ANNEXURE NO.	3 B
SCAA DATED.	29-2-2008

BHARATHIAR UNIVERSITY: COIMBATORE – 46

M.Sc. (Applied Econometrics) (CBCS)

WITH COMPULSORY DIPLOMA IN MANAGEMENT INFORMATION SYSTEM

Syllabus with effect from the academic year 2008-2009

REGULATION:

Eligibility for Admission to the Course

Any Graduate who have studied Economics / Econometrics / Statistics / Mathematics / Business Economics / Commerce / Management as one of the papers, of study is eligible for admission to M.Sc (Applied Econometrics)

Duration of the Course

This Course of Study shall be based on Semester System. This Course shall consist of four Semesters covering a total of two Academic years. For this purpose, each Academic Year shall be divided into two Semesters; the first and third Semesters; July to November and the second and the fourth Semesters; December to April. The Practical Examinations shall be conducted at the end of even Semester.

Course of Study

The Course of the Degree of Master of Arts shall be under the Semester System according to the Syllabus to be prescribed from time to time. This Course consists of core Subjects and Elective Subjects. There shall be one Paper on applied Skill Oriented, subject preferably in each semester as part of the adjunct diploma Programme.

Scheme of Examinations

Course No & Title	Course code	Credit
I SEMESTER		
Basic Mathematical Methods	08EC0CC 01	4
Statistical Methods	08EC0CC 02	4
Information Technology	08EC0CC 03	4
Elective Course: Managerial Economics	08EC0GE 14	4
Supportive Course: offered by other department	----------	2
Diploma: Management Information System		
Paper: I -Business Information and Data base System	07EC0MIS 01	4
II SEMESTER		
Mathematical Economics	08EC0CC 04	4
Macro Economics	08EC0CC 05	4
Basic Econometric Methods with CA	08EC0CC 06	4
Elective Course: Operation Research	08EC0GE 15	4
Supportive Course: offered by other department	----------	2
Diploma: Management Information System		
Paper: II -Information System and Management	07EC0MIS 02	4

III SEMESTER		
Advanced Econometrics	08EC0CC 07	4
Growth and Development	08EC0CC 08	4
Financial Econometrics	08EC0CC 09	4
Elective Course: Industrial Economics	08EC0GE 16	4
Supportive Course: offered by other department	----------	2
Diploma: Management Information System		
Paper: III - Developing Information System	07EC0MIS 03	4
IV SEMESTER		
Applied Econometrics	08EC0CC 10	4
Public Economics	08EC0CC 11	4
Economics of Human Resources	08EC0CC 12	4
Research Project	08EC0CC 13	6
Diploma: Management Information System		
Paper: IV - Information Technology	07EC0MIS 04	4

Distribution of Marks
Core - 1800
Diploma - 400
Total Marks - 2200

5. Requirement to appear for the Examinations

a) A candidate will be permitted to take the University Examination for any Semester, if

i) he/she secures not less than 75% of attendance out of the 90 instructional days during the Semester.

b) A candidate who has secured attendance less than 75% but 65% and above shall be permitted to take the Examination on the recommendation of the Head of the Institution to condone the lack of attendance as well as on the payment of the prescribed fees to the University.

c) A candidate who has secured attendance less than 65% but 55% and above in any Semester, has to compensate the shortage of attendance in the subsequent Semester besides, earning the required percentage of attendance in that Semester and take the Examination of both the Semester papers together at the end of the latter Semester.

d) A candidate who has secured less than 55% of attendance in any Semester will not be permitted to take the regular Examinations and to continue the study in the subsequent Semester. He/she has to re-do the Course by rejoining the Semester in which the attendance is less than 55%.

e) A candidate who has secured less than 65% of attendance in the final Semester has to compensate his / her attendance shortage in a manner to be decided by the Head of the Department concerned after rejoining the Course.

6. Restriction to take the Examinations

a) Any candidate having arrear paper(s) shall have the option to take the Examinations in any arrear paper(s) along with the subsequent regular Semester papers.
b) Candidates who fail in any of the papers shall pass the paper(s) concerned within 5 years from the date of admission to the said Course. If they fail to do so, they shall take the Examination in the revised Text / Syllabus, if any, prescribed for the immediate next batch of candidates. If there is no change in the Text / Syllabus they shall take the Examination in that paper with the Syllabus in vogue, until there is a change in the Text or Syllabus.

In the event of removal of that paper consequent to the change of Regulations and / or Curriculum after a 5 year period, the candidates shall have to take up an equivalent paper in the revised syllabus as suggested by the chairman and fulfill the requirements as per Regulations/Curriculum for the award of the Degree.

7. The Medium of Instruction and Examinations

The medium of instruction and Examinations shall be in English, except languages.

8.Submission of Record Notebooks for Practical Examinations
Candidates taking the Practical Examinations should submit bonafide Record Note Books prescribed for the Practical Examinations. Otherwise the candidates will not be permitted to take the Practical Examinations.

9. The Minimum (Pass) Marks

A candidate shall be declared to have passed in a paper if a student obtains not less than 50% of marks in that paper. A candidate shall be declared to have passed the whole Examination if the student passes in all the papers.

10. Improvement of Marks in the subjects already passed

Candidates desirous of improving the marks secured in their first attempt shall reappear once within the subsequent Semester. The improved marks shall be considered for classification but not for ranking. If there is no improvement there shall not be any change in the original marks already awarded.

11. Classification of successful candidates

A candidate who passes all the Examinations in the first attempt within a period of two years securing 75% and above marks in the aggregate shall be declared to have passed with First Class with Distinction.
Successful candidates passing the P.G. Degree Examinations, securing 60% marks and above shall be declared to have passed the examination in First Class. All other successful candidates shall be declared to have passed the Examination in Second Class.

12. Ranking

A candidate who qualifies for the PG Degree Course passing all the Examinations in the first attempt, within the minimum period prescribed for the Course of Study from the date of admission to the Course and secures 1st or 2nd Class shall be eligible for ranking and such ranking will be confined to 10% of the total number of candidates qualified in that particular subject to a maximum of 10 ranks.
The improved marks will not be taken into consideration for ranking.

13. Conferment of the Degree

No candidate shall be eligible for conferment of the Degree unless he / she has undergone the prescribed Course of Study for a period of not less than four Semesters in an Institution approved of by and affiliated to the University or has been exempted there from in the manner prescribed and has passed the Examinations as have been prescribed.

14. Evening College
The above Regulations shall be applicable for candidates undergoing the respective Courses in the Evening Colleges also.

15. Revision of Regulations and Curriculum

The above Regulation and Scheme of Examinations will be in vogue without any change for a minimum period of three years from the date of approval of the Regulations. The University may revise /amend/ change the Regulations and Scheme of Examinations, if found necessary.

16.Transitory Provision
Candidates who have undergone the Course of Study prior to the Academic Year 2007-2008 will be permitted to take the Examinations under those Regulations for a period of four years i.e. up to and inclusive of the Examination of April 2012 thereafter they will be permitted to take the Examination only under the Regulations in force at that time.

Subject Title : BASIC MATHEMATICAL METHODS

Course Number : 08EC0CC 01

Subject Description:

This course deals with the basic knowledge relating to set theory, relation and functions, derivations, optimization problems and matrix algebra and their applications in economics.

Goals:
The course intends to equip students to develop working knowledge of basic mathematical operations and tools. The course aims at using such skills to apply to economic theory and managerial decisions.

Objectives:
To impart various mathematical and statistical methods
To apply quantitative techniques in managerial practices.

Contents:

UNIT – I
Set Theory – Meaning – Types – Set Operations – Rules in Set Algebra – Relations – Functional Relations and Functions. Number System – Use of Numbers is essential in mathematics – Types – Graphical representation of Complex Numbers – The Argaud diagram.

UNIT – II
Algebra – Equations – Equations – Linear and quadratic Equations – Simultaneous Equations-Ratio, Proportion and Variation – Logarithms – Progressions – Arithmetic Progression – Geometric progression – Harmonic progression – Binomial Expansion.

UNIT – III
Differential Calculus – Geometry of Marginal Analysis – Differential Calculus – Its Relation to Marginal analysis – Process of Differentiation – Rules of Differentiation – Maximum and Minimum Values of a Function – Order Conditions for Maximum and Minimum Values. Integration – definition – Basic Rules of Integration – Methods of Integration.

UNIT – IV
Derivatives – First and Second Order Derivatives – Differential Co-efficient and Point Elasticity of Demand – Total, Average and Marginal Cost Curves – Relation between Average and Marginal Cost Curves – Minimum Average Cost Curve – Cost Function in Cubic Form – Total, Average, Marginal Revenue Curves – Maximum Total Revenue – Conditions for Profit Maximisation.

UNIT – V
Matrices – types – Addition and Subtraction of Matrices – Matrix Multiplication – associative Law Holds for Conformable Matrices. Determinants – Properties of Determinants – Rank –

Methods – Application of Matrices to the Solution of linear Equations – Cramer's Rule – Partitioned Matrices – Application of Determinants and Matrices in economics.

References:

1. Allen R.G.D., "Mathematical Analysis for Economists", ELBS, Macmillan.
2. Medha and Madhnani, "Mathematics for Economics", Sultan Chand, New Delhi.
3. Dowling.T.E., Introduction to Mathematical Economics, McGraw Hill.
4. Alpha C Chiang, "Fundamental Methods of Mathematical Economics", 3ed McGraw Hill, New York.

Subject Title : STATISTICAL METHODS

Course Number : 08EC0CC 02

Subject Description:

This course deals with the basic knowledge relating to set theory, relation and functions, derivations, optimization problems and matrix algebra and their applications in economics.

Goals:
The course intends to equip students to develop working knowledge of basic mathematical operations and tools. The course aims at using such skills to apply to economic theory and managerial decisions.

Objectives:
To impart various mathematical and statistical methods
To apply quantitative techniques in managerial practices.

Contents:

UNIT– I
Introduction – Functions of Statistics – Applications of Statistics – Limitations of Statistics – Statistical Survey – Collection of Data – Sampling and Sample Designs – Classification and Tabulation of data.

UNIT - II
Measures of central value – Objectives of averaging – Calculation of Arithmetic Mean – Discrete Series – Continuous Series – Mathematical properties of Arithmetic Mean – Merits and limitations of mean – Median – Computation of Median – Discrete Series – Continuous Series – Mathematical property of median – merits and limitations of median – Mode – Calculation of Mode – Discrete Series – Continuous Series – Merits and limitations of mode.

UNIT – III

Measures of dispersion – Significance of measuring variation – Methods of studying variation – Mean Deviation – Calculation of Mean deviation – Continuous series – merits and limitations – Standard deviation – Difference between mean and standard deviation – Calculation of Standard deviation – merits and limitations – Lorenz curve.

UNIT– IV

Skewness – measures of Skewness – correlation analysis – Regression Analysis – Index numbers – Analysis of time series – Interpolation and Extrapolation – Probability – Theoretical distributions – Binomial – Poisson – Normal distribution – Test of hypothesis.

UNIT– V

Analysis of Variance (ANOVA) and 'F' test – Business forecasting – partial and multiple correlation – Non-parametric tests – Advantages – Kruskal-Wallis or 'H' test – Spearman's Rank Correlation – Limitations – Decision Theory.

References:

1. Dr. S.P. Gupta "Statistical Methods," Published by Sultan Chand & Sons.
2. D.R. Agarwal, "Mathematics and Statistics in Economics," Vrinda Publications (p) LTD.

Subject Title : INFORMATION TECHNOLOGY

Course Number : 08EC0CC 03

Subject Description:

This subject aims at providing the basic knowledge on information technology.
To enable students to gain knowledge on use of hardware, software, services and Supporting infrastructure to manage and deliver information using voice, data and video.

Goals:

To gain knowledge on the information revolution.

Objectives:

To provide skill on concepts of computers.
To understand the recent trend in IT.

