FAROOK COLLEGE (AUTONOMOUS)

Farook College PO, Kozhikode-673632

P.G Programme in Economics

Under
Choice Based Credit Semester System

SYLLABUS

Core & Open Courses
(2022 Admission Onwards)

Prepared By:

Board of Studies in Economics

Farook College (Autonomous)

CERTIFICATE

I hereby certify that the documents attached are the bona fide copies of the syllabus of Core Courses offered to B.A. Economics programme and Open Courses offered by the Department of Economics to be effective from 2022 admission onwards.

Date: Principal
Place: Farook College

CONTENTS

PREAMBLE

Economics is increasingly becoming an applied science and assumes greater importance in today's highly globalized world. The subject has emerged as an important one due to its wide applications in industry and policy making. The requirements for economics graduates and post graduates who are equipped with strong theoretical background, analytical tools and decision-making skills have been increasing during last some decades, especially after India introduced new economic reforms. The reforms aimed to liberalize and globalize Indian economy by allowing domestic and foreign private investors to invest in new areas where they were not permitted to enter earlier. With private investors setting up new enterprises, especially in service sectors like banking and insurance, IT and IT related services, investment firms and mutual funds etc..., the job opportunities for the graduates and post graduates in Economics, who possess core competencies like analytical skills, managerial expertise and economic forecasting have increased.

Therefore, the main aim of B.A Economics Programme of Farook College is to create a strong foundation in economic theory among the students. An attempt is also made to include the recent economic issues and their implications. The syllabus mainly consists of introductory courses on core subjects of economics. The foundation courses such as Microeconomics, Macroeconomics, Mathematical Methods and Quantitative Methods are introduced in the first two years of the Programme. In the third-year other elementary subjects are offered. In the fifth semester a course on History of Economic Thought is provided to enlighten students on the philosophical evolution of the subject. With an aim to equip students for competitive exams two papers are offered on Indian Economic Development in line with syllabuses of UPSC and RBI Exams.

The curriculum is designed as per the Regulations of University of Calicut. The revised syllabus is an outcome of several meetings of board of studies and consultation with various experts in specific subjects from other colleges and universities, especially members of U.G Board of Studies, University of Calicut. Their valuable comments and suggestions have been incorporated in the syllabus. I express my gratitude to members of board of studies and other experts.

P. Muhammad Rasheed
Chairman, Board of Studies in Economics (PG)
Farook College (Autonomous)

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Graduate Attributes (GAs)

Graduate Attributes (GAs) are the qualities and skills expected to be acquired by the students while they pursue a graduate program in Farook College. Graduate Attributes include disciplinary knowledge, communication skills and understanding of interdisciplinary nature of knowledge and societal goals one shall achieve collectively and individually in terms of academic competence and practical experiences. They are achieved by a graduate through productive curricular experiences facilitated by various resources of the college.

- **Disciplinary Knowledge and Competency:** The graduates acquire comprehensive knowledge in the subject and competence to demonstrate the same, identify the foundations of the respective discipline and develop essential interdisciplinary awareness.

- **Communication Skills and Digital Literacy:** Graduates acquire sufficient communication skills in speech and writing to disseminate knowledge and critically analyze various discourses with the assistance of advanced communication technology in order to prepare themselves for learning, working and living in a digital society.

- **Research and Analytical Skills:** Graduates develop a sense of inquiry and capacity to question and problematize different aspects of knowledge and life experiences and cultivate a research aptitude to effect impressive research output

- **Critical Thinking and Problem-Solving Skills:** Graduates maintain the practical experience of critical thinking both in academia and real-life situations, master appropriate skills to analyze various issues and to formulate coherent arguments using scientific approach and develop individual capacity to solve problems in the real and anticipated life.

- **Team Work, Leadership Skills and Professionalism:** Graduates can live and work in diverse conditions with members hailing from diverse background towards the fulfillment of the institutional and societal goals, keeping up the spirit of team work and maintaining dynamism and professional behavior based on positive leadership qualities, constructive feedback system and productive corrective measures.

- **Scientific Temper and Reflective Thinking:** Graduates are expected to nurture a scientific temper to ensure objective and reasoned treatment of problems and experiences and practice reflective thinking for individual and social development.

- **Moral and Ethical Awareness:** Graduates are able to embrace moral and ethical values specific to the society and culture and uphold them consistently as responsible members of the society.

- **Employability and Entrepreneurship:** Graduates are trained to achieve professional skills required to be employed in their career globally and the potential to formulate innovative ideas and to start up new enterprises.

- **Multicultural Competence:** Graduates gain knowledge of values and beliefs of multiple cultures, hold a global perspective and become competent to effectively engage in a multicultural and secular society and interact respectfully with diverse groups.

- **Lifelong Learning:** Graduates acquire knowledge and skills for continuous learning in a personalized and self-directed manner, aiming at personal development, meeting social, economic and cultural objectives and adapting to changing trade trends and work culture.

Programme Outcome

The programs in Arts, Language, Literature, Humanities and Social Science are designed to equip the undergraduates with a broad understanding of human life experiences in its varied contexts in order to help them improve life conditions and become learned individuals of society and responsible citizens of the country.

The learning experiences include critical reading of texts and analyzing social issues from an interdisciplinary perspective, applying scientific methods, acknowledging the socio-cultural diversity, analysing the discursive foundations of respective disciplines and disclosing the ideological and philosophical nuances of interpretations inherent in them.
On completion of the B.A. programme, a student is expected to:

PO 1. Acquire competent knowledge of the fundamental concepts, theories and methods in the respective discipline and demonstrate it impressively.

PO 2. Understand the interdisciplinary nature of knowledge systems and incorporate principles and methods from Science, Social Science, Arts and Language Studies in reading and analyzing texts and problems.

PO 3. Gain a wider understanding of the diversity in languages, cultures, religions and social ethos of the country and the world in order to understand the other.

PO 4. Acquire proficiency in communication in multiple languages for advanced reading, writing and speaking and equip with interpretive and composition skills.

PO 5. Develop social, political, historical, literary and aesthetic sense and economic, religious and commercial perspectives in order to comprehend and interpret various texts in the respective discipline and allied fields.

PO 6. Develop a research orientation and be familiar with the fundamentals of research in various areas of Humanities, Social Science, Arts and Language Studies.

PO 7. Practice and promote knowledge sharing with the help of digital technology and multilingual translation.

PO 8. Pursue higher studies in the specialized area of respective field and qualify for a productive career.

PO 9. Ensure productive involvement in the process of socialization and engage with relevant issues holding an informed opinion and acknowledging multiple perspectives.

PO 10. Respond creatively to issues of regional, national and international significance in order to bring about desirable changes in social systems, government policies and individual opinions.

PO 11. Understand one's duties and rights as a responsible citizen and act accordingly in all realms of personal and social life.

PO 12. Qualify to work independently and with team spirit following basic ethical principles in all their pursuits without compromising the quality.

PO 13. Uphold socio- cultural, constitutional and ethnic values both in the academia and everyday life to ensure human dignity, equality and democratic values.

PO 14. Update knowledge and skills in (ICT) Information Communication Technology to meet the career assignments and expedite everyday activities.

Programme Specific Outcomes (PSO)

PSO: 1. The students acquire knowledge of fundamental concepts and theoretical propositions which produced in the economic literature and drew global attention.

PSO: 2. Student find, evaluate, synthesize this information from a variety of primary and sources and able to use it according to the context in their personal and academic life.

PSO: 3. Students trace out the history and development of economic thought in chronological order and able to recognize the contextual background of each theory.

PSO: 4. Students analyse the economic issues of national and international importance and realize the socio- economic dynamics behind them.

PSO: 5. Students generalise how the economic policies of the government and governmental institutions affect the common people.

PSO: 6. Students critically evaluate and apply the theories and techniques of economics.

PSO: 7. Through producing a project report as the part of their curriculum, students able produce research contributions in the subject. Students take up a career in economics and related areas encourage them to peruse research in economics.

EVALUATION AND GRADING

Mark system is followed instead of direct grading for each question. For each course in the semester letter grade and grade point are introduced in 10-point indirect grading system as per guidelines given below.

Ten Point Indirect Grading System

Percentage of Marks (Both Internal &External put together)	Grade	Interpretation	Grade point Average (G)	Range of grade points	Class
95 and above	O	Outstanding	10	9.5 -10	First Class with Distinction
85 to below 95	A+	Excellent	9	8.5 -9.49	
75 to below 85	A	Very good	8	7.5 -8.49	

65 to below 75	B+	Good	7	6.5 -7.49	First Class
55 to below 65	B	Satisfactory	6	5.5 -6.49	
45 to below 55	C	Average	5	4.5 -5.49	Second Class
35 to below 45	P	Pass	4	3.5 -4.49	Third Class
Below 35	F	Failure	0	0	Fail
Incomplete	I	Incomplete	0	0	Fail
Absent	Ab	Absent	0	0	Fail

Course Evaluation

The evaluation scheme for each course shall contain two parts

1)   Internal assessment 2) External Evaluation

20% weight shall be given to the internal assessment. The remaining 80% weight shall be for the external evaluation.

Internal Assessment

20% of the total marks in each course are for internal examinations. The internal assessment shall be based on a predetermined transparent system involving written tests, Class room participation based on attendance in respect of theory courses and lab involvement/records attendance in respect of Practical Courses.

Internal assessment of the project will be based on its content, method of presentation, final conclusion and orientation to research aptitude.

Components with percentage of marks of Internal Evaluation of Theory Courses are- Test paper 40%, Assignment 20%, Seminar 20% and Class room participation based on attendance 20%. Split up of marks for Test paper and Class Room Participation (CRP) for internal evaluation are as follows.

Split up of marks for Test paper

Range of Marks in test paper	Out of 8 (Maximum internal marks is 20)	Out of 6 (Maximum internal marks is 15)
Less than 35%	1	1
35% - 45%	2	2
45% - 55%	3	3
55% - 65%	4	4
65% -85%	6	5
85% -100%	8	6

Split up of marks for Class Room Participation

Range of CRP	Out of 4 (Maximum internal marks is 20)	Out of 3 (Maximum internal marks is 15)
50% ≤ CRP < 75%	1	1
75% ≤ CRP < 85%	2	2
85 % and above	4	3

External Evaluation

External evaluation carries 80% of marks. All question papers shall be set by the College. The external question papers may be of uniform pattern with 80/60 marks. The courses with 2/3 credits will have an external examination of 2 hours duration with 60 marks and courses with 4/5 credits will have an external examination of 2.5 hours duration with 80 marks.

Study Tour

A compulsory study tour is recommended as part of the paper entitled "India's Economic Development- National and Regional" in the Fifth or Sixth Semester and the tour report should be submitted to the Head of the Department soon after the tour.

Project Guidelines

As part of the requirements for BA Programme every student must do a project either individually or as a group, under the supervision of a teacher. Project work is meant for providing an opportunity to approach and study a problem in a systematic and scientific manner. It provides them an opportunity to apply the tools they have studied and learn the art of conducting a study and presenting the report in a structured way. The report of the project, completed in every respect, is to be submitted to the department for valuation by the examiners appointed by the College. Guidelines for ding Project are as follows.

1. Project work may be done either individually or as a group of students not exceeding 5 in number.
2. The topic of the project should be on economic issues either theoretical or case study type.
3. Students should be properly oriented on the methodology of conducting a study during the Vth Semester, making use of the hours allotted for the purpose.

4. The Project work should be completed by the end of the VI semester and the report should be submitted to the Department before 31st March of the year concerned.

5. The project report should be either printed or typed in English.

6. A copy of the project report in English (printed or typed) should be submitted by the student/ team on or before 31 March of the year concerned.

7. Length of the project report - 20 to 35 typed pages (Paper A4, Times New Roman, Font size 12, line spacing 1.5). The report may be organized in 3 chapters(minimum).The use of simple statistical tools in data analysis may be encouraged.

8. Project evaluation and the Viva voce should be conducted immediately after the completion of the regular classes /written examination.

Basic Ingredients of a Project Design

The project work can be designed by considering the following elements.

1. Selection of a Topic, Pilot Survey – a trial run of questionnaire / interviews
2. Significance / relevance of the Study, Review of Related Literature
3. Formulation of Research Questions
4. Research Objectives (Minimum 2)
5. Coverage (Universe / Sample & period of study)
6. Data source (Primary/Secondary)
7. Methods of Analysis i.e., Tools and Techniques
8. Limitations of the study
9. Chapter outline
10. Data Analysis/Result Chapter(s)
11. Conclusion

Structure of the Report

The report should be organized in the following sequence:

1. Title page
2. Name of the candidate, Name and designation of the supervising teacher
3. Declaration of the student and certificate of the supervising teacher
4. Acknowledgements
5. List of tables, List of figures, table of contents
6. Introduction
7. Significance of the study

8. Related works, if any

9. Objectives, methodology and data sources

10. Chapter scheme

11. Main text, summary conclusions and recommendations

12. Bibliography

Project Evaluation

Evaluation of the Project Report shall be done under Mark System.

1. The evaluation of the project will be done at two stages:

a) Internal Assessment (supervising teachers will assess the project and award internal Marks)

b) External evaluation (external examiner appointed by the College.)

c) Grade for the project will be awarded to candidates, combining the internal and external marks.

2. The internal and external components is to be taken in the ratio 1:4. Assessment of different components may be taken as below.

Internal (20% of total)			External (80% of total)		
Component	**% of Marks**	**Marks**	**Component**	**% of Marks**	**Marks**
Punctuality& Originality	20	3	Relevance of the Topic, Statement of Research Problem, Statement of Objectives, Methodology	20	12
Use of Data	20	3	Structure of Review, Quality of Analysis/Use of Statistical Tools, Presentation of Findings and Reference/Bibliography.	30	18
Scheme/ Organization of Report	20	3	Viva-voce	50	30
Viva-voce	40	6			
Total		15	Total		60

3. External Examiners will be appointed by the College from the list of VI Semester Board of Examiners in consultation with the Chairperson of the Board.

