N.D. | <u>Basic Econometric</u> Harper, Row, 1977 (2 nd Edition) |
| 2. | Johnston, J.J. | <u>Econometrics Methods</u> McGraw Hill, 3rd edition, 1984. |
| 3. | Koutsouyiannis, A.R. | <u>Theory of Econometrics</u> Harper, Row, 1977, 2 nd . |
| 4. | Pindyck, R.S.Rubinfeld, | <u>Econometric Models and Economic Forecasts</u> , McGraw Hill, Latest edition. |
| 5. | Raj, B.Ullah Aman, | <u>Econometrics; A varying co-efficient Approach</u> Groom Helan, 1981, |
| 6. | Maddals, G.S. | <u>Econometrics</u> McGraw Hill, latest Ed. |
| 7. | Wonnacot, R.J.&Wonnacot, T.H. | <u>Econometrics</u> John Wiley, New York latest Ed. |
| 8. | Madhani, G.M.K. | <u>Introduction to Econometrics, Principles and application</u> (latest edition) |

Econ-310 Managerial Economics

Introduction to Managerial Economics: Introduction, Definition and Scope of Managerial Economics, Certainty vs. Uncertainty, Positive vs. Normative Economics, Use of Models in

Managerial Economics, Present Value Analysis and Firms Time Horizon, Objectives of the Firm

Decision Making Under Risk and Uncertainty: Introduction, Risk Analysis of Decision Alternatives, Adjustment for Risk in Decision Making, The Expected Value Criterion, The Standard Deviation Criterion, The Coefficient of Variation Criterion, The Certainty Equivalent Criterion, The Maximin and Maximax Criterion, The Decision Tree and Joint Probabilities

Demand Theory, Concepts and Estimation: Introduction, The Utility approach, The Indifference Curve Approach, Demand Concepts for Decision Making, The Demand Function and Demand Curve, Price elasticity of Demand, Income Elasticity of Demand, Cross Elasticities and other Elasticities, Demand Estimation and Forecasting, Interviews, Surveys and Experiments, Regression Analysis of Consumer Demand, Demand Forecasting
Production and Cost Analysis: Introduction, Production Function and Cost Curve, Production in the Short Run, Choice of Plant Size in the Long Run, Short Run and Long Run Cost Curves, Production and Cost Concepts for Decision Making, Economic vs. Accounting Costs, Incremental Cost, Contribution Analysis, Breakeven Analysis, Cost Estimation and Forecasting, Short Run Cost Estimation, Long Run Cost Estimation, Cost Forecasting.

Pricing Analysis and Decisions: A Review of Market Structures and Basic Pricing Models, Selected Pricing Models, Marginalist Pricing, Mark up pricing, New Product Pricing

A Critique of Traditional Theory of the Firm: Full Cost Pricing Model, Limit Pricing Models
Managerial Theories of the Firm: Baumol's Theory of Sales Revenue Maximization, Marris's Model of Managerial Enterprise, Williamson's Model of Managerial Discretion

The Behavioral Model by Cyert and March

Linear Programming. Basic Concepts of Linear Programming, Methods of Solving Linear Programming Problems using Simplex Method and Shadow Prices of Constraints

Capital Budgeting. Pre-requisites of Capital Budgeting, Investment Criteria and Decisions

Recommended Books:

- | | |
|-----------------------|-------------------------------------------------------------|
| 1. Douglas, E. J. | <u>Managerial Economics</u> Prentice Hall, 1996 |
| 2. Keat and Young | <u>Managerial Economics</u> Maxwell 1998 |
| 3. Petersen and Lewis | <u>Managerial Economics</u> , Maxwell 1996 |
| 4. Salvatore, D. | <u>Managerial Economics</u> 3 rd Ed, McGraw Hill |
| 5. Koutsoyiannis, A. | <u>Modern Microeconomics</u> |

SEMESTER-VII:

Econ-401 International Economics-II

Balance of Payments: Balance of payments accounts. Autonomous and accommodating items. Disequilibria in balance of payments of corrective measures.

