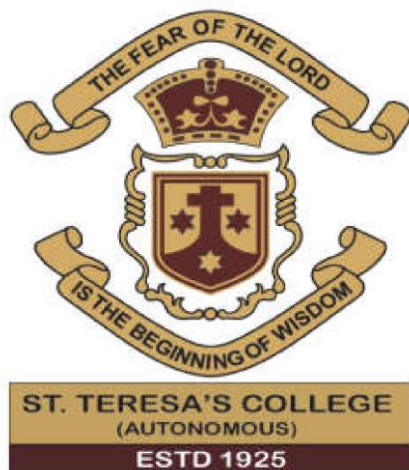

**ST.TERESA'S COLLEGE (AUTONOMOUS),
ERNAKULAM**
Affiliated to Mahatma Gandhi University, Kottayam



CURRICULUM AND SYLLABI FOR THE PROGRAMME

B.A. ECONOMICS

Program Code: BECO

and

Complementary Courses

**Under Choice Based Credit and Semester System
(2023 Admission Onwards)**

St. Teresa's College (Autonomous), Ernakulam

Department of Economics

Board of Studies in Economics (2021-2024)

Sl. No	Category	Name	Designation	Official Address
1	Chairperson (HOD)	Dr. Mary Liya C.A	Assistant Professor and Head	Department of Economics, St. Teresa's College, Ernakulam
2	Faculty Member	Smt. Sujatha.R. E.	Associate Professor	Department of Economics, St. Teresa's College, Ernakulam
3	Faculty Member	Dr.Thushara George	Associate Professor	Department of Economics, St. Teresa's College, Ernakulam
4	Faculty Member	Dr. Anupa Jacob	Assistant Professor	Department of Economics, St. Teresa's College, Ernakulam
5	Faculty Member	Dr. Swathy Varma P.R	Assistant Professor	Department of Economics, St.Teresa's College, Ernakulam
6	Faculty Member	Dr. Pearly Antony O.	Assistant Professor	Department of Economics, St. Teresa's College, Ernakulam
7	Faculty Member	Smt. Anju George	Assistant Professor	Department of Economics, St.Teresa's College, Ernakulam
8	Faculty Member	Sr. Shine Brijit	Assistant Professor	Department of Economics, St.Teresa's College, Ernakulam
9	Faculty Member	Smt. Soumya K	Assistant Professor	Department of Economics, St.Teresa's College, Ernakulam
10	Faculty Member	Ms. Dona Pius	Assistant Professor	Department of Economics, St.Teresa's College, Ernakulam
11	Subject Expert - 1 Outside MG University	Dr. Shaijumon C.S	Associate Professor & Head	Department of Humanities, IIST, Thiruvananthapuram
12	Subject Expert - 2 Outside MG University	Dr.D. Retnaraj	ICSSR Fellow	ICSSR Fellow Gulati Institute of Finance and Taxation, GIFT Campus, Sreekariyam,

				Thiruvananthapuram
13	Subject Expert - 3 Outside MG University	Smt.Praveena K K	Assistant Professor	Govt. Brennen College, Thalassery, Dharmadam
14	University Nominee	Dr. Parvathy P	Associate Professor	Department of Economics Govt. Victoria College, Palakkad
15	Representative from Industry/ Corporate Sector/ Allied field related to placement	Mr.Sudheer Mohan	Director, Wipro Digital	Director, Wipro Digital
16	Alumni Representative	Dr. Renu Susan Samuel	Assistant Professor	Department of Economics, St. Peter's College, Kolenchery, Ernakulam

PREFACE

The curriculum, which encompasses the totality of student experience, should ensure a collective and dedicated effort to birth an inspiring academic culture in a campus. It is this vision of quality knowledge, its production and transmission that has fueled the Teresian quest for essential and elemental student development. St. Teresa's College has taken meticulous care in the conception of the new well-balanced curriculum by retaining the fundamental prerequisites mentioned by the University/Higher Education Council. With the constraints of a prescribed syllabus in mind, we have created an academic sanctuary, where a deeper access to knowledge is achievable to students and teachers as well.

The Syllabus restructuring of 2023 instigates opportunities of real-world learning to equip a modern scholar with the practicality of experience. As an autonomous institution under Mahatma Gandhi University, St. Teresa's College offers a significant number of Programmes with definite placement windows to the learners. Student knowledge and training across a range of subject areas is efficiently enriched by engaging them in work-based learning, as provided by the revised and restructured curriculum.

The indefatigable effort taken by the teachers in developing Programmes and Course outcomes is commendable. The blossoming of the cognitive and intellectual skills of the scholars, the initiation of a research mentality, and pragmatic skill sets to venture out confidently into a professional space, are the core off-shoots that are anticipated. The curriculum should equip the students to be educators themselves, with a voice that echoes global effectiveness.

I congratulate the efforts taken by the Principal Dr. Alphonsa Vijaya Joseph and her team for restructuring the syllabus in keeping with the latest demands in academia. We trust that the syllabus will transform minds to embark upon higher academic summits and thereby mould learners who will make significant contributions to the world. We look forward to sharing the outcomes of our restructured curriculum and the positive changes that would reshape the academic lives of all our scholars.

Dr. Sr. Vinitha (Sr. Celine E)

Manager

FOREWORD

The most significant characteristic of an autonomous college is its commitment to curriculum renewal or revision. Academic autonomy has granted the college the freedom to fine tune the syllabus keeping in mind the changing needs of the new generation of students, the new educational scenario in the global context and incorporation of skill based curricula. Revision of the syllabus implies responsibility and accountability and this in turn leads to excellence in academics and proactive governance. Education in the current scenario throws up a multitude of challenges and the curricula and syllabi ought to reflect the paradigm shift that has occurred in the various disciplines.

A revision of the syllabus is implemented by modifying the curriculum after review to evaluate the effectiveness of the curriculum after it has been implemented and to reflect on what students did and did not get out of it. In line with the new Educational policy, a big educational reform can be effected by restructuring of syllabi to maintain a high level of quality in the standard of education that we impart.

The three themes under Higher Education relevant to policy initiative for restructuring of the curriculum i.e., integrating skill development in higher education, linking higher education to society and integration of new knowledge are considered with utmost importance during revision of the syllabus.

Outcome-Based Education emphasizes that the learning process is innovative, interactive and effective, where the main goal is student achievement at the end of the learning period. St. Teresa's College in its pursuit of imparting quality education has adopted Outcome Based Education (OBE) system that involves restructuring of curriculum, academic processes, teaching methodologies, assessment and evaluation systems in education to reflect the achievement of high order learning. It is a student-centric instruction model that focuses on measuring student performance through outcomes that include knowledge, skills and attitudes.

The revised syllabus and curriculum is the result of the combined efforts of the members of the Board of studies, curriculum expert committee and the syllabus committee who worked as a team to revise the syllabus and curriculum in the stipulated period. Active consultations were held with various stakeholders to elicit multiple perspectives in higher education which were incorporated in the new curriculum.

With sincere gratitude I acknowledge the instinct support and constant guidance extended by Rev. Dr. Sr. Vinitha, Provincial Superior and Manager, Rev. Sr. Emeline, Director, Dr. Sajimol Augustine M., Senior Administrator, Smt. Betty Joseph, Vice-Principal and Dr. Beena Job, Dean of self-financed programmes. I specially thank the team headed by Dr. Betty Rani Isaac, the Heads of the Departments and all the faculty members for their diligence, commitment and exceptional contribution towards this endeavour.

Prof. Alphonsa Vijaya Joseph

Principal

ACKNOWLEDGEMENT

The Board of Studies in Economics proceeded with the task of restructuring the undergraduate course in Economics of St Teresa's college as per the terms of reference and guidelines given by the UGC, Mahatma Gandhi University and Kerala State Higher Education Council. The restructuring is attempted in such a way as to lay emphasis on student choice and self-learning. The new syllabus would ultimately pave the way for a qualitative transformation from rote/ rule based learning to application oriented knowledge of the principles of economics. While attempting the reforms, the existing conditions relating to infrastructure, work load and staff pattern have been properly taken care of and provision for full utilisation of the existing faculty is proposed.

Since all the programmes within the same stream should have the same number of credits, we have chosen 120 credits. Total number of courses in BA Economics programme is stipulated as 30 which is spread over six semesters. The task of restructuring was done through a series of discussions among members of the Board of Studies, reputed experts, research guides, retired faculty of the department and other resource persons from various universities and colleges. I acknowledge that without the valuable help, guidance and co-operation we have received from various quarters, we would not have been able to function smoothly. I acknowledge with gratitude all the guidance and help given by our Manager, Rev. Dr. Sr. Vinitha CSST, Principal Dr. Alphonsa Vijaya Joseph, Vice Principal Ms. Betty Joseph, Director Rev. Sr. Emeline CSST, Senior Administrator, Dr. Sajimol Augustine M. and Dr. Kala M.S, Professor, Department of Physics, IQAC Co-ordinator, curriculum and syllabus committee 2023 during the course of restructuring of the syllabi. I express my gratitude to all those who gave valuable suggestions and whole-hearted co-operation in making this restructuring a memorable intellectual exercise.

Dr. Mary Liya C.A

Chairperson, Board of Studies in Economics

St. Teresa's College (Autonomous)

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PREAMBLE

The Board of Studies in Economics has designed this curriculum for the undergraduate programme so as to lay a firm foundation in economic analysis with particular emphasis on applications of economic principles to real life situations. It aims at encouraging students to learn the principles of economics with curiosity and scholarly rigor enabling them to have a better comprehension of economic, social, demographic, and business dynamics.

Outcome based education involves assessment and evaluation practices in education reflecting the attainment of expected learning and mastery in the programme. It is a systematic way to determine if a programme has achieved its goal. This approach of learning makes the student an active learner, the teacher a good facilitator and together they lay the foundation for life-long learning. The process includes framing of specific course outcomes at various appropriate levels of taxonomy, mapping the course outcomes of each course with the Programme Specific Outcomes and finally calculating the course attainment based on the marks scored by the student in both the Internal and External assessments.

PROGRAMME OUTCOMES (PO)

On completion of an undergraduate programme from St. Teresa's College (Autonomous), Ernakulam, students should be able to demonstrate the programme outcomes listed below:

PO 1. *Disciplinary knowledge*

- Demonstrate a mastery of the fundamental knowledge and skills required in the discipline to function effectively as an entry-level professional in the field.