Contents:

UNIT – I

Definition of Computer and uses – Historical Perspective – Parts of a computers – Components of a PC, System Unit, memory of a Computer, Monitor, Mouse, Key board, Printer, Scanner, Modem – Types of a Computer – Positive and Negative aspects of Computers.

UNIT – II

Hard ware – Processing and Memory – Computer Store Data – Input devices – Key input, Pointing devices – The Mouse and the Track ball, Joystick – Touch sensitive Screens – Pen-based system- Data Scanning Devices – Voice Recognition Devices – Out put devices – Monitors, Audio Output – Printers - Impact and Non-impact Printers, Plotters, Microfilm, Micro Fiche and CD-Rom, Robots.

UNIT – III

Soft Ware – Program Design and Programming Languages – Systems Analysis and MIS – Word Processing and Desktop Publishing – spread Sheets – Data Bases – Multimedia and Presentation Packages – Other Useful Applications.

UNIT – IV

Operating Systems – Windows – Working in Windows – Components of a Window, Creating a Short cut for a Program. Excel – Functions of Micro Soft Excel – Uses of Spreadsheets, spread Sheet Basics – Starting Micro soft Excel, Components of Excel Work book. Power Point – Power Point Window – Creating Presentation – Creating a Presentation Using Autocantent Wizard – Templates – Creating a Blank presentation – Sawing a Presentation. Word – Word Processor Basics – Menus in Micro Soft Word – Editing and Designing the document – Mail Merge.

UNIT – V

Network – Inter and Intra Networks – E.Mail – Web – Browsing.

References:

1. S. Jaiswal "Fundamentals of Information Technology," Galgotia Publications Pvt Ltd.
2. Andrew S. Tanenbaum "Structural Computer Organisation," Prentice Hall of India Pvt Ltd.

Subject Title : MANAGERIAL ECONOMICS

Course Number : 08EC0GE 14

Subject Description:

This subject is aimed at providing knowledge on basic Economic Principles, as well as applied skills to enable the students to gain managerial decision making and skills.

Goals:

This paper intends to give the students a good understanding of the economic theory and applying it in business decisions.

Objectives:

To gain sound knowledge in basic Economic theories, concepts and models.
To gain sound knowledge to apply economic theories and models to execute managerial functions.

Contents:

UNIT – I

Managerial Economics – Meaning, Nature and Scope – Economic Theory and Managerial Economics – Role and Responsibilities of Managerial Economist. Demand Analysis – Demand Forecasting – Methods of Demand Forecasting.

UNIT – II

Cost Analysis – Concepts – Classifications – Determinants – Cost-output Relationship – Economies and Diseconomies of Scale – Cost Control – Cost Reduction. Production Function – One Variable Input – Two Variable Inputs – All Variable Inputs - Short-run and Long-run –

UNIT – III

Supply Analysis – Meaning – Law of Supply – Elasticity of Supply – Factors Influencing Supply. Market Structure – Perfect Competition – Monopoly and Monopsony – Price Discrimination – Monopolistic Competition – Oligopoly and Oligopsony.

UNIT – IV

Pricing Policies – Pricing Methods – Specific Pricing Problems – Price Discounts and Differentials – Product-line Coverage and Pricing – Price Forcasting. Profit – Meaning – Nature – Profit Policies – Profit Planning and Forcasting.

UNIT – V

Capital Budgeting – Cost of Capital – Risk – Probability and Investment Decisions. Business Cycle – Business Policies – Economic Forcasting for Business – Econometrics for Management – Mathematical Economics of the Firm – Economic Basis of International Business.

References:

1. R.L. Varshney and K.L. Maheswari “Managerial Economics” Sultan Chand & Sons – Educational Publishers, New Delhi.
2. M.L.Trivedi “Managerial Economics – Theory and Applications,” Tata Mc Graw Hill, 2002.
3. AHUJA .H.L. – Business Economics, S.Chand & Co, New Delhi,2004.

DIPLOMA IN MANAGEMENT INFORMATION SYSTEM

Subject Title : BUSINESS INFORMATION AND DATA BASE SYSTEM

Course Number : 07ECOMIS 01

Subject Description:

This subject aims at providing the basic knowledge on Business information and Data Base System. To enable students to gain knowledge on effectiveness and efficiency of information systems in business functions.

Goals:

To gain knowledge on information system activities and types of Database.

Objectives:

To provide skill on knowledge management.

To develop skills on internet, communication channels and communication network.

Contents:

Unit – I
Business Information Systems – Meaning and Evolution – Types - System Concepts – Components – Information System Activities.

Unit – II
Strategic Uses of Information Systems – Strategy and Strategic Moves – Achieving Competitive Advantages.

Unit – III
Information System in Business Function – Effectiveness and Efficiency – Manufacturing and Inventory Control – Enterprise and Resource Planning.

Unit –IV
Database Management – Foundation Data Concepts – Database Management Approach – Types of Database.

Unit – V
Data Warehouses – Data Mining – Databases on the Web-Knowledge Management – Internet, Communication Channels and Communication Networks.

References:

Sen – Management Information System
Lucas – Management Information System
O Brien James .A. – Management Information System.

Subject Title : MATHEMATICAL ECONOMICS

Course Number : 08EC0CC 04

Subject Description:

This course deals with the basic knowledge relating to set theory, relation and functions, derivations, optimization problems and matrix algebra and their applications in economics.

Goals:
The course intends to equip students to develop working knowledge of basic mathematical operations and tools. The course aims at using such skills to apply to economic theory and managerial decisions.

Objectives:
To impart various mathematical and statistical methods
To apply quantitative techniques in managerial practices.

Contents:

UNIT – I
Trigonometry – Types of Functions. Analytical Geometry – Co-ordinates of point – Length of Line Joining two points – Mid-Point - The Straight Line – Variables and Functions.

UNIT – II
Partial and Total Derivatives – Technique of Partial Differentiation – Partial Derivatives of Second Order – Cross partial Derivative – Partial Derivatives of Functions of More than Two Variables – Applications of partial Derivatives in Economics – Total Differential – Second Order Total Differential – Derivatives of Implicit Functions – Maxima and Minima of a Function of Two Variables.

UNIT – III
Differential Calculus – Production Function – Constant product Curves: Isoquants – Shape of Isoquant – Isoquant and Ridge Lines – Least Cost Combination – Homogeneous Function – Definition and properties – Properties of Linearly Homogeneous Function – Cobb – Doubles Production Function – Expansion Path for Cobb-Douglas Function. Elasticity of Substitution – elasticity of linearly Homogenous Functions – C.E.S. Functions.

UNIT – IV
Linear Programming – Introduction – The General LP Problem – Transformation of Linear Inequalities into Linear Equations: Slack Variables – Geometry of Linear Programming Problem – Feasible and Basic solutions – Degeneracy – Simplex Method – Minimization Example of Linear programming – Simplex Method for Solving Minimisation Problem – Duality – Linear Programming and Basic Economic concepts.

UNIT – V

Input – Output analysis – Assumptions – The Technological Co-efficient Matrix – Closed and Open Input-Output Model – Co-efficient of Matrix and Open Model – The Hawkins-Simon conditions – Solution for two Industries – Co-efficient of closed Model – The Leontief Production Function – Weaknesses and Limitations. Game Theory – concepts – Classification – Description – Payoff Matrix – Saddle Point Solutions – Mixed Strategy – Dominated Strategies.

References:

1. Allen R.G.D., "Mathematical Analysis for Economists", ELBS, Macmillan.
2. Medha and Madhnani, "Mathematics for Economics", Sultan Chand, New Delhi.
3. Dowling.T.E., Introduction to Mathematical Economics, McGraw Hill.
4. Alpha C Chiang, "Fundamental Methods of Mathematical Economics", 3ed McGraw Hill, New York.

Subject Title : MACRO ECONOMICS
Course Number : 08EC0CC 05

Subject Description:

This course aims at students to gain strong fundamentals of macro economy theories policies and models in a historical prospective.

Goals:

The paper examines the basic principles underling the functioning of an economy and deals with the determination of major macroeconomic aggregates.

Objectives:

To introduce the students on the sectoral flow of national income, its accounting and factors influencing income at current and constant prices.
To enable students develop a critical insight on classical Keynesian macro economic models and a functioning at four different market conditions.
To make students to understand roll of expectation uncertainty and the relationship between inflation and employment by providing exp9osure to the contributions of Friedman and Phelps and Phillps.

Contents:

UNIT – I

National Income – Concept and Measurement – GDP – GNP – Difficulties in the Measurement of National Income - Social Accounting – Presentation of Social Accounts - Importance of Social accounting – Difficulties in Social accounting.

UNIT – II

Classical theory of income, Output and Employment – Keynesian theory of Income, Output and Employment – Say's Law of market – Principles of Effective Demand – Importance of Effective Demand – Aggregate Demand and Aggregate Supply.

UNIT – III

Consumption function – Keyne's Psychological Law of Consumption – Determinants of the Consumption function – Investment function – Types of Investment – Marginal Efficiency of Investment (MEI) – Saving and Investment Equality.

UNIT – IV

Multiplier – Assumption – Leakages – Importance of Multiplier - Super Multiplier - Use of Super Multiplier in Business Cycles - Multiplier in an underdeveloped country – Acceleration – Income Determination – IS and LM Functions – General Equilibrium.

UNIT – V

Monetary Policy – Role of Monetary Policy in a Developing Economy – Fiscal Policy – Inflation – Inflationary Gap – Demand pull Vs Cost push Inflation – Causes of Inflation – Measures to control Inflation – Effects of Inflation – The Phillips Curve .

References:

1. M.L. Jhingan "Advanced Economic Theory," Vrinda Publications (P) Ltd.
2. M.C. Vaish "Macro Economic Theory," Vikas Publishing House (P) Ltd.
3. R. D. Gupta and A.S. Rana "Keynes and Post Keynesian Economics," Kalyani Publishers.

Subject Title : BASIC ECONOMETRIC METHODS WITH CA (Computer Application)

Course Number : 08EC0CC 06

Subject Description:

This course presents the basic econometrics techniques emphasizing numerical estimation of economic relationships as applied to practical economic and managerial problems.

Goals:

To enable the students to learn the basic econometric techniques relating to the estimation of parameters.

Objectives:

On successful completion of the course the students should have understood the estimation techniques, learned the difficulties involved in the estimation process, evaluation of parameters and enable understanding scientific decision making process.

Contents:

UNIT -I

Meaning, definition and scope of econometrics – types and methodology of econometrics – importance of stochastic assumptions – random variables- functions of random variables.

UNIT -II

Simple linear regression model - Methods of ordinary least squares – assumptions and properties of OLS estimators – test of significance of the parameter estimates – measure of goodness of fit.

UNIT-III

Regression analysis and analysis of variance – the assumptions of randomness of u – the probability distribution of disturbances 'u' – simultaneous equation models.

UNIT – IV

Nature of forecasting – econometric approach to forecasting – policy evaluation using an econometric model. Forecasting with a single –equation linear regression model. Testing the difference between a single prediction and realization.

UNIT -V

Introduction to maximum likelihood estimation – maximum likelihood applied to a linear regression model – transformation of variables and maximum likelihood – Using SPSS, E-Views and STATA packages.

References:

1. William H. Greene "Econometric Analysis," Pearson Education.
2. A.Koutsoyiannis, "Theory of Econometrics: An Introductory Exposition of Econometric Methods", Educational Low-Priced Books Scheme, McMillan Education Ltd.,(1992)..ls2
3. Damodar Gujarathi "Basic Econometrics", Tata MCGraw Hill Ltd,1999.4th ed.

Subject Title : OPERATIONS RESEARCH

Course Number : 08EC0GE 15

Subject Description:

This paper covers the basic operation research techniques and deals with the application of these techniques in business practices.

Goals:

This paper enable the students to familiarize with operation research techniques and its applications in managerial decision making.

Objectives:

To introduce the students to the basic operation research techniques such as Linear Programming, Game theory, Input-output analysis, PERT and CPM and inventory control that are widely used in decision making.
To enable the students to apply these technique in current business practices and
To make them draw inference based on the numerical results obtained.