4. The Chairman of the VI semester examination should form and coordinate the evaluation teams and their work.

5. Internal Assessment should be completed 2 weeks before the last working day of VI Semester.

6. Internal Assessment marks should be published in the Department.

8. The Chairman Board of Examinations, may at his discretion, on urgent requirements, make certain exception in the guidelines for the smooth conduct of the evaluation of project.

Pass Conditions

1. Submission of the Project Report and presence of the student for viva are compulsory for internal evaluation. No marks shall be awarded to a candidate if she/ he fails to submit the Project Report for external evaluation.

2. The student should get a minimum P Grade in aggregate of External and Internal.

3. There shall be no improvement chance for the Marks obtained in the Project Report.

4. In the extent of student failing to obtain a minimum of Pass Grade, the project work may be re-done and a new internal mark may be submitted by the Parent Department. External examination may be conducted along with the subsequent batch.

SCHEME OF PROGRAMME

		Semester I					
Course	Code	Name of the paper	Credit	Hours	IN	EX	Total
Common1	A01	Common Course: English	3	5	15	60	75
Common 2	A02	Common Course: English	3	4	15	60	75
Common 3	A07	Common Course: Additional Language	4	4	20	80	100
Core 1	BEC1B01	MicroeconomicsI	5	6	20	80	100
Compl 1	BEC1C01	Mathematical Methods for Economics-I	2	3	10	40	50
Compl 2		History	2	3	10	40	50
Audit 1		Environment Studies	4	-	-	-	-
		Total	23	25			450

		Semester II					
Course	Code	Name of the paper	Credit	Hours	IN	EX	Total
Common 4	A03	Common Course: English	4	5	20	80	100
Common 5	A04	Common Course: English	4	4	20	80	100
Common 6	A08	Common Course: Additional Language	4	4	20	80	100
Core 2	BEC2B02	Microeconomics II	5	6	20	80	100
Compl 1	BEC2C02	Mathematical Methods for Economics-II	2	3	10	40	50
Compl2		History	2	3	10	40	50
Audit 2		Disaster Management	4	-	-	-	-
		Total	25	25			500

		Semester III					
Course	Code	Name of the paper	Credit	Hours	IN	EX	Total
Common 7	A05	Common Course: English	4	5	20	80	100
Common 8	A09	Common Course: Additional Language	4	5	20	80	100
Core 3	BEC3B03	Quantitative Methods for Economic Analysis-I	4	5	20	80	100
Core 4	BEC3B04	Indian Economic Development: National and Regional-I	4	4	20	80	100
Compl 1	BEC3C03	Mathematical Methods for Economics-III	2	3	10	40	50
Compl 2		History	2	3	10	40	50
Audit 3		Human Rights/Intellectual Property Rights/ Consumer Protection	4	-	-	-	-
		Total	24	25			500

		Semester IV					
Course	Code	Name of the paper	Credit	Hours	IN	EX	Total
Common 9	A06	Common Course: English	4	5	20	80	100
Common 10	A10	Common Course: Additional Language	4	5	20	80	100
Core 5	BEC4B05	Quantitative Methods for Economic Analysis-II	4	5	20	80	100
Core 6	BEC4B06	Indian Economic Development: National and Regional-II	4	4	20	80	100
Compl 1	BEC4C04	Mathematical Methods for Economics-IV	2	3	10	40	50
Compl 2		History	2	3	10	40	50

Audit course		Gender Studies/Gerontology	4	-	-	-	-
		Total	24	25			500

Semester V							
Course	**Code**	**Name of the paper**	**Credit**	**Hours**	**IN**	**EX**	**Total**
Core 7	BEC5B07	Macroeconomics I	4	5	20	80	100
Core 8	BEC5B08	History of Economic Thought	4	5	20	80	100
Core 9	BEC5B09	Basic Econometrics	4	5	20	80	100
Core 10	BEC5B10	Financial Markets	4	5	20	80	100
Open	BEC5D01	Economics in Everyday Life	3	3	15	60	75
	BEC5D02	International Trade and Finance					
Project		To be continued in VIthSem	-	2			
		Total	19	25			475

Semester VI							
Course	**Code**	**Name of the paper**	**Credit**	**Hours**	**IN**	**EX**	**Total**
Core 11	BEC6B11	Macroeconomics II	4	5	20	80	100
Core 12	BEC6B12	International Economics	4	5	20	80	100
Core 13	BEC6B13	Development Economics	4	5	20	80	100
Core 14	BEC6B14	Public Finance	4	5	20	80	100
Elective	BEC6E01	Research Methodology	3	3	15	60	75
	BEC6E02	Behavioral Economics					
	BEC6E03	Economics Application using Excel					
	BEC6E04	Environmental Economics					
Project	BEC6B15P	Individual/Group activity	3	2	15	60	75
		Total	22	25			550
Grant Total for All Semesters (with Audit Courses)			**137**	**-**	**-**	**-**	**2975**

DETAILED SYLLABUS

Semester I

Course Category:	Core Course 1
Course Title and Code:	**Microeconomics I, BEC1B01**
No. of Credits:	5
No. of Contact Hours:	108

I. Course Objective

This course of study of micro economics in undergraduate level aims to understand the concepts of scarcity, opportunity cost and the use of marginal analysis to evaluate trade-offs and make decisions. It helps in understanding of how markets work to allocate resources. Besides it aims to understand optimal individual decision-making behaviour of economic units - consumers and producers.

II. Course Outcome

1. Students are able to explain what microeconomics is and why the subject is important.

2. Students are able to explain how economists make use of economic models and they are able to identify some models from economic theories

3. Students are able to understand the basic problems of an economy.

4. Students are able to explain and illustrate market equilibrium and disequilibrium.

5. Students are able to create demand schedule and supply schedule for different products from related data collected from the market.

6. Students analyse how consumers maximize the total utility within a given income using the utility maximizing rule and evaluate how consumer's utility changes when income or price changes.

7. Students are able to define the term production and explain production function; define and differentiate between marginal, average and total product; compute and graph marginal, average and total product.

8. Students can differentiate between different cost concepts and interpret the relation between long run and short run costs.

III. Course Outline

Module I: Exploring the Subject Matter of Economics

Nature and scope of Micro Economics- Micro Versus Macro- Concepts of wealth, welfare, scarcity and growth - Methods of economic analysis- Induction and deduction-Positive and normative economics-Value judgments- scarcity and choice- the basic problems of an economy- Production Possibility curve- Economic systems- Economic model

Module II: Demand and Supply Analysis

Concept of Demand- Law of Demand- Determinants of demand – Types of Demand – Demand Function – Market Demand Curve - Elasticity of Demand – Price, Income and Cross elasticity of demand –Measurement of Elasticity of Demand- Point, arc and total expenditure

method. Demand Forecast- Meaning- Factors influencing demand forecast. Concept of Supply – Law of Supply – Determinants of Supply – Supply Function – Elasticity of Supply – Market Supply Curve -Market Equilibrium- changes in demand and supply and equilibrium

Module III: Theory of Consumer Behaviour

Utility Analysis – Cardinal and Ordinal approaches – Law of Diminishing Marginal Utility – Law of Equi-marginal utility, indifference curve, properties of indifference curves – Income Price (Budget) line – Equilibrium of the Consumer with the help of indifference curves – Price, Income and Substitution effect- Derivation of individual demand curve for normal good – Decomposition of Price effect into income effect and substitution effect – Hicksian and Slutsk's methods–Normal, inferior and Giffen goods – Application of Indifference Curves - Theory of Revealed Preference – Revealed Preference axioms - Consumer surplus - Marshall and Hicks.

Module IV: Theory of Production and Costs

Cost function and Cost concepts – Explicit and implicit- Privte& Social- Fixed and Variabe- Short run and long run- MC, AC, AFC, AVC, ATC- accounting cost. Traditional theory of costs- Modern theory of costs.

Concept of Production – Production Function – Scale of production- short run versus long run production function- Law of Variable Proportions – Law of Returns to Scale – the Isoquant- Isocost Approach-producers equilibrium-expansion path- Internal and External Economies- Cobb-Douglas production function

IV. Student Activities:

1. Collect data of demand for a product (at least for one week) from local shops. Prepare a demand schedule and draw demand curve for the same. Check whether the product follow the law of demand.

2. Identify the factors influencing supply of a locally produced product. Prepare a report with detailed explanation to the effect of these identified variables on the supply.

3. Collect the data of costs of a small-scale production process from any sector (Agriculture, Industry or Service) of any product which is locally produced. Calculate fixed cost, variable cost, total cost, average cost for a fixed period of production.

V. References:

1. Dominick Salvatore (2003): Microeconomics: Theory and Applications- 4thEdition, Oxford University Press.

2. Robert S Pindyck and Daniel L Rubinfeld (2009): Microeconomics- 8th Edition, Pearson India.

3. Watson and Getz (2004): Price Theory and its Uses- 5thEdition, AITBS Publishers and Distributors.

4. A Koutsoyiannis (1979): Modern Microeconomics- 2ndEdition, Macmillan.

5. G S Madalla and Ellen Miller (1989): Microeconomics: Theory and Applications- Tata McGraw-Hill.

6. Robert Y Awh (1976): Microeconomics: Theory and Applications- John Wiley & Sons.

7. H.R Varian (2009) , Intermediate Microeconomics- A Modern Approach., W W Norton & Co Inc; 8 edition

8. Gregory Mankiw (2006) Principles of Microeconomics,(Paperback) South Western Educational Publishing

Course Category: Complementary Course
Course Title and Code: **Mathematical Methods for Economics-I, BEC1C01**
No. of Credits: 2
No. of Contact Hours: 54

I.   Course Objective

The objective of this course is to provide precise and concise exposition of mathematical techniques along with their application in Economics. It provides the means for illustrating the method of applying mathematical techniques to economic theory in general. This help the students to understand the real language of microeconomics, macroeconomics, statistics, and econometrics set out in this syllabus.Collectively, the four papers provide the mathematical foundations necessary for further study of a variety of disciplines including economics, statistics, finance and data analytics. This course emphasizes techniques rather than abstract theory.

II.   Course Outcomes

1. This course hones and upgrades the mathematical skills acquired in school.

2. Students will be able to understand various mathematical concepts and methods. And applying to economics.

3. Students learn solving of linear and non-linear equations.

4. Students will learn how to solve various economic problems using equations, graphs and set theory.

5. This course will facilitate the students to express economic ideas in the language of mathematics.

III.   Course Outline

Module I: Basic Mathematical Concepts

The real number system-Properties of real number system - Fractions: Addition, subtraction, multiplication and division of fractions - Ratios, Proportions and Percentages: Meaning, Problems and Solutions

Module II- **Algebra**

Meaning of algebra, Exponents-meaning and rules, Equations-Linear and quadratic-solution to Quadratic Equation-Quadratic Formula-Factorisation method-completing the square method-solution to simultaneous equations (Up to three unknowns)

Module III-Theory of Sets:

Kinds of sets - Operations of sets – Laws of sets-Venn Diagrams –Problems based on intersection and union, Cartesian Products - Relations – Types of Relations – Functions-one-to-one, many to one, surjective, bijection-graphs of functions- constant, identity, linear and

quadratic functions. -Graph of the function-How Graphs Work- Two-Variable Graphs, curves on a Graph, linear and non-linear relationship, the slope of linear and non-linear curve (concept only)

IV.   Reference:

1. Edward T. Dowling(2011), Introduction to Mathematical Economics (3rd Edition), Schaum's Outline Series, McGraw-Hill

2. Alpha. C. Chiang and Kevin Wainwright Fundamental Methods of Mathematical Economics, McGraw Hill

3. Geoff Renshaw, (2011)Maths for economics, 3rd edition, Oxford University Press.

4. Mike Rosser(1993), Basic Mathematics for Economists,Routledge

5. Paul Krugmann and Robil Wells, Microeconomics, 2nd edition, Worth Publishers

6. Michael Parkin, Microeconomics, 10th edition, Pearson

7. KnutSydsaeter, PeterHammond, Arne Strom, Andrés Carvajal ,Essential Mathematics for Economic Analysis.Pearson.

8. Teresa Bradley. and Paul Patton, Essential mathematics for economics and business. New York: Wiley & Sons.

V.   Note to faculty / examiner:

1. This course is complementary of B.A. Economics course. The students of this course may not have studied mathematics at higher secondary level. Hence questions may be confined to intermediary level.

VI.   Activities

1. Works on BEDMAS/ BODMAS rule

2. Works on real life examples of ratios, proportions and graphs

3. Students apply their knowledge and understanding of equation on various economics equations

4. Apply their knowledge of simultaneous equations to various micro-macroeconomics problems

5. Work on graphs- choose correct axes to plot variables

6. Find the examples of everyday variable which are negatively or positively related

Semester II

Course Category: Core Course 2
Course Title and Code: **Microeconomics II, BEC2B02**
No. of Credits: 5
No. of Contact Hours: 108

I.   Course Objective

To identify various market structures and discuss their implications for resource allocation Explain the advantages and potential shortcomings of markets, discuss the conditions under which markets work well, Describe the significance of incentives in Individual decision-making process. Demonstrate the ability to apply optimization techniques to decisions made by households as the suppliers of input, firms as the suppliers of output.

II.   Course Outcome

1. Students are able to differentiate between the firm and industry; explain and illustrate Demand curve, Average Revenue curve and Marginal Revenue curve of a perfectly competitive firm.

2. Students can analyse the break-even and shut down points of production for a perfectly competitive firm

3. Students are able to analyse the characteristics of monopoly and explain the sources of barriers to entry.

4. Students can appraise why a monopoly is inefficient and why perfectly competitive markets are efficient using dead weight loss.

5. Students are able to explain the characteristics of a monopolistically competitive industry and to compare it with other market conditions.

6. Students are able to frame the characteristics of oligopolies and they can analyse why collusion can occur in oligopolistic industries.