PO 2. *Scientific Temper*

- Experiment with new approaches, challenge existing knowledge boundaries and take informed action to solve problems related to society.
- Identify, define, and deal with problems through logical, analytical and critical thinking acquired from different domains of knowledge

PO 3. *Research and Digital Competence*

- Develop a research culture for lifelong learning and demonstrate competency in creating new knowledge.
- Analyze and choose from available data and information sources to communicate, collaborate and network through a range of digital media.

PO 4. *Communication Skills*

- Develop language proficiency through interactions embedded in meaningful contexts.
- Demonstrate communicative competence particularly using technology in social and global environments.

PO 5. *Leadership, Teamwork and Interpersonal Skills*

- Function effectively both as leader and/or member of a team.
- Collaborate and interact effectively with others.

PO 6. *Moral & Ethical Awareness and Social Responsibility*

- Demonstrate social and national responsibility.
- Engage in activities that contribute to the betterment of society, with a preferential option for the economically challenged and the marginalized.

BECO-B.A.ECONOMICS
PROGRAM SPECIFIC OUTCOMES (PSO)

On the completion of B.A. Economics programme, students should be able to demonstrate the programme specific outcomes listed below.

PSO1: Explain the major concepts and the theoretical foundations in Economics (Understand)

PSO2: Analyze socio-economic phenomena using mathematical- quantitative- econometric- logical reasoning skills (Analyse)

PSO3: Evaluate the role of economic forces in markets, business organizations, private -public decision making process, financial systems, domestic and global economies (Evaluate)

PSO4: Develop communication skills to decipher and transmit the basic concepts and emerging trends in Economics and foster social responsibility and environmental consciousness (Apply)

PSO5: Apply the theoretical knowledge and skills to analyze real life situations and focus on applied and policy issues in economics (Apply)

ELIGIBILITY OF THE PROGRAMME

Pass in +2 Examination (Any stream)

PROGRAMME DESIGN

The U.G. programme in Economics must include (a) Common courses, (b) Core courses, (c) Complementary Courses, (d) Choice-based courses (e) open course and (f) Project work and Comprehensive viva -voce. The student shall select any one open course in Semester V offered by any department other than their parent department including the physical education department, depending on the availability of infrastructure facilities, in the institution. The number of courses for the restructured programme should contain 14 compulsory core courses, 1 open course, 1 choice-based course, 1 project considered as core, 4 complementary courses complementing the core of study. There should be 10 common courses, or otherwise specified, which includes the first and second language of study

PROGRAMME STRUCTURE**MODEL I B.A. ECONOMICS**

A	Programme Duration	6 Semesters
B	Total Credits required for successful completion of the Programme	120
C	Credits required from Common Course I	22
D	Credits required from Common Course II	16
E	Credits required from Core course and Complementary courses including Project	79
F	Credits required from Open Course	3

COURSES

The programme (Model I) consists of common courses with 38 credits, core course, Choice based course, and complementary courses with 79 credits and open course with 3 credits.

SCHEMES OF COURSES

Model- I	
Courses	Number
Common Courses	10
Core Courses (Theory)	14
Project and comprehensive viva	1
Open Course	1
Choice based Course	1
Complementary Courses	4
Total	31

COURSES WITH CREDITS

Courses	Credits
Core Courses	58
Open Course	3
Choice Based Core	3
Project & Viva	2
TOTAL	66
Complementary Courses I & 2	8
Complementary Courses III & IV	8
TOTAL	16
Common Courses	38
Grand Total	120

SCHEME OF DISTRIBUTION OF INSTRUCTIONAL HOURS FOR CORE COURSES

Course Code	Title of the Course	Category	Hrs per week
EC1C01B23	Methodology of Social Sciences with Special Reference to Micro Economics	Core	6
EC2C02B23	Micro Economic Analysis	Core	6
EC3C03B23	Economics of Growth and Development	Core	5
EC3C04B23	Public Economics	Core	4
EC4C05B23	Macro Economics – I	Core	5
EC4C06B23	Indian Economy – I	Core	4
EC5C07B23	Environmental Economics	Core	5
EC5C08B23	Quantitative Techniques for Economic Analysis	Core	6
EC5C09B23	Macro Economics – II	Core	6
EC5C10B23	Introductory Econometrics	Core	4
	(Offered by other Departments)	Open course	4
EC6C11B23	Quantitative Economics	Core	6
EC6C12B23	Indian Economy – II	Core	5
EC6C13B23	Money and Financial Markets	Core	5
EC6C14B23	International Economics	Core	5
EC6C15AB23	Business Economics	Choice Based Core Course	4
EC6PRB23	Project	-	-

COURSE CODE FORMAT

The programme is coded according to the following criteria.

- A. The first letter plus second letter/any letter from the programme i.e., EC
- B. One digit to indicate the semester. i.e., EC1 (Economics, 1st semester)
- C. One letter from the type of courses such as, A for common course, B for Complementary course, C for Core course, D for Open course, ie..., EC1C (Economics, 1st semester Core course) PR for project and I for Internship.
- D. Two digits to indicate the course number. ie..., EC1C01 (Economics, 1st semester, Core course, course number is 01)
- E. The letter B to indicate Bachelors Programme.
- F. EC1C01B (Economics, 1st semester, Core course, courses number 01, and B for bachelors Programme)
- G. 23 to indicate the year. ie..., EC1C01B23
- H. The letter PR denotes project ie...Economics Project EC6PRB23
- I. The letter I denotes internship– It should come after the code letter for the course ie..., CI (Core Internship-eg. EC2CI01B23)

ECONOMICS CODES

Code

EC ECONOMICS

ECB ECONOMICS Core Course Theory EC1C01B23, EC2C02B23, EC3C03B23, EC3C04B23, EC4C05B23, EC4C06B23, EC5C07B23, EC5C08B23, EC5C09B23, EC5C10B23, EC6C11B23, EC6C12B23, EC6C13B23, EC6C14B23

Economics Core, Choice Based Theory (EC6C15AB23/ EC6C15BB23/ EC6C15CB23)

ECD Economics Open Course Theory
(EC5D01AB23/EC5D01BB23/ EC5D01CB23/ EC5D01DB23)

ECB Economics Complementary Theory
EC1B01B23/EC2B01B23
EC1B02B23/EC2B02B23
EC3B03B23/EC4B03B23

Please note

If the department offers two different complementary courses, coding is as follows-

First course- (EC1B01B23/EC2B01B23/EC3B01B23/EC4B01B23)

Second course -(EC1B02B23/EC2B02B23/EC3B02B23/EC4B02B23)

Two digits to indicate the complementary course number. ie., EC1B01

(Economics, 1st semester, Complementary course, course number is 01)

ECPREconomics Project

EC6PRB23.

DURATION OF THE PROGRAMME

- The duration of U.G. Programmes shall be 6 semesters.
- A student may be permitted to complete the programme, on valid reasons, within a period of 12 continuous semesters from the date of commencement of the first semester of the programme.
- Attendance: Students having a minimum of 75% average attendance for all the courses only, can register for the examination.

DETAILED PROGRAMME STRUCTURE

Distribution of courses for B.A Programme in Economics

Se m	Course Type	Course Code	Course Title	Hrs / We ek	Credits	Max Marks	
						IS A	ESA
I	Common Course I	EN1A01B23	Fine-Tune Your English	5	4	20	80
		EN1A02B23	Pearls from the Deep	4	3	20	80
	Common Course II	MA1A01B23	Kathasahithyam	4	4	20	80
		HN1A01B23	Kahaani Aur Upanyas	4	4	20	80
		FR1A01B23	French Language And Communicative Skills - I	4	4	20	80
	Complementary course I (Maths/Sociology)	MT1B02B23	Graphing Functions, Equations And Fundamental Calculus	6	4	20	80
		SO1B01B23	Introduction To Sociology	6	4	20	80
	Core course 1	EC1C01B23	Methodology Of Social Sciences with Special Reference To Micro Economics	6	5	20	80
			Total Credits		20		
II	Common Course I	EN2A03B23	Issues That Matter	5	4	20	80
		EN2A04B23	Savouring The Classics	4	3	20	80
		MA2A03B23	Kavitha	4	4	20	80

	Common Course II	HN2A03B23	Kavita Vyakaran Aur Anuvad	4	4	20	80
		FR2A03B23	French Language and Communicative Skills-II	4	4	20	80
	Complementary course II (Maths/Sociology)	MT2B02B23	Exponential, Logarithmic Functions, Linear Algebra and Advanced Calculus	6	4	20	80
		SO2B01B23	Development Of Sociological Theories	6	4	20	80
	Core course 2	EC2C02B23	Micro Economic Analysis	6	4	20	80
			Total Credits		19		
III	Common course I	EN3A05B23	Literature And/As Identity	5	4	20	80
	Common course II	MA3A05B23	Drisyakalasaahithyam	5	4	20	80
		HN3A05B23	Naatak Aur Lambi Kavita	5	4	20	80
		FR3A05B23	An Advanced Course in French –I	5	4	20	80
	Complementary course III	EC3B03B23	Logic	6	4	20	80

	Core course 3	EC3C03B23	Economics Of Growth and Development	5	4	20	80
	Core course 4	EC3C04B23	Public Economics	4	4	20	80
			Total Credits		20		
IV	Common course I	EN4A06B23	Illuminations	5	4	20	80
	Common course II	MA4A06B23	Malayala Gadhya rachanakal	5	4	20	80
		HN406B23	Gadya AurEkanki	5	4	20	80
		FR4A06B23	An Advanced Course in French –II	5	4	20	80
	Complementary course IV	EC4B03B23	Symbolic Logic	6	4	20	80
	Core Course 5	EC4C05B23	Macro Economics – I	5	4	20	80
	Core course 6	EC4C06B23	Indian Economy - I	4	4	20	80
			Total Credits		20		
V	Core course	EC5C07B23	Environmental Economics	5	4	20	80
		EC5C08B23	Quantitative Techniques for Economic Analysis	6	4	20	80
		EC5C09B23	Macro Economics - II	6	5	20	80
		EC5C10B23	Introductory Econometrics	4	4	20	80

	Open course	Offered By Other Departments	-	4	3	20	80
		Total Credits			20		
VI	Core course	EC6C11B23	Quantitative Economics	6	4	20	80
		EC6C12B23	Indian Economy - II	5	4	20	80
		EC6C13B23	Money And Financial Markets	5	4	20	80
		EC6C14B23	International Economics	5	4	20	80
	Choice Based Core Course	EC6C15AB23	Business Economics	4	3	20	80
	Project	EC6PRB23	Project	-	2	20	80
			Total Credits		21		