Theory of Exchange Rate Determination: Determination of fixed and flexible exchange rates. Debate on fixed and flexible exchange rates. Devaluation, appreciation and depreciation. Expenditure switching policies. Elasticity and absorption approaches to devaluation and their synthesis. Monetary approach to balance of payment.

Income Adjustment Mechanism: Income determination in an open economy. The foreign trade multiplier. Foreign repercussions, national income and the balance of payments, policies for internal and external balance, Swan's and Mundell models and policy assignments.

Recommended Books:

1. Chacholiades & Multiades Principles of International Economics New York, McGraw Hill Co. 1981.
2. Sodersten, B.O. International Economics New York, Harper and Row, Latest Edition.
3. Caves, R.E. & Jones, R.W. World Trade and Payments. An Introduction Boston, Little, Brown, and Company, (Inc.) Latest Edition.
4. James C. Ingram International Economics 3rd ed. John Wiley & Sons, 1994.
5. Grubel, Herbert G. International Economics Homewood Illinois, Richard D. Irwin (Ins), Latest edition.

Econ-403 Econometrics-II

Multicollinearity

Concept of Multicollinearity; Consequences of Multicollinearity problem; Methods for detection of Multicollinearity problem; Remedial measures for Multicollinearity problem; Estimations and Interpretations.

Heteroscedasticity

Heteroscedasticity and its Implications; OLS estimation in the presence of heteroscedasticity; Generalized least squares (GLS); Detection of heteroscedasticity; Remedial measures.

Autocorrelation

The nature of autocorrelation; OLS estimation in the presence of autocorrelation; Detection of autocorrelation; Remedial measures; Misspecification vs pure autocorrelation; Newey-West procedure; Forecasting with auto-correlated disturbances.

Model Specification Errors

Introduction to Model specification; Types of Specification errors; Consequences and Tests of Specification Errors; Errors of Measurement; Approaches in Choosing an Appropriate Model.

Dynamic Econometric Models

Introduction; Distributed Lag Models and Estimations: The Koyck Transformation, The Almon Transformation, Other models of Lag Structures; Autoregressive Models and estimation: The Partial Adjustment Model, The Adaptive Expectations Model; Tests of Autocorrelation in Autoregressive Models.

Simultaneous-Equation Models

Simultaneous Equation Models; Various Types of simultaneous equation Models; The identification problem; Estimation of Simultaneous Equation Models

Recommended Books:

1. Gujrati, N.D. Basic Econometric Harper, Row, 1977 (2nd Edition)
2. Johnston, J.J. Econometrics Methods McGraw Hill, 3rd edition, 1984.
3. Koutsouyiannis, A.R. Theory of Econometrics Harper, Row, 1977, 2nd.
4. Pindyck, R.S. & Rubinfeld, Econometric Models and Economic Forecasts, McGraw Hill, Latest edition.
5. Raj, B. & Ullah Aman, Econometrics; A varying co-efficient Approach Groom Helan, 1981,
6. Maddala, G.S. Econometrics McGraw Hill, latest Ed.
7. Wonnacot, R.J. & Wonnacot, T.H. Econometrics John Wiley, New York latest
8. Madhani, G.M.K. Introduction to Econometrics, Principles and application (latest edition)

Econ-405 Research Methodology

Introduction; Research, research in business, scientific thinking. Research Designs; the research process, research design, what is research design, classification of design, exploratory research, casual inference. Sample Design; the nature of sampling, probability sampling, complex probability sampling, non- probability sampling. Measurement and Scaling; measurement, measurement scales, the characteristics of sound measurement, the development of measurement tools, scaling, the nature of scaling, response methods, scale construction. Data Collection Methods, Survey Instruments and Field Procedures; survey instrument designs, the survey situations, the instrument development process, questionnaire development, field procedures, personal interviewing, telephone interviewing, interviewing by mail, observations. Data collection, Observation, experimentation and Simulations; experimentation and simulation, experimental Research design, simulation, observation, observation designs. Use of Secondary Data; the nature of secondary data sources, the use of

secondary data, types of secondary data sources, statistical sources, data research procedures, evaluating secondary data. Data presentation and Analysis: elements of analysis, data preparation, special data problem, tabulation, data presentation, and data analysis. Report writing; the research proposal, the research report, research report format, writing the report

Recommended Books:

1. Business research methods by Zikmund
2. Business research methods by Uma Sckaran

Econ-407 Monetary Economics

Money: its functions and definitions, kinds of money, evolution of monetary system

Demand for money: meaning of holding money, demand for money, and recent development theories in demand for money, quantity theory of money.