Contents:

UNIT – I
Operations Research – Meaning – Significance – Features – Types of Models – Scope and Applications.

UNIT – II
Linear programming – Structure – Assumptions – Advantages – Limitations – General Mathematical Model and problems. Graphical Solution Method LP Problems – Important Definitions – Linear programming Simplex Method – Feasible Solution.

UNIT – III
Transportation Problem – Structure – Methods for Finding an initial Solution – Degeneracy – Optimal solution – Assignment Problem – Algorithm – Variations.

UNIT – IV
Net Work Analysis – PERT – CPM – Critical Path – Time Estimates – Determination of Critical Path – Waiting Lines Models – Structure of Model – M / M / 1.

UNIT – V
Inventory – Functions – Steps – Deterministic Inventory Models – EOQ different Models – Inventory Control Approach – ABC Analysis. Simulation – Process – Monte Carlo Method – Inventory Simulation Model – Decision Tree Analysis – Pay-off Tables.

References:

1. J.K. Sharma "Operations Research: Theory and Applications," Mamillan.
2. C.V. Shenoy, U.K. Srivastava and S.C. Sharma "Operations Research," Wiley Eastern Ltd.
3. Ronald L. Rardin, "Optimization in Operation Research," Prentice Hall.

P.G. DIPLOMA IN MANAGEMENT INFORMATION SYSTEM

Subject Title : INFORMATION SYSTEM AND MANAGEMENT
Course Number : 07 ECOMIS 02

Subject Description:

This subject provides knowledge of information at different management levels. It is also studies the nature of management work. It provides insight into information system Architecture and management.

Goals:
Aims at importing knowledge on organizational pyramid at different management levels and the nature of work at each management levels.

Objectives:

To train students on centralized and decentralized E-business and thus increase the scope for employment.

Contents:

Unit – I
Management – Definition – Nature and Scope – Functions – Managers and Their Information Needs – The Organizational Pyramid – Information at Different Managerial Levels.

Unit – II
The Nature of Management Work – Organizational Structure – E-Business Organization – Characteristics of Effective Information.

Unit – III
Managers and Their Information System – Information – Politics and Power –Organizing Information Systems and Services – Sector Books.

Unit- IV
Information System Architecture and Management – Organizing the IS Staff- Challenges and Solutions for IS Managers and Line Managers.

Unit – V
The Information Centre – Centralized and Decentralized E-Business – Career in Information Systems – Managing End Users' Services.

References:

Sen – Management Information System
Lucas – Management Information System
O'Brien James . A – Management Information Systems.
Economics – Joseph Stiglitz
Economics of Operational Analysis – William J. Bamoul.

Subject Title : ADVANCED ECONOMETRICS

Course Number : 08EC0CC 07

Subject Description:
This course presents the basic econometrics techniques emphasizing numerical estimation of economic relationships as applied to practical economic and managerial problems.

Goals:
To enable the students to learn the basic econometric techniques relating to the estimation of parameters.

Objectives:
On successful completion of the course the students should have understood the estimation techniques, learned the difficulties involved in the estimation process, evaluation of parameters and enable understanding scientific decision making process.

Contents:

UNIT-1
The theory of house hold – Single demand equations- aggregation- Industrial organization – Nature of econometric project.

UNIT-2
Model with two explanatory variables – partial correlation coefficients – extension of the linear regression model to non-linear relationships.

UNIT -3
Nature of the problem of auto correlation – consequences of auto correlation – Tests and solutions for the case of auto correlation – methods for estimating the auto correlation parameters.

UNIT -4
Assumption of non-Multicollinear Regressors – plausibility of the assumption – tests for detecting Multicollinearity – remedial measures. Practical consequences of Multicollinearity – Dummy variables – Identification and Multicollinearity.

UNIT -5
Time series analysis: Time series vs Cross section data, pooling micro data, approaches to economic forecasting – transforming non-stationary time series. Regression of a Unit root time series on another unit root time series – Estimation and forecasting with vector Autoregression (VAR).

References:

1. William H. Greene “Econometric Analysis,” Pearson Education.

2. A.Koutsoyiannis, "Theory of Econometrics: An Introductory Exposition of Econometric Methods", Educational Low-Priced Books Scheme, McMillan Education Ltd.,(1992)..ls2.
3. Damodar Gujarathi "Basic Econometrics", Tata MCGraw Hill Ltd,1999.4th ed.
4. Dr. M. Upender, "Applied Econometrics," Vrinda Publications (P) Ltd.

Subject Title : GROWTH AND DEVELOPMENT

Course Number : 08EC0CC 08

Subject Description:
This course will enable the students to acquire advanced knowledge as to how policies facilitate the economic growth and development in advanced countries.

Goals:
This paper enables the students to understand important growth models and helps them to familiarize with factors that contribute to economic growth.

Objectives:
To familiarize economic theories and growth models.
To provide a strong knowledge base on India's economy both during pre and post reform periods.
To develop a critical study on recent development in the Indian Economy in the context of the world economic scenario.

Contents:

UNIT-I
Economic Growth and Economic Development- Economic Models- Early Growth Theories: Mercantilist Growth Theory, Physiocratic Growth Theory, Adam Smith's Theory of Economic Growth – Keynesian Theory of secular stagnation – Marxian Theory of Economic Growth.

UNIT – II
The Harrod-Domar Model – Solow's Model of Growth - Assumptions of the Model, possibility of steady state, existence and uniqueness of steady state equilibrium – Acutal Mechanism, solow Model with Endogenously Determinad Rate of Growth of Labour Surplus – Golden Rule of Accumulation – Swan's Growth Model.

UNIT III
Cambridge Models of Economic growth: Kaldor's Model, Pasinetti's Model-Two sector model of growth. Technical progress:Different types of technical progress –comparison of rates of technical progress-technical progress and steady state equilibrium.

UNIT 1V
Economic growth in an open economy-Economic growth in a labour surplus dual economy: Lewis Model and its formalization-Joan Robinsons Model.

UNIT – V

Definition and Types of Embodied Technical progress – Vintage Model with Fixed Labour requirements (Putty-Clay Model)- The Production Function Approach – The Cobb-Douglas Production Function – Impotence of Technological Change – Limits to Growth.

References:

1. Debraj Ray "Development Economics," Oxford University Press.
2. Jaydeb Sarkhel "Growth Economics," book Syndicate (P) Ltd.
3. Michacl P. Todaro and Stephen C. Smith "Economic Development," Pearson Addison Wesley.

Subject Title : FINANCIAL ECONOMETRICS

Course Number : 08EC0CC 09

Subject Description:

This course presents the basic econometrics techniques emphasizing numerical estimation of economic relationships as applied to practical economic and managerial problems.

Goals:

To enable the students to learn the basic econometric techniques relating to the estimation of parameters.

Objectives:

On successful completion of the course the students should have understood the estimation techniques, learned the difficulties involved in the estimation process, evaluation of parameters and enable understanding scientific decision making process.

Contents:

UNIT – I

Stochastic Process and their Properties: Martingales – Random Walks – Gaussian White noise processes – Wiener Processes – Stationarity and Ergodocity, Behaviour and Valuation of Security Prices: Generalised Wiener Processes – Geometric Wiener Process and Financial Variable Behaviour in the Short Term and Long Run.

UNIT - II

Time – Varying Volatility Models – GARCH and Stochastic Volatility – ARCH and GARCH and their variations – Multivariate GARCH – Stochastic Volatility – Univariate Persistence Measures – Multivariate persistence – Impulse response analysis and variance decomposition – Non-orthogonal cross – Effect impulse response Analysis.

UNIT – III

Modeling regime shifts – Markov Chains – Estimation – Smoothing – Rime-varying Transition probabilities – Examples cases. State Space Model and the Kalman Filter – State Space Expression – Kalman Filter Algorithm – Time-varying coefficient Models – AR(p) process – ARMA(p,q) process – Stochastic Volatility – Time-varying co-efficient.

UNIT – IV

The basic present value model and its time series characteristics – the VAR representation – The present Value Model on Logarithms with time – Varying discount rates – The VAR representation for the present value model in the log linear farm – Variance Decomposition.

UNIT – V

Financial Economics and econometrics literature on the internet – Econometric Package for Financial and Economic Time series – Learned Societies and Professional Associations – Organizations and Institutions – International Financial institutions and other organizations – Major Stock Exchangers, Options and Futures, Exchanges and Regulators – Central Banks.

References:

1. Peijewang "Financial Econometrics: Methods and Models" Routledge – Taylor & Francis Gorup – Vikas Publishing House, Pvt Ltd.

Subject Title : INDUSTRIAL ECONOMICS

Course Number : 08EC0GE 16

Subject Description:

This paper ewers the basic concepts of productivity, various productivity measurements, Theory of Production Functions and numerical measurement of elasticities.

Goals:

This course aims at providing an indepth knowledge on the need, significance, measurement and use of various industrial productivity concepts. The scope also intends to develop skills to monitor and mange enterprises at optimal levels of industrial productivity.

Objectives:

To introduce to the students the various concepts of Productivity.
To enable the students to measure productivity numerically using mathematical and econometric techniques.
To make students to draw inferences based on the numerical measurements.

Contents:

UNIT-I

Meaning of the Firm and Industry-Industrial Efficiency: Meaning of the concept- The determinants of Economic Efficiency- Measurement of the Efficiency Levels- Types of Organisational Form- Business Motives

UNIT-II

The Theory of Cost and Production- The concept of Production Function and Optimal Input Mix- The Efficiency and Size of the Firm- Market Concentration- Measurement of Market Concentration.

UNIT-III

Concept of Total Factor Productivity Index – Methods of Estimation: Kendrick – Solow – Divisia – Malmquist – Economic significance of inter – regional and inter – industry variations in TFPG – estimates.

UNIT-IV

Financial Ratio Analysis- Classification of Financial Ratios- Methods of Project Evaluation: NPV, Payback Method, IRR, ARR, Cost-Benefit Analysis- Inventory Investment Approach.

UNIT-V

Role of Advertising- Pricing Procedures- Pricing in Public Enterprises- The General Determinants of Industrial Location- Approaches to Industrial Locational Analysis- Weber's Theory of Industrial Location.

References:

1. Sanhey S. C. "Productivity Management: Concepts and Techniques," Tata McGraw Hill, New Delhi.
2. Heathfield F.D. "An Introduction to Cost and Production Functions." Macmillon Education & Soren Wibe London.

DIPLOMA IN MANAGEMENT INFORMATION SYSTEM

Subject Title : Developing Information System

Course Number : 07ECOMIS 03

Subject Description:

This subject aims at providing the basic knowledge on developing information system. To enable students to gain knowledge on analysis , implementation, evaluvation and maintance of information system

Goals:

To gain knowledge on developing information system.

Objectives:

To provide skill on system development
To understand the pitfall in MIS development

Contents:

Unit – I
Introduction to developing information system - System Development Life Cycle- Other models of SDLC.

Unit –II
System Analysis – definition – approaches - requirement -Understanding transaction oriented and decision oriented system – information gathering – structured analysis.

Unit-III
System design - objectives - types - design activities - system testing.

Unit-IV
System implementation - evaluation - maintenance of information system - Pitfalls in MIS Development.

Unit-V
Information Resources Management - Principles - objectives - fuctional components Of IRM.

Reference:

L M Prasad & Usha Prasad - Management information systems
A K Gupta - Management information systems
P Mohan - Management information systems
Khushdeep Dharni - Management information systems

Subject Title : APPLIED ECONOMETRICS
Course Number : 08EC0CC 10

Subject Description:
This course presents the basic econometrics techniques emphasizing numerical estimation of economic relationships as applied to practical economic and managerial problems.

Goals:
To enable the students to learn the basic econometric techniques relating to the estimation of parameters.

Objectives:
On successful completion of the course the students should have understood the estimation techniques, learned the difficulties involved in the estimation process, evaluation of parameters and enable understanding scientific decision making process.