SCHEME -CORE COURSES

Course Code	Title of the Course	Category	Hrs per week	Credits	Total Hours
SEMESTER-1					
EC1C01B23	Methodology of Social Sciences with Special Reference to Micro Economics	Core	6	5	108
	Total Credits		5		
SEMESTER-2					
EC2C02B23	Micro Economic Analysis	Core	6	4	108
	Total Credits	4			
SEMSTER-3					
EC3C03B23	Economics of Growth and Development	Core	5	4	90
EC3C04B23	Public Economics	Core	4	4	72
	Total credits	8			
SEMESTER-4					
EC4C05B23	Macro Economics – I	Core	5	4	90
EC4C06B23	Indian Economy – I	Core	4	4	90
	Total Credits	8			
SEMESTER-5					
EC5C07B23	Environmental Economics	Core	5	4	90
EC5C08B23	Quantitative Techniques for Economic Analysis	Core	6	4	108
EC5C09B23	Macro Economics – II	Core	6	5	108
EC5C10B23	Introductory Econometrics	Core	4	4	90

-	(Offered by other Departments)	Open course	4	3	
	Total Credits		20		
SEMESTER-6					
EC6C11B23	Quantitative Economics	Core	6	4	108
EC6C12B23	Indian Economy – II	Core	5	4	90
EC6C13B23	Money and Financial Markets	Core	5	4	108
EC6C14B23	International Economics	Core	5	4	90
EC6C15AB23	Choice based Core Course	Core	4	3	72
EC6PRB23	Project	-	-	2	-
	Total Credits		21		

SCHEME- CHOICE BASED CORE COURSES

Sl. No.	Semester	Course Code	Course Title	Number of hours per week	Credits	Total Hours
1	6	EC6C15AB23	Business Economics	4	3	72
2	6	EC6C15BB23	Mathematical Economics	4	3	72
3	6	EC6C15CB23	History of Economic Thought	4	3	72

SCHEME- OPEN COURSES

Sl. No.	Semester	Course Code	Course Title	Number of Hours per week	Credits	Total Hours
1	5	EC5D01AB23	Gender Economics	4	3	72
2	5	EC5D01BB23	Logic and Reasoning Aptitude	4	3	72
3	5	EC5D01CB23	Fundamentals of Economics	4	3	72
4	5	EC5D01DB23	Economics of Population.	4	3	72

SCHEME - COMPLEMENTARY COURSES**[For Bachelor programme in History, Sociology, and Economics as core]**

Course Code	Title of the Course	Offered To	Hrs per week	Credits	Total Hours
	SEMESTER 1				
EC1B01B23	Principles of Economics	Bachelor's Programme in History	6	4	108
EC1B02B23	Introduction To Logic	Bachelor's Programme in Sociology	6	4	108
	SEMESTER II				
EC2B01B23	Basic Economic Studies	Bachelor's Programme in History	6	4	108
EC2B02B23	Symbolic Logic	Bachelor's Programme in Sociology	6	4	108
	SEMESTER III				
EC3B03B23	Logic	Bachelor's Programme in Economics	6	4	108
	SEMESTER IV				
EC4B03B23	Symbolic Logic	Bachelor's Programme in Economics	6	4	108

EXAMINATIONS

The external theory examination of all semesters shall be conducted by the College at the end of each semester. Internal evaluation is to be done by continuous assessment.

Examinations have two parts: Internal or In-Semester Assessment (ISA) & External or End-Semester Assessment (ESA). The ratio between ISA and ESA shall be 1:4. Both internal and external marks are to be rounded to the next integer.

MARKS DISTRIBUTION FOR END-SEMESTER ASSESSMENT (ESA) AND IN-SEMESTER ASSESSMENT (ISA)

Marks distribution for ESA and ISA and the components for internal evaluation with their marks are shown below:

Components of the internal evaluation and their marks are as below.

a) End-Semester Assessment (ESA): 80 marks

b) In-Semester Assessment (ISA) : 20 marks

ISA	Marks
Attendance	5
*Assignment	5
Test papers (2 x 5)	10
Total	20

ATTENDANCE

Percentage of Attendance	Marks
90% or above	5
Between 85% and below 90%	4
Between 80% and below 85%	3
Above 75% and below 80%	2
75 %	1
Less than 75%	0

Assignment *:

- (i) *Assignment: for core papers (III & IV Semester), the student must undertake a Project/ Field work/ Industrial Visit/ Internship and the report of the same should be submitted for evaluation. The marks awarded to this can be considered for assignment of any one core paper
- (ii)* Assignment (project/field work/ Industrial Visit) for Semester I & II- to be given by language teachers, report of which has to be submitted and for those programmes which do not have additional language the students must undertake the assignment (project/field work/ Industrial Visit) for any one core paper

IN-SEMESTER ASSESSMENT - TEST PAPERS

Two internal test- papers are to be attended in each semester for each paper. The evaluations of all components are to be published and are to be acknowledged by the students. All documents of internal assessments are to be kept in the college for two years. Documents shall be made available for verification by the University. The responsibility of evaluating internal assessment is vested on the teachers who teach the course.

END-SEMESTER ASSESSMENT:

The End-Semester examination of all courses shall be conducted by the College on the close of each semester. For reappearance/ improvement, students can appear along with the next batch.

Pattern of Question Paper:

A question paper shall be a judicious mix of short answer type, short essay type/ problem solving type and long essay type questions.

For each course the End-semester Assessment is of 3 hours duration. The question paper has 3 parts. Part A contains 12 short answer type questions of which 10 are to be answered. Part B contains 9 short essay questions of which 6 are to be answered. Part C has 4 long essay questions of which 2 are to be answered.

Part	No. of Questions	No. of questions to be answered	Marks(for courses without practical)
A (Short Answer type)	12	10	10 x 2 = 20
B (Short Essay)	9	6	6 x 5 = 30
C (Long Essay)	4	2	2 x 15 = 30

FOR PROJECTS AND COMPREHENSIVE VIVA-VOCE:

Projects/ Industrial Visit: Projects which are preferably socially relevant/ industry oriented/ research oriented are to be undertaken by the students and the reports have to be submitted.

a) Marks of End–Semester Assessment (ESA) : 80

b) Marks of In-Semester Assessment (ISA) : 20

Components of Project and Viva – ESA	Marks
Dissertation (External)	50
Comprehensive Viva-voce (External)	30
Total	80

Bonafide reports of the project work or Industrial Visit conducted shall be submitted at the time of examination.

All the four components of the ISA are mandatory

Components of Project- ISA	Marks
Punctuality	5
Experimentation / Data Collection	5
Knowledge	5
Report	5
Total	20

VIVA

A student shall appear for Project Viva- voce in the 6th semester.

GRADES

A 10 -point scale based on the total percentage of marks (ISA + ESA) for all courses (theory, practical, project)

Percentage of Marks	Grade	Grade Point
Equal to 95 and above	S Outstanding	10
Equal to 85 and < 95	A+ Excellent	9
Equal to 75 and < 85	A Very Good	8
Equal to 65 and < 75	B+ Good	7
Equal to 55 and < 65	B Above Average	6
Equal to 45 and < 55	C Satisfactory	5
Equal to 35 and < 45	D Pass	4
Below 35	F Failure	0
	Ab Absent	0

PASS CRITERIA:

- A separate minimum of 30% marks each for ISA and ESA (for both theory and practical) and aggregate minimum of 35% is required for a pass in a course.
- For a pass in a programme, a separate minimum of Grade D is required for all the individual courses.
- If a candidate secures F Grade for any one of the courses in a semester/programme, only F grade will be awarded for that semester/programme until she improves this to D Grade or above within the permitted period.
- Students who complete the programme with D grade will have one betterment chance within 12 months, immediately after the publication of the result of the whole programme.

CREDIT POINT AND CREDIT POINT AVERAGE

Credit Point (CP) of a course is calculated:

$$CP = C \times GP$$

C = Credit; GP = Grade point

Semester Credit Point Average (SCPA) of a semester:

$$SCPA = TCP/TC$$

TCP = Total Credit Point of that semester

TC = Total Credit of that semester

Cumulative Credit Point Average (CCPA) is calculated:

$$CCPA = TCP/TC$$

TCP=Total Credit Point of that Programme

TC=Total Credit of that Programme

CREDIT POINT AVERAGE(CPA)

CPA of different categories of courses viz, Common courses, Complementary courses, Core courses etc are calculated:

$$CPA = TCP/TC$$

TCP=Total Credit point of a category of course

TC=Total Credit of that category of course

Grades for the different courses, semesters and overall programme are given based on the corresponding CPA:

CPA	GRADE
Equal to 9.5 and above	S Outstanding
Equal to 8.5 and < 9.5	A+ Excellent
Equal to 7.5 and < 8.5	A Very Good
Equal to 6.5 and < 7.5	B+ Good
Equal to 5.5 and < 6.5	B Above Average
Equal to 4.5 and < 5.5	C Satisfactory
Equal to 4 and < 4.5	D Pass
Below 4	F Failure

- For reappearance/improvement of I, II, III & IV semesters, candidate have to appear along with the next batch.
- There will be supplementary exams only (no improvement) for V Sem in the respective academic year.
- Notionally registered candidates can also apply for the said supplementary examinations.
- A student who registers her name for the end semester assessment for a semester will be eligible for promotion to the next semester.
- A student who has completed the entire curriculum requirement, but could not register for the Semester examination can register notionally, for getting eligibility for promotion to the next semester.
- A candidate who has not secured minimum marks/credits in ISA can re-do the same registering along with the ESA for the same semester, subsequently
- There shall be no improvement for internal evaluation
- All rules and regulations are subject to change as and when modified by Mahatma Gandhi University, Kottayam to which St. Teresa's College (Autonomous) is affiliated.

SYLLABI FOR CORE COURSES

SEMESTER I-CORE COURSE-1

**EC1C01B23: METHODOLOGY OF SOCIAL SCIENCES WITH SPECIAL
REFERENCE TO MICRO ECONOMICS**

Credits: 5

Hours per week :6

Total Lecture Hours: 108

Course Overview and Context:

This course is designed to give an overview of research methodology in economics as well as a strong insight into consumer and producer behaviour in a market economy. In the current global scenario where markets dominate production decisions, a deep understanding of the dynamics of demand and supply analysis is essential to understand the complexities of production and consumption decisions.

The course focuses on Skill development of the student-helping them to develop abilities to construct and sustain an argument using the phrases and concepts that economists use in their deliberations.