7. Students understand the pricing and employment of factor inputs on the basis of demand for and supply of factor inputs.

III.   Course Outline

Module I: Market Structure: Perfect Competition

Introduction to Markets **-**Market - Functions - Market structure-Types of markets-Perfect competition-Characteristics-Demand AR and MR curves-Price determination in the market period- Short run equilibrium of the firm and industry- Shut down point-Long run equilibrium of the firm and industry- Long run Supply curve of Firm and industry- Constant, increasing and decreasing cost industries- Welfare effects of government intervention- Impact of a tax and subsidy.

Module II: Monopoly

Monopoly- Sources of monopoly-Types of monopoly-AR and MR curve of a monopolist - Short run and long run equilibrium- Supply curve of a monopolist- The multiplant firm- Monopoly power-Measurement of monopoly power-Social cost of monopoly- Regulation of monopoly -Price discrimination-First degree, second-degree and third degree- International price discrimination (Dumping- types)-Two part tariff, tying and bundling-Peak load pricing- Monopsony- Bilateral monopoly.

Module III: Monopolistic Competition

Monopolistic competition- Features of monopolistic competition-Nature of AR and MR- Short run and long run equilibrium- Excess Capacity-Product differentiation-types- selling costs- Group Equilibrium.

Module IV: Oligopoly

Oligopoly-Characteristics- Collusive versus non-collusive oligopoly-Classic models of oligopoly Cournot model- Bertrand model -Edgewroth model -Kinked demand curve model - Cartel and price leadership

Module V: Pricing and Employment of Inputs

Competitive factor markets -Demand curve of the firm for one variable input-Demand curve of the firm for several variable inputs- Market demand curve for an input - Supply of inputs to a firm- The market supply of inputs- Equilibrium in a competitive factor market- Factor market with monopoly power- Factor market with monopsony power-Marginal Productivity theory of input demand.

IV. **Student Activities:**

1. Collect the data on Pricing strategy of a small-scale firm (Agriculture, Industry or Service) of any product which is locally produced. Assess their pricing strategy and compare it with the theory of market and pricing.

2. Collect the data of Pricing of inputs of a small-scale firm any sector (Agriculture, Industry or Service) from your location. Assess their pricing strategy and compare it with the theory of factor pricing.

V. **References:**

1. Dominick Salvatore (2003): Microeconomics: Theory and Applications- 4th Edition, Oxford University Press.

2. Robert S Pindyck and Daniel L Rubinfeld (2009): Microeconomics- 8th Edition, Pearson India.

3. Watson and Getz (2004): Price Theory and its Uses- 5th Edition, AITBS Publishers and Distributors.

4. A Koutsoyiannis (1979): Modern Microeconomics- 2nd Edition, Macmillan.

5. G S Madalla and Ellen Miller (1989): Microeconomics: Theory and Applications-Tata McGraw-Hill.

6. Robert Y Awh (1976): Microeconomics: Theory and Applications- John Wiley & Sons.

Course Category: Complementary Course
Course Title and Code: **Mathematical Methods for Economics-II, BEC2C02**
No. of Credits: 2
No. of Contact Hours: 54

I.   Course Objective

The objective of this course is to provide precise and concise exposition of mathematical techniques along with their application in Economics. It provides the means for illustrating the method of applying mathematical techniques to economic theory in general. This help the students to understand the real language of microeconomics, macroeconomics, statistics, and econometrics set out in this syllabus. Collectively, the four papers provide the mathematical foundations necessary for further study of a variety of disciplines including economics, statistics, finance and data analytics. This course emphasizes techniques rather than abstract theory.

II.   Course Outcomes

1. Mathematical Methods for Economics-II paves the way for the third and fourth semester course Mathematical Methods for Economics.

2. Students learn mathematical sequence and series and how to calculate simple and compound interest.

3. They will be able to use mathematical sequences and series in business and financial analysis to assist in decision-making and find the best solution to a given problem.

4. Students solve the problems related to matrices and determinants and apply them in economic problems.

5. Students will be able to give an intuitive explanation of the process of taking a limit.

6. Students will be able to explain the notion of continuity as related to functions

7. Students understand and solve the problems related to derivatives and explain different rules of differentiation.

III.   Course Outline

Module I: Sequence and Series

Sequence-series and Progression-Arithmetic progression- Arithmetic Mean-Geometric Progression-Geometric mean- Harmonic progression- Present value and future value (basic only)

Module II:Matrices

Matrices - Definitions, terms and types - Addition and Subtraction of Matrices- Multiplication of Matrices - Determinants - Properties of a Determinant - Rank of a matrix- Inverse of a matrix - Solving Linear Equations with the Inverse – Cramer's Rule for Matrix Solutions.

Module III: The Derivative: One independent variable

Limits – Continuity (Concept only) - The Concept of derivative - Rules of Differentiation - Higher-Order Derivatives - Implicit Differentiation

IV.   Reference

1. Edward T. Dowling(2011), Introduction to Mathematical Economics (3rd Edition), Schaum's Outline Series, McGraw-Hill

2. Alpha. C. Chiang and Kevin Wainwright Fundamental Methods of Mathematical Economics, McGraw Hill

3. Geoff Renshaw, (2011)Maths for economics, 3rd edition, Oxford University Press.

4. Mike Rosser(1993), Basic Mathematics for Economists, Routledge

5. Paul Krugmann and Robil Wells, Microeconomics, 2nd edition, Worth Publishers

6. Michael Parkin, Microeconomics, 10th edition, Pearson

7. KnutSydsaeter, PeterHammond, Arne Strom, Andrés Carvajal ,Essential Mathematics for Economic Analysis. Pearson.

8. Teresa Bradley. and Paul Patton, Essential mathematics for economics and business. New York: Wiley & Sons.

V.   Note to faculty / examiner:

1. This course is complementary of B.A. Economics course. The students of this course may not have studied mathematics at higher secondary level. Hence questions may be confined to intermediary level.

2. Derivations and proofs not required.

3. For differentiation trigonometric functions and logarithm are to be excluded.

VI.   Activities

1. Find basic terms related to finance- bond, coupon, T-bill,NPV, simple interest and compound interest

2. Apply progression in economics and finance

3. Find the inverse of matrices

4. Works on the applications of matrices in economics

5. Calculate slope

6. Calculate simple derivatives

7. Function and derivative matching activity

8. Derivative using chain rule activity

Course Category: Core Course 3
Course Title and Code: **Quantitative Methods for Economic Analysis-I, BEC3B03**
No. of Credits: 4
No. of Contact Hours: 90

I. Course objectives

The purpose of the course is to help students learn to use statistical methods in analyzing economic data, to study economic relationships and to familiarizes various statistical techniques employed in not just economics, but increasingly, all social and pure scientific research. The course focuses on different stages of statistical investigation in economics in general and four major measures used to extract and summarize the features inherent in a data set in particular. The course is also motivating the students to learn uses of index number in real life economics. Upon completion of the course, students should have acquired certain skills required to conduct a small-scale data collection, data processing and analysis.

II. Course outcomes:

1. To understand the role and importance of statistics in economics and to identify the different types of data and variables.

2. To prepare a scheduled questionnaire and to conduct data collection, data processing and exploratory data analysis using a range of tabular and graphical methods.

3. To apply various statistical tools to economic data in order to extract and summarize the major features inherent in it.

4. To construct index number and to apply in real economic data.

5. To understand properties and components of a time series

III. Course Outline

Module 1: Introduction to Statistics for Economics (10 Hours)

Scope of statistics in economics- Basic Concept in Statistics: Element, observation, Data, Variable and its scale of measurement

Module 2: Stages of statistical Investigation (20 Hours)

Stages of statistical investigation in Economics-

1. Collection of data: Population and sample-Primary Data: Schedule and Questionnaire-Process of constructing an interview schedule-Secondary data and Sources

2. Organization: Tabulation, Principles of forming frequency distribution,

3. Presentation: Tabular and Diagrammatic, Bar diagram, Pie chat, histogram, frequency curve and cumulative frequency curve (Ogives), leaf and stem diagram, Line graph, Pie-diagram

4. Analysis and Interpretation: Descriptive and Inferential methods

Module 3: Descriptive Statistical methods (35 Hours)

1. Measures of Central tendency: why do we need to measure central tendency
   a. Measuring averages of quantitative variable: Arithmetic mean and its properties- Limitations of arithmetic mean: Weighted mean, Geometric mean, Harmonic Mean
   b. Measuring averages of qualitative variable: Median and its properties, Limitation of median, measuring averages of Nominal Scale variable: Mode and its Estimation, Grouping Method, Limitations of Mode.
   c. Empirical relationship among mean, median and mode
   d. Partition Values: Quartiles, Deciles and Percentiles
2. Measures of Dispersion: Need of measuring variation of the data-Absolute and relative measures of variation
   a. Distant measures: Range and its uses, inter quartile range, limitation of range-quartile deviation and its limitation
   b. Average Deviation Measures: Quartile deviation, Mean Deviation and Standard deviation and their Limitations, Variance and Coefficient of variation
   c. Graphical measures: Lorenz curve and Gini coefficient
3. Measures of Symmetry: Need of measuring symmetry of the data-symmetrical and asymmetrical distribution-Absolute measure of skewness-Relative measures of skewness: Karl Pearson's, Bowly's and Kelly's methods-moment based measure-Karl Pearson's beta and gamma measure.
4. Measures of Peakedness: Need of measuring degree of peakedness of the data-lepto-kurtic and platy-kurtic-measuring kurtosis

Module 4: Index Numbers (18 Hours)

1. Index Number-Why we need index number in Economics-Simple Index number: price, quantity and value- Weighted Index Number: Laspeyre's, Paasche's, Dorbish and Bowley's, Walsch's, Fisher's, Marshall-Edgeworth's and Kelly's methods.
2. Tests of Adequacy of Index Number Formulae: Time Reversal Test (TRT), Factor Reversal Test (FRT) and Circular Test (CT)
3. Fixed Base and Chain Base-Base Shifting-Splicing

Module 5: Introduction to Time Series Analysis (7 Hours)

1. Time Series: Components of Time Series,
2. Measurement of Trend: Free Hand Curve Method, Semi–Average Method and Moving Average Method

IV. Textbooks: Required and Recommended

1. Anderson, D. R., D. J. Sweeney and T. A. Williams (2017), "Statistics for Business and Economics", Cengage Learning India Pvt. Ltd., 13th Edition.

2. Black K (2016). Business Statistics: For Contemporary Decision Making, 9th Edition, Wiley

3. David M. Levine, David F. Stephan, Kathryn A. Szabat and P.K. Viswanatha (2007), Business Statistics: A First Course, Pearson, 2017

4. D. Freedman, R. Pisani and R. Purves (2007), Statistics, W.W. Norton & Co., New York

5. Freund, J. E., Miller, I., & Miller, M. (2004). Mathematical Statistics: With Applications. Pearson Education India.

6. Gupta S. P (2007), Statistical Methods, Sultan Chand and Sons, New Delhi.

7. Lind D.A., Marchal W. G., Wathern S.A., Basic Statistics for Business & Economics, 10th ed McGraw Hill

8. Mann S Prem (2012), Introductory statistics, 8th Edition, John Wiley and Sons

9. McClave, J. T., Benson, P. G., Sincich, T., &Sincich, T. (2014). Statistics for business and economics, Boston: Pearson.

10. Murray R. Spiegel (2020), Schaum's Easy Outline Of Statistics, Second Edition

11. Murray R. Spiegel, L. J Stephens and Narinder Kumar (2017), Statistics. Schaum's Outline of Statistics, Second Edition

12. Newbold P., Carlson W. L., Thorne B M. (2013) Statistics for business and economics, 8th Ed, Pearson

V. Course Work

Two comprehensive assignments will be given during the term. Students have to do their assignments individually. The assignments will be goal-specific rather than task-specific. Apart from assignment different activities will be given in order to make the students acquainted with practicability of various statistical tools.

1. **Assignments 1:**
   a. Prepare a questionnaire or schedule on the topic of student's interest by adhering all the steps and procedure of a good questionnaire.
   b. Collect the required data using a field survey or online survey method
   c. Classify and prepare frequency distribution using struge's rule,
   d. Do required exploratory data analysis using a range of tabular and graphical methods.
   e. Summarize the major features of the data collected
   f. Interpret your result and prepare a report

2. **Assignment 2:**

a. Consider a group of commodities of student's interest and collect the price information from different age group. Comment the price changes occurred in last 60 years?

b. Collect the time series data on WPI or GDP from Handbook of Statistics on Indian Economy. Shift the base from an old period to new period and analyse what kind changes happened in the data points. Also do a splice the series in to newly available base year.

3. **Continuous Assessment Test**: A descriptive exam will be given in class during the 10th week of the term, on a date to be arranged. The exam will test students' knowledge and understanding of the important statistical principles, methods and practices covered in the course.

4. **Activities**

- Activity 1: identify the area where Economists heavily depends on statistics in formulating and evaluating economic policies.

- Activity 2: Identify the real examples of cross section, time series and panel data

- Activity 3: Identify the variable (Discrete/Continuous, Qualitative/Quantitative) and its scale of measurement in different scenarios.

- Activity 4: Identify the sample and the population in different scenarios

- Activity 5: Collect the information on various sources of Secondary data (National and international)

- Activity 6: Preparation and administering questionnaire/schedule in Google form and constructing frequency distribution and drawing appropriate graphs and diagrams in MS Excel

- Activity 7: Identify the situations where, applying mean to find the average gives misleading results

- Activity 8: Examine how the method of standard deviation overcomes the limitations of earlier measures of variations.

- Activity 9: Learning and comparing different types of inequality using Lorenz curve and Gini coefficient

- Activity 10: Using some real examples find whether the data is symmetrical/asymmetrical, and if it is symmetrical whether it is lepto or platy-kurtic.