Contents:

UNIT-I

Nature of Heteroscedasticity- OLS estimation in the presence of Heteroscedasticity- Method of Generalised Least Squares (GLS) - Consequences of using OLS in the presence of Heteroscedasticity- Direction of Heteroscedasticity- Remedial measures- Method of weighted of weighted least squares.

UNIT-II

Model selection criteria- Types and consequences of model specification errors- Errors of measurement- Intrinsically linear and intrinsically non-linear regression models- Estimation of linear and non-linear regression models.

UNIT-III

The nature of qualitative response models- The linear probability model- The Logit model- Estimation of panel data regression model.

UNIT-IV

The role of "time" or" lag" in economics- The reasons for lags- Estimation of distributed-lag models- the Koyck approach to distributed-lag model- The Almon or Polynomial distributed-lag- The Granger Causality Test.

UNIT-V

Tests of Stationarity: Graphical Analysis, Autocorrelation Function (ACF) and Correlogram, Statistical significance of autocorrelation coefficients- The Unit Root Test: The Augmented Dickey-Fuller (ADF) Test, The Phillips-Perron (PP) Unit Root Tests.

References:

1. William H. Greene "Econometric Analysis," Pearson Education.
2. A.Koutsoyiannis, "Theory of Econometrics: An Introductory Exposition of Econometric Methods", Educational Low-Priced Books Scheme, McMillan Education Ltd.,(1992)..ls2.
3. Damodar Gujarathi "Basic Econometrics", Tata MCGraw Hill Ltd,1999.4th ed.
4. Dr. M. Upender, "Applied Econometrics," Vrinda Publications (P) Ltd.

Subject Title : PUBLIC ECONOMICS
Course Number : 08EC0CC 11

Subject Description:

This subject is primarily aimed at introducing principles of public finance, role of different governments, public expenditure, taxation, budget and fiscal policy in India.

Goals:

To give exposure to the student, the role and the function of the government in a modern economy. The government plays different roles and performs varied functions which are

different from earlier societies. In this context the public financial functions of the government need to be understood by a student, by studying the relevant theory and empirical analysis.

Objectives:
To gain sound knowledge on the principles of public finance.
To understand roles of different governments.
To provide a strong knowledge base on Indian public finance.

Contents:

UNIT – 1
Role of government in managing Economy under different economic systems – Social Welfare Function – Theory of Public Goods - Market failure – Externalities – Problems in allocation of Resources – Theoretical developments in Demand revelation for social goods – Public Choice.

UNIT – 2
Public Expenditure: Theories of Public Expenditure – Structure and Growth of Public Expenditure – Criteria for Public Investment – Income Redistribution – Expenditure Programmes for the Poor.

UNIT – 3
Budget – Concept of PPB – Zero-based Budgeting – Deficit Budgeting – types of Deficits – Public Dept: Trends and composition of Indian Public Dept – Dept Management

UNIT – 4
Taxation : Theory of Taxation – Benefit and Ability-to-pay approaches – Indian Direct and Indirect Taxes – Tax reforms since 1975 – Chelliah Committee Report – Evaluation of Tax Reforms – Taxation Incidence and alternative concepts of incidence.

UNIT – 5
Fiscal Policy – Role of Fiscal policy in India – Principles of fiscal Federalism in India – Vertical and Horizontal Imbalance – Finance commissions and Planning commission – Issues in Revenue devolutions and grants-in-aid – Local Finance.

References:
1. Dr. B.P. Tyagi “Public Finance,” Jai Prakash Natu & (O).
2. S.K. Singh “Public Finance in Theory and Practices,” Sultan Chand & Co.
3. D.K. Srivastava, “Issues in Indian Public Finance,” New Century Publications.

Subject Title : ECONOMICS OF HUMAN RESOURCES
Course Number : 08EC0CC 12

Subject Description :
This course is aimed at providing Ideas on basic concepts in Economics of Human Resources as well as applied skills to enable the students to gain knowledge on human resources.

Goals:
This paper intends to give the students a good understanding of the contents of human resources and applying it in business decisions.

Objectives:
To familiarize in theories and concepts of human resources.
To gain sound knowledge on human capital theories.
To enable the students to know about the importance of investment in health and education.

Contents:

UNIT-I:
Importance of Human Resource- Human Resource and Economic Development-The Theory of Investment in Human Capital –Return to Investment in Human Capital –The Rate of Return Approach-The Economic Efficiency Approach.

UNIT-II
Importance of Investment in Human Resource; Education and Economic Development – Investment in Education and Training -Rate of Return to Investment in Education – On the Job Training.

UNIT-III
Investment in Health - Relevance of health Economics- Demand for Health Capital - Health Insurance- Benefits of Health and Costs of providing Health services.

UNIT-IV
Demand for Labour- Demand for Human Resources- Short run and Long run changes in the demand for Labour- Wage Theories, Union and Wages.

UNIT-V
Migration- Internal, External- Effects of Migration-Brain Drain, Empirical Evidence, and explanation offered.

Reference Books:

1. Becker. G.S Human Capital
2.Blaug.M An introduction to Economics of Education, Penguin Books.
Economics of Education-Vol -I & II, Penguin Books and ELBS.
3. Psacharapoulos.G Returns to Education.
4. Psacharapoulos.G Economics of Education-Research Studies Program Press
5. Schultz.T.W Economic Value of Education.

DIPLOMA IN MANAGEMENT INFORMATION SYSTEM

Subject Title : Information Technology

Course Number : 07ECOMIS 04

Subject Description:
This subject aims at providing the basic knowledge on information technology.
To enable students to gain knowledge on use of hardware, software, services and
Supporting infrastructure to manage and deliver information using voice, data and video.

Goals:
To gain knowledge on the information revolution.

Objectives:
To provide skill on concepts of computers.
To understand the recent trend in IT.

Contents:

Unit – I
Information Technology - concept - functions - role - relationship between Organization and IT - impact - implications.

Unit –II
Computer hardware - basics of data representation - types of computers - Components of computers - factors to buy a personal computers.

Unit –III
Computer software - programming languages - Classification of software.

Unit -IV
Contemporary applications of Information Technology - E – mail , E-commerce, E-trading , E-banking , E-governance, E- data interchange, on-line information services and multimedia.

Unit-V
Recent trends in Information Technology - WWW - Blue Tooth Technology – Set-Top Boxes Wireless Local Area Network - Internet Telephony - DTH -Electronic Re-usable Paper - Internet Printing Protocol - Personal Digital Assistant - Voice over internet Telephony.

References :

R.Sarvana kumar , R.Parameswaran & T.Jayalakshmi - A Textbook of Information Technology

L M Prasad & Usha Prasad - Management information systems

A K Gupta - Management information systems

M.Sc. DEGREE EXAMINATION
Applied Econometrics

BASIC MATHEMATICAL METHODS

Time : Three hours Maximum : 60 marks

PART A – (20 x 0.5 = 10 marks)
Answer ALL questions.
All questions carry equal marks.

Define the following:

1. Quadratic Equation.
2. Logarithmic function.
3. Partial derivative.
4. Homogeneous function.
5. Scalar matrix.
6. According to Demorgan's Law $(A \cup B \cup C)' = A' \cup B' \cup C'$.
7. The solution for the equation $x^2 - 4 = 0$ is x = +4 and x = -4.
8. If $\frac{d^2y}{dx^2} > 0$, then y = f(x) is a convex function.
9. When MC is minimum AC = MC.
10. A = 1 1 1
    1 1 1 is a unit matrix.
    1 1 1

Fill up the blanks:

11. When A and B are disjoint $A \cap B$ =----------.
12. The function defined by y = ---------- for all real number x is called an exponential function.
13. Total revenue function expresses the relationship between----------and total revenue.
14. When $\frac{d\ y}{dx} = 0$ and $\frac{d^2y}{dx^2} > 0$, y = f(x) attains the ----------value.
15. $A.A^{-1}$ = ----------.

Match the following:

16. y = ax + b (a) Inverse
17. $Z = \frac{ax^2 + by^2}{ax + by}$ (b) Ratio of determinants
18. Adjoint (c) Linearly homogeneous function.

19. Cramer's rule (d) MR = MC
20. Maximum profit (e) Linear equation.

PART B – (5 x 4 = 20 marks)

Answer ALL questions.

21. (a) State any four properties of real number.

Or

(b) If A = {1,2,3,4,5}, B = {4,5,6,7} and U = {0,1,2,3,4,5,6,7,8,9} prove that $A - B = A \cap B'$.

22. (a) Illustrate the concept of rectangular hyperbola with examples from Economics.

Or

(b) Prove that the curve x.y = 100 is convex to the origin and downward sloping.

23. (a) For the production function Q = 5KL, find the marginal productivity of labour and marginal productivity of capital.

Or

(b) If the total revenue function is given as $R = Q(9-Q)^2$, find marginal revenue and average revenue at Q = 2.

24. (a) Define CES production function and prove that it is linearly homogeneous.

Or

(b) Verify Euler's theorem for the production function $Q = L^2 + LK + K^2$.

25. (a) Find maxima and minima functions:

(a) $y = x^3 - 6x^2 - 135x + 4$

(b) $y = -2x^3\ 15x^2 + 84x - 25$

Or

(b) Find out the degree of homogeneity of a function.

i) $Z = 8x+9y$

ii) $Z = x^2+xy+y^2$

PART C – (3 x 10 = 30 marks)

Answer any THREE questions.

26. In a class of 25 students of Economics and Politics, 12 students have taken Economics. Out of these 8 have taken Economics but not Politics. Find

(a) the number of students who have taken Economics and Politics and

(b) those who have taken politics but not Economics.

27. Given the demand function $Q = 100 - p - 0.1P^2$, find the price elasticity of demand at $P = 10$.

28. State and explain the properties of Cobb-Douglas production function.

29. Given $U=x^3+x^2y+xy^2+y^3$, find $\frac{d^2u}{dx^2}$ and $\frac{d^2u}{dy^2}$.

30. The total revenue function and total cost function of a firm are $R = 100\ Q - Q^2$ and $C = \frac{1}{3}Q^3 - 7Q^2 + 111Q + 50$ respectively. Find profit maximizing level of output and maximum profit.

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M.Sc. DEGREE EXAMINATION
Applied Econometrics

STATISTICAL METHODS

Time : Three hours Maximum : 60 marks

PART A – (20 x 0.5 = 10 marks)
Answer ALL questions.
All questions carry equal marks.

Define the following:

1. Partial derivative.
2. Logarithmic function.
3. Quadratic Equation.
4. Homogeneous function.
5. Scalar matrix.
6. According to Demorgan's Law $(A \cup B \cup C)' = A' \cup B' \cup C'$.
7. The solution for the equation $x^2 - 4 = 0$ is x = +4 and x = -4.
8. If $\frac{d^2y}{dx^2} > 0$, then y = f(x) is a convex function.
9. When MC is minimum AC = MC.
10. A = 1 1 1
    1 1 1 is a unit matrix.
    1 1 1

Fill up the blanks:

11. When A and B are disjoint $A \cap B$ =----------.
12. The function defined by y = ---------- for all real number x is called an exponential function.
13. Total revenue function expresses the relationship between----------and total revenue.
14. When $\frac{d\ y}{dx} = 0$ and $\frac{d^2y}{dx^2} > 0$, y = f(x) attains the ----------value.
15. $A.A^{-1}$ = ----------.

Match the following:

16.	y = ax + b	(a) Inverse
17.	$Z = \frac{ax^2 + by^2}{ax + by}$	(b) Ratio of determinants
18.	Adjoint	(c) Linearly homogeneous function.

19. Cramer's rule (d) MR = MC
20. Maximum profit (e) Linear equation.

PART B – (5 x 4 = 20 marks)

Answer ALL questions.

21. (a) State any four properties of real number.

Or

(b) If A = {1,2,3,4,5}, B = {4,5,6,7} and U = {0,1,2,3,4,5,6,7,8,9} prove that $A - B = A \cap B'$.