Course Outcomes:

CO1: Explain the basic concepts and methodology in economics (Understand)

CO2: Illustrate the impact of shifts in both market supply and demand curves on equilibrium price and output. (Apply)

CO3: Identify the determinants of price elasticity of demand and supply and illustrate the relationship between elasticity and total revenue (Apply)

CO4: Analyze the behaviour of a consumer in terms of utility maximisation and price determination under various conditions (Analyse)

CO5: Describe short run and long run production function and illustrate empirical production function (Understand)

CO6: Compare and contrast production and cost, short run and long run, and profits and revenues (Understand)

Content:

Module I - Methodology of Economics & Major Schools of Economic Thought (28 hrs)

Social Science - Its Emergence and Development –Emergence of Economics- Relationship of Economics with other social sciences- Methods of formulating Economic Theories - Positive and Normative Economics, Economic theory and Economic laws, Micro and Macro Economics, Role of assumptions in Economics, Method and Methodology - the deductive and inductive methods- static, comparative statics and dynamic methods of analysis - equilibrium analysis – partial and general. Micro economic models (concepts only)

Mercantilism and Physiocracy , Basic postulates of Classical and Neo-Classical economic thought (Adam Smith, Ricardo, J.B.Say, Malthus, J.S.Mill, Jeremy Bentham, Alfred Marshall, A.C.Pigou and Walras,) Socialist and Marxist Economic Thought, Keynesianism and Monetarism(Milton Friedman). Contribution of Indian Economicists-Kautilya, Dadabhai Naoroji, Amartya Sen and J.N..Bhagwathi).

Module II - Introduction to Microeconomics & Demand Analysis (20hrs)

Definitions of Economics-Problem of scarcity and choice – Central problems of Economy-production possibility frontier - microeconomic policy goals – efficiency and equity.– functions of an economic system – Marginal concept in micro Economics

Concepts of demand- Factors affecting demand- Law of demand- exceptions-demand for normal, inferior, substitute and complementary goods- Shifts of demand versus movements along a demand curve – Linear Demand Equation, Curve- elasticity of demand – Degrees- price elasticity of demand – determinants- methods of estimation – Total outlay, Point, and arc method – income elasticity of demand and cross elasticity of demand

Module III - Supply Analysis (10 hrs)

Supply – supply schedule and supply curve – changes and shifts in supply - elasticity of supply - measurement and application. Seller's view – Revenues – total, average and marginal – revenue and price elasticity - market equilibrium and impact of changes in demand and supply – dynamic demand and supply model: Cobweb- Demand forecasting

Module IV - Theory of Consumer Behaviour (25 hrs)

Concepts of Total and Marginal utility- Consumer preferences and choice-consumer's equilibrium – cardinal utility and ordinal utility – law of diminishing marginal utility- consumer equilibrium under cardinal utility – derivation of demand curve - law of equi-marginal utility –

water-diamond paradox – criticisms of cardinal utility approach - indifference curve analysis – characteristics – MRS - budget line – consumer's equilibrium – income effect and Engel curve – price effect, income effect and substitution effect- derivation of demand curve – splitting price effect into income effect and substitution effect: Hicksian and Slutsky's approaches - criticisms of ordinal utility approach – revealed preference theorem – derivation of demand curve – distinction between weak and strong ordering – consumer's surplus.

Module V – Theories of Production

(25 hrs)

Production function – Total, Average & Marginal product- time element in production function – law of variable proportions (modern approach)– isoquants – properties – MRTS - ridgelines and economic regions of production– Isocost lines – optimal input combination – producer's equilibrium – expansion path – elasticity of factor substitution - laws of returns to scale – economies and diseconomies of scale – empirical production function: Cobb-Douglas production function – properties.

References

- Robert S. Pindyck, et al. (recent edition). Micro Economics. Delhi: Pearson Education
- Dominick Salvatore. Micro Economics Theory and Application. 4th Ed. New Delhi: Oxford University Press.
- Koutsoyiannis, (1979), Modern Micro Economics, Palgrave McMillan.
- Bruce, Stanley L. (1994): The Evolution of Economic Thought, 5th ed, the Dryden Press
- Case, Karl E. & Ray C. Fair. (2007). Principles of Economics. (8th edition). Delhi: Pearson Education.
- G.S. Maddala and Ellen Miller (2004), Micro Economics - Theory and Applications, Tata McGraw Hill, Delhi.
- Watson and Getz. (1996). Price Theory and its uses. New Delhi: AITBS Publisher

MODEL QUESTION PAPER

B.A DEGREE (C.B.C.S) EXAMINATION, NOVEMBER 2023

SEMESTER I- CORE COURSE FOR B.A. ECONOMICS

**EC1C01B23: METHODOLOGY OF SOCIAL SCIENCES WITH SPECIAL
REFERENCE TO MICRO ECONOMICS**

Time:3 hours

Maximum marks: 80

Part A

(Answer any ten questions. Each question carries 2 marks)

Qn.No.	Questions	CO	Level of question
1.	State the Scarcity Definition.	1	R
2.	Define Opportunity Cost.	1	U
3.	What causes the shift of PPC curve?	1	Ap
4.	Define cross elasticity of demand.	2	R
5.	Identify the factors causing a shift in demand curve.	2	Ap
6.	Differentiate between changes and shifts in supply.	3	U
7.	Examine the law of diminishing marginal utility.	4	U
8.	Differentiate between TU and MU.	4	U
9.	Analyse the concept of utility.	4	An
10.	Differentiate between Short run and long run production function.	5	U
11.	Which stage is operational for a producer?	5	An
12.	Give the slope of Isoquant.	5	Ap

(10 x 2 = 20 marks)

Part B**(Answer any six questions. Each question carries 5 marks)**

Qn.No.	Questions	CO	Level of question
13.	Explain the different schools of thought	1	U
14.	Discuss Central problems of the economy	1	U
15.	Illustrate different degrees of elasticity of demand with suitable diagram.	2	U
16.	Construct a supply schedule and draw a supply curve based on that.	3	Ap
17.	Examine the impact of changes in demand and supply on market equilibrium using suitable diagrams.	3	Ap
18.	Analyse the laws governing the cardinal approach towards consumer equilibrium. What are the major criticisms against the cardinal approach?	4	An
19.	Examine the process of derivation of demand curve from law of diminishing marginal utility.	4	Ap
20.	Explain the Law of returns to scale	5	U
21.	Examine the producer's equilibrium	5	Ap

(6 x 5 = 30 marks)

Part C

(Answer any two questions. Each question carries 15 marks.)

Qn.No.	Questions	CO	Level of question
22.	Briefly explain the emergence of social sciences	1	U
23.	Compare and contrast cardinal and ordinal approaches towards consumer equilibrium.	2	U
24.	Critically analyse the different theories of consumer behaviour.	4	An
25.	Analyse the short run and long run production with diagram.	5	An

(2 x 15 = 30 marks)

CO: Course Outcomes

Level: R – Remember, U – Understand, Ap- Apply, An- Analyze, E- Evaluate, C- Create

SEMESTER II-CORE COURSE-2

EC2C02B23: MICRO ECONOMIC ANALYSIS

Credits: 4

Hours per week: 6

Total Lecture Hours: 108

Course Overview and Context:

The Course seeks to cover cost analysis, different market structures, pricing of factors as well as fundamental principles of welfare economics. This course is developed in such a way as to get a thorough understanding of the different market structures in the economy and its implications for pricing and output decisions.

The course develops students' literacy and problem-solving skills especially as these apply to economics.

Course Outcomes:

CO1: Explain the basic concepts of Cost theory (Understand)

CO2: Examine the different market structures in the economy and its implications for pricing and output decisions. (Apply)

CO3: Analyze different market conditions and their impact on economy (Analyse)

CO4: Describe various factor pricing and income distribution (Understand)

CO5: Illustrate the fundamental principles of welfare economics. (Analyse)

CO6: Examine the criterion and scope of welfare economics (apply)

Content:

Module I - Cost Analysis

(15 hrs)

Cost functions - cost concepts - explicit and implicit costs, economic and accounting costs, sunk cost, opportunity cost, real cost, social cost- Traditional theory of costs - short run and long run analysis of costs – envelope curve – Modern theory of cost – short run and long run- L-shaped and saucer-shaped cost curves.

Module II – Market Structure

(30 hrs)

Meaning of market- Market structure- Perfect Competition –characteristics - short run and long run equilibrium of a firm and industry -derivation of supply curve – shut down point – producer's surplus – imperfect markets

Monopoly – sources - features – short run and long run equilibrium - discriminating monopoly-price and output determination under discriminating monopoly - degrees and types of price discrimination – dumping – Monopsony- Bilateral monopoly – social costs of monopoly power – regulation of monopoly.

Module III - Monopolistic Competition and Oligopoly

(24 hrs)

Monopolistic competition – characteristics - non-price competition and selling costs - short run and long run (group) equilibrium - ideal output and excess capacity – limitations of monopolistic competition - oligopoly – characteristics – Price stickiness - Kinked demand curve – Sweezy model - Non-Collusive oligopoly – Duopoly (concept only) –competition Vs collusion - collusive oligopoly – cartels and price leadership – low-cost, dominant and barometric price leadership models - market with Asymmetric Information (concept only)

Module IV - Income Distribution and Factor Pricing

(24 hrs)

Functional versus personal distribution - concepts of total physical product (TPP), average physical product (APP) and marginal physical product (MPP) - Marginal productivity theory of distribution – factor price determination under perfect competition and imperfect competition Ricardian and modern theories of rent - quasi-rent – money and real wages - wage differentials - effect of labour unions on wages – theories of interest – classical, neo-classical and Keynesian theories of interest – theories of profit- dynamic theory, risk-bearing theory – innovation theory of profit

Module V - Welfare Economics

(15 hrs)

Welfare economics – nature, concepts and scope- problems of measuring social welfare - Edgeworth box diagram – contract curve - criteria of social welfare – role of value judgement- growth of GNP criterion – Bentham's criterion – Cardinalist criterion – Pareto optimality criterion- Kaldor and Hicks compensation criterion– Amartya Sen's concept of social welfare (basics only).