- Activity 11: Use MS Excel to calculate various measures of descriptive statistics

- Activity 12: Presentation by students on how real economic composite Index Numbers such as Wholesale Price Index, Consumer Price Index (Cost of Living

Index Numbers), Producers Price Index, Index of Industrial Production etc constructed.

- Activity 13: Collect some real economic time series (Annual, Quarterly, Monthly and Daily) from Handbook of statistics on Indian Economy, published by RBI and plot the series using MS Excel and identify the components underlined in it.

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Course Category: Core Course 4
Course Title and Code: **Indian Economic Development: National and Regional-I,**
                          BEC3B04
No. of Credits: 4
No. of Contact Hours: 4 Hours Per week

I.   Course Objective

This course aims to introduce students the conditions of Indian economy at the time of Independence and also the policy framework of India after independence with a particular emphasis on paradigm shifts and turning points. The course also provides discussion on the social and human development in Kerala.

II.   Course Outcomes

At the end of the of course, students should be able to understand impact of colonial rule on Indian economy and the consequent underdevelopment at the time of independence. Students also should understand the rationale of policy framework adopted and implemented by India and the major turning points. An understanding of Kerala's development process and achievements is also expected.

III.   Course Outline

Module I: Indian Economy in Pre-Independence Era

Economic consequences of British Conquest: Decline of Indian Handicrafts - Changes in the Land System during 1793-1850 -Commercialisation of agriculture during 1850-1947-Colonial Exploitation: Forms and Consequences- British rule and India's underdevelopment - Drain Theory - Nature and causes of famines.

Module II: Development Policies and Planning

Mixed Economic framework – Rationale and features of planning- Objectives of Planning - Strategies of planning: Mahalanobis Strategy and Its Appraisal- Departure from MahalanobisStrategy- Economic Crisis of 1991-New Development strategy and Economic Reforms of1991-Liberalisation,Privatisation,and Globalisation Strategies(General Introduction only)-Inclusive Growth Strategy-Achievements and Failures of Planning-NITI Ayog and Its Functions.

Module III: Demographic and Structural Changes in Indian Economy

Size and Growth of Population-Demographic transition and Demographic Dividend- Issue of Missing Women-Trends in National Income and Percapita income - Sectoral composition(output and employment).Unemployment: Measurement, Trends and Causes–Employment Programmes - Poverty Line and trends in Incidence of Poverty-Strategies for Poverty alleviation –Extent and Causes of Income inequality -HDI of India -State wise comparison.

Module IV – Social and Human Development in Kerala

An Introduction to Kerala Model of Development –Historical Dimensions of Human Development - Indicators of Health and Education Achievements- Sen Bhagawati Debate– Demographic Transition in Kerala - Trends in Work Force Participation Rate in Kerala - Incidence of Unemployment and Dimensions of Gender and Education -Declining Incidence of Poverty in Kerala–Decentralisation and its Achievements.

IV. Activities for the Students

1. Prepare a report about the drain of wealth during British period by referring historical accounts and speeches.

2. Conduct a personal interview with elderly people to understand their experience of shift in the policy framework of Central Government with a focus on reforms.

3. Meet Asha workers and prepare a report on the Coverage of post-natal Vaccination among children and also Covid-19 Vaccination among adults.

V. Basic References for Indian Economy

1. Gaurav Datt and Ashwini Mahajan (2013),Indian Economy, 67th Edition, Sultan Chand and Co, New Delhi.

2. V.K Misra and Puri (2014), Indian Economy, 32ndRevised edition, Himalaya Publishing House, New Delhi.

3. Uma Kapila (2014), Indian Economy since Independence, 24th Edition, Academic Foundations, New Delhi.

4. Uma Kapila (2014), Indian Economy Performance and Policies, 14th Edition, Academic Foundations, New Delhi.

5. I.C Dingra (2014), Indian Economic Development, Sulthan Chand and Sons, New Delhi.

6. Tirtankar Roy (2011), *The Economic History of India,* Oxford University Press, New Delhi.

7. Ministry of Finance, Government of India, Economic Survey, Vol.1&2, 2017-18, Oxford University Press.

VI. Additional Readings for Indian Economy

1. Vijay Johi and I. M.D Little (1998), India's Economic Reforms, Oxford University Press, New Delhi

2. Ahluwalia. I.J. and I.M.D Little (Eds) (1999), India's Economic Reforms and Development, Oxford University Press (OUP), New Delhi.

3. Bawa,R.S. and P.S. Raikhy,(1997), Structural Changes in Indian Economy, GurunanakDev University press, Amritsar.

4. Chakravarty, S. (1987), Development planning: The Indian Experience, OUP, New Delhi.

5. Dreze, Jean and AmartyaSen (2013): An Uncertain Glory – India and its Contradictions, Penguin Books.

VII.   References for Kerala Economy

1. Planning Commission (2008), "Kerala Development Report", Academic Foundation, New Delhi.

2. Govt of Kerala - CDS (2006), Human Development Report 2005, Published by State Planning Board Government of Kerala.

3. Oommen, M.A. (1993): Essays on Kerala Economy, Oxford & IBH.

4. Government of Kerala, (2018), Economic Review, State Planning Board,Thiruvananthapuram.

5. B.A. Pakash (2004), Kerala's Economic Development: Performance and Problems in the post liberalization period, Sage Publications, New Delhi.

6. Rajasenan, D. and Gerard De Groot, (2005), Kerala Economy: Trajectories, Challenges and Implications, CUSAT, Kochi.

7. Centre for Development Studies (1975), Poverty, Unemployment and Development Policy-A Study of Selected Issues with Special Reference to Kerala, New York, United Nations.

8. V.K Ramachandran (1996), "On Kerala's Development Achievements" in Jean Dreaze and Amrtya Sen (eds), Indian Development, Selected Regional Perspective, Oxford University Press.

9. John Kurien (1995), "The Kerala Model, Its central tendency and the outliers", Social Scientist, Vol.23, No. 1/3. Pp 70-90.

10. P.K Michael Tharakan (2008), "When the Kerala Model is Historicised: A Chronological Perspective", Working Paper No. 19, CSES, Kochi.

11. ET Mathew (1997): Employment and Unemployment in Kerala- Sage publishers, New Delhi.

12. G.K Lieten (2002), "Human Development in Kerala: Structure and Agency in History." Economic and Political Weekly, April 20.

13. Achin Chakraborty (2005), "Kerala's Changing Development Narratives", Economic and Political Weekly, February 5.

14. D. Shyjan and A.S Sunitha (2009), "Changing Phases of Kerala's Development Experience and the Exclusion of Scheduled Tribes: Towards an Explanation". ArthaVijnana, December

Course Category: Complementary Course
Course Title and Code: **Mathematical Methods for Economics-III, BEC3C03**
No. of Credits: 2
No. of Contact Hours: 54

I.   Course Objective

The objective of this course is to provide precise and concise exposition of mathematical techniques along with their application in Economics. It provides the means for illustrating the method of applying mathematical techniques to economic theory in general. This help the students to understand the real language of microeconomics, macroeconomics, statistics, and econometrics set out in this syllabus. Collectively, the four papers provide the mathematical foundations necessary for further study of a variety of disciplines including economics, statistics, finance and data analytics. This course emphasizes techniques rather than abstract theory.

II.   Course Outcomes

1. Students will be able to use derivatives to explore the behaviour of a given function.

2. Students understand the derivative as it relates to rates of change. They will be able to solve problems involving relationships between changing quantities

3. They learn to sketch the graph of the function

4. Students learn to apply the derivative in economics. They should be able to apply calculus to understanding concepts from economics such as marginal cost, marginal revenue, marginal profit, and elasticity of demand.

5. Students learn to differentiate the multivariable functions and apply it in economic problems.

III.   Course Outline

Module I: Uses of derivatives in Mathematics

Increasing and Decreasing Functions - Concavity and Convexity - Relative Extreme-maxima and minima - Inflection Points - Optimization of Functions

Module II: Uses of derivatives in Economics

Total cost – average cost – marginal cost – relationship between MC and AC. - total revenue and marginal revenue – the market demand function – demand, total and marginal revenue with perfect competition - Profit maximisation – cost minimisation. - Elasticity – price elasticity of demand.

Module III:Calculus and Multivariable Functions:

Functions of Several Variables and Partial Derivatives - Rules of Partial Differentiation - Second-Order Partial Derivatives - Optimization of Multivariable Functions - Constrained

Optimization with Lagrange Multipliers - Significance of the Lagrange Multiplier – Differentials - Concept of Total and Partial Differentials - Concept of Total Derivatives

IV. Reference:

1. Edward T. Dowling(2011), Introduction to Mathematical Economics (3rd Edition), Schaum's Outline Series, McGraw-Hill

2. Alpha. C. Chiang and Kevin Wainwright Fundamental Methods of Mathematical Economics, McGraw Hill

3. Geoff Renshaw, (2011)Maths for economics, 3rdedition, Oxford University Press.

4. Mike Rosser(1993), Basic Mathematics for Economists,Routledge

5. Paul Krugmann and Robil Wells, Microeconomics, 2nd edition, Worth Publishers

6. Michael Parkin, Microeconomics, 10th edition, Pearson

7. KnutSydsaeter, PeterHammond, Arne Strom, Andrés Carvajal ,Essential Mathematics for Economic Analysis. Pearson.

8. Teresa Bradley. and Paul Patton, Essential mathematics for economics and business. New York: Wiley & Sons.

V. Note to faculty / examiner:

1. This course is complementary of B.A. Economics course. The students of this course may not have studied mathematics at higher secondary level. Hence questions may be confined to intermediary level.

2. Derivations and proofs not required.

3. For differentiation/integration trigonometric functions and logarithm are to be excluded.

VI. Activities

1. Find relative extreme points of the function

2. Sketch the graph of the function

3. Work on real world applications of differentiation

4. Work on partial differentiation

5. Work on Lagrange multiplier

Course Category: Core Course 5
Course Title and Code: **Quantitative Methods for Economic Analysis-II, BEC4B05**
No. of Credits: 4
No. of Contact Hours: 90

I.   Course objectives

The purpose of the course is to equip the students with some intermediate statistical methods in measuring uncertainties, estimation and decision making. The course focuses on probability and its distribution, the procedure of estimation and hypothesis testing.

The course is aimed at encouraging the students to measure the uncertainties associated with an event, to learn different types of probability and non-probability sampling techniques, to estimate the sample statistic from population parameter and to test various hypothesis about the population parameter. At the end of the course, students should have acquired certain skills required to analyse a sample data and to infer about the population.

II.   Course outcomes:

1. To understand the concept of probability and to familiarize various concept and theorems associated with probability.

2. To prepare the probability distribution and to find out its mathematical expectation and variance

3. To apply various probability and non-probability sampling techniques to collect the sample and to prepare sampling distribution.

4. To train the students to assign a sample statistic to a population parameter

5. To understand the procedure of hypothesis testing

III.   Course Outline

Module 1: Introduction to probability (25 Hours)

1. Probability – Approaches to Probability: Empirical, Classical, Axiomatic, relative frequency and subjective Approach

2. Concept and Terms: Experiment, Outcome, Random Experiment, Sample space and Point- Tossing a Game-Dice Problem-Card Play

3. Counting Rule: Multistep experiment, Permutations and Combinations

4. Event: Certain and Impossible, Mutually Exclusive and non-mutually exclusive-Algebra of Events-Addition Theorem of Probability

5. Conditional Probability-Multiplication Theorem of probability-Independent and Dependent Events-Bayes Theorem

Module 2: Probability Distribution (20 Hours)

1. Random variable – Discrete and continuous random variables

2. Discrete Probability distributions – Mathematical Expectation and standard deviation- PMF and CDF

3. Theoretical Discrete Probability Distribution: Binomial Distributions– Mean and Variance (without proof)- Characteristics and fitting of Binomial Distribution- Poisson Distributions and its Mean and Variance (without proof)-Characteristics and fitting of Poisson Distributions

4. Continuous Probability Distribution: Normal Distributions-Standard Normal Distribution-Area Under Standard Normal Distribution-Standardizing a Normal Distribution-Application of Normal Distribution

Module 3: Sampling Distribution and Sampling Methods (15 Hours)

1. Sampling Distribution-Statistic and Parameter-Mean and Standard Deviation of Sampling Distribution-

2. Probability Sampling Methods: Simple random, Systematic Random, Stratified, Cluster and Multi-stage sampling

3. Non-Probability Sampling Methods: Convenient, Judgment, Quota, Purposive and Snow-ball Sampling

Module 4: Estimation and Hypothesis testing (20 Hours)

1. Estimation: Point and Interval, Confidence Interval, Level of Significance,

2. Construction of Confidence Interval and Estimation of a Population Mean-Large and small sample, t distribution, degrees of freedom

3. Hypothesis Testing: Null and Alternative Hypothesis, Type I and II Error, Tail of a Test,

4. Procedure of Hypothesis Testing-Large and small Sample

Module 5: Analyzing Relationship (10 Hours)

1. Correlation: types, direction and degrees

2. Measuring correlation: Scatter diagram, Karl Pearson Correlation coefficient, Spearman Rank Correlation coefficient

IV. Textbooks: Required and Recommended

1. Anderson, D. R., D. J. Sweeney and T. A. Williams (2017), "Statistics for Business and Economics", Cengage Learning India Pvt. Ltd., 13th Edition.

2. Black K (2016). Business Statistics: For Contemporary Decision Making, 9th Edition, Wiley

3. David M. Levine, David F. Stephan, Kathryn A. Szabat and P.K. Viswanatha (2007), Business Statistics: A First Course, Pearson, 2017

4. D. Freedman, R. Pisani and R. Purves (2007), "Statistics," W.W. Norton & Co., New York

5. Gupta S. P (2007), Statistical Methods, Sultan Chand and Sons, New Delhi.

6. Mann S Prem (2012), Introductory statistics, 8th Edition, John Wiley and Sons

7. McClave, J. T., Benson, P. G., Sincich, T., &Sincich, T. (2014). Statistics for business and economics, Boston: Pearson.