22. (a) Illustrate the concept of rectangular hyperbola with examples from Economics.

Or

(b) Prove that the curve x.y = 100 is convex to the origin and downward sloping.

23. (a) For the production function Q = 5KL, find the marginal productivity of labour and marginal productivity of capital.

Or

(b) If the total revenue function is given as $R = Q(9-Q)^2$, find marginal revenue and average revenue at Q = 2.

24. (a) Define CES production function and prove that it is linearly homogeneous.

Or

(b) Verify Euler's theorem for the production function $Q = L^2 + LK + K^2$.

25. (a) Find maxima and minima functions:

a. $y = x^3 - 6x^2 - 135x + 4$

b. $y = -2x^3\ 15x^2 + 84x - 25$

Or

(b) Find out the degree of homogeneity of a function.

iii) $Z = 8x+9y$

iv) $Z = x^2+xy+y^2$

PART C – (3 x 10 = 30 marks)

Answer any THREE questions.

26. In a class of 25 students of Economics and Politics, 12 students have taken Economics. Out of these 8 have taken Economics but not Politics. Find

a. the number of students who have taken Economics and Politics and

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27. Given the demand function $Q = 100 - p - 0.1P^2$, find the price elasticity of demand at P = 10.

28. State and explain the properties of Cobb-Douglas production function.

29. Given $U=x^3+x^2y+xy^2+y^3$, find $\frac{d^2u}{dx^2}$ and $\frac{d^2u}{dy^2}$.

30. The total revenue function and total cost function of a firm are $R = 100\ Q - Q^2$ and $C = \frac{1}{3}Q^3 - 7Q^2 + 111Q + 50$ respectively. find profit maximizing level of output and maximum profit.

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M.Sc. DEGREE EXAMINATION
Applied Econometrics

INFORMATION TECHNOLOGY

Time: Three hours Maximum : 60 marks

PART A – (20 x 0.5 = 10 marks)
Answer ALL questions.

Define the following:

1. National Income.
2. Multiplier.
3. Personal Income.
4. Aggregate Demand.
5. Propensity to consume.

State whether the following statement are True or False:

6. The investment multiplier measures the relationship between an increase in income caused by a primary increase in investment.
7. According to Keynes consumption function depends on various institutional factors such as distribution of income and wealth and psychological factors such as willingness to save.
8. Foreign trade multiplier is equal to the reciprocal of marginal propensity to save plus marginal propensity to import.
9. According to classical Economists unemployment could be overcome through larger savings and investment.
10. In 1868 National Income estimates were made for India by V.K.R.V. Rao.

Fill in the blanks:

11. $1-\frac{\Delta C}{\Delta Y}$ is defined as ----------.
12. The LM curve slopes upward to the ----------.
13. The trade-off between inflation and unemployment is depicted by ---------- curve.
14. Rational expectation hypothesis was given by ----------.
15. The ratio of consumption to income is called ----------.

Match the following:

16. F. A. Khan (a) IS-LM model
17. J.M. Keynes (b) Acceleration principle
18. Hicks-Hansen (c) Foreign trade multiplier
19. J.M. Clark (d) Investment multiplier
20. $K_f - \frac{1}{S+M}$ (e) Employment multiplier.

Part B – (5 x 4 = 20 marks)
Answer ALL questions.

21. (a) Explain the various concepts of National Income.

Or

(b) Explain the problems in the measurement of National Income in India.

22. (a) Write a note on the classical theory of income and employment.

Or

(b) Explain briefly Keynes's critique of classical theory of income and employment.

23. (a) Explain the concept of consumption function.

Or

(b) What is investment multiplier? How is it related to marginal propensity to consume?

24. (a)Explain the factors that influence the level of investment in the economy.

Or

(b) Explain the concept of marginal efficiency of capital.

25. (a) Explain the uses of IS-LM model.

Or

(b) Explain the Phillips curve? What are the factors causing downward slope of the Phillips curve?

PART C – (3 x 10 = 30 marks)
Answer any THREE questions.

26. Explain the methodology of estimation of National Income.
27. Briefly explain the Keynesian theory of employment.
28. How do Friedman and Phelps explain the natural rates of unemployment?
29. Explain the meaning of accelerator. Give its utility and limitations.
30. Discuss the concept of foreign trade multiplier.

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M.Sc. DEGREE EXAMINATION
Applied Econometrics
MANAGERIAL ECONOMICS

Time: Three hours Maximum : 60 marks

PART A – (20 x 0.5 = 10 marks)
Answer ALL questions.

Define the following:

1. National Income.
2. Multiplier.
3. Personal Income.
4. Aggregate Demand.
5. Propensity to consume.

State whether the following statement are True or False:

6. The investment multiplier measures the relationship between an increase in income caused by a primary increase in investment.
7. According to Keynes consumption function depends on various institutional factors such as distribution of income and wealth and psychological factors such as willingness to save.
8. Foreign trade multiplier is equal to the reciprocal of marginal propensity to save plus marginal propensity to import.
9. According to classical Economists unemployment could be overcome through larger savings and investment.
10. In 1868 National Income estimates were made for India by V.K.R.V. Rao.

Fill in the blanks:

11. $1-\frac{\Delta C}{\Delta Y}$ is defined as ----------.
12. The LM curve slopes upward to the ----------.
13. The trade-off between inflation and unemployment is depicted by ---------- curve.
14. Rational expectation hypothesis was given by ----------.
15. The ratio of consumption to income is called ----------.

Match the following:

16. F. A. Khan (a) IS-LM model

17. J.M. Keynes (b) Acceleration principle

18. Hicks-Hansen (c) Foreign trade multiplier

19. J.M. Clark (d) Investment multiplier

20. $K_f - \frac{1}{S+M}$ (e) Employment multiplier.

Part B – (5 x 4 = 20 marks)
Answer ALL questions.

21. (a) Explain the various concepts of National Income.

Or

(b) Explain the problems in the measurement of National Income in India.

22. (a) Write a note on the classical theory of income and employment.

Or

(b) Explain briefly Keynes's critique of classical theory of income and employment.

23. (a) Explain the concept of consumption function.

Or

(b) What is investment multiplier? How is it related to marginal propensity to consume?

24. (a)Explain the factors that influence the level of investment in the economy.

Or

(b) Explain the concept of marginal efficiency of capital.

25. (a) Explain the uses of IS-LM model.

Or

(b) Explain the Phillips curve? What are the factors causing downward slope of the Phillips curve?

PART C – (3 x 10 = 30 marks)

Answer any THREE questions.

26. Explain the methodology of estimation of National Income.

27. Briefly explain the Keynesian theory of employment.

28. How do Friedman and Phelps explain the natural rates of unemployment?

29. Explain the meaning of accelerator. Give its utility and limitations.

30. Discuss the concept of foreign trade multiplier.

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MODEL QUESTION PAPER
M.A. Degree Examination
First Semester
Business Economics
***Diploma*: MANAGEMENT INFORMATION SYSTEM**
***Paper I*: BUSINESS INFORMATION AND DATA BASE SYSTEM**

Time : Three hours Maximum : 60 marks

PART A – (10 x = 10 marks)
Answer ALL the questions
All questions carry equal marks

Choose the correct answer.

1. A collection of information through the library report is know as
   a) Planning information
   b) Control information
   c) Knowledge information
   d) Operational information

2. A measure of communications line speed
   a) Bit b) BPS
   c) BASIC d) None of the above

3. Gigabyte is equal to
   a) 100 megabytes b) 1,000 megabytes
   c) 10,000 megabytes d) 10 megabytes

4. An operating system initially developed by Bill labs are known as
   a) UNIX b) RAM
   c) RISC d) E-Commerce

5. Informations gathered from different company at given point of time is known
   a) Time series data
   b) Panel data
   c) Cross section data
   d) None of the above

State whether the following statements are "True or False" :

6. The main objective of a private business enterprises is welfare.
7. When an information does not add anything to change the decision, then the value of an information is ω.

8. An information required for conducting administration and management function is known as organizational information.
9. Information performing to knowledge is used by top management.
10. Operational management normally deals the uncertainty level is low.

PART B – (5 x 4 = 20 marks)

Answer ALL questions

11. a) Explain the scope of business information system

(or)

b) What are the information system activity?

12. a) What do you mean by competitive advantage?

(or)

b) What are the uses of information system?

13. a) distinguish between effectiveness and efficiency?

(or)

b) Write short note on Resource planning g system?

14. a) State the main types of database.

(or)

b) What do you mean by data mining?

15 a) How communication channels will be useful for business decision?

(or)

b) What are the functions of Business?

PART C – (3 x 10 = 30 marks)

Answer any THREE questions

16 a) Examine the meaning and evolution f Business Information System.

17. a) Explain the different types of information system

18. a) Critically evaluate data base management approach

19. a) Explain the role of internet in business management

20. a) What is the difference between data file, data bank and database?

M.Sc. DEGREE EXAMINATION
Applied Econometrics

MATHEMATICAL ECONOMICS

Time : Three hours Maximum : 60 marks

PART A – (20 x 0.5 = 10 marks)
Answer ALL questions.
All questions carry equal marks.

Define the following:

1. Quadratic Equation.
2. Logarithmic function.
3. Partial derivative.
4. Homogeneous function.
5. Scalar matrix.
6. According to Demorgan's Law $(A \cup B \cup C)' = A' \cup B' \cup C'$.
7. The solution for the equation $x^2 - 4 = 0$ is x = +4 and x = -4.
8. If $\frac{d^2y}{dx^2} > 0$, then y = f(x) is a convex function.
9. When MC is minimum AC = MC.
10. A = $\begin{matrix} 1 & 1 & 1 \\ 1 & 1 & 1 \\ 1 & 1 & 1 \end{matrix}$ is a unit matrix.

Fill up the blanks:

11. When A and B are disjoint $A \cap B$ =----------.
12. The function defined by y = ---------- for all real number x is called an exponential function.
13. Total revenue function expresses the relationship between----------and total revenue.
14. When $\frac{d\ y}{dx} = 0$ and $\frac{d^2y}{dx^2} > 0$, y = f(x) attains the ----------value.
15. $A.A^{-1}$ = ----------.

Match the following:

16. y = ax + b (a) Inverse
17. $Z = \frac{ax^2 + by^2}{ax + by}$ (b) Ratio of determinants

18. Adjoint (c) Linearly homogeneous function.
19. Cramer's rule (d) MR = MC
20. Maximum profit (e) Linear equation.

PART B – (5 x 4 = 20 marks)

Answer ALL questions.

21. (a) State any four properties of real number.

Or

(b) If A = {1,2,3,4,5}, B = {4,5,6,7} and U = {0,1,2,3,4,5,6,7,8,9} prove that $A - B = A \cap B'$.

22. (a) Illustrate the concept of rectangular hyperbola with examples from Economics.

Or

(b) Prove that the curve x.y = 100 is convex to the origin and downward sloping.

23. (a) For the production function Q = 5KL, find the marginal productivity of labour and marginal productivity of capital.

Or

(b) If the total revenue function is given as $R = Q(9-Q)^2$, find marginal revenue and average revenue at Q = 2.

24. (a) Define CES production function and prove that it is linearly homogeneous.

Or

(b) Verify Euler's theorem for the production function $Q = L^2 + LK + K^2$.

25. (a) Find maxima and minima functions:

a. $y = x^3 - 6x^2 - 135x + 4$

b. $y = -2x^3\ 15x^2 + 84x - 25$

Or

(b) Find out the degree of homogeneity of a function.

v) $Z = 8x+9y$

vi) $Z = x^2+xy+y^2$

PART C – (3 x 10 = 30 marks)

Answer any THREE questions.

26. In a class of 25 students of Economics and Politics, 12 students have taken Economics. Out of these 8 have taken Economics but not Politics. Find
    a. the number of students who have taken Economics and Politics and
    b. those who have taken politics but not Economics.