References

- Robert S. Pindyck, et al. (recent edition). Micro Economics. Delhi: Pearson Education
- Dominick Salvatore. Micro Economics Theory and Application. 4th Ed. New Delhi: Oxford University Press.
- A. Koutsoyiannis, (1979), Modern Micro Economics, Palgrave McMillan.
- Case, Karl E. & Ray C. Fair. (2007). Principles of Economics. (8th edition). Delhi: Pearson Education.
- G.S. Maddala and Ellen Miller (2004), Micro Economics - Theory and Applications, Tata McGraw Hill, Delhi.
- Watson and Getz. (1996). Price Theory and its uses. New Delhi: AITBS Publisher

SEMESTER III-CORE COURSE -3

EC3C03B23: ECONOMICS OF GROWTH AND DEVELOPMENT

Credits: 4

Hours perweek :5

Total Lecture Hours: 90

Course Overview and Context:

The course aims to introduce concepts and theories related to economic growth and development. It also aims to generate awareness on factors affecting economic development like human resource development and sustainable development etc. This century marks the quest for underdeveloped countries to develop at a fast rate. In this context, the course develops in students a solid understanding of the concept of development. An exploration of the process of development is done through various theories put forward by scholars.

The course equips students to acquire valuable knowledge, skills and attributes to achieve problem-solving and research skills and to make a positive difference in their chosen sphere.

Course Outcomes:

CO1: Describe various dimensions and processes of economic development. (Understand)

CO2: Explain theories concerning economic development and describe various approaches to development. (Understand)

CO3: Summarise factors that determine economic growth and development of a Country. (Understand)

CO4: Evaluate the population dynamics and significance of human resource development. (Evaluate)

Content:

Module I - Economic Development

(25 hrs)

Growth and Development – meaning – features– determinants- Measures of economic growth and development- **income and non-income indices**-GNP-Per capita income-PQLI-HDI-HPI – GDI- GEM– (GDI, GNH) -Development redefined– Development as a total social process – Development as freedom – Development as Liberation – Sen’s capabilities approach- inequality of income and wealth – Gini coefficient –Kuznet’s inverted U hypothesis – Development gap.

Module II- Approaches to Development (10 hrs)

Classical – Marxian – Schumpeterian-Approaches to Economic Development: Structuralist – dependency - market- friendly approaches (concepts only).

Module III- Theories of Economic Development (20 hrs)

Vicious circle of poverty – Stage theories of Rostow – Low level equilibrium trap – Critical minimum effort thesis – Big push – Lewis model – Balanced vs unbalanced growth strategy – Dualistic theories.

Module IV - Determinants of Development (15hrs)

Factors affecting economic development (capital, labour and technology)– Choice of technique - Trade and economic development.

Module V - Human Resource Development (20 Hrs)

Human Resource and Development - Concept of intellectual capital– role of education and health in economic development – Population growth and economic development – Missing Women - Malthusian theory of population- Optimum theory of population – Theory of demographic transition.

References :

- Thirlwall (recent edition), Growth and Development with Special Reference to Developing Countries (recent edition) Palgrave MacMillan, New Delhi.
- Todaro and Smith, Economic Development, Pearson Education, New Delhi (recent edition).
- Benjamin Higgins (1968), Economic Development, Universal Book Stall, New Delhi.
- Meier, G.M. (2007), Leading Issues in Economic Development, Oxford University Press, New Delhi.
- Debraj Ray, Development Economics. Oxford University Press, New Delhi.
- Felix Raj and et. al, Contemporary Development Economics, New Central Book Agency (p) Ltd
- On-line Resources: <http://hdr.undp.org/>

SEMESTER III - CORE COURSE -4

EC3C04B23: PUBLIC ECONOMICS

Credits: 4

Hours per week :4

Total Lecture Hours: 72

Course Overview and Context:

The course is to provide an understanding of the role of state in economic activity. This course unveils the concepts and theories in public finance. The objective of the course is for students to learn about the working of the public finance system and to gain knowledge about the working of the Indian public finance. The paper includes the theory of public economics and the Indian public finances.

Understanding the basic theories and budget concepts enhance the capabilities of developing ideas based on them and motivate students for research studies in Indian public finance.

Course Outcomes:

CO1: Describe the nature of public finance and infer the functions of government. (Understand)

CO2: Show conceptual clarity with regard to features of public goods and market failure. (Understand)

CO3: Discover the principles of taxation and relate them to various governments tax policies of India. (Apply)

CO4: Illustrate knowledge about budget concepts and budgetary procedures in India. (Analyse)

CO5: Analyse concepts of public expenditure and public debt and appraise the Indian situation. (Analyse)

CO6: Illustrate the federal structure of the country and financial relationship among states, (Analyse)

Content:

Module I- Introduction to Public Finance

(14 hrs)

Meaning and subject matter of public finance – Public and Private finance – Fiscal Functions- Allocation, distribution and stabilization- Principles of Maximum Social Advantage: Dalton, Musgrave – Public Goods: Pure and Impure Public goods, Free rider problem-Private goods, Mixed goods and Merit goods, -Market failure and role of government.

Module II- Public Revenue

(12hrs)

Sources of public revenue -Classification of Taxes - Canons of Taxation, Principles of Taxation- Ability, Benefit and Cost of service- Impact, Incidence and Shifting of tax burden –Effects of Taxation – Measurement of Deadweight loss -Taxable Capacity- Laffer curve-Major Taxes in India and its impact- Value Added Tax in India –Goods and Service Tax (GST-brief history, legislation and impact).

Module III - Budget and its role

(10 hrs)

Classification of budget concepts: Revenue account, Capital account, Fiscal deficit, Revenue deficit, Primary deficit– Zero base budgeting-Budgetary procedure in India (introduce the recent Central budget to the students)- Gender budgeting-Fiscal policy – Deficit financing.

Module IV- Public Expenditure

(18 hrs)

Meaning— Canon's of public expenditure-Plan and non-plan expenditure-Developmental and non-developmental expenditure- Wagner's hypothesis, Peacock-Wiseman hypothesis, Critical limit hypothesis– Effects of public expenditure- Public expenditure in India: Its pattern and growth -Public debt- types- debt redemption –burden of public debt – public debt in India.

Module V- Federal Finance

(18 hrs)

Meaning – Principles of Federal finance- vertical and horizontal equity in fiscal federalism - fiscal federalism in India – Finance commission – Current Finance Commission- resource transfer from union to states – criteria for transfer of resources – State Finance Commission and Panchayati Raj Institutions-Decentralised Planning.

References:

- Musgrave, R.A. and P.B. Musgrave. (1989), Public Finance in Theory and Practice. McGraw Hill.
- John Cullis, Philip Jones, Public Finance and Public Choice. (1st edition). New Delhi: Oxford University Press.
- B.P. Tyagi., Public Finance, Jai Prakash Nath & Co., Meerut (recent edition).
- Stiglitz, Joseph E. (Third edition), Economics of Public sector. New York, Norton.
- Harbar, Bernard. P. (Fifth edition), Modern Public Finance. Richard Irvin Inc.
- Bagchi, Amaresh (ed.), Readings in Public finance. New Delhi: Oxford University Press.
- Ulbrich, Holley H., Public Finance in Theory and Practice, Thomson South-Western.

- Singh.S.K. (Ninth edition),Public Finance in Theory and Practice. New Delhi: S Chand Publications.
- Dalton. H. (eleventh edition), Principles of Public finance, Routledge Library Editions.
- Taylor, Philip E. Economics of Public Finance, MacMillan.
- Bhatia. H.L. (Twenty-sixth edition), Public Finance, New Delhi, Vikas Publishing House Pvt. Ltd.
- Gupta, Janak. (2nd Revised & Enlarged edition), Public Economics in India: Theory and Practice, Atlantic.

SEMESTER IV - CORE COURSE -5

EC4C05B23: MACRO ECONOMICS-I

Credits: 4

Hours per week: 5

Total Lecture Hours: 90

Course Overview and Context:

This course is designed to make students aware of the theoretical concepts in Macroeconomics. The course seeks to cover the period from the classical economists to Keynesian revolution unfolding the role of the state and macro policies. The course equips students to work for financial institutions and acquires research skills.

Course Outcomes:

CO1:Express the basic concepts of Macro Economics. (Understand)

CO2:Examine classical theory of output, employment and income and macro policy prescriptions in this regard.(Apply)

CO3:Summarise main tenets of Keynesian economics. (Understand)

CO4:Evaluate the significance of Investment and determinants of investment. (Evaluate)

CO5:Analyse various Orthodox Keynesian Models.(Analyse)

Content:

Module I -Introduction to Macroeconomics

(20 hrs)

Micro and Macroeconomics - Macro statics and macro dynamics- Circular flow of economic activity in a two sector economy- National income-concepts and their interrelationships- methods of measurement of national income- value added, income and expenditure methods-Social accounting method-Estimation of national income in India-Environmental concerns in national accounts- Green accounting- Net Economic Welfare.

Module II- Classical Macroeconomics

(20 hrs)

Main postulates of classical macroeconomics- Say's Law of Markets –Classical theory of employment and output determination – wage price flexibility and full employment equilibrium- classical theory of interest- quantity theory of money- Cash transactions and Cash balances

approaches - Classical dichotomy and neutrality –Pigou effect- Keynes criticism of classical theory.

Module III- Keynesian Macroeconomics

(15 hrs)

Keynesian Revolution –Main postulates of the general theory- Principle of effective demand- ADF-ASF-Consumption function- Psychological law of consumption-graphical, algebraic and numerical illustrations of APC, MPC, APS, MPS- Short-run and long run consumption function -factors determining consumption.

Module IV- Investment

(10 hrs)

Investment demand function-determinants of investment- MEC and MEI and the role of expectations

Module V- Orthodox Keynesian Models

(25 hrs)

Two sector, Three sector and four sector Keynesian cross model - Multiplier analysis-static and dynamic multiplier- Balanced budget multiplier-Foreign trade multiplier(concept only).Two sector IS-LM model of income determination (model only).

References:

- N. Gregory Mankiw (recent edition), Macro Economics, Worth Publications, New York.
- Shapiro, Edward (1982), Macro Economic Analysis, Galgotia Publications (reprint edition)
- Richard T. Froyen (recent edition), Macro Economics - Theories and Policies, Pearson Education
- Ackley, Gardner. 1978, Macro Economic Analysis: Theory and Policy, Macmillan Publishing Co., New York
- Sampat Mukerjee (2008), Analytical Macro Economics: From Keynes to Mankiw, New Central Book Agency, Calcutta.
- Eugene Diulio (2004), Macro Economics – Schaum's Outlines, Tata McGraw Hill, Delhi.
- Shapiro, Edward (1982), Macro Economic Analysis, Galgotia Publications (reprint edition).
- Andrew B. Abel (2011), Macro Economics, Pearson, Delhi.
- Gardner Ackley. (1978). Macroeconomics- Theory and policy. Macmillan.
- B Snowdon & Howard Vane. A Modern Guide to Macro Economics. Edward Elgar.
- Nicoli Nattrass, G Visakh Varma (2014), Macroeconomics Simplified Understanding Keynesian and Neoclassical Macroeconomic Systems, Sage Publications, New Delhi.
- On-line Resources: www.mospi.gov.in/cso

SEMESTER IV - CORE COURSE - 6

EC4C06B23: INDIAN ECONOMY– I

Credits: 4

Hours per week: 4

Total Lecture Hours: 90

Course Overview and Context:

The course is designed to present a comprehensive picture of economic characteristics of one of the world's largest democracy- India. It highlights India's population characteristics, transition, labour force growth and composition. Performance of the nation is investigated in the backdrop of planning and economic reforms. Some developmental issues like poverty, inequality, black money etc. are also discussed.