Supply Of Money: Definition of supply of money (M1, M2, M3), exogenous and endogenous determinants of money supply.

Banking: Commercial bank: structure and functions of commercial banks, money / credit creation. Functions of commercial banks, theories of determinants of interest rates, term structure of interest rates. Central Bank: structure and functions of central bank, control of money supply, tools to control of money supply. Islamic Banking: Riba free banking

Monetary Policy: Monetary policy and independence of monetary authority: targets, goals of monetary policy, management determinant, and role of monetary policy, short and; long run aspects Determination of interest rates. Keynesian and Monetarist debate and out put determination monetary approach to Balance of Payment.

Recommended Books:

1. Lockett G. Dudley Money and Banking 3rd Ed, McGraw Hill 1984
2. Fredric, S. Mishikin Financial Markets Institutions and Money. Harper Collins College Publishers 1995.
3. Lawrence Harris Monetary Theory McGraw Hill, 1985
4. Goldfeld & Chandler The Economics of Money and Banking Harper & Row Publishers, 1986
5. Vaish, M.C Monetary Theory Vikas Publishing House, Delhi 2000
6. Bennett.T.McCallum Monetary Economics (Theory &Policy), McMillan 1989

Econ-409 Public Finance

Introduction

Public Finance defined, importance of the study of public finance, need for the public sector, main functions of the public sector

The Theory of Public Goods

Public & Private goods, pure public goods, semi public goods, merit goods, free rider problem, externalities.

Revenue

Tax and non tax revenue, categories of taxes, income and cooperate taxes, wealth tax, sales tax, excise and custom duties, surcharges, Direct and in direct taxes, Tax Criteria: Efficiency Criteria, the benefit principle, Ability to pay, limitation of tax effort: Laffer Curve approach: Tax Structure of Pakistan. Tax Reforms in Pakistan and Problem of tax evasion.

Tax Incidence

Impact and incidence of taxes, partial equilibrium in view of product tax, partial equilibrium view of factor tax, general equilibrium in view of tax incidence.

Public Expenditure

Components of public expenditure in Pakistan, causes of growth of public expenditure in Pakistan.

Budget

Preparation of budget cycle in Pakistan, Development and non-development budget, budget procedures, balanced budgets, deficit and surplus budget, zero based budget, program budget, planning programming budgeting system.

Public Debt

Structure of public debt in Pakistan, who bears tax burden, to tax or to borrow

Fiscal Policy

Fiscal policy defined, analytical foundations of fiscal policy, static and dynamic theory of fiscal policy, techniques of measuring influence, the role of fiscal policy in developing countries with emphasis on resource allocation, income redistribution, capital formation and stabilization, analysis of means of financing economic development including capital imports, domestic savings, inflation and taxation, fiscal policy in Pakistan.

Recommended Books:

1. Musgrave & Musgrave Public Finance in theory and Practice 5th d
2. Otto Eckstien Public Finance 3rd Ed 1973
3. Richard Aronson Public Finance International Student Ed 1985
4. Due John F Government Finance
5. Chellieah R.J Fiscal policy in less developed countries
6. Harvey, S.Rosen Public finance 5th Ed, McGraw Hill 1999
7. Eleanor Brown& Robert, L. Reading, Issues and Problems in Public Finance IRWIN 1996
8. Bernard, P.Herber Modern Public Finance, A.I.T.B.S 1999
9. David, N.Hyman Public Finance, A Contemporary application of to Policy: Harcourt Brace College Publishers 1996

SEMESTER-VIII:

Econ-402 Research Project / Internship

Econ-404 Microeconomic Analysis

Axiomatic approach to consumer behavior, duality relations and the related properties; the theory of revealed preference; choice under uncertainty; inter temporal choice; empirical specification of demand system; the production and cost theory; firms production decisions under alternative market structures; empirical specifications of production, cost and profit functions.