27. Given the demand function $Q = 100 - p - 0.1P^2$, find the price elasticity of demand at P = 10.

28. State and explain the properties of Cobb-Douglas production function.

29. Given $U=x^3+x^2y+xy^2+y^3$, find $\frac{d^2u}{dx^2}$ and $\frac{d^2u}{dy^2}$.

30. The total revenue function and total cost function of a firm are $R = 100\ Q - Q^2$ and $C = \frac{1}{3}Q^3 - 7Q^2 + 111Q + 50$ respectively. find profit maximizing level of output and maximum profit.

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M.Sc. DEGREE EXAMINATION
Applied Econometrics

MACRO ECONOMICS

Time: Three hours Maximum : 60 marks

PART A – (20 x 0.5 = 10 marks)
Answer ALL questions.

Define the following:

1. National Income.
2. Multiplier.
3. Personal Income.
4. Aggregate Demand.
5. Propensity to consume.

State whether the following statement are True or False:

6. The investment multiplier measures the relationship between an increase in income caused by a primary increase in investment.
7. According to Keynes consumption function depends on various institutional factors such as distribution of income and wealth and psychological factors such as willingness to save.
8. Foreign trade multiplier is equal to the reciprocal of marginal propensity to save plus marginal propensity to import.
9. According to classical Economists unemployment could be overcome through larger savings and investment.
10. In 1868 National Income estimates were made for India by V.K.R.V. Rao.

Fill in the blanks:

11. $1-\frac{\Delta C}{\Delta Y}$ is defined as ----------.
12. The LM curve slopes upward to the ----------.
13. The trade-off between inflation and unemployment is depicted by ---------- curve.
14. Rational expectation hypothesis was given by ----------.
15. The ratio of consumption to income is called ----------.

Match the following:

16. F. A. Khan (a) IS-LM model
17. J.M. Keynes (b) Acceleration principle
18. Hicks-Hansen (c) Foreign trade multiplier
19. J.M. Clark (d) Investment multiplier
20. $K_f - \frac{1}{S+M}$ (e) Employment multiplier.

Part B – (5 x 4 = 20 marks)
Answer ALL questions.

21. (a) Explain the various concepts of National Income.

Or

(b) Explain the problems in the measurement of National Income in India.

22. (a) Write a note on the classical theory of income and employment.

Or

(b) Explain briefly Keynes's critique of classical theory of income and employment.

23. (a) Explain the concept of consumption function.

Or

(b) What is investment multiplier? How is it related to marginal propensity to consume?

24. (a)Explain the factors that influence the level of investment in the economy.

Or

(b) Explain the concept of marginal efficiency of capital.

25. (a) Explain the uses of IS-LM model.

Or

(b) Explain the Phillips curve? What are the factors causing downward slope of the Phillips curve?

PART C – (3 x 10 = 30 marks)
Answer any THREE questions.

26. Explain the methodology of estimation of National Income.
27. Briefly explain the Keynesian theory of employment.
28. How do Friedman and Phelps explain the natural rates of unemployment?
29. Explain the meaning of accelerator. Give its utility and limitations.
30. Discuss the concept of foreign trade multiplier.

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M.Sc. DEGREE EXAMINATION
Applied Econometrics

Basic Econometric Methods with CA

Time: Three hours Maximum: 60 marks

Part A – (20 x 0.5 = 10 marks)
Answer ALL questions.
All questions carry equal marks.

Define the following:

1. Interval estimation.
2. Unbiased estimators.
3. Differential intercept coefficients.
4. Tolerance.
5. Autocorrelation.

State whether the following statements are True or False:

6. The properties of least squares estimators are contained in Gauss-Markove theorem.
7. The sign of multicollinearity is when R^2 is very high and all the regression coefficients are statistically significant on the basis of conventional t-test.
8. In multiple regression model, the adjusted R^2 cannot decrease when additional explanatory variable is added.
9. F test is a measure of overall significance of the estimated regression but not a test for significance of R^2.
10. For exactly identified equations 2 SLS method gives the same result as ILS method.

Fill in the blanks:

11. In the equation $Y = \beta_1 + \beta_2 X + u$, the term u is known as ----------.
12. The proportion of the total variation in Y explained by the regression model is known as ----- .
13. If the qualitative variable has m categories, the number of dummy variables to be introduced is ----------.
14. When Durbin Watson d is closer to ----------, there is greater evidence of negative serial correlation.
15. If the number of excluded exogenous variables from an equation exceeds the number of endogenous variables included in the equation minus 1 ie., $K - k > m - 1$, then the equation in the system is ----------.

Match the following:

16. ANOVA model	(a) ILS method
17. ANCOVA model	(b) 2 SLS method
18. Recursive models	(c) OLS method
19. Just identified equation	(d) Qualitative regressors
20. Over identified equation	(e) Mix of quantitative and qualitative regressors.

PART B – (5 x 4 = 20 marks)

Answer ALL questions.

All questions carry equal marks.

21. (a) Distinguish between mathematical economics and econometrics.

Or

(b) Explain the role of stochastic error term u_i in regression analysis.

22. (a) What are the properties of least squares estimators?

Or

(b) State the relationship between F and t-tests in simple linear regression.

23. (a) What is dummy variable trap? How is it broken?

Or

(b) Explain the various consequences of multicollinearity.

24. (a)Explain the Breusch-Pagan test for heteroscedasticity.

Or

(b) Explain the consequences of using OLS in the presence of Autocorrelation.

25. (a) What are the various functional forms of non-linear regression model?

Or

(b) Describe the properties of Cobb-Douglas production function.

PART – (3 x 10 = 30 marks)

Answer any THREE questions.

All questions carry equal marks.

26. Describe the assumptions of Classical Linear Regression Model.
27. The results of the simple linear regression equation of Food expenditure (Y) on Total expenditure (X) is as follows:

    Y = 94.2087 + 0.4368X

    SE = (50.8563) (0.0783)

    t = (1.8524) (5.5770)

    p = (0.0695) (0.0000)

    r^2 = 0.3698, d.f. = 53

    $F_{1,53}$ = 31.1034 (p value = 0.0000).

    Interpret this regression results.
28. Describe Koyck's distributed lag model.
29. What is simultaneity bias? Derive an expression for simultaneity bias from the model

$$C = \beta_0 + \beta_1 Y + u$$

$$Y = C + I.$$

30. Explain the order and rank conditions of identification.

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M.Sc. DEGREE EXAMINATION
Applied Econometrics
OPERATION RESEARCH

Time : Three hours Maximum : 60 marks

PART A – (20 x 0.5 = 10 marks)
Answer ALL questions.
All questions carry equal marks.

Define the following:

1. Quadratic Equation.
2. Logarithmic function.
3. Partial derivative.
4. Homogeneous function.
5. Scalar matrix.
6. According to Demorgan's Law $(A \cup B \cup C)' = A' \cup B' \cup C'$.
7. The solution for the equation $x^2 - 4 = 0$ is x = +4 and x = -4.
8. If $\frac{d^2y}{dx^2} > 0$, then y = f(x) is a convex function.
9. When MC is minimum AC = MC.
10. A = 1 1 1
    1 1 1 is a unit matrix.
    1 1 1

Fill up the blanks:

11. When A and B are disjoint $A \cap B$ =----------.
12. The function defined by y = ---------- for all real number x is called an exponential function.
13. Total revenue function expresses the relationship between----------and total revenue.
14. When $\frac{d\ y}{dx} = 0$ and $\frac{d^2y}{dx^2} > 0$, y = f(x) attains the ----------value.
15. $A.A^{-1}$ = ----------.

Match the following:

16. y = ax + b (a) Inverse
17. $Z = \frac{ax^2 + by^2}{ax + by}$ (b) Ratio of determinants
18. Adjoint (c) Linearly homogeneous function.
19. Cramer's rule (d) MR = MC
20. Maximum profit (e) Linear equation.

PART B – (5 x 4 = 20 marks)

Answer ALL questions.

21. (a) State any four properties of real number.

Or

(b) If A = {1,2,3,4,5}, B = {4,5,6,7} and U = {0,1,2,3,4,5,6,7,8,9} prove that $A - B = A \cap B'$.

22. (a) Illustrate the concept of rectangular hyperbola with examples from Economics.

Or

(b) Prove that the curve x.y = 100 is convex to the origin and downward sloping.

23. (a) For the production function Q = 5KL, find the marginal productivity of labour and marginal productivity of capital.

Or

(b) If the total revenue function is given as $R = Q(9-Q)^2$, find marginal revenue and average revenue at Q = 2.

24. (a) Define CES production function and prove that it is linearly homogeneous.

Or

(b) Verify Euler's theorem for the production function $Q = L^2 + LK + K^2$.

25. (a) Find maxima and minima functions:

a. $y = x^3 - 6x^2 - 135x + 4$

b. $y = -2x^3\ 15x^2 + 84x - 25$

Or

(b) Find out the degree of homogeneity of a function.

vii) $Z = 8x+9y$

viii) $Z = x^2+xy+y^2$

PART C – (3 x 10 = 30 marks)

Answer any THREE questions.

26. In a class of 25 students of Economics and Politics, 12 students have taken Economics. Out of these 8 have taken Economics but not Politics. Find

a. the number of students who have taken Economics and Politics and

b. those who have taken politics but not Economics.

27. Given the demand function $Q = 100 - p - 0.1P^2$, find the price elasticity of demand at P = 10.

28. State and explain the properties of Cobb-Douglas production function.

29. Given $U=x^3+x^2y+xy^2+y^3$, find $\frac{d^2u}{dx^2}$ and $\frac{d^2u}{dy^2}$.

30. The total revenue function and total cost function of a firm are $R = 100\ Q - Q^2$ and $C = \frac{1}{3}Q^3 - 7Q^2 + 111Q + 50$ respectively. find profit maximizing level of output and maximum profit.

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MODEL QUESTION PAPER
M.A. Degree Examination
Second Semester
Business Economics
P.G DIPLOMA IN MANAGEMENT INFORMATION SYSTEM

***Paper II*: INFORMATION SYSTEM AND MANAGEMENT**

Time : Three hours Maximum : 60 marks

PART A – (10 x = 10 marks)
Answer ALL the questions
All questions carry equal marks

Choose the correct answer.

1. 1. Management is described as
a) an activity b) a process c) a group of people d) all the above

2. The management information systems working in an organization are classified in to (or) based on
a) Type of decisions b) Functional diciline
c) Organisational level d) All the above

3. K W S stands for
a) Knowledge work system b) kilo walt per second
c) Knowledge weak system d) None of the above.

4. The management decisions are
a) Programmed, semi-programmed and non – programmed b) Programmed
c) Semi-programmed d) None.

5. E-business strategies are
a) Extending the Enterprise b) Reducing costs
c) Trust & privacy d) all the above.

State whealther the following statements are "True or False"

6. "Management is what a manager does" - Lousis Allen

7. Strategic level of management is concerned with short term planning and the responsibility of the low level of management.

8. Use of e-mail is a part of office automation system.

9. Information system is an organization is classified with the management focus.

10. E-Business is about using internet technologies to transform the way key business processes are performed.

PART B – (5 x 4 = 20 marks)
Answer ALL questions

11. a) Define management.

Or

b) What is organizational pyramid?

12. a) What are the factors supporting ever increasing in dispendsiablity of MIS in a business orgainsation.

Or

b) Briefly explain E-Business organisation.

13. a) What are the various information system available in an organisation particularly for the managers?

Or

b) What is sector books?

14. a) Write a short note on Information system Architechore.

Or

b) How do you organize the IS staff?

15. a) Differentiate centralized and decentralized E-Business.

Or

b) How do you manage the End user's services.

PART C – (3 x 10 = 30 marks)
Answer any THREE questions

16. Discuss the nature and importance of management.

17. Describe the nature of management work?

18. Draw a schematic diagram for a information system?

19. What are the challenges faced by the IS managers & line mangers.

20. Give an idea about Information centre.

M.Sc. DEGREE EXAMINATION
Applied Econometrics

ADVANCED ECONOMETRICS

Time: Three hours Maximum: 60 marks

Part A – (20 x 0.5 = 10 marks)
Answer ALL questions.
All questions carry equal marks.