Course Outcomes:

CO1:Describe the characteristics of Indian economy before the colonial period and state the consequences of rise and growth of British rule in India (Remember)

CO2: Relate demographic concepts to the population statistics of India and describe its population scenario. (Understand)

CO3: Explain the objectives of planning and infer the achievements of Indian economy during the planning period. (Analyse)

CO4:Evaluate the features of Economic Reforms and analyse the performance of the economy during the reform period. (Analyse)

CO5:Develop a comprehensive understanding about the macroeconomic indicators of India. (Apply)

CO6:Summarise various development issues in the context of economic development of India. (Understand)

Content:

Module I- Indian Economy before Independence (30hrs)

Structure of the Indian Economy before the colonial period- villages and towns, industries and handicrafts-Indian economy during the colonial period economic consequences of British rule- Drain of wealth.

Module II- Demographic Features

(20hrs)

Population size, structure (sex and age) characteristics population change rural urban migrations, occupational distribution, problems of over population, demographic dividend, population policy, Gender inequality, women empowerment.

Module III - Planning in India

(25hrs)

Mixed Economic Framework - Meaning and rationale of Planning-Basic Strategies, Objectives and Achievements of Planning in India-Strategies of 12th Plan, Inclusive Development-NITI Aayog - New Economic Reforms and the rationale behind economic reforms Liberalisation, Privatisation and Globalisation Structural Adjustment Programmes progress of Privatisation and Globalisation.

Module IV-India's National Income

(5hrs)

Trends in India's National Income and Per capita Income- Growth Trends of Primary, Secondary and Tertiary sectors

Module V -Development Issues of India

(10hrs)

Magnitude of poverty and inequality in India - unemployment, black money and corruption rising prices - energy crisis- Micro finance and its significance importance of infrastructure in India's economic development.

References

- Gaurav Datt& Ashwani Mahajan (recent edition), Datt&Sundharam Indian Economy, S. Chand & Co., New Delhi
 - Uma Kapila (recent edition), Indian Economy since Independence, Academic Foundation, New Delhi.
 - Misra and Puri (recent edition), Indian Economy- Himalaya Publishing House, Mumbai
 - Dhingra I.C (recent edition), Indian Economy, Sultan Chand & Co., New Delhi.
 - A.N Agrawal (recent edition), Indian Economy, New Age International, New Delhi.
- On-line Resources:**www.censusindia.gov.in
- indiabudget.nic.in/survey.asp

SEMESTER V - CORE COURSE -7

EC5C07B23: ENVIRONMENTAL ECONOMICS

Credits: 4

Hours per week :5

Total Lecture Hours: 90

Course Overview and Context:

This course is developed to give an understanding of the fundamental concepts, subject matter, nature and scope of environmental economics. Key environmental issues and problems are discussed in detail. An understanding of environmental issues is a must for economists as it has close bearing with policy making and economic analysis. The aspects of pollution and their solution, need for biodiversity conservation, methods for valuing environment, close interlinkages between economy and environment, important summits held for preserving environment and human rights are looked upon in detail in this course.

This course equips the students to consider the environment in their policy making and economic decision making and make them employable as good environmental analysts. Ensuring environmental preservation has emerged as a key factor in ensuring a sustainable future.

Issues such as environmental sustainability, human rights, institutions working for human rights and different aspects related to individual's role in environmental preservation are given thrust in the course.

Course Outcomes:

CO1: Identify the significance of ecosystems and different natural resources (Understand)

CO2:Analyze the importance of Biodiversity and its conservation (Analyze)

CO3:Summarize the basic concepts of Environmental Studies and various environmental summits (Understand)

CO4:Discuss about environmental economic valuation and its application. (Understand)

CO5: Evaluate the various aspects of human rights and environmental rights (Evaluate)

Content:

Module I - Multidisciplinary nature of environmental studies, Natural Resources, Ecosystems (18 hrs)

Multidisciplinary nature of environmental studies: Definition, scope and importance, Need for public awareness. Natural Resources: Renewable and non-renewable resources: Natural resources and associated problems. Forest resources: Use and over-exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forest and tribal people. Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems. Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies. Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies. Energy resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources, Case studies. Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification. Role of individual in conservation of natural resources. Equitable use of resources for sustainable lifestyles. Ecosystems: Concept of an ecosystem, Structure and function of an ecosystem, Producers, consumers and decomposers, Energy flow in the ecosystem, Ecological succession, Food chains, food webs and ecological pyramids, Introduction, types, characteristic features, structure and function of the Forest ecosystem.

Module II-Biodiversity and its conservation, Environmental Pollution and Social issues of Environment (26 hrs)

Introduction, Biogeographical classification of India, Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values, India as a mega-diversity nation, Hot-spots of biodiversity, Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts, Endangered and endemic species of India. Environmental Pollution: Definition, Causes, effects and control measures of: - Air pollution, Water pollution, Soil pollution, Marine pollution, Noise pollution, Thermal pollution, Nuclear hazards, Solid waste Management: Causes, effects and control measures of urban and industrial wastes, Role of an individual in prevention of pollution, Pollution case studies, Disaster management: floods, earthquake, cyclone and landslides. Social Issues and the Environment: Urban problems related to energy, Water conservation, rain water harvesting, watershed management, Resettlement and rehabilitation of people: its problems and concerns, Case studies, Environmental ethics: Issues and possible solutions, Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents

and holocaust, Case studies, Consumerism and waste products, Environment Protection Act, Air (Prevention and Control of Pollution) Act, Water (Prevention and control of Pollution) Act, Wildlife Protection Act, Forest Conservation Act, Issues involved in enforcement of environmental legislation, Public awareness.

Module III - Economics and Environment

(16hrs)

Environmental Economics – Definition – Scope – Meaning – importance – Environment-Economy interaction (linkages) – material balance model – ecosystem – structure and functions – relation between environment and development – Environment as a necessity and luxury-environmental issues and global concern-Stockholm Conference – Helsinki Convention – Montreal Protocol – Kyoto Protocol – Rio Summit – Paris Convention. Population growth and Environment – market failure – tragedy of commons-sustainable development-policy approach to sustainable development (An overview only).

Module IV-Framework and Criteria for Environmental Analysis

(18hrs)

Evaluation of environmental benefits – Contingent Valuation Method – Hedonic approach – travel cost method – preventive expenditure method - surrogate market approach – property value approach and wage differential approach - cost benefit analysis – UNIDO analysis – Little-Mirrlees approach - Environmental Impact Analysis. Pollution control – socially optimum level of pollution – environmental policies and legislations in India.

Module V - Human Rights, environmental rights and related institutions

(12 hrs)

An Introduction to Human Rights, Meaning, concept and development, Three Generations of Human Rights (Civil and Political Rights; Economic, Social and Cultural Rights).

Human Rights and United Nations: contributions, main human rights related organs - UNESCO, UNICEF, WHO, ILO, Declarations for women and children, Universal Declaration of Human Rights: Human Rights in India: Fundamental rights and Indian Constitution, Rights for children and women, Scheduled Castes, Scheduled Tribes, Other Backward Castes and Minorities

Human Rights and environmental rights: Right to Clean Environment and Public Safety: Issues of Industrial Pollution, Prevention, Rehabilitation and Safety Aspect of New Technologies such as Chemical and Nuclear Technologies, Issues of Waste Disposal, Protection of Environment

Conservation of natural resources and human rights: Reports, Case studies and policy formulation. Conservation issues of western ghats- mention Gadgil committee report,

Kasthuriengan report. Over exploitation of ground water resources, marine fisheries and mining etc.

References

- Agarwal,K.C 2001 Environmental Biology, Nidi Publ. Ltd, Bikaner.
- Bharucha Erach, Text Book of Environmental Studies for undergraduate Courses. University Press, IInd Edition 2013 (TB)
- Brunner.R.C., 1989, Hazardous Waste Incineration, McGraw Hill Inc.480p
- Clark.R.S., Marine Pollution, Clanderson Press Oxford (TB)
- Cunningham, W.P.Cooper, T.H.Gorhani, E & Hepworth, M.T.2001. Environmental Encyclopedia, Jaico Publ. House. Mumbai. 1196p
- Dc A.K.Environmental Chemistry, Wiley Eastern Ltd.
- Down to Earth, Centre for Science and Environment (R)
- Gleick, 11.P.1993 Water in crisis, Pacific Institute for Studies in Dev. Environment & Security. Stockholm Environment Institute Oxford University Press 473p

SEMESTER V- CORE COURSE - 8

EC5C08B23: QUANTITATIVE TECHNIQUES FOR ECONOMIC ANALYSIS

Credits: 4

Hours per week: 6

Total Lecture Hours: 108

Course Overview and Context:

The objective of the course is to introduce the body of mathematics to enable the study of economic theory including microeconomic theory, macroeconomic theory, statistics and econometrics at the undergraduate level. Mathematical skills have become an essential tool for higher education. Students of economics specially need statistical skills to collect, analyse and interpret empirical data. This course aims to equip students with the much needed mathematical and statistical skills. The knowledge of basic mathematical and statistical skills is essential for the students to apply in the real life economic situations.

Demonstrate the role of quantitative techniques in the field of business/industry, illustrate different types of equations, solve equations and system of equations, understand the concept of sets, illustrate and apply basic set operations thereby enhancing employability of the students.