Recommended Books:

1. W. Nicholson, Microeconomic Theory: Basic Principles and Extension The Dryden Press, New York
2. Koutsoyiannis Modern Microeconomics English Language Book Society MacMillan.
3. J.P. Gould and Lazaer Microeconomic Theory Richard D. Irwin.
4. Eugene Silberberg, The structure of Economics: A Mathematical Analysis 2nd edition, McGraw Hill publishing Company, 1990.
5. J. Hirshleifer, Price Theory and Application Prentice Hall International Editions.
6. **R.E Quandt** **Microeconomic Theory A Mathematical Approach McGraw-Hill Company**

Econ-406 Macroeconomic Analysis

Macro economic models under alternative schools of thought i.e. classical, Keynesians, monetarists, supply side economists, etc. the role of expectations in macro models; analysis of consumption, investment and money demand, theory and empirical evidence; theories of inflation and unemployment; government budget constraint and Ricardian equivalence controversy; open economy macroeconomics one sector growth models.

Recommended Books:

1. T. Froyen Macroeconomics: Theorems & Practices (4th Ed)
2. Laurence H.Meyer Macroeconomics: A Model Building
3. E. Shapiro Macroeconomic Analysis (3rd Ed.)
4. Dornbusch & Fisher Macroeconomics
5. Dernburg & McGougall Macroeconomics

Econ-408 Financial Economics

Introduction to Financial Economics; Scope and Subject matter of the financial economics; Real Assets versus Financial Assets; The Role of Financial Assets in the Economy; Users of the Financial System; Types of Financial Instruments; Characteristics of Financial Instruments; Financial Innovation; Theories of Term Structure – The Expectations Hypothesis, Liquidity Preference, Market Segmentation Theory, Preferred Habitat Theory, Interpreting the term structure, Measuring the term structure; Defining options and futures; Understand rights and obligations of the parties involved in various types of options; Familiarity with the basic taxonomy used in options analysis; Types of Markets; Types of Traders; The Trading Process; Defining Financial Intermediation; Different Types of Financial Intermediaries; The Role of Banks in Financial Intermediation; Moral Hazard; Adverse Selection ;Solutions ; Defining Capital Structure; Modigliani and Miller Propositions I and II; How taxes affect financing choices; Dividend policy issues; The Regulatory Role of the Government; How the Legal Environment Affects Access to External Finance; How the Legal Environment Affects Financial Decisions.

Recommended Books:

1. Charles P. Jones, Investments latest Edition
2. Bodie, Kane and Marcus, Investments 5th Edition.
3. Grinblatt and Titman, Financial Markets and Corporate Strategy, 2nd Edition.
4. Cecchetti, Money, Banking and Financial markets.
5. Elton and Gruber, Modern Portfolio Theory and Investment Analysis, Latest Edition.
6. Bebczuk, R. N. (2003) Asymmetric Information in Financial Markets: Introduction and Applications. Cambridge University Press
7. Copeland, Weston and Shastri (2005). Financial Theory and Corporate Policy. 4th Edition.
8. Livingston, M. (1999). Money and Capital Markets. 3rd Edition (or later).
9. Fredric, S. Mishikin, Financial Markets Institutions and Money. Harper Collins College Publishers, Latest Edition.
10. William F. Sharpe & Gordon J., Investments 5th Ed, Prentice Hall, 1996

Econ-409 Elective-I

Econ-410 Elective-II

ELECTIVE SUBJECTS:

Econ- 408 Transport Economics

Introduction of Transport Economics; The Transport System: Operator Cost Structures, Review of Optimization, Firm Behavior: Production & Technology, Firm Behavior: Profit Maximization & Production. Economies, Firm Behavior: Cost Minimization, Firm Behavior: Monopolies & Price Discrimination, Consumer Behavior: Utility Maximization, Consumer Behavior: Demand Relationships, Welfare Theory: Consumer Surplus & Other Measures, Market Imperfections: Negative Externalities, Roadway Congestion & Pricing TBA, Value of Time TBA, Econometrics & Statistical Applications, Project Presentations

Recommended Books:

1. Kockelman and Chen's (2012), *The Economics of Transportation Systems: A Reference for Practitioners*.
2. Small and Verhoef's (2007), *Economics of Urban Transportation* (2007)
3. Sergio Jara-Díaz's (2005), *Transport Economic Theory* (2005).