Define the following:

1. Interval estimation.
2. Unbiased estimators.
3. Differential intercept coefficients.
4. Tolerance.
5. Autocorrelation.

State whether the following statements are True or False:

6. The properties of least squares estimators are contained in Gauss-Markove theorem.
7. The sign of multicollinearity is when R^2 is very high and all the regression coefficients are statistically significant on the basis of conventional t-test.
8. In multiple regression model, the adjusted R^2 cannot decrease when additional explanatory variable is added.
9. F test is a measure of overall significance of the estimated regression but not a test for significance of R^2.
10. For exactly identified equations 2 SLS method gives the same result as ILS method.

Fill in the blanks:

11. In the equation $Y = \beta_1 + \beta_2 X + u$, the term u is known as ----------.
12. The proportion of the total variation in Y explained by the regression model is known as ----- .
13. If the qualitative variable has m categories, the number of dummy variables to be introduced is ----------.
14. When Durbin Watson d is closer to ----------, there is greater evidence of negative serial correlation.
15. If the number of excluded exogenous variables from an equation exceeds the number of endogenous variables included in the equation minus 1 ie., $K - k > m - 1$, then the equation in the system is ----------.

Match the following:

16. ANOVA model	(a) ILS method
17. ANCOVA model	(b) 2 SLS method
18. Recursive models	(c) OLS method
19. Just identified equation	(d) Qualitative regressors
20. Over identified equation	(e) Mix of quantitative and qualitative regressors.

PART B – (5 x 4 = 20 marks)

Answer ALL questions.

All questions carry equal marks.

21. (a) Distinguish between mathematical economics and econometrics.

Or

(b) Explain the role of stochastic error term u_i in regression analysis.

22. (a) What are the properties of least squares estimators?

Or

(b) State the relationship between F and t-tests in simple linear regression.

23. (a) What is dummy variable trap? How is it broken?

Or

(b) Explain the various consequences of multicollinearity.

24. (a)Explain the Breusch-Pagan test for heteroscedasticity.

Or

(b) Explain the consequences of using OLS in the presence of Autocorrelation.

25. (a) What are the various functional forms of non-linear regression model?

Or

(b) Describe the properties of Cobb-Douglas production function.

PART – (3 x 10 = 30 marks)

Answer any THREE questions.

All questions carry equal marks.

26. Describe the assumptions of Classical Linear Regression Model.
27. The results of the simple linear regression equation of Food expenditure (Y) on Total expenditure (X) is as follows:

    Y = 94.2087 + 0.4368X

    SE = (50.8563) (0.0783)

    t = (1.8524) (5.5770)

    p = (0.0695) (0.0000)

    r^2 = 0.3698, d.f. = 53

    $F_{1,53}$ = 31.1034 (p value = 0.0000).

    Interpret this regression results.
28. Describe Koyck's distributed lag model.
29. What is simultaneity bias? Derive an expression for simultaneity bias from the model

$$C = \beta_0 + \beta_1 Y + u$$

$$Y = C + I.$$

30. Explain the order and rank conditions of identification.

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M.Sc. DEGREE EXAMINATION
Applied Econometrics

GROWTH AND DEVELOPMENT

Time: Three hours Maximum: 60 marks

PART A – (20 x 0.5 = 10 marks)
Answer ALL questions

Define the following:

1. Developing economies.
2. Industrial policy.
3. Incremental capital output ratio.
4. Trade deficit.
5. Jobless growth.

State whether the following statements are True or False.

6. Heavy industries necessitated heavy dependence on foreign countries.
7. In terms of investment, Bharat Sanchar Nigam Ltd. Was the top most public sector enterprise in 2001.
8. Rapid growth of population is not an important determinant of growth.
9. National income is a stock and not a flow.
10. There is no relationship between trade balance and payments balance.

Fill in the blanks.

11. ---------- was the real Architect of the Second Five Year Plan.
12. ---------- number of steps are involved in the CSO's estimation of saving and capital and capital formation.
13. Mr. P. Dojha estimated poverty line on the basis of intake of ---------- calorie per capita per day.
14. Two types of income tax are ---------- and ----------.
15. For the first time in India's BOP net visibles became negative to the tane of Rs. 435 crores during the year ----------.

Match the following:

16. POL	(a) International migration
17. Readymade garments	(b) Trading Houses
18. Brain drain	(c) Major import item
19. Export promotion	(d) Greater capacity of domestic product
20. Self-reliance.	(e) Major Export item.

PART B – (5 x 4 = 20 marks)

21. (a) List out the merits and demerits of export oriented strategies.

Or

(b) What are the determinants of Economic development?

22. (a) State the limitations of National income estimation in India.

Or

(b) Why did the plans in India fail to eliminate poverty/

23. (a) List out the relationship of the public sector.

Or

(b) State the role of the private sector in India.

24. (a) State the new classification of public expenditure adopted from 1987-88 Budget.

Or

(b) Write a note on Value Added tax.

25. (a) State the impact to WTO on SSI units.

Or

(b) Bring out the causes for disequilibrium in India’s balance of payments.

PART C – (3 x 10 = 30 marks)

Answer any THREE questions.

All questions carry equal marks.

26. Explain the basic characteristics of the Indian economy as an under-developed economy.
27. Trace briefly the trends in National Income growth and structure in India since 1950.
28. Evaluate the fundamental failures of Indian planning.
29. Explain the six district phases in the mobilization of domestic savings during 1950-2000.
30. Discuss the features of industrial policy of 1991.

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M.Sc. DEGREE EXAMINATION
Applied Econometrics

FINANCIAL ECONOMETRICS

Time : Three hours Maximum : 60 marks

PART A – (20 x 0.5 = 10 marks)
Answer ALL questions.
All questions carry equal marks.

Define the following:

1. Quadratic Equation.
2. Logarithmic function.
3. Partial derivative.
4. Homogeneous function.
5. Scalar matrix.
6. According to Demorgan's Law $(A \cup B \cup C)' = A' \cup B' \cup C'$.
7. The solution for the equation $x^2 - 4 = 0$ is x = +4 and x = -4.
8. If $\frac{d^2y}{dx^2} > 0$, then y = f(x) is a convex function.
9. When MC is minimum AC = MC.
10. A = 1 1 1
    1 1 1 is a unit matrix.
    1 1 1

Fill up the blanks:

11. When A and B are disjoint $A \cap B$ =----------.
12. The function defined by y = ---------- for all real number x is called an exponential function.
13. Total revenue function expresses the relationship between----------and total revenue.
14. When $\frac{d\ y}{dx} = 0$ and $\frac{d^2y}{dx^2} > 0$, y = f(x) attains the ----------value.
15. $A.A^{-1}$ = ----------.

Match the following:

16. $y = ax + b$ (a) Inverse
17. $Z = \frac{ax^2 + by^2}{ax + by}$ (b) Ratio of determinants
18. Adjoint (c) Linearly homogeneous function.
19. Cramer's rule (d) MR = MC
20. Maximum profit (e) Linear equation.

PART B – (5 x 4 = 20 marks)

Answer ALL questions.

21. (a) State any four properties of real number.

Or

(b) If A = {1,2,3,4,5}, B = {4,5,6,7} and U = {0,1,2,3,4,5,6,7,8,9} prove that $A - B = A \cap B'$.

22. (a) Illustrate the concept of rectangular hyperbola with examples from Economics.

Or

(b) Prove that the curve x.y = 100 is convex to the origin and downward sloping.

23. (a) For the production function Q = 5KL, find the marginal productivity of labour and marginal productivity of capital.

Or

(b) If the total revenue function is given as $R = Q(9-Q)^2$, find marginal revenue and average revenue at Q = 2.

24. (a) Define CES production function and prove that it is linearly homogeneous.

Or

(b) Verify Euler's theorem for the production function $Q = L^2 + LK + K^2$.

25. (a) Find maxima and minima functions:

a. $y = x^3 - 6x^2 - 135x + 4$

b. $y = -2x^3\ 15x^2 + 84x - 25$

Or

(b) Find out the degree of homogeneity of a function.

ix) $Z = 8x+9y$

x) $Z = x^2+xy+y^2$

PART C – (3 x 10 = 30 marks)

Answer any THREE questions.

26. In a class of 25 students of Economics and Politics, 12 students have taken Economics. Out of these 8 have taken Economics but not Politics. Find
    a. the number of students who have taken Economics and Politics and
    b. those who have taken politics but not Economics.

27. Given the demand function $Q = 100 - p - 0.1P^2$, find the price elasticity of demand at P = 10.

28. State and explain the properties of Cobb-Douglas production function.

29. Given $U=x^3+x^2y+xy^2+y^3$, find $\frac{d^2u}{dx^2}$ and $\frac{d^2u}{dy^2}$.

30. The total revenue function and total cost function of a firm are $R = 100\ Q - Q^2$ and $C = \frac{1}{3}Q^3 - 7Q^2 + 111Q + 50$ respectively. find profit maximizing level of output and maximum profit.

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M.Sc. DEGREE EXAMINATION
Applied Econometrics

INDUSTRIAL ECONOMICS

Time: Three hours Maximum : 60 marks

PART A – (20 x 0.5 = 10 marks)
Answer ALL questions.

Define the following:

1. National Income.
2. Multiplier.
3. Personal Income.
4. Aggregate Demand.
5. Propensity to consume.

State whether the following statement are True or False:

6. The investment multiplier measures the relationship between an increase in income caused by a primary increase in investment.
7. According to Keynes consumption function depends on various institutional factors such as distribution of income and wealth and psychological factors such as willingness to save.
8. Foreign trade multiplier is equal to the reciprocal of marginal propensity to save plus marginal propensity to import.
9. According to classical Economists unemployment could be overcome through larger savings and investment.
10. In 1868 National Income estimates were made for India by V.K.R.V. Rao.

Fill in the blanks:

11. $1-\frac{\Delta C}{\Delta Y}$ is defined as ----------.
12. The LM curve slopes upward to the ----------.
13. The trade-off between inflation and unemployment is depicted by ---------- curve.
14. Rational expectation hypothesis was given by ----------.
15. The ratio of consumption to income is called ----------.

Match the following:

16. F. A. Khan	(a) IS-LM model
17. J.M. Keynes	(b) Acceleration principle
18. Hicks-Hansen	(c) Foreign trade multiplier
19. J.M. Clark	(d) Investment multiplier
20. $K_f - \frac{1}{S+M}$	(e) Employment multiplier.

Part B – (5 x 4 = 20 marks)
Answer ALL questions.

21. (a) Explain the various concepts of National Income.

Or

(b) Explain the problems in the measurement of National Income in India.

22. (a) Write a note on the classical theory of income and employment.

Or

(b) Explain briefly Keynes's critique of classical theory of income and employment.

23. (a) Explain the concept of consumption function.

Or

(b) What is investment multiplier? How is it related to marginal propensity to consume?

24. (a)Explain the factors that influence the level of investment in the economy.

Or

(b) Explain the concept of marginal efficiency of capital.

25. (a) Explain the uses of IS-LM model.

Or

(b) Explain the Phillips curve? What are the factors causing downward slope of the Phillips curve?

PART C – (3 x 10 = 30 marks)
Answer any THREE questions.