Course Outcomes:

CO1: Explain the mathematical concepts used in economic analysis (Understand)

CO2: Examine the applications of matrices and calculus (Understand)

CO3: Analyze data using various statistical and mathematical techniques for business decisions.
(Analyze)

CO4: Identify and analyze problems, and select appropriate decision tools to solve them
(Evaluate)

CO5: Apply statistical techniques to solve economics problems (Apply)

Content:

Module I - Basic Mathematics for Economic Analysis (20 hrs)

Basic concepts: variables, constants, parameters, equations, exponents and logarithms. The real number system: properties of real numbers and types of numbers—limitations. Sequences and progressions- arithmetic and geometric. Applications of progressions in economics: problems relating to simple interest, compound interest, depreciation of assets and Net Present value.

Module II-Set Theory and Matrices (20 hrs)

Set theory - types of sets -set operations – Venn diagrams. Relations and functions: ordered pairs and Cartesian product. Functions: Types - Important economic functions. Linear and Quadratic- Solution to system of equations up to three unknowns- Matrices-Types, Matrix manipulations and their rules, Order of Matrix, Transpose of Matrix-Determinants up to order 3x3- Properties and Value of determinant, Minor and Cofactor, Inverse and Cramer's Rule.

Module III - Calculus (20 hrs)

Calculus- Limits & Continuity, Derivatives: Meaning and significance - Rules of differentiation – First order and second order derivatives – Maxima and Minima of functions. Applications in economics.

Module IV - Role of Statistics in Economics Functions (28 hrs)

Role of Statistics in Economics. Functions—limitations. Methods of primary data collection- census and sampling methods - Preparation of schedules and questionnaires, sample designs— random sampling (SRS, systematic, stratified, cluster and multistage sampling) and non-random sampling.

Meaning and objectives of research – Types of research - Steps in research Data - Undertaking a research study - Conceptualization of research issues, reviewing the literature, writing a research report

Classification and Tabulation of Statistical data: Characteristics and types of classification-types of tables-difference between classification and tabulation. Presentation of data using charts and diagrams. (Histogram, Polygon, frequency curve, Bar chart, Pie diagram, Ogives)

Module V - Central Tendency and Measures of Dispersion

(20 hrs)

Moments: central and raw moments (for ungrouped data only). Central tendency: Various Measures - Properties, merits & demerits of Arithmetic mean, median, mode, geometric mean and harmonic mean – applications in economics.

Dispersion: Various Measures, absolute and relative measures – Range, quartile deviation, mean deviation, standard deviation – Lorenz curve and its economic applications. Skewness and Kurtosis (concepts).

References

- Gupta S.P., Statistical Methods, Sultan Chand & Sons, New Delhi.
- Chiang A.C. (2005), Fundamental Methods of Mathematical Economics, McGraw Hill.
- Allen R.G.D., Mathematical Analysis for Economists, Palgrave mac millan.
- Monga G.S., Mathematics and Statistics for Economists, Vikas Publishing House, New Delhi.
- Bradley Terasa. Essential mathematics for economics and business. New Delhi Wiley India Edn.
- Sharma J.K. Business statistics. Noida, India: Pearson Education
- www.isi.ac.in

SEMESTER V - CORE COURSE -9
EC5C09B23: MACRO ECONOMICS-II

Credits: 5

Hours per week :6

Total Lecture Hours: 108

Course Overview and Context:

This course is intended to make students understand the basics of Post Keynesian macroeconomics and this will help them understand economic model building. The period from the post Keynesian economists to the later theoretical developments in macroeconomics is crucial for understanding the changes in worldwide macroeconomic analysis and perspectives.

The course focuses on skill development of the students helping them to develop abilities for macroeconomic policy analysis .

Course Outcomes:

CO1: Explain the Post Keynesian theories of consumption function and basis of investment decisions in the economy. (Understand)

CO2: Describe various Post Keynesian theories on demand for money. (Understand)

CO3: Comprehend causes and remedies of inflation and inflation -unemployment tradeoff. (Apply)

CO4: Summarise the significance of Macroeconomic policies. (Evaluate)

CO5: Appraise Post Keynesian Schools of Macroeconomic Thoughts (Analyse)

Content:

Module I- Theories of Consumption and Investment (25 hrs)

Kuznets's consumption puzzle-Conflict between short-run and long run consumption functions- relative income hypothesis- permanent income hypothesis- life-cycle hypothesis Theory of capital and theory of investment- Present Value Criterion- Accelerator theory of investment- Tobin's q theory

Module II- Theory of money (10hrs)

Classical approach – Keynesian liquidity preference theory and interest rate determination- liquidity trap-Keynes effect.

Module III- Money, Inflation and Unemployment

(28 hrs)

Money-supply of money-sources- high-powered money-money multiplier- measures of money supply in India. Inflation: types – Demand-pull and cost-push inflation – inflationary and deflationary gap-causes and effects of inflation –control of inflation-types of unemployment- Okun's law-inflation and unemployment- the Philips curve- Stagflation- long run Phillips curve-Natural rate of unemployment

Module IV- Fluctuations, Monetary and Fiscal Policies

(20 hrs)

Trade cycles- Types and phases- Stabilization policies-Active or passive; monetary policy objectives and targets; Fiscal and Monetary policy in the IS-LM context (closed economy only)-Financial Crisis & Regulatory response.

Module V- Post Keynesian Schools of Macroeconomic Thoughts(25hrs)

Monetarism- Monetarist propositions and the Quantity Theory Restatement -New Classical Economics- Rational Expectations (concept)- Lucas' Critique (Policy ineffectiveness proposition) Supply Side Economics- Tax cut policy and the Laffer Curve Analysis New Keynesian School (Overview)

References

- N. Gregory Mankiw (recent edition), Macro Economics, Worth Publications, New York.
- Vaish, M.C, 1999, Macro Economics, Vikas Publishing House Pvt Ltd, Mumbai.
- Richard T. Froyen (recent edition), Macro Economics, Pearson Education, Delhi.
- Macro Economics – Schaum's Outlines, Tata McGraw Hill, Delhi.
- Shapiro, Edward (1982), Macro Economic Analysis, Galgoti Publications, New Delhi (reprint edition)
- Nicoli Natrass, G Visakh Varma(2014), Macroeconomics Simplified Understanding Keynesian and Neoclassical Macroeconomic Systems, Sage Publications, New Delhi.
- Sampat Mukerjee (2008), Analytical Macro Economics: From Keynes to Mankiw, New Central Book Depot, Calcutta.
- Uma Datta Roy Choudhury (2000), National Income Accounting, Macmillan Education.

SEMESTER V-CORE COURSE 10

EC5C10B23: INTRODUCTORY ECONOMETRICS

Credits: 4

Hours per week: 4

Total Lecture Hours: 90

Course Overview and Content:

The course seeks to cover the basic concepts in econometrics, econometric models, statistical tools needed to understand empirical economic research and to plan and execute independent research projects. Topics include statistical inference, regression, generalized least squares, lag models and dummy variables

Course Outcomes:

CO1: Describe the core concepts and techniques in econometrics, with special focus on Classical Linear Regression Model. (Understand)

CO2: Analyse the assumptions of CLRM and explain their implications. (Analyse)

CO3: Explain the use of dummy variables in regression analysis. (Understand)

CO4: Explain lagged models in econometrics. (Analyse)

CO5: Apply OLS method to explain relationships between economic variables. (Apply)

Content:

Module I- Introduction to Econometrics (10 hrs)

Definition and Scope of Econometrics. The methodology of econometric research – stochastic term –interpretation and its significance -Properties of estimators

Module II - Simple Regression Model and Hypothesis Testing (30 hrs)

Testing of hypotheses: defining statistical hypotheses; Simple and composite hypotheses; Null and alternative hypothesis; Type I and Type II errors, Critical region; Test statistics: z, chi square, t and F (Basic Concepts only)

Sample regression function (SRF)- The method of OLS—Advantages of OLS – assumptions of Classical Linear Regression Model - Gauss - Markov theorem - Goodness of the Fit—R Square

Module III -Violations of OLS Assumptions (25 hrs)

Heteroscedasticity— nature, estimation in its presence—detection and remedial measures—

Autocorrelation— nature and estimation in its presence—detection and remedial measures—

Multicollinearity—nature, estimation in its presence—detection and remedial measures

Module IV- Dummy Variable

(5 hrs)

Concept and uses – summary variables - qualitative data-seasonal analysis- use of dummy variables for pooled data - proxy variable

Module V-Lag Models

(20 hrs)

Lag in econometric models- concepts – Koyck model - partial adjustment and adaptive expectation models -Application of econometric methods - estimation of demand and supply functions, production and cost functions –consumption and investment functions

References

- Gujarati, Porter and Gunasekhar, Basic Econometrics, Fifth Edition
- A.Koutsyannis(2001), Theory of Econometrics, Second Edition, Palgrave Macmillan
- Gujarati, Porter and Gunasekhar, Basic Econometrics, Fifth Edition
- A.H. Studenmund Using Econometrics: A Practical Guide 6th edition, Pearson
- Ramu Ramanathan, Introductory Econometrics with Applications, S.Chand &Company Ltd; 5th Revised edition
- Jeffrey Wooldridge (2009), Econometrics, Cengage Learning, Delhi.
- Christopher Dougherty, Introduction to Econometrics. New Delhi: Oxford University Press
- Dominick Salvatore , Derrick Reagle, Schaum's Outline of Statistics and Econometrics, Second Edition, McGraw-Hill Education
- <https://www.econometricsociety.org/>
- <http://www.econometricslibrary.org/>

SEMESTER VI - CORE COURSE -11

EC6C11B23: QUANTITATIVE ECONOMICS

Credits: 4

Hours per week :6

Total Lecture Hours: 108

Course Overview and Context:

The objective of this course is to equip the students with primary statistical and mathematical skills for analysing economic problems. Subject matter and method of analysis in Economics is becoming more empirical using more of mathematical and statistical tools. This course seeks to cover the basic mathematical and statistical tools needed for economic analysis. It will also lay the foundation for econometric analysis. The knowledge about the statistical tools will enable the students to go deeper into the world of research and develop an aptitude for analytical skills. The various statistical tools will enable the economic students to understand and predicts the economic situations in a better way.

Attain employment as financial analysts, data analysts, economic analysts,, policy analysts, and quantitative traders.

Course Outcomes:

CO1: Examine the concepts of economics and use economic theory to analyze statistical results. (Understand)

CO2:Apply statistical tools to study probability and various types of distributions in business decision making (Apply)

CO3: Explain concept of correlation, analyze and interpret covariance and correlation coefficient, illustrate ordinary least squares and use it to estimate regression coefficient. (Analyse)

CO4: Formulate a statistical hypothesis and test it properly. (Analyse)

CO5: Describe the components of time series, apply time series analysis in business scenarios, illustrate the different types of index numbers, and calculate index numbers. (Evaluate)

Content:

Module I -Theory of Probability

(30 hrs)

Scope of probability in Economics- the case of uncertainty - Concepts– Rules of probability (addition and multiplication theorem – statement only) – Different approaches – Important terms related to probability (Random experiments, sample space,events) – Simple economic problems based on probability theorems – Probability distributions – binomial and normal – estimation of probabilities using binomial theorem and standard normal table - their properties and uses and applications in Economics.