Econ- 410 Human Resource Development

Concepts and Measurement; its relevance for economic development, basic concept and terminologies.

Strategies of Human Resource Development; education and investment in human capital; Different approaches relating to the contribution of education to economic growth, returns to Growth, international comparison, Production Function, Social and Private Demand.

Issues in Formal and Informal Education; Efficient allocation of resources, maximization of the objective, labor market structure, demand and supply of human skills

International Migration of Human Skills; problems; manpower requirement approach, human resource led development, industrialization and employment,

Health and Nutrition Policies; Issues, Problems, comparison with the other developing Countries

Recommended Books:

1. Amjad, R: Human resource Planning, ILO-ARTEP New Delhi 1987
2. Asian Development Bank: Human Resource Policy and Economic development Selected Country Studies. Manila 1990
3. Blaug, M.: An Introduction to Economics of Education Penguin Press, and London, 1970.
4. Bowles, S. Planning Educational Systems for Economic Growth Harvard University Press 1969.
5. G.O.P: Report of the National Manpower Commission 1990
6. Haq, I: Manpower Planning, Theory and Practice: A case Study of Pakistan. PMI, Islamabad, 1987
7. Haq, M: Reflections and Human Development Oxford University Press. 1995
8. Human Development Center: Human Development in South Asia. The Crisis of Governance Oxford University Press, Karachi 1999

9. ILO: World Employment Report Geneva, 1999
10. Rizwan ul Islam: Rural Industrialization and Employment in Asia ILO-ARTEP, New Delhi 1987

Econ- 412 Economics of Population

1. The Nature of Population Study

- Populations
- Samples
- Formal Demography and Population Analysis

2. Analytics

- Demographic Research in Action
- Variables
- Graphical Analysis
- Models
- Frequency Distributions
- Graphical Presentations of Frequency Distributions
- Averages
- Absolute and Relative Numbers

3. The Sources of Information for Demographers

- Population Registers
- Census
- Sample Surveys
- Vital Statistics
- International Migration Statistics

4. The Growth of Population

- A Sketch of World Population History
- The Present and the Future Growth of World Population
- The Growth of Population in the United States
- The Growth of Population Outside the United States: England, Canada and Turkey

5. The Distribution of Population

- A Note on Density
- The Uneven Distribution of World Population
- World Urbanization
- Urbanization Explained
- American Urbanization
- Urbanization in Less Developed Countries

6. Mortality

- Basic Measures of Mortality
- Differential Mortality

- Major Causes of Death
 - Trends in Mortality
- 7. Fertility**
- A Note on Nuptiality
 - Basic Measures of Fertility
 - Differential Fertility
 - Trends in Fertility
 - The Theory of the Demographic Transition
 - Appendix: Fertility Inhibition, or Birth Control
- 8. Migration**
- Basic Concepts and Measures of Migration
 - Sources of Data on Migration
 - Functions of Migration
 - Significant Types of Migration
 - Differentials and Selectivity of Migration
 - Motivations for Migrating
 - Consequences of Migration
- 9. International Migration**
- A Short History of American Immigration
 - The Determinants of American Immigration
 - The Consequences of American Immigration
 - American Immigration Policy: Past and Present
- 10. Internal Migration**
- A Short History of Internal Migration
 - Internal Migration in Developing Nations
- 11. The Composition of Population**
- Population Processes and Population Composition
 - Sex Composition
 - Age Composition
 - Comparisons of Age and Sex Composition
 - Factors Affecting the Sex and Age Composition
 - Demographic Consequences of Age and Sex Structure
 - Economic Age Categories
 - Racial Composition
- 12. The Socioeconomic Effects of Population Change**
- The Economic Impact of a Rising Dependency Ratio
 - Aging: A Problem for Developed Nations
 - Some Implications of Zero Population Growth
- 13. Population Policy**