26. Explain the methodology of estimation of National Income.

27. Briefly explain the Keynesian theory of employment.

28. How do Friedman and Phelps explain the natural rates of unemployment?

29. Explain the meaning of accelerator. Give its utility and limitations.

30. Discuss the concept of foreign trade multiplier.

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MODEL QUESTION PAPER
M.A. Degree Examination
Third Semester
Business Economics
***Diploma*: MANAGEMENT INFORMATION SYSTEM**
***Paper*: *III* - DEVELOPING INFORMATION SYSTEM**

Time : Three hours Maximum : 60 marks

PART A – (10 x = 10 marks)
Answer ALL the questions
All questions carry equal marks

Choose the correct answer from the FOUR options given below:

1. SDLC refers to
   a) Standard development life cycle
   b) System development life cycle
   c) System Development life circle
   d) None of the above
2. System analysis can be defined
   a) As a problem solving technique that decomposes a system into small pieces
   b) Providing solution for the situations
   c) An approach d) All the above
3. System Design can be of two types
   a) Conceptual and Physical
   b) Conceptual and Numerical
   c) Numerical and Physical
   d) None of the above
4. Quality Assurance includes
   a) Testing
   b) Verification and validation
   c) Certification
   d) All the above
5. Components of Information resource Management is
   a) Data processing, Telecommunication, Office automation
   b) Data processing, Telecommunication
   c) Data processing, Automation
   d) None of the above.

State whether the following statements are “True or False”:

6. Prototyping is not an approach for developing information systems.
7. Information gathering acts like lifeblood for successful completion of analysis.
8. After a system is completely designed, it is better to test its functionality before it is installed.
9. GIGO Syndrome refers to GARBAGE INVOICE GARBAGE OUT.

10. Key components for integrating office automation functions are LAN & WAN.

PART B – (5 x 4 = 20 marks)
Answer ALL questions

11. a) What is System development?

(or)

b) Define prototyping.

12. a) What do you understand by system analysis?

(or)

b) What are the sources available for gathering information?

13. a) Mention the functional objectives of information system.

(or)

b) What do you mean by System Testing?

14. a) What is system implementation?

(or)

b) Explain system maintenance

15. a) Write short notes Information Resources Management.

(or)

b) What are the objectives of Information resources management?

PART C – (3 x 10 = 30 marks)
Answer any THREE questions

16. What is SDLC? Discuss the five phases of SDLC.
17. Explain the major approaches to system analysis.
18. Explain the types of System Design
19. What are the various steps in System Implementation?
20. What are the principles of Information Resource Management?

M.Sc. DEGREE EXAMINATION
Applied Econometrics

APPLIED ECONOMETRICS

Time : Three hours Maximum : 60 marks

PART A – (20 x 0.5 = 10 marks)
Answer ALL questions.
All questions carry equal marks.

Define the following:

1. Quadratic Equation.
2. Logarithmic function.
3. Partial derivative.
4. Homogeneous function.
5. Scalar matrix.
6. According to Demorgan's Law $(A \cup B \cup C)' = A' \cup B' \cup C'$.
7. The solution for the equation $x^2 - 4 = 0$ is x = +4 and x = -4.
8. If $\frac{d^2y}{dx^2} > 0$, then y = f(x) is a convex function.
9. When MC is minimum AC = MC.
10. A = 1 1 1
    1 1 1 is a unit matrix.
    1 1 1

Fill up the blanks:

11. When A and B are disjoint $A \cap B$ =----------.
12. The function defined by y = ---------- for all real number x is called an exponential function.
13. Total revenue function expresses the relationship between----------and total revenue.
14. When $\frac{d\ y}{dx} = 0$ and $\frac{d^2y}{dx^2} > 0$, y = f(x) attains the ----------value.
15. $A.A^{-1}$ = ----------.

Match the following:

16. y = ax + b (a) Inverse
17. $Z = \frac{ax^2 + by^2}{ax + by}$ (b) Ratio of determinants
18. Adjoint (c) Linearly homogeneous function.

19. Cramer's rule (d) MR = MC
20. Maximum profit (e) Linear equation.

PART B – (5 x 4 = 20 marks)

Answer ALL questions.

21. (a) State any four properties of real number.

Or

(b) If A = {1,2,3,4,5}, B = {4,5,6,7} and U = {0,1,2,3,4,5,6,7,8,9} prove that $A - B = A \cap B'$.

22. (a) Illustrate the concept of rectangular hyperbola with examples from Economics.

Or

(b) Prove that the curve x.y = 100 is convex to the origin and downward sloping.

23. (a) For the production function Q = 5KL, find the marginal productivity of labour and marginal productivity of capital.

Or

(b) If the total revenue function is given as $R = Q(9-Q)^2$, find marginal revenue and average revenue at Q = 2.

24. (a) Define CES production function and prove that it is linearly homogeneous.

Or

(b) Verify Euler's theorem for the production function $Q = L^2 + LK + K^2$.

25. (a) Find maxima and minima functions:

a. $y = x^3 - 6x^2 - 135x + 4$

b. $y = -2x^3\ 15x^2 + 84x - 25$

Or

(b) Find out the degree of homogeneity of a function.

xi) $Z = 8x+9y$

xii) $Z = x^2+xy+y^2$

PART C – (3 x 10 = 30 marks)

Answer any THREE questions.

26. In a class of 25 students of Economics and Politics, 12 students have taken Economics. Out of these 8 have taken Economics but not Politics. Find
    a. the number of students who have taken Economics and Politics and
    b. those who have taken politics but not Economics.

27. Given the demand function $Q = 100 – p – 0.1P^2$, find the price elasticity of demand at P = 10.

28. State and explain the properties of Cobb-Douglas production function.

29. Given $U=x^3+x^2y+xy^2+y^3$, find $\frac{d^2u}{dx^2}$ and $\frac{d^2u}{dy^2}$.

30. The total revenue function and total cost function of a firm are $R = 100 Q – Q^2$ and $C = \frac{1}{3}Q^3 - 7Q^2 + 111Q + 50$ respectively. find profit maximizing level of output and maximum profit.

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M.Sc. DEGREE EXAMINATION
Applied Econometrics

PUBLIC ECONOMICS

Time: Three hours Maximum : 60 marks

PART A – (20 x 0.5 = 10 marks)
Answer ALL questions.

Define the following:

1. National Income.
2. Multiplier.
3. Personal Income.
4. Aggregate Demand.
5. Propensity to consume.

State whether the following statement are True or False:

6. The investment multiplier measures the relationship between an increase in income caused by a primary increase in investment.
7. According to Keynes consumption function depends on various institutional factors such as distribution of income and wealth and psychological factors such as willingness to save.
8. Foreign trade multiplier is equal to the reciprocal of marginal propensity to save plus marginal propensity to import.
9. According to classical Economists unemployment could be overcome through larger savings and investment.
10. In 1868 National Income estimates were made for India by V.K.R.V. Rao.

Fill in the blanks:

11. $1-\frac{\Delta C}{\Delta Y}$ is defined as ----------.
12. The LM curve slopes upward to the ----------.
13. The trade-off between inflation and unemployment is depicted by ---------- curve.
14. Rational expectation hypothesis was given by ----------.
15. The ratio of consumption to income is called ----------.

Match the following:

16. F. A. Khan (a) IS-LM model

17. J.M. Keynes (b) Acceleration principle

18. Hicks-Hansen (c) Foreign trade multiplier

19. J.M. Clark (d) Investment multiplier

20. $K_f - \frac{1}{S+M}$ (e) Employment multiplier.

Part B – (5 x 4 = 20 marks)
Answer ALL questions.

21. (a) Explain the various concepts of National Income.

Or

(b) Explain the problems in the measurement of National Income in India.

22. (a) Write a note on the classical theory of income and employment.

Or

(b) Explain briefly Keynes's critique of classical theory of income and employment.

23. (a) Explain the concept of consumption function.

Or

(b) What is investment multiplier? How is it related to marginal propensity to consume?

24. (a)Explain the factors that influence the level of investment in the economy.

Or

(b) Explain the concept of marginal efficiency of capital.

25. (a) Explain the uses of IS-LM model.

Or

(b) Explain the Phillips curve? What are the factors causing downward slope of the Phillips curve?

PART C – (3 x 10 = 30 marks)
Answer any THREE questions.

26. Explain the methodology of estimation of National Income.

27. Briefly explain the Keynesian theory of employment.

28. How do Friedman and Phelps explain the natural rates of unemployment?

29. Explain the meaning of accelerator. Give its utility and limitations.

30. Discuss the concept of foreign trade multiplier.

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M.Sc. DEGREE EXAMINATION
Applied Econometrics

ECONOMICS OF HUMAN RESOURCES

Time: Three hours Maximum : 60 marks

PART A – (20 x 0.5 = 10 marks)
Answer ALL questions.

Define the following:

1. Define Human Capital.
2. What is Rate of Return Approach?
3. What is Health Capital?
4. Define Demand for Labour.
5. What is Migration?

State whether the following statements are true or false

6. Lack of in the Human Capital is responsible for the slow growth of less developed countries.
7. Public policy in health is successful if it leads to increase in welfare.
8. Mahatma Gandhi propounded the theory of brain drain.
9. The health care industry is one of the largest and fastest growing industries in India.
10. By brain drain the intellectual climate of the country is very much adversely affected.

Fill in the blanks

11. Investment in health is the most important in ----------capital.
12. The birth of human capital theory was announced in 1960 by ----------
13. The insurance scheme for industrial worker is ----------.
14. CBR stands for ----------.
15. WHO stands for ----------.

Match the following

16. Grossman	-	Health insurance
17. T.W. Schultz	-	Brain Drain
18. Dadabai Naoroji	-	
19. Neuman	-	Wages
20. Iron Law		Health Capital

Part B – (5 x 4 = 20 marks)
Answer ALL questions.

21. a) Explain the rate of return approach of human capital theory.

Or

b) What is on the job training?

22. a) What you mean by External migration?

Or

b) Explain the need for demand for health capital.

23. a) What is return to investment in human capital?

Or

b) Explain the health inequalities and health of the poor in India.

24. a) Explain relation between Union and Wages.

Or

b) What is internal migration?

25. a) Explain Gross man theory of health.

Or

b) Write a note on Education and Economic Development.

PART C – (3 x 10 = 30 marks)

Answer any THREE questions.

26. Explain different kinds of investment in human capital.
27. Explain the effects of brain drain in India.
28. Explain relevance of health Economics in India.
29. State the importance of investment in human resources.
30. Explain the benefits of healthcare programmes.

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MODEL QUESTION PAPER
M.A. Degree Examination
Fourth Semester
Business Economics
***Diploma*: MANAGEMENT INFORMATION SYSTEM**
***Paper IV*: INFORMATION TECHNOLOGY**

Time : Three hours Maximum : 60 marks

PART A – (10 x = 10 marks)
Answer ALL the questions
All questions carry equal marks

Choose the correct answer from the FOUR options given below:

1. Elements of Information Technology
   a) Radio b) Telephone
   c) Video conferencing
   d) All the above
2. Visual Display Unit is a
   a) Output Device
   b) Input Device
   c) Storage Device
   d) None of the above
3. BASIC is a
   a) High Level Scientific Language
   b) Commercial Language
   c) Special purpose
   d) All the above
4. Exchange of messages is nothing but
   a) E-Mail
   b) E-Trading
   c) E-Banking
   d) E-Commerce
5. A Set-Top box is
   a) Net without a computer
   b) Net with a computer
   c) Net without Television
   d) None of the above

State whether the following statements are "True or False" :

6. Tools and Techniques supporting the design and development of information systems is called Information Technology.
7. Hard disk is a type of primary storage medium.
8. Program is a stored instructions that tell a computer how to process data.
9. Multimedia applications require a sound card, a video card and a CD- ROM drive.

10. Local area networks refers to a computer network spanning a regional, national or global area.

PART B – (5 x 4 = 20 marks)
Answer ALL questions

11. a) What is Information Technology?

(or)

b) What are the components of Information Technology?

12. a) Identify the five basic components of a computer system

(or)

b) What are the factors to be considered to buy a Personal computer?

13. a) What is system software?

(or)

b) What are the functions of an operating system?

14. a) Write a short notes on Electronic Mail

(or)

b) What is Multimedia?

15 a) Give short notes on DTH

(or)

b) Briefly explain Blue Tooth Technology.

PART C – (3 x 10 = 30 marks)
Answer any THREE questions

16 Explain the functions of Information Technology

17. Name and describe any two input and output devices

18. Classify the application software

19. Discuss the role of E-Banking

20. Make an account of Internet Printing Protocol