8. Murray R. Spiegel (2020), Schaum's Easy Outline Of Statistics, Second Edition

9. Murray R. Spiegel, L. J Stephens and Narinder Kumar (2017), Statistics. Schaum's Outline of Statistics, Second Edition

10. Newbold P., Carlson W. L., Thorne B M. (2013) Statistics for business and economics, 8th Ed, Pearson

11. Seymour Lipschutz and John Schiller, Introduction to Probability and Statistics, Schaum's outlines, Tata McGraw Hill

V.   Activities

1. Fitting Binomial and Poisson distribution using MS Excel

2. Estimation and Testing for Means in small and Large Sample using MS Excel.

3. Computation of Correlation matrix in MS Excel

Course Category: Core Course 6
Course Title and Code: **Indian Economic Development: National and Regional-II**
                          BEC4B06
No. of Credits: 4
No. of Contact Hours: 90

I.   Course Objective

This course presents an overview of performance and issues of Indian agriculture and Industry. A description of major transitions in India's external sector is also attempted. The course also discusses the process of emigration, growth and structural change in Kerala.

II.   Course Outcomes

Students should develop an understanding of trends and pattern of production in Indian agriculture and Industry and also the major institutional changes. Students also should understand how reforms, emigration and remittances have contributed to the economic growth in Kerala.

III.   Course Outline

Module I: Indian Agriculture

Role of Agriculture in the Indian Economy- Cropping pattern - Trends in Production and Productivity-Causes of Present Crisis-Agricultural Marketing: Problems and Government Measures - New Agricultural Strategy of 1960s (Green Revolution) and its impact on production and productivity - The Need, Scope and Appraisal of Land Reforms in India-Problem of Food Security – FCI, PDS and TPDS –Food Security Act, 2013.

Module II: Indian Industry

Trends in industrial production and growth – Changes in the industrial pattern – Small scale and cottage industries – Large scale industries – Performance and Problems of Public Sector Enterprises – Industrial Sickness - Review of industrial policy prior to 1991 – New industrial policy of 1991 – Privatization and Disinvestment - National manufacturing policy and Make in India.

Module III: India's External Sector

Trends and composition of India's Imports - Trends, composition and direction of India's Exports - Import and Export Policy during Pre-Reform Period. New Trade Policy, 1991 - Trade Policy after 2015-Exchange rate management in India-Convertibility of rupee: Current and Capital Account-FDI and FPI flows - MNCs and Regulations - FERA - FEMA.

Module IV: Migration and Economic Growth in Kerala

Migration – Concepts in migration – Emigration from Kerala: trend and pattern – Remittance flow and economic impact on Kerala-Economic Growth in Kerala: Stagnation and Turn around Phases- Structural Change in Kerala -Agriculture: cropping pattern – Area and

production of major crops –Industry: Growth and Structure – Tourism Sector and its Contributions.

IV. Activities for the Students

1. Carry out a personal interview with farmers and understand details about subsidies and other supports provided by the government for cultivation.

2. Visit any Public Sector Enterprise in your region and take an account of working conditions and profitability.

3. Visit any eco-tourism spot your region and understand its forward and backward linkages.

4. Conduct a survey among the return migrants and examine their economic status after return from Gulf.

V. Basic References for Indian Economy

1. Gaurav Datt and Ashwini Mahajan (2013), Datt&Sundaram Indian Economy, 67th Edition, Sultan Chand and Co, New Delhi.

2. V.K Misra and Puri (2014), Indian Economy, 32nd revised edition, Himalaya Publishing House, New Delhi.

3. Uma Kapila (2014), Indian Economy since Independence, 24th Edition, Academic Foundations, New Delhi.

4. Uma Kapila (2014), Indian Economy Performance and Policies, 14th Edition, Academic Foundations, New Delhi.

5. I.C Dingra (2014), Indian Economic Development, Sulthan Chand and Sons, New Delhi.

6. Ramesh Singh (2015), Indian Economy, for Civil Services Examination, Seventh Edition, McGraw Hill Education Series, New Delhi.

7. Ministry of Finance, Government of India, Economic Survey, Vol.1&2, 2017-18, Oxford University Press.

VI. Additional Readings for Indian Economy

1. Vaidyanathan, A. (2010). Agricultural growth in India: Role of technology, incentives and   institutions. New Delhi: Oxford University Press.

2. Uma Kapila and K.L Krishna (200), Readings in Indian Agriculture and Industry, Academic Foundations, New Delhi.

3. Hanumantha Rao C.H. (2005). Agriculture, food security, poverty and environment: Essays on post reform India. New Delhi: Oxford University Press.

4. SubirGokarn, Anindya Sen and Rajendra R. Vaidya (2003), The Structure of Indian Industry,Oxford University Press (OUP), New Delhi.

5. DilipMookherjee(1996). Indian Industry: Policies and Performance, Oxford University Press (OUP), New Delhi.

6. Parthapratim Pal (2014). International Trade and India. Oxford University Press (OUP), New Delhi.

VII.   References for Kerala Economy

1. Planning Commission, Government of India (2008), "Kerala Development Report", Academic Foundation, New Delhi.

2. Oommen, M.A. (1993): Essays on Kerala Economy, Oxford & IBH.

3. K.P Kannan (2005), "Kerala's Turnaround in Growth, Role of Social Development, Remittances, and Reform", Economic and Political Weekly, February 5.

4. Kannan, K.P. (2011). Agricultural development in an emerging non agrarian regional economy: Kerala's Challenges. Economic and Political Weekly, 46(9), 64-70.

5. Govt of Kerala - CDS (2006), Human Development Report 2005, Published by State Planning Board Government of Kerala.

6. Government of Kerala, (2018), Economic Review,State Planning Board, Thiruvananthapuram.

7. B.A. Pakash (2004, Kerala's Economic Development: Performance and Problems in the post liberalization period, Sage Publications, New Delhi.

8. Kannan K.P and Pushpangadan K (1988) 'Agricultural Stagnation in Kerala: An Exploratory Analysis', Economic and Political Weekly, September 24.

9. Rajasenan, D. and Gerard De Groot, (2005), Kerala Economy: Trajectories, Challenges and Implications, CUST, Kochi.

10. Subrahmanian K.K (1990), "Development paradox in Kerala: Analysis of industrial stagnation", Economic and Political Weekly, September 15.

11. Subrahmanian K.K and Abdul Azeez E. (1990), "Industrial Growth in Kerala: Trends and Explanations', Working Paper No. 310, Centre for Development Studies, Thriruvanathapuram.

12. S IrudayaRajan and K.C Zakaria(2019), "Emigration and   Remittances: New Evidences from the Kerala Migration Survey, 2018", Working Paper 483, Centre for Development Studies, Thiruvananthapuram.

13. K.K George (2009), Kerala Economy: Growth, Structure, Strength and Weakness, Working Paper No. 25, Centre for Socio-economic & Environmental Studies, (CSES).

Course Category: Complementary Course
Course Title and Code: **Mathematical Methods for Economics-IV, BEC4C04**
No. of Credits: 2
No. of Contact Hours: 54

I. Course Objective

The objective of this course is to provide precise and concise exposition of mathematical techniques along with their application in Economics. It provides the means for illustrating the method of applying mathematical techniques to economic theory in general. This help the students to understand the real language of microeconomics, macroeconomics, statistics, and econometrics set out in this syllabus. Collectively, the four papers provide the mathematical foundations necessary for further study of a variety of disciplines including economics, statistics, finance and data analytics. This course emphasizes techniques rather than abstract theory.

II. Course Outcomes

1. Students learn to apply derivative of multivariable functions in economics.
2. They learn to determine anti derivatives and indefinite integrals
3. They will be able to use the Fundamental Theorem of Calculus to evaluate definite integrals
4. Students learn to apply integration techniques to solve economic problems.
5. Enable students to form a mathematical model of some actual problems (mathematical formulation of the linear programming problems).
6. Students learn to get solution to inequality constraint optimisation problems.
7. Learn how to solve two variable linear programming models by the graphical solution procedure.
8. Linear programming technique helps the students to fill the gap between abstract economic theory and managerial decision-making in practice.

III. Course Outline

Module I: Application of Calculus of Multivariable Functions in Economics.

Marginal concepts – marginal productivity of labour and capital, marginal rate of technical substitution, marginal rate of substitution - Elasticity concepts – price/cross/income elasticity of demand - Optimisation of multivariable functions in economics –Equilibrium of discriminating monopoly- Equilibrium of multi-plant firm - constrained optimisation in economics

Module II:Integral Calculus

Integration – Rules of Integration - Initial Conditions and Boundary Conditions - Integration by Substitution-Integration by parts-Economic Applications of indefinite integrals- Total

Revenue from marginal revenue- Total cost from marginal cost- saving function form marginal propensity to save- consumption function from MPC- The Definite Integrals- properties of definite integrals-economic applications of definite integrals – Consumers and Producers surplus

Module III: Linear Programming Problem

Meaning and Objective of LP-Applications of LP-Basic terms in LPP-formulation linear programming problems-Solution to LPP (Graphical solution only)-Advantages and disadvantages of LPP

IV. **Reference:**

1. Edward T. Dowling(2011), Introduction to Mathematical Economics (3rd Edition), Schaum's Outline Series, McGraw-Hill

2. Alpha. C. Chiang and Kevin Wainwright Fundamental Methods of Mathematical Economics, McGraw Hill

3. Geoff Renshaw, (2011)Maths for economics, 3rd edition, Oxford University Press.

4. Mike Rosser(1993), Basic Mathematics for Economists,Routledge

5. Paul Krugmann and Robil Wells, Microeconomics, 2nd edition, Worth Publishers

6. Michael Parkin, Microeconomics, 10th edition, Pearson

7. Knut Sydsaeter, Peter Hammond, Arne Strom, Andrés Carvajal ,Essential Mathematics for Economic Analysis. Pearson.

8. Teresa Bradley. and Paul Patton, Essential mathematics for economics and business. New York: Wiley & Sons.

V. **Note to faculty / examiner:**

1. This course is complementary of B.A. Economics course. The students of this course may not have studied mathematics at higher secondary level. Hence questions may be confined to intermediary level.

2. Derivations and proofs not required.

3. For differentiation / integration trigonometric functions and logarithm are to be excluded.

VI. **Activities**

1. Consolidate basic meaning of bi-variate functions

2. Use bi-variate functions in economics

3. Find the link between a differentiated function and an integrated function

4. Works on the applications of integration in economics

5. Students to construct simple objective functions and constraints

6. Identify simple feasible regions and optimal points.

7. Students will formulate and solve systems of linear inequalities through a linear programming application

Course Category: Core Course 7
Course Title and Code: **Macroeconomics I, BEC5B07**
No. of Credits: 4
No. of Contact Hours: 90

I.   Course Objective

This course intends to provide basic foundations in macro economics and deal with different concepts and measurements of national income. It also explains how output and employment are determined in classical and Keynesian economics and help students to understand various consumption theories.

II.   Course outcome

1. Students appreciate the context in which Macroeconomics emerged as a separate discipline.

2. Students understand the concepts regarding macroeconomic model building.

3. Students understand and evaluate different concepts and measurements of national income.

4. Students explain how output and employment are determined in classical and Keynesian systems of economics.

5. Students explain and analyse why actual output will fall short of the productive capacity of the economy.

6. Students evaluate fiscal policies of Governments at different situations

III.   Course Outline

Module I: Introduction to Macroeconomics

Macroeconomics: Meaning, origin and Growth. Scope and Limitations of Macroeconomics-Macroeconomic models – Types of variable: Stock and flow, endogenous and exogenous, exante and expost – Static, comparative static and dynamic analysis – Equilibrium: Partial and General – Circular flow: 2,3,4 sector models and importance - Methods of Estimating national income - Real vs Nominal GNP – Potential versus Actual GNP – Green GNP– GDP Growth Rate. –Difficulties in the Estimation of national income in India.

Module II: Classical Macro Economic Model

Classical Postulates – Laissez-faire System – Full Employment - Wage-price flexibility - Say's Law of Markets and its criticisms – Homogeneity Postulates - Classical Dichotomy – Neutrality - Classical theory of Money – Classical theory of interest - Money illusion - Pigou effect– Real Balance Effects - Classical model of output and employment- Criticisms of classical theory.

Module III: Keynesian Macro Economic Model

Principles of Effective demand – Aggregate demand and supply – Components of Aggregate Demand –Wage Price Rigidity – Under Employment Equilibrium – Keynesian Theory vs Classical Theory – Keynesian Consumption function – APC, MPC, APS, MPS and Multiplier–Determination of Income in two and three sectors (using Keynesian Cross diagrams) – Keynesian theory of demand for Money- Liquidity Trap.

Module IV: Consumption, Saving and Investment

Absolute income hypothesis - Consumption puzzle of Kuznet - Life Cycle hypothesis - Permanent Income Hypothesis - Relative Income Hypothesis-Classical view and Keynesian View of Saving – Factors Determining size of Saving - Meaning and Types of Investment – Factors determining investment decision – Keynesian Investment Function – MEC and Investment Demand – Factors affecting MEC – Criticisms of MEC – MEI and Aggregate Demand for Capital-Accelerator Theory.

VI.   References

1. Gregory Mankiw (2010), Macroeconomics, Sixth Edition, Worth Publishers.

2. Richard T. Froyen (2008), Macroeconomics - Theories and Policies, Tenth Edition, Pearson education.

3. D.N Dwivedi (2016), Macroeconomics: Theory and Policy, Tata McGraw Hill, New Delhi.

4. Maria John Kennnedy (2013) Macroeconomic Theory, PHI Learning, New Delhi.

5. Nattrass, Nicoli and VisakhVarma, G (2014): Macroeconomics Simplified: Understanding Keynesian and Neoclassical Macroeconomic Systems, Sage publications India, New Delhi.