- Definitions, Goals, and Ethical Considerations
- Population Policy in the Less Developed Countries
- Population Policy in the Developed Countries
- The Policy Debate on Immigration

Recommended Books:

1. Hauser, P. M., and O.D. Duncan, The Study of Population, Chicago: University of Chicago Press, 1964.
2. Nam, C.B. The Progress of Demography as a Scientific Discipline. Demography 16 (November 1979).
3. Thompson, W.S, and D.T. Lewis, Population Problems, 5th Ed., New York: McGraw-Hill, 1965.
4. Johannes Overbeek, University of Maine at Orono, Population An Introduction, Harcourt Brace Jovanovich, Inc. New York, San Diego, Chicago, San Francisco, Atlanta London, Sydney, Toronto.
5. Gaugh, M.E., A Geography of Populaytion and Settlement. Dubuque: Broman, 1970.
6. Miller, Z.L., The Urbanization of Modern America: A Brief History, New York, Harcourt Brace Jovanovich, 1973.

Econ- 416 Corporate Governance

The corporate Governance: An Overview and Introduction; The Theory and practice of Corporate Governance; Corporate Governance Models; Rights and Privileges of Shareholders; Conflict between managers and shareholders; Corporate Governance and Other Stakeholders; Board of Directors; Role, Duties and Responsibilities of Auditors; Business Ethics; Corporate Social Responsibility; Environmental Concerns; The role of Media; Capital Market Regulator in Pakistan; Issues in Corporate Governance.

Recommended Books

1. Dr Safdar Butt. Corporate Governance, Latest Edition.
2. A. C. Fernando. Corporate Governance (Principles, Plicies and Practices)
3. Christine A. Mallin .Corporate Governance 2nd edition, , Oxford University Press.
4. Adrian Cadbury. Corporate Governance and Chairmanship a personal view. Oxford University Press.

Econ- 420 Agricultural Economics

Agricultural Revolution; Importance of Agriculture; Food Safety; Agriculture vs. Industrial development Debate- Current Stale of Agricultural Development; Brief Overview of Sources of Growth; Introduction to issues in Agriculture; Traditional Agriculture and Productivity; A framework of Analysis; Product Contribution; Market Contribution; Factor Contribution; Foreign Exchange Contribution. Agriculture vs. Industry Debate of Development; Economic Rent; The Theory of Rent; Rent and Quasi-Rent; The Ricardian 'Corn Rent; The Rental Market; Agricultural Surplus; Characteristics of Landownership in Underdeveloped Agriculture and Pakistan; The Theory of Share Tenancy; Some Extensions of the Share Tenancy Model; Tenure Status in Pakistan; Agricultural productivity in Pakistan and use of inputs; The Lewis Model; The Fei-Ranis (FR) Model; The Jorgenson Model; Kelley, Williamson, Cheetham Model: Criticism; Dual Economy Models; Agricultural Adequacy; Mellor's Model.

The Cobweb Model: An Illustration; Price-Supply Response in. Backward Agriculture; A simple Supply Response Model; Supply Response in the Underdeveloped Agricultural labour Market; Specifically in Pakistan; The Concept of Marketed Surplus: Some Methods of Estimation; Some Criticisms of Krishna's Method and the Alternative Approach of Behrman Perennial Crops and Marketed Surplus in Pakistan; Green Revolution in Pakistan and Responses; Present Status of Green Revolution in Pakistan: Empirical Analysis; Inequitable Landownership and Land Reform; Capital and Finance in Underdeveloped Agriculture; Marketing Imperfections and Marketing Policies in Pakistan; Measures to Improve Marketing System in Pakistan; Support Price Policy in Pakistan; Determinants of support prices; Impacts of support prices; Main Features of Trade in Agricultural Goods; Trade Policies in Developed Countries and their Impacts.

Recommended Books:

1. Brown, Lester, The Social Impact. Of Green Revolution, New York, The Greogic Endowment for International Peace, 1971
2. Capstick Margret. The Economics of Agriculture, London George Allen Unwin Ltd. latest edition.
3. Chaudhary M. Aslam, Agricultural Development and Public Policies, Izhar Sons, Lahore, 1989.
4. Ghatak S., and Ingersent K., Agriculture and Economic Development, (Latest Edition), Harvester Press.
5. Johnston, Bruce, F & Fellir Kily. Agricultural and Structural Transformation, Economic Strategies in late Developing Countries.
6. Khan Mahmood-ul-Hassan. The Economics of Green Revolution in Pakistan, New York, Published 1975.

Econ- 424 Economics of Income Distribution and Poverty

Size and Functional Distribution of Income; Place of Distribution, Poverty and Inequality in the development models; Measures of Income Inequality and Poverty; Causes of Income Inequality and Poverty; Remedial Measures; Growth with Redistribution; Basic Need Approach; Policy options; Poverty and Income Distribution in Pakistan.

Recommended Books:

1. Adelman, I. & S. Robinson, Income Distribution Policy in Developing Countries Oxford University Press, 1978.
2. Chaudhry, Imran S., “Evolving Views on Poverty and Welfare: An Analysis of Conventional and Islamic Approaches”, Journal of Research, B. Z. University, Multan, 2005, Vol.7, pp. 39-56.
3. Chaudhry, Imran S. & Shahnawaz malik, “Rural Poverty in Pakistan: Some Related Concepts, Issues and Empirical Analysis ”, Pakistan Economic and Social Review , University of Punjab, Lahore, Vol. 44, No. 2, pp. 259-276, 2006.
4. Chaudhry, Imran S. & Shahnawaz malik, “Urban Poverty and Governance: The Case of Multan City”, The Pakistan Development Review, Islamabad, Vol. 45, No. 4, pp. 819-830, 2006.
5. Chaudhry, Imran S. & Shahnawaz malik, “Urban Poverty and Governance: The Case of Multan City ”, The Pakistan Development Review , Islamabad , Vol. 45 , No. 4, pp. 819-830, 2006.

6. Chaudhry, Imran S., Shahnawaz malik & M. Zahir Faridi, "Factors Affecting Rural Poverty: A Qualitative Approach", The Journal of Humanities and Social Sciences, Peshawar, Vol. 15, No. 01, 2007
7. Desai, M. J., A General Theory of Poverty, Indian Economic Review 1983.
8. Ercelawn, A., "Income Inequality and Poverty in Rural Pakistan" Pakistan Journal of Applied Economics, 1984.
9. Griffin, K. B. Alternative Strategies for Economic Development MacMillan, 1989.
10. International Labor Org., Poverty in Rural Asia (eds)
11. Malik, Shahnawaz, "The Estimates and Trends in Poverty in Pakistan" The Indian Journal of Social Science (India) (1991) .
12. Malik, Shahnawaz, "Trends in Inequality in Pakistan" Journal of Economic Affairs (India) (1991).
13. Malik, Shahnawaz, "Determinants of Rural Poverty in Pakistan: A Micro Study" Pakistan Development Review, 1996.
14. Naseem, S. M., Poverty, Inequality and Underdevelopment in Pakistan, Vanguard, 1981.
15. Sen., A., "Poverty, inequality and Unemployment: Some Conceptual Issues in Measurement" Economic and Political Weekly, 1973.
16. World Bank, World Development Report (Various Issues).