6. Errol D'Souza (2008), Macro Economics, Pearson Education.

7. Edward Shapiro (1982), Macroeconomic Analysis, Oxford University press.

8. Eugene Diuto (2010), Macroeconomic Theory, Shaums's Outline Series.

Course Category: Core Course 8
Course Title and Code: **History of Economic Thought, BEC5B08**
No. of Credits: 4
No. of Contact Hours: 90

I.   Course objective

This course helps the students to understand and generalize the development of economic thinking and to explain historical evolution of economic thought. Students can understand development of different schools of thought. Students can also analyze the contributions of Indian economists with world economists

II.   Course Outcome

1. To give detailed account on the development of economic thought in a global perspective

2. To understand development of different schools of thought and analyze the situations on which new school of thought developed.

3. To helps the students to critically analyse different schools of thought

4. To understand the contributions of Indian economists to the economic thought

III.   Course Outline

Module I: Introduction and Early Economic Thought

Why study History of Economic Thought? – Economic Ideas of Aristotle, Plateau – IbnKhaldun - St. Thomas Aquinas – Main Economic Ideas of Mercantilists and Physiocrats (mention important economists of Mercantalism and Physiocracy and their major works. Need not go into the details)

Module II: Classical and Marxian School

Important contributions of: a Adam Smith – naturalism and optimism, division of labour, theory of value, concept of laissez-faire b. David Ricardo – theory of value, stationary state c. J.B. Say -law of market d. Malthus – population theory and theory of glut e. J.S. Mill - reciprocal demand- Jeremy Bentham – utilitarianism-Basic tenets of Marxian Political Economy: stages of development – theory of surplus value, theory of capitalist crisis

Module III: Marginalism and Neo-classical School

Difference between classical and neo-classical approach – important ideas of Carl Menger, Leon Walras, Frederich List, Veblen, Wilfredo Pareto, A.C. Pigou, W.W. Rostow. Importance of Alfred Marshall in Neo-classical economics (avoid micro-economic theories)

Module IV: Keynes and Post-Keynesians

Keynes as a critic of Classical Economics (introduce important books of Keynes). Post-Keynesian developments – monetarism, rational expectation school.

Module V: Indian Economic Thought

Drain theory of Dadabhai Navoroji.-Trusteeship and other economic ideas of Gandhi-economic ideas of Ambedkar.- Contributions of PC Mahalanobis, Amartya Sen and JN Bhagawathi.

IV.   Reference:

1. Bhatia H.L (1994), History of Economic Thought, Vikas Publishing House, New Delhi.

2. Roll, Eric (1992), History of Economic Thought, Faber & Faber, London.

3. Louise Haney(2009), - History of economic Thought – Surjith publication New Delhi

4. Haney, Lewis H. (1977), History of Economic Thought, Macmillan, New York.

5. Shanmugasundaram, V. (1981), Indian Economic Thought and Policy, S. Chand & Co.,
   New Delhi.

6. Ghosh, B. N. and R. Ghosh (1988), Concise History of Economic Thought, Palgrave Macmillan, New Delhi.

7. Ed. Abul Hassan M. Sadeq and Aidit Ghazali (1992), Readings in Islamic Economic Thought, Longman, Malaysia.

8. Scrapanti E and S Zamagiri (2005), An Outline of the Economic thought, OUP, Newdelhi.

9. Hajela T.N (2015), History of Economic Thought – Ane"s Student Edition.

V.   Student activities

1. Prepare life history of one of the prominent Indian economists

2. Analyse the economic behavior of the local people and identify the common factors. Identify to which economic philosophy it is linked with

Course Category: Core Course 8
Course Title and Code: **Basic Econometrics, BEC5B09**
No. of Credits: 4
No. of Contact Hours: 90

I.   Course Objective:

The purpose of the course is to help students learn to use econometric methods in analysing economic data, verifying empirical economic relationships and to make acquainted with various econometric techniques employed in economics. The course exclusively focuses simple and multiple regression intended for analysing cross-section data. The course is designed to motivate the students to learn specification, estimation and evaluation of simple and multiple regression model. Upon completion of the course, students should have acquired certain skills required to conduct a small-scale econometric investigation.

II.   Course Outcome:

1. To understand the subject matter and importance of econometrics, and various steps which are to be followed in an econometric investigation.

2. To provide the method of OLS, its assumption and properties to give a concrete base of econometrics.

3. To apply simple and multiple linear regression to a cross-section data and to evaluate and interpret the results

4. To construct a dummy variable to capture the effect of a qualitative variable in an econometric model, and its estimation and interpretation.

III. Course Outline:

Module 1 –Introduction to Econometrics

Econometrics: Definition, History, Uses and Importance-Types of Econometrics-Methodology of Econometrics

Module 2: The Classical simple Linear Regression Model

Introduction to regression: Simple Linear Regression Model, Population and sample regression function-Notations and Explanations in regression model-The method of Ordinary Least Square Estimation (OLS): Derivation-Assumptions and Properties of OLS estimators-Precision of OLS Estimators-Goodness of fit of the model (r^2)

Module 3: Statistical inference in SLRM:

Hypothesis testing, testing the individual coefficient (t-test), Decision based on Confidence interval and 'p' value approach

Module 4: Multiple Linear Regression Model

Multiple linear regression model: Three variable regression model-precision of OLS estimators- Goodness of fit (R^2), Adjusted R^2

Module 5: – Qualitative Explanatory variable Regression Models

Nature, Estimation and interpretation of Dummy Variable Regression-Construction of Dummy Variable (Simple Category)-Dummy Variable Trap-Regression with qualitative independent variable (ANOVA)-Regression with qualitative and quantitative Model-(ANCOVA)

IV. **Textbooks: Required and Recommended**

1. Asli K. Ogunc& R. Carter, Using Excel for Principles of Econometrics, Third Edition, Hill, John Wiley & Sons

2. Damodar Gujarati, Basic Econometrics, McGraw Hill

3. Dominick Salvatore and Derrick Reagle, Statistics and Econometrics, 2nd edition, Schaum's Outline Series

4. G.S Maddala, Introduction to Econometrics, McMillan Publication

5. Jeffrey M. Wooldridge, Introductory Econometrics: A Modern Approach, Cenegage Learning

6. Sankar Kumar Bhaumik, Principles of Econometrics: A Modern Approach using EViews, Oxford

V. **Activities**

Two comprehensive assignments will be given during the term. These assignments will require students to perform small econometric tool using Ms. Excel

Course Category: Core Course 10
Course Title and Code: **Financial Markets, BEC5B10**
No. of Credits: 4
No. of Contact Hours: 90

I.   Course Objectives:

Aim of this course is to discuss the role of financial system in economic development. The course also elaborates various components and instruments of money market and capital market. A description about the types and advantages of derivatives is also included.

II.   Course Outcomes:

Students should be able to understand the process of financial intermediation performed by financial system and its components. Students also develop an understanding of major money market and capital market instruments and various investment avenues.

III.   Course Outline:

Module I: Financial System

Financial System-meaning and functions-Components of Financial System: Financial institutions, Financial Markets, Financial Instruments, Financial services- Interactions among components of financial system- Elements of well-functioningFinancial System -Financial System and Economic Development- Weaknesses of Indian Financial system.

Module II: Financial Markets

Financial Market: Features and Functions. Money Market: Features, Functions and Participants- Characteristics of a Developed Money Market- Structure of Money Market: Treasury Bill Market -Call money Market -Commercial Bill market-Certificates of Deposit-Defects of the Indian Money Market-Capital market: Structure and Functions- Money Market vs Capital Market- Capital market instruments – Equity shares, Debentures or Bonds-Global Financial Instruments: ADR, GDR & FCCB

Module III: Primary and Secondary Market

Industrial securities market- New issue Market-Functions-Origination, Underwriting and Distribution-Method of floating of New issues-Players in NIM- Secondary market and stock Exchanges-Functions-Development of stock exchanges in India- Organisation of stock exchanges-listing of securities-trading:rules, regulations, arrangements and procedure–Depositories and their role – BSE, NSE, OTCEI, stock indices-Mutual Funds–Securities and Exchange Board of India (SEBI).

Module: IV Derivatives

Definition, evolution and benefits of derivatives- Types of Derivatives: Forward-Futures-Options and Swaps-Participants in the derivative markets-Limitations of derivatives.

IV.   Activities for the Students

1. Visit RBI website and understand the functioning of Negotiated Dealing System
2. Download the data of any stock market index NSE or BSE and analyse the trend using Excel.
3. Visit the websites of major commodity exchanges in India and examine the volume of trading and prices.

V. References

1. Bharati V Pathak (2014). Indian Financial System, 4th ed., Pearson, Delhi.
2. Guru Swamy, S (2009): Financial Markets and Institutions, 3rd ed, Vijay Nicole ImprintsPvtLtd,Chennai, TATA Mc Graw Hills Co Ltd, New Delhi.
3. Faboozi, J Frank, Modiglani Franco (2008):Capital Markets-Institution and Instruments, 4th ed, Pearson Education, New Delhi (PHI).
4. Gordan K. Natarajan , Financial Markets and Services, Himalaya Publishing House, Mumbai
5. Guru Swamy,S (2006):Capital Markets, 2nd ed, Vijay Nicole Imprints Pvt Ltd, Chennai,
6. M.Y. Khan (2016), Indian Financial System, Tata McGraw Hill Education Private Limited, New Delhi.
7. Keith, P Ibeam (2005): Finance and Financial Markets, 2nd ed, Palgrave Mc Milan.
8. Bhole, L M (1999): Financial Institutions and Markets, TATA Mc Graw Hill Co Ltd, NewDelhi
9. S.S.S Kumar (2012). Financial Derivatives, PHI Learning Pvt Ltd, New Delhi.

Course Category: Open Course 1
Course Title and Code: **Economics in Everyday Life, BEC5D01.**
No. of Credits: 3
No. of Contact Hours: 54

I. Course Objective

The objective of this course is to transmit the basic body of economics to the non-economic students. It enables them recognize the importance of economic science in their everyday life. The emphasis will be on thinking like an economics graduate and the course will illustrate how various economics concepts can be applied to analyse real-life situations.

II. Course Outcomes

1. Non-economic students understand the basic concepts in economics.

2. Students understand and explain basic concepts from micro and macroeconomics.

3. Students will be able to explain the basic economic concepts in microeconomics and recognize how supply and demand affect the market economy.

4.   Students understand and evaluate different concepts and measurements of national income.

5. Students will be able to demonstrate knowledge in fiscal and monetary policy, and their effects on the economy.

6. Students understand the different aspects and terms of the budget.

7. Students will be able to understand various economic indicators.

8. The students are expected to acquire skill that will help them to take rational decisions in various economic conditions

III. Course Outline

Module 1:Introduction to Economics

Meaning of economics-Nature and Scope of economics-Microeconomics and Macroeconomics-Individual Choice: The core of Economics-Four Principles-Economic Models: Circular flow and Production Possibility frontier-Production possibilities and opportunity cost

Module 2: How Markets Works

Meaning of Market-Types of market- factor market, goods market-labour market, financial market-Four market structure (Concept only)- perfect, monopoly, monopolistic and oligopoly, Demand -Law of demand, Shifts and market demand–Supply, Law of Supply, Shifts and market Supply–Market equilibrium–Price Elasticity of Demand: Types and determinants –Income and cross price elasticity,

Module 3: Measuring and interpreting economic figures

Importance of interpretation of economic figures-Aggregate output and income- GDP-nominal and real GDP, GDP deflator, GNP, Per Capita income, GDP growth rate- meaning of sustainable economic growth-Price indices and inflation rate- Deflation, Hyperinflation, and Disinflation, Unemployment-HDI – its calculations and interpretations- Sensex and Nifty, exchange rate- spot and forward (concept only)

Module 4: Public Policies

Fiscal and monetary policies: objectives, meaning and instruments, bank rate, repo rates, reverse repo rate. (Concepts only). Budget - Revenue Budget and Capital Budget – Deficit: Revenue Deficit, Fiscal Deficit

IV. Activities

1. Read 'Economics of small things'
2. Read newspapers and find economics terms
3. Demand and supply analysis based on news
4. Practice questions on elasticity
5. Works on GDP – Part of GDP or not
6. Calculation of inflation using price index
7. Activity on investment decision
8. Group activity on HDI
9. Evaluate monetary policy
10. Works on central or state budget

V. Reference

1. N. Gregory Mankiw (2012), Principles of Microeconomics, Seventh Edition, Cengage Learning.
2. Paul Krugman, Robin Wells Microeconomics, Worth Edition
3. Michael Parkin (2019) Microeconomics, Pearson
4. Dominic Salvatore. (2008), Microeconomics, Theory and Applications, Fifth Edition, Oxford University Press, New Delhi.
5. Gregory Mankiw (2010), Macroeconomics, Sixth Edition, Worth Publishers.
6. D.N Dwivedi (2016), Macroeconomics: Theory and Policy, Tata McGraw Hill, New Delhi.
7. Kennedy, Maria John (2012): Public Finance, Prentice Hall of India.
8. Salvatore, Dominic. (1997), International Economics, PHI, New York.
9. Oxford Dictionary of Economics.
10. The Penguin Dictionary of Economics.
11. The New Palgrave Dictionary of Economics.

Course Category: Open Course 2
Course Title and Code: **International Trade and Finance, BEC5D02.**
No. of Credits: 3
No. of Contact Hours: 50

I. Course Objective

The course intends to provide an introduction to theories and concepts of international economics. It also introduces students to both classical and modern theories of international trade and commercial policies adopted by various countries. Finally it gives an account of foreign exchange market and balance of payment.

II. Course outcome

1. Students compare and contrast different trade theories and understand the ways in which free trade and restrictive trade policies could be practiced

2. Students understand the functioning of foreign exchange markets in the world and students relate different exchange rate systems

3. Students demonstrate the Balance of payments (BOPs) of nations and analyse different instruments to clear BOP disequilibrium

4. Students understand the role of international agencies in promoting world trade and economic cooperation.

III. Course outline

Module I: Introduction to International Trade

Importance of International Trade - Inter-dependence among countries - The concept of Trade as an engine of Growth'- Arguments for and against free trade-Terms of trade

Module II: Basic Theories of International Trade

Absolute and Comparative Cost Advantage theories - Hecksher – Ohlin Theory and Leontief Paradox.

Module III: Theory of Commercial Policy:

Protection - Arguments for and against protection - Methods of Trade Restriction: Tariff and non-tariff trade barriers - Types of tariffs – New protectionism - export subsidy and countervailing duties - Dumping and anti-dumping duties – Forms of Economic Integration.

Module IV: Foreign Exchange and Balance of Payment

Components of foreign exchange - Exchange rate determination (mention floating and fixed exchange rate; specify mint parity, PPP and supply and demand) - Devaluation, revaluation, appreciation and depreciation of currency. – BOP and BOT - Disequilibrium in BOP

IV. Reference:

1. Salvatore, Dominic. (1997), International Economics, PHI, New York

2. Paul Krugman and Maurice Obstfeld (2002), International Economics: Theory and policy, PHI, Newyork.

3. Dwivedi DN (2013), International economics Theory and policy, S.Chand (G/L) & Company Ltd; First edition

4. Prakash G (2013), International finance 2/e PB, McGraw Hill Education India

5. Soderstein and Geoffrey Reed (1999), International Economics, Palgrave.

6. Francis Cherumilam (2008), International Economics, McGraw Hill Education India Private Limited.

7. Mannur, H.G (1999). International Economics, 2nd Edition S. Chand (G/L) & Company Ltd.

8. Robert J Carbaugh (2008), International Economics, 12th edition, South western Cenegage,

Course Category: Core Course 11
Course Title and Code: **Macroeconomics II, BEC6 B11**
No. of Credits: 4
No. of Contact Hours: 90

I.   Course Objectives

The course aims to deal with theories of inflation and unemployment and encourage for detailed study of different views in saving and investment with the light of Classical and Keynesian economics. The course also intends to understand IS-LM framework and analyze different phases of trade cycle, and demonstrate various trade cycle theories

II.   Course Outcome

1. Students understand and derive IS-LM curves and use the framework to explain the working of an economy

2. Students explain the way fiscal and monetary policy works and apply the concept of ISLM framework.

3. Students explain the concept and measurement of inflation and unemployment.

4. Students explain the trade-off between inflation and unemployment as predicted by the Phillips curve and its collapse after the stagflation of 1970s.

5. Detailed study of different views in saving and investment with the light of Classical and Keynesian economics.

6. Students analyze different phases of trade cycle, and demonstrate various trade cycle theories

III. Course Outline:

Module I: Theories of Inflation and Unemployment

Inflation, Disinflation and Deflation - Types of Inflation – Causes and Effects of Inflation - Disinflation and Sacrifice ratio - Measurement of inflation- Price Index Numbers: CPI and WPI – GDP deflator- Measures to control inflation - Demand pull versus cost push inflation- Mixed inflation – Expected Inflation - Stagflation - Inflationary gap and deflationary gap – Inflation and Interest Rate – Fisher Effect - Interest rate: Real vs Nominal – Meaning and types of unemployment - Okun's law – Phillips curve: Short run and Long run

Module II: Money Nature of money-types-functions-time preference-interest rate: real and nominal- bond- relationship between bond price and interest rate-Theories of Demand for money-Liquidity Preference theory-Friedman''s re-statement of Quantity Theory of Money. RBI measures of money supply – Credit creation -money multiplier, currency deposit ratio and high powered money. Monetary policy in India: Meaning, Goals, Quantitative and qualitative Instruments

Module III Elementary IS-LM Model

Goods Market and IS Curve - Keynesian Cross - Government Purchase Multiplier - Tax Multiplier- Derivation of IS curve - Slope and Shifts of IS curve- Money Market and LM Curve-The liquidity Preference and derivation of LM curve – Slope and Shifts of LM curve - Short-run equilibrium.

Module IV: Macro economic Instability:

Business Cycle- meaning- types and phases- Great Depression and Interpretations- Keynesian Effective demand Hypothesis - The monetary approach of Friedman- Trade cycle theories: Hawtrey, Hayek and Schumpeter - Global recession of 2008: Genesis and impact over various countries.

IV. Students Activity:

1. Submit an assignment by making a comparative analysis of last two quarterly monetary reports of RBI.

2. Submit a report by tracing out unemployment rates in select developed and developing countries.

V. References

1. Gregory Mankiw (2010), Macroeconomics, Sixth Edition, Worth Publishers.

2. Richard T. Froyen (2008), Macroeconomics - Theories and Policies, Tenth Edition, Pearson education.

3. D.N Dwivedi (2016), Macroeconomics: Theory and Policy, Tata McGraw Hill, New Delhi.

4. Maria John Kennnedy (2013) Macroeconomic Theory, PHI Learning, New Delhi.

5. Rudiger Dornbusch, Stanley Fischer and Richard Startz (2005), Macroeconomics, Twelfth Edition, McGraw-Hill Economics.

6. Errol D'Souza (2008), Macro Economics, Pearson Education.

7. Edward Shapiro (1982), Macroeconomic Analysis, Oxford University press.

8. Eugene Diuto (2010), Macroeconomic Theory, Shaums's Outline Series.

9. Nattrass, Nicoli and VisakhVarma, G (2014): Macroeconomics Simplified: Understanding Keynesian and Neoclassical Macroeconomic Systems, Sage publications India, New Delhi.

Course Category: Core Course 11
Course Title and Code: **International Economics, BEC6B12**
No. of Credits: 4
No. of Contact Hours: 90

I.   Course Objectives

The course intends to provide an introduction to concepts and theories of international economics. It introduces students to both classical and modern theories of international trade and the commercial policies adopted by various countries. Finally it gives an account of foreign exchange market and balance of payment.

II.   Course Outcome

1. Students identify the basic difference between inter-regional and international trade and evaluate how international trade promotes economic development.

2. Students compare and contrast different trade theories and understand the ways in which free trade and restrictive trade policies could be practiced.

3. Students understand the functioning of foreign exchange markets in the world and relate different exchange rate systems.

4. Students appreciate the Balance of payments (BOPs) of nations and analyse different instruments to clear BOP disequilibrium.

5. Students understand the role of international agencies in promoting world trade and economic cooperation.

III.   Course Outline

Module I: Introduction to International Economics:

Subject matter and importance of International Economics - Internal trade and International trade -Importance of International trade – International trade and economic development – Basic concepts - Terms of trade

Module II: Theories of International Trade:

Mercantilist approach to trade - Classical Theory: Absolute and Comparative Cost Advantage theories - Hecksher – Ohlin Theory and Leontief Paradox.

Module III: Theory of Commercial Policy:

Free trade - Arguments for and against free trade GAAT and WTO and Major Agreements – Protection - Arguments for and against protection - Methods of Trade Restriction : Tariff and non-tariff trade barriers - Types of tariffs – New protectionism - export subsidy and countervailing duties - Dumping and anti-dumping duties – Economic Integration –EU, NAFTA, ASEAN, SAARC

Module IV: Foreign Exchange:

Foreign exchange market – functions - Defining foreign exchange and exchange rate – Exchange rate concepts – exchange rate changes (devaluation, revaluation, depreciation, appreciation-overvaluation and undervaluation)–Different systems of exchange rate determination - fixed and flexible exchange rate – Hybrid exchange rate systems – Managed floating – Theories of exchange rate – Mint Parity theory – Purchasing Power Parity Theory – Balance of Payments Theory - Foreign exchange market: functions, participants and transactions.

Module V: Balance of Payments:

Balance of payments- Components- Balance of Trade and Balance of Payments - Accounting Principles- Basic balance- Overall balance of payment- Accounting balance of payment- Autonomous and Accommodating transactions- BoP Surplus and deficit- BoP Adjustment and Settlement- Equilibrium and disequilibrium in BOP – Policies to correct BOP disequilibrium - International financial flows –, IMF-IBRD, Role and Functions

IV.   **Reference:**

1. Salvatore, Dominic. (1997), International Economics, PHI, New York

2. Paul Krugman and Maurice Obstfeld (2002), International Economics: Theory and policy, PHI, Newyork.

3. Dwivedi DN (2013), International economics Theory and policy, S.Chand (G/L) & Company Ltd; First edition

4. Prakash G (2013), International finance 2/e PB, McGraw Hill Education India

5. Soderstein and Geoffrey Reed (1999), International Economics, Palgrave.

6. Francis Cherumilam (2008), International Economics, McGraw Hill Education India Private Limited.

7. Mannur, H.G (1999). International Economics, 2nd Edition S.Chand (G/L) & Company Ltd; .

8. Robert J Carbaugh (2008), International Economics, 12th edition, South western Cenegage,

Course Category: Core Course 12
Course Title and Code: **Development Economics, BEC6B13**
No. of Credits: 4
No. of Contact Hours: 90

I. Course Objectives

This course begins with a discussion of alternative concepts of development. Students can understand various theories of growth and development and analyze the problem of developing economies and the concepts of planning and the relevance of planning. This course introduces students to the basics of development economics with in-depth discussions of the concept of development, growth, poverty, inequality, gender issues, environment and development. It also introduces them how population growth affect economic development

II. Course Outcome

1. To understand various theories of growth and development and analyze the problem of developing economies.
2. To understand the concepts of planning and the relevance of planning.
3. To analyse the conflicting views of population growth and development& the role of Human capital to economic development.
4. To understand important issues in development like poverty, inequality, gender issues and environment and development

III. Course Outline

Module 1: Perspectives on Development Economics

The subject matter of Development economics - Meaning of Growth and Development - measurements of development –GDP, PCI, PQLI, HDI, HPI, GDI, GEM, Multi-Dimensional Poverty index – Happiness Index

Module 2: Theories of Development

Problems of under-developed countries, vicious circle of poverty, Low-level equilibrium trap, critical minimum effort, Big Push theory, Balanced versus Unbalanced growth theory, Stage theories – Marxian and Rostow

Module 3: Economic Planning

Concept, meaning and types of planning, Relevance of planning in the context of globalization-

Module4: Population Growth and Economics development

Population and Economic Development: Conflicting Views – Malthusian theory of Population and it's criticisms – Theory of demographic transition – Demographic dividend –

Human capital approach to economic development – Role of education and health – Sen's Capability Approach.

Module 5: Issues in development

Poverty – measurement and classification, Inequality and its measurement (Kuznet'sinverted U Hypothesis, Lorenz curve and Gini coefficient), Trickle-down theory and its failures - Gender issues – the concept of missing women. Environment versus development – the concept of sustainable development, limits to growth, global warming.

IV. Student Activities

1. To identify the resource base of Local self-Government and analyse the major hurdles faced by them

2. To identify major development issues of your local self-government(educated unemployment, gender issues, poverty etc)

V. References

1. Todaro, Michael P and Stephen C Smith(2014): Economic Development, Pearson, New Delhi

2. Ghatak, Subrata (2003): Introduction to Development Economics, 4th ed, Routledge, London.

3. Somasekhar, N T (2007): Development Economics, New Age International, New Delhi.

4. Taneja, M L and Myer R M (2014): The economics of Development and Planning, Vishal Publishing, Punjab.

5. Thirlwal, A P (2011): Growth and Development with special reference to developing Economies, Palgrave MacMillan, London.

6. Hayami, Yujiro and Yoshihisa Godo (2014): Development Economics-from Poverty of nations to the wealth of Nations, Oxford University Press, New Delhi.

7. Ray, Debraj (2014): Development Economics, Oxford University Press, New Delhi.

8. Perkins, et al (2001): Economics of Development, W.W Norton Company, USA.

Course Category: Core Course 14
Course Title and Code: **Public Finance,BEC6B14**
No. of Credits: 4
No. of Contact Hours: 90

I.   Course Objective

This course deals with the rationale for government intervention and how the government uses instruments of fiscal policy for the functions of allocation, distribution and stabilisation. Specifically, the course involves a study of principles and effects of taxation, theories of public expenditure, procedures of budgeting, principles and practice of federal finance.

II.   Course Learning Outcomes

Students should be able understand the need for government intervention and also the implications of principle of maximum social advantage. They also should be able to realise the methods of raising revenue and equity aspects of taxation and principles of taxation. They also should be capable of understanding the causes and consequences of increasing public expenditure and public debt. They should be capable of analysing the budgets of central and state governments.

III.   Course Outline

Module I: Introduction to Public Finance

Meaning and scope of public finance - Musgrave's three function of government –Need for Government Intervention in capitalist and mixed economies - Public and Private Finance – Principles of Maximum Social Advantage: Approaches of Dalton and Musgrave – Public Goods, Private Goods, Mixed Goods and Merit Goods (Concept only)

Module II: Public Revenue

Meaning and Sources of Public Revenue – Tax: Definition, Features and objectives – features of good tax system – Various classifications of taxes – Canons of Taxation – Principle of equity: Horizontal and Vertical –Principles of taxation: cost of service, ability to pay and benefit principles– Impact and incidence of tax–Tax Shifting and its influencing factors– Effects of Taxation– Laffer Curve – Taxable capacity–Tax Buoyancy and Tax Elasticity - Indian Tax System: Features and Problems–Major direct and Indirect Taxes in India.

Module III: Public Expenditure and Public debt

Canons and classification of Public expenditure-Theories of public expenditure – Wagner's law – Peacock-Wiseman Hypothesis –Effects of Public Expenditure–Causes for the growth of public expenditure in India –Public Debt: Meaning, Types of Public Debt, Debt Redemption methods.

Module IV: Basics of Budgeting and Fiscal policy

Meaning of Budget–Procedures of Budgetary in India–Actual, Budget, and Revised Estimates -Development and non-development expenditure- Revenue Receipts and Revenue Expenditure- Capital Receipts and Capital Expenditure –Budget Deficit - Revenue deficit - Effective Revenue deficit -Fiscal Deficit - Primary Deficit- Golden Rule of Deficit - Deficit Financing-Fiscal policy: objectives and instruments-Gender Budgeting in India.