Econ- 426 Labor Economics

Importance of Labor Economics; Introduction: Industrialization and Emergence of Labor Analyze Labor Markets and Conditions; Labor Markets Analysis: Demand for Labor; Labor Market Indicators; Demand for Labor; Decision Making and Labor Hiring; Labor Migration: Reasons and Impacts. Determinants of Labor Supply; Concepts of Human Capital; Human Capital productivity and Wages; The Determinants of Labor Force Participation; Supply of Labor and Household Productions; Labor- Skill, Training and Productivity; The Dual Labor Market Theory; Labor Unions and Wages; Labor Unions and Underemployment; Underemployment and Social Protection; Labor Market Discrimination; Discrimination in Labor Market: Gender Race and Ethnicity; Efficiency Wage Theories and Coordination Failure; Labor Market Information System; Labor Market Information System and Efficiency; Labor Statistics and Labor Policy; Human Welfare and Labor Policy; Minimum Wages; Rationale and Impacts; Theories of Labor Movements; Trade Unions in Pakistan; Labor Legislation in Pakistan; Impacts of Labor Union; Labor Policies in Pakistan: Critical Evaluation; Child Labor: Definition and extent of child labor; Child labor and moral aspects; Child labor an international issue: Extent of Child labor in developing countries; Child labor in Pakistan; Policies to combat child labor; Child labor and international trade issue.

Recommended Books:

1. Comith Stephen, (2003), Labour Economics*, Routledge Publishers.
2. Bruce, Kaufman; c. Kaufman, Julie L; Hotchkiss, (2002), Economics of Labour Markets, Thomson Publisher.
3. Current Issues in Labour Economics*, (1989), Palgrave Mcmillan.
4. Reynolds, Labor Economics and Labor Relations.
5. Grley, Ashenfelter (edt), Layard, P. R. G, (cdt), Hand Book of Labour' Economics, Elsevier Science Pub. Co. (1986).

Econ- 432 Environmental Economics

Introduction to Environment Economics; The Economy and Environment; Analytical Tools. Benefits and costs; supply and demand; willingness to pay, benefits; costs; technology the equimarginal principle; marginal cost and supply; Economic efficiency and markets; Economic efficiency; equity; social efficiency; external costs and benefits; The Economics of Environmental Quality; Pollution Control; General model; the equi marginal principle applied to emission reduction; long run sustainability; Environmental Analysis: Impact analysis, cost effective analysis, benefit cost analysis, risk analysis; Benefit cost analysis; risk analysis; measuring damages directly; Environmental Policy Analysis; Criteria for evaluating environmental policies; federal policies; centralized policies; Command and control strategies; incentive based strategies; emission taxes and subsidies; transferable discharge permits; International Environmental Issues; Environmental policies in industrialized countries; economic development and the environment; the global environment; international environmental agreements.

Recommended Books:

1. Barry C, Field , Environmental Economics, An Introduction, McGraw Hill
2. Miller Alan, An Introduction to ecology, Ecoethics and Economics, Rowman and Allen held Lanham Md, 1991
3. Baumal William, Economics, Environmental policy and quality of life, Prentice Hall, Englewood Cliffs
4. McKee David, Energy the Environmental public Policy, Issues for the 1990's. Praeger, New York 1991

Econ- 434 Industrial Economics

The scope and method of industrial economics; the welfare economics of competition and monopoly; the determinants of market structure; economic theories of oligopoly pricing and conditions facilitating as well as limiting oligopolistic co-ordination; the dynamics of monopoly and oligopoly pricing; price discrimination market structure; administrated prices and macroeconomic stability; product differentiation, market structure and competition; factors influencing the industrial location choice; policy approaches to monopoly and oligopoly.

Recommended Books:

1. C.H.Krikpartrick, Industrial Structure and Policy in Less Developed Countries, English Language Book Society, 1999.
2. Rajat K. Ray, Industrialization in India, Growth and Conflict in the Private Corporate Sector 1914-47 Oxford University Press, Delhi, India. 1982.
3. Stephen R. Lewis, Economic Policy and Industrial Growth in Pakistan: PIDE 1969.
4. K.L.Gupta, Industrialization and Employment in Developing Countries, A Comparative Study: Routledge, UK, 1999.

Econ- 414	<u>Economics of Marketing</u>
Econ- 418	<u>Cross Cultural Management</u>
Econ- 428	<u>Operations Research</u>
Econ- 430	<u>Econometrics with Computer Applications</u>
Econ- 436	<u>General Equilibrium and Welfare Economics</u>