Module V: Federal Finance

Meaning, Principles and need of Federal Finance - constitutional distribution of functions and revenues between centre and state-Meaning of vertical and horizontal imbalances- Functions of Finance commission-Local Finance: Functions and Revenues.

IV. Activities for the Students

1. Examine the changing role of the government in the neo liberal regime.
2. Analyse the annual financial statement of central and state governments and understand the changes in the contribution of major revenue sources.
3. Examine the budget documents and analyse the implications of fiscal deficit for budgeting process.
4. Conduct discussions with the representatives of the local self-governments and prepare a report about the major revenue sources and expenditure items.

V. References

1. Kennedy, Maria John (2012): Public Finance, Prentice Hall of India.
2. Om Prakash (2012):Public Economic Theory and Practice, Vishal Publishing Co, Jalandhar,
3. Musgrave and Musgrave(1976): Public Finance Theory and Practice, Mc Graw-HIll, Kogakhusa, Tokyo.
4. Dalton, Huge (1971): Principles of Public Finance, Rontledge and Hegan Paul Limited, London.
5. Herber, B. P (1976): Modern Public Finance, Richard D Iruin, Homewood.
6. Hindrick, Jean and Gareth D Myles (2006): Intermediate Public Economics, Prentice Hall of India
7. N. Radhakrishnan (2012), Public Finance, Theory and Approach. Vrinda Publications.
8. Lekhi, R K (2003): Public Finance, Kalyani Publications, New Delhi.

Course Category: Elective 1
Course Title and Code: **Research Methodology and Data Sources, BEC6E01**
No. of Credits: 3
No. of Contact Hours: 50

I.   Course objectives:

The course aims to introduce undergraduate students to the importance of research methodology and various data sources. They should be equipped with the ability to understand and participate in the process of economic research. The students will be able submit their project reports in a systematic manner.

II.   Course outcome

1. To conduct scientific research in the field of economics using secondary and primary data

2. To provide a strong foundation in secondary data sources in Indian context and familiarize with concepts and definitions of these official data sources. .

3. To acquire thorough understanding of research methodology that facilitate transition to higher research programs and careers in data anlayis.

III.   Course Outline

Module I: Introduction to Research Methodology

Research meaning and significance - Characteristics of scientific Research - Type of research: pure, applied, analytical, exploratory, Descriptive, surveys, Case-study - Research process - Topic identification - literature review and note taking - Role of computer technology in research **-** Writing a Research Proposal

Module II: Indian Data Sources and Concepts

National Accounts statics (NAS) and Macro-economic Aggregates, NSSO Consumer Expenditure Survey (Concepts: MPCE, URP, MRP, MMRP) Employment and Unemployment Survey (Concepts: Activity status by reference period, types of employment status, LFPR, WPR, PU and UR) Census of India (Concepts: Vital statistics, work and classification of work) NFHS and Measurement of Nutrition status, Structure and contents of Economic Survey, Kerala Economic Review and Panjayat level statistics

Module III: Report Writing

Format of a Research Report: Title to Bibliography - Citation and Referencing using APA Style **-** Analyzing economics in the news and writing reports for news paper

IV.   References

1- Krishnaswamy, O.R. Methodology of Research in Social Sciences, Himalya publishing House, 1993.

2- William J Goode and Paul K Hatt (1981): Methods in Social Research- McGraw-

Hill.

3- Pauline V Young: Scientific Social Surveys and Research- Prentice Hall India Pvt Ltd.

4- Wilkinson and Bhandarkar (2002) Methodology and Techniques of Social Research- Himalaya Publishing House.

5- Marc Blaug: The Methodology of Economics, or How Economics Explain- Cambridge University Press.

6- Wilkinson and Bhadarkar: Research Methodology.

7- C.R Kothari (2004), Research Methodology: Methods and Techniques- New Age International, New Delhi

8- Ranjith Kumar (2011), Research Methodology a Step- by- Step Guide for Beginners, Sage Publications New Delhi.

9- Christopher F. Baum (2006) An Introduction to Modern Econometrics Using Stata. Stata Press.

10- MOSPI (2014), Level and Pattern of Consumer Expenditure 20ll-12, NSSO, Government of India

11- MOSPI (2014), Employment and Unemployment Situation in India, 68th Round, NSSO, Government of India

V.   Students' Activities

1. Write an article about contemporary economic event (national or global) using economic theory and submit to any national newspaper.

2. Download any NAS Macroeconomic aggregate data, make a time series analyis and present it graphically.

3. Conduct a survey in any relevant topic and submit the report

Course Category: Elective 2

Course Title and Code: **Behavioral Economics, BEC6E02**

No. of Credits: 3

No. of Contact Hours: 50

I.   Course Objective

The aim of this course is to acquaint and train students with main areas of behavioral economics, focus would be rendered on behavioral implications of theoretical models. Some of the areas of behavioral economics include bounded rationality, decision making under risk and uncertainty.

II.   Course Outcomes

1. Knowledge of how incorporating human behavioral/psychological factors into standard theories and improve the predictive power of economic theories.

2. Able to discuss the theories of rational choice under certainty and uncertainty

3. Demonstrate understanding of how behavioral economics can be used to improve decision making process.

III.   Course Outline

Modules 1. Introduction to Behavioural Economics

Introduction to Behavioral Economics; What is Behavioral Economics? Behavioral Economics and the Standard Economic Models (The Neoclassical Repairshop); Evaluating Economic Theories; History and Evolution: the Neoclassical Approach; The Resurgence of Psychology. Birth of Behavioral Economics as we know it; Methodology and Data Sources (Economics and Psychology)

Module 2. Rationality Bounded Rationality; The notion of Bounded Rationality– The emergence of bounded rationality; Ecological Bounded Rationality; Fast and Frugal Heuristics

Module 3. Decision making Decision-making Under Risk and Uncertainty; Expected Utility Theory (Axioms); Anomalies in Expected Utility Theory; Prospect Theory – Editing Phase and Comments – Evaluation Phase – Reference Point – Loss Aversion.

IV.   References

1. Dhami S., (2016), The Foundations of Behavioral Economic Analysis, Oxford UniversityPress

2. Camerer, C. F., Loewenstein, G., & Rabin, M. (Eds.). (2004). Advances in behavioral economics. Princeton university press.

3. Handbook of Behavioral Economics - Foundations and Applications 1

4. Gigerenzer, G. (2008). Gut feelings: Short cuts to better decision making. Penguin Uk

5. Gigerenzer, G., &Selten, R. (Eds.). (2001). Bounded rationality. CogNet.

6. Sunstein, C. R., & Thaler, R. H. (2014). Nudge: Improving decisions about health, wealth, and happiness

7. Ariely, D., & Jones, S. (2008). Predictably irrational. New York, NY: Harper Audio.

8. Kahneman, D. (2011). Thinking, fast and slow. Macmillan.

9. Duhigg, C. (2012). The power of habit: Why we do what we do in life and business. Random House.

Course Category: Elective Course 3
Course Title and Code: **Data Analysis Using MS Excel, BEC6E03**
No. of Credits: 3
No. of Contact Hours: 50

I.   Course Objective

In this Course, students will create and edit basic worksheets and workbooks. This course is designed for students who want to gain the necessary skills to create, edit, format, and print basic Microsoft Excel worksheets and to use it for solving various statistical and mathematical problems.

II.   Course Outcomes

1. To understand the basics of Excel
2. To train the students in creating graphs and analyzing the data using data analysis tool pack
3. To make the students known the use of Pivotal Table
4. To solve various mathematical and statistical problems using MS. Excel

III. Course Outline

Module 1: Introduction to Excel

1. Excel, Uses of Excel, Spreadsheet window pane, Menus in Excel,
2. Columns & Rows: Width and Height, Hiding and Unhiding Columns Inserting & Deleting Columns & Rows,
3. Cell: Address, Components, Format, formula, Ranges
4. Functions: Sum, Average, if, Count, max, min,
5. Advance Formulas: Concatenate, Vlookup, Hlookup, Match, Countif,
6. Creating Charts: Plotting and Formatting Chart
7. Data Analysis: Sorting, Filter, Text to Column, Data Validation
8. Pivot Tables: Creating and Manipulating a PivotTable

Module 2: Mathematical Applications in Excel

1. Basic Mathematical Operations
2. Handling with graphs-plotting, slope and shifting-
3. Solving of equations-system of linear equations and quadratic equations-
4. Optimisation techniques-constrained and unconstrained
5. Matrix operations in excel.

Module 3: Statistical Applications in Excel

1. Computation of Measures of Central tendency, dispersion for raw, discrete and continuous data
2. Graphical Presentation of data: Histogram, Frequency polygon, Ogives, Bar and Pie
3. Computation of co-efficient of Skewness and Kurtosis
4. Fitting Binomial and Poisson distribution using MS Excel
5. Fitting of a Straight line and Parabola by OLS
6. Computation of Correlation and regression Co-efficient-Coefficient of determination
7. Test for Means in small and Large Sample using MS Excel.

IV.   References

1. Kenneth N. Berk, Data Analysis with Microsoft Excel
2. Manohar Hansa Lysander, Data Analysis and Business Modelling Using Microsoft Excel
3. D. P. Apte, Statistical Tools for Managers: Using MS Excel

4. Mario F Trinla (2013), Elementry Statistics using Excel- 5th edition, Pearson.

Course Category: Elective Course
Course Title and Code: **Environmental Economics, BEC6E04**
No. of Credits: 3
No. of Contact Hours: 50

I.   Course Objectives

This course aims to familiarize with issues related to the environment and they try to find innovative ideas to overcome the problems. And also aims to identify different economic theories and apply those in to environmental issues and develop an environmental protection initiatives among students

II.   Course Outcome

1. Students should be familiar with issues related to the environment and they try to find innovative ideas to overcome the problems

2. The course helps to identify different economic theories and apply those to environmental issues.

3. It helps to develop environmental protection initiatives among students.

4. It helps to create and implement various policies regarding nature protection.

III.   Course Outline:

Module I: Introduction to Environmental Economics

Environmental Economics – origin – development – Scope – Ecology and eco systems - Material balance model - Economics of natural resources - relationship between environment and economy – Resources taxonomy – renewable and non-renewable resources – common property resources – tragedy of commons.

Module II: Externalities, Market Failure and Environmental Valuation

Public Goods – Externality – Market Failure – Pigovian Tax and Subsidies – Property rights and Coase theorem – valuation of environmental benefits and costs – direct and indirect methods of environmental valuation – cost benefit analysis – Net Present value – Contingent valuation method – travel cost method – hedonic price method – Averting expenditure method – market and non market benefits of pollution control – Environmental impact Assessment

Module III: Environmental Policy

Instruments of Environmental Policy - CAC – price based and quantity based instruments– permit system – Choice among policy instruments – The Indian experience – Criteria for evaluating environmental policies - environmental regulations and local economic activity

IV. Reference

1. Ashwani Mahajan (2010), Environmental Economics, Centrem Press.
2. Charles D Kolstad (2012), Environmental Economics, Oxford University Press.

3. Dhingra I. C (2012), Indian Economy: Environment and Policy, Sultan Chand & Sons, New Delhi.

4. Eugene T, (2006), Environment Economics, Vrinda Publication New Delhi

5. Katar Singh and Anil Shishodia (2007), Environmental Economics, Theory and Applications, Sage Publications, New Delhi

6. Nick Hanley et al (2007), Environmental Economics: Theory and Practice, Palgrave Macmillan.

7. Paul Aekins (2000), Economic Growth and Environmental Sustainability, Routledge, London.

8. R N Bhattacharya (2002), Environmental Economics, An Indian Perspective, Oxford University Press, New Delhi.

9. Fisher, A.C. (1981), Resource and Environmental Economics, Cambridge University Press, Cambridge.

10. Hussen, A.M. (1999), Principles of Environmental Economics, Routledge, London.

11. Kolstad, C.D. (1999), Environmental Economics, Oxford University Press, New Delhi.

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CERTIFICATE COURSE

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Course Name: **Computational Economics with R Programming**

I. Course objective

This course intends to learn the basics of R programming and analyze many different types of economic data. The course is open to both under graduates and post graduates in Economics with minimum requirement of basic econ, math/stat, and PC computing experience.

II. Course outcome

The student will be able explore and visualize data using with more advanced statistical and econometric tools. The student will be able to explore wide range of possibilities in data analysis using R. The course is learning by doing in nature.

III. Course Outline

Module 1: Introduction to R and R Studio

Introduction to R interface and R Studio. Basics of R programming, R Markdown files, Primitive Object Types: Vectors, List, Matrices, Arrays, Factors, Data frames.

Module 2: Loops and Functions in R

for, while and if-else loops in R. Functions in R: functions vs. loops; application of R functions

Module 3: Working with Data

Importing and exporting data, data extraction: NSSO/ASI, data cleaning, data formatting and wrangling, Accessing external databases from R console: Yahoo Finance/WDI and other free data sources. Introduction to tidyverse.

Module 4: Data Analysis-I

Summary statistics: correlation and covariance; probability distributions, sampling, hypothesis testing: T test, F test, Chi-square test. Data Visualization

Module 5: Data Analysis-II

Regression in R, Constructing an OLS model, Pre-estimation and post estimation diagnostic testing, ANOVA, Forecasting, Dummy variable regression, Logistic regression models.

References

1. Data analytics with R, Bharti Motwani (1st Edition) , Wiley,2019

2. The R Book, Michael J Crawley (2nd Edition), Wiley, 2018

3. An Introduction to Statistical Learning: with Applications in R (Springer Texts in Statistics) Gareth James et al. (7th Edition), Springer, 2017

4. Econometrics in R, Grant V Farnsworth, Ebook, https://cran.r project.org/doc/contrib/Farnsworth-EconometricsInR.pdf