Module II - Statistical Inference- Estimation and hypothesis testing (25 hrs)

Estimation-distinction between estimate and estimator; parameters and statistics; point and interval estimation; and the properties of estimators. Testing of hypothesis – testing, simple and composite hypothesis - null and alternative hypothesis –Type I and Type II errors, significance level and power, concept of P value in testing, test procedure. Z and t tests- (Testing the mean of a population - large and small sample, Testing the difference between two means of independent and paired samples, testing the proportion of a population) F- test (testing the equality of variances of two populations) chi square (testing the independence of two attributes and goodness of fit).

Module III - Correlation and Regression Analysis (25 hrs)

Correlation- significance and types– measurement: scatter diagram, Karl Pearson's correlation coefficient, (for ungrouped data only) and Rank correlation. Cause and effect relationships: Regression- meaning and significance-regression equations/regression lines-the line of best fit – prediction based on regression equations. Relation between correlation and regression.

Module IV - Analysis of time series (5 hrs)

Time series: meaning, definition, uses, components – additive and multiplicative models, measurement of trend- free hand method, semi average, moving average and least square methods, Seasonal Indices.

Module V - Index Numbers (23 hrs)

Index Numbers – Different types – Importance and Limitations, Problems in construction- Weighted and Unweighted price index numbers – different methods of constructing Price Indices – Simple aggregative, simple average of price relatives, weighted aggregative: Laspeyer's, Paasche's, Fisher's and Marshall Edgeworth's Indices, Weighted Average of price relative methods. Cost of Living Index Numbers: significance, uses and methods of construction – Aggregate Expenditure Method and Family Budget Methods – WPI. Test of Index Numbers.

References

- Gupta S.P., Statistical Methods, Sultan Chand & Sons, New Delhi.
- Sharma J.K. Business statistics. Noida, India: Pearson Education.
- Richard I Levin et.al. Statistics for management. India: Pearson Education.

- Srivastava U.K et.al. Quantitative techniques for managerial decisions. New Delhi: New Age International Publishers.
- Monga G.S. Mathematics and statistics for economists. New Delhi: Vikas Publishing House.

SEMESTER VI - CORE COURSE -12

EC6C12B23: INDIAN ECONOMY-II

Credits: 4

Hours per week :5

Total Lecture Hours: 90

Course Overview and Context:

It discusses the trends and patterns of each of its growth sectors over the years. A long term shift in the fundamental structure of the economy is analyzed along with this. This is done in the background of India's developmental experiences. A brief outlook of Kerala economy and its economic performance is also done in this course.

Course Outcomes:

CO1: Assess the performance of agriculture sector in the Indian economy. (Evaluate)

CO2: Analyse industrial reforms and policies in the post-independence period (Understand)

CO3: Describe the structural transformation of the Indian economy and identify contributions made by the service sector to the GDP. (Understand)

CO4: Examine India's trade policies and trade relations with the world. (Apply)

CO5: Develop a comprehensive understanding about the features of Kerala economy and its economic performance. (Apply)

Content:

Module I - Agriculture (20hrs)

Nature and trends in agricultural production and productivity Problems of Indian Agriculture - Green revolution, land reforms in India, Rural credit and agricultural marketing New Agricultural Policy Changes in Land use and Cropping Pattern-Agricultural Finance and Issues - Agriculture during Economic Reform Period - WTO and Indian Agriculture

Module II - Industry (20hrs)

Industrial development during the plan period-Industrial policies (1948-1991). Recent industrial policies MRTP Act, FERA and FEMA Growth and problems of cottage and small scale industries, Role of public sector enterprises in India's industrialisation-Public Sector in the post reform period - disinvestment policy - Impact of economic reforms on Indian Industrial sector.

Module III -Services (10hrs)

Growth trends and performance of Service sector- Emerging services sector in India Recent developments in insurance industry in India.-Indian macro economic growth, estimation of growth rates, sector wise growth pattern, structural change and economic growth in India Growth of IT sector in India.

Module IV- External Sector (20hrs)

Role of Foreign trade - trends in exports and imports -foreign trade- Balance of payment crisis and new economic reforms . Trade and Currency Reforms, - foreign capital - FDI, portfolio investments and MNCs.

Module V- Kerala Economy (20hrs)

Kerala model of development Macro economic profile of Kerala- Demography, Sectoral GSDP, Comparison with southern states- PCI- Poverty estimates- Urbanisation- Prices- State Finance- Banking- Structural change and economic growth in Kerala-Decentralised planning in Kerala

Land reforms - current issues in agriculture food crisis changes in cropping pattern agricultural indebtedness unemployment - IT sector in Kerala - fiscal crisis in Kerala, Gulf migration, energy policy and energy crisis.

References

- Uma Kapila-(recent edition), Indian Economy: Performance and Policies by EnglishAcademic Foundation
- Gaurav Datt& Ashwani Mahajan (recent edition), Datt&Sundharam Indian Economy, S. Chand & Co., New Delhi.
- Misra and Puri (recent edition), Indian Economy, Himalaya Publishing House, Mumbai.
- MeeraBai M. (ed) (2008), Kerala Economy, Serials Publication, New Delhi. Economic Development, Sage Publications, New Delhi
- George K.K. (1993) Limits to Kerala Model of Development, CDS, Trivandrum.
- B.A Prakash (2009), The Indian Economy since 1991: Economic reforms and performance, Pearson Education.
- Sunil Mani et al. (ed) (2D.C. Books, Kottayam.
- State Planning Board, Economic Review, Government of Kerala, Thiruvananthapuram (latest issue)

- Centre for Development Studies(2000),Poverty,Unemployment and Development Policy:A case study of selected issues with reference to Kerala.United Nations : Department of Economic and Social Affairs.Reprinted by CDS,Trivandrum.
- indiabudget.nic.in/survey.asp
- <http://www.spb.kerala.gov.in/>

SEMESTER VI - CORE COURSE -13
EC6C13B23: MONEY AND FINANCIAL MARKETS

Credits: 4

Hours per week :5

Total Lecture Hours: 108

Course Overview and Context:

In the wake of globalization and privatization, financial institutions and markets play a significant role in all the modern economies of the world. Many countries have brought in significant financial sector reforms to rise to the challenge of privatization. The present course is designed to acquaint students with the changing role of the financial sector. The stakeholders are to get familiarized with the basic concepts, the financial institutions and markets.

The course focuses on skill development of the students helping them to develop abilities for stock market analysis.

Course Outcomes:

CO1: Explain the structure of financial system in India (Understand)

CO2: Summarise monetary policy and its instruments. (Understand)

CO3: Analyse structure function and role of Indian banking system. (Analyse)

CO4: Summarize the nature, instruments and functions of money market in India. (Understand)

CO5: Analyse capital market and its instruments. (Analyse)

Content:

Module I - Financial System

(20 hrs)

Structure of Indian Financial System—Banks and NBFIs including Development Banks (in brief)
—Insurance Companies, Pension funds, Mutual Funds, Venture Capital Funds, Angel Investors-
Crowd Funding- Special Purpose Vehicle

Module II -Money and Central Banking

(20 Hrs)

Static and Dynamic Functions of money, near money, inside money and outside money –
monetary aggregates –M1,M2,M3, M4-High powered money and money multiplier. RBI-
functions- Instruments of Monetary policy –Repo and Reverse Repo –Base rate.

Module III - Banking (20 hrs)

Commercial banking in India –Structure-Functions of commercial banks –Prime Lending Rate, Subprime Lending Rates -conflict between profitability and liquidity, credit creation and credit multiplier – Non-Performing Assets- Payment System in India – RTGS, NEFT, Prepaid Payments instruments- SWIFT- Mobile Banking- Internet Banking.

Module IV-Money market (20 hrs)

Money Market-Functions-Structure of money market-Call Money Market-CBLO market, Collateral Loan Market-Acceptance Market-Bill or Discount Market- Features of Indian Money Market- DFHI.

Module V- Capital market (28hrs)

Capital Market –Functions –structure and functions of primary market and secondary market – Major Financial Instruments- Equity Shares, Preference Shares, Debentures, Bonds, Guilt edged securities, ADR, GDR- Methods of Public issue-IPO, FPO- Book building –Major investment groups –Retail Investors-Domestic Institutional Investors and Foreign Portfolio Investors-SEBI- Functions- Dematerialisation- Introduction to derivatives- Futures/ Options-Call and Put- Credit Rating

References

- L.M. Bhole, JitendraMahakud. Financial institutions and markets – Structure, growth and innovations. (Latest edition), Tata McGraw Hill Education Private Limited, New Delhi
- S.B. Gupta (2001). Monetary Economics: Institutions, Theory and Policy, S. Chand & Co, New Delhi, Part I
- V.A. Avadhani, Investment and Securities Market in India, Himalaya Publishing House, Bombay (recent edition)
- ZuviBodie, Robert C Merton et al. (2009), Financial Economics, Pearson Education (Ch.1 (1.1, 1.2), Ch.2 (2.1, 2.5, 2.7) only.
- M.Y. Khan (recent edition) Indian Financial System, Tata McGraw Hill, New Delhi.
- News reports , RBI report

SEMESTER VI- CORE COURSE -14
EC6C14B23: INTERNATIONAL ECONOMICS

Credits: 4

Hours per week :5

Total Lecture Hours: 90

Course Overview and Context:

The objective of this course is to enable students to understand the basic principles that tend to govern the flow of international trade and have a basic comprehension of international trade policies and the international financial system. The contents spread over five modules covers both theory and applications of the subject.

The Course seeks to cover the traditional theories of international trade, provide an introduction to recent theories, familiarize students with the basic concepts of Balance of Payments, foreign exchange, international trade policy and financial system. The course focuses on skill development of the students and helps them to familiarize with international theories and their role in policy formulation.

Course Outcomes:

CO1:Identify the basic concepts of international economics and terms of trade. (Understand)

CO2: Describe the various international trade theories. (Understand)

CO3: Explains the concepts of Balance of Payment and functional knowledge of Balance of Payments situation of India. (Understand)

CO4:Analyse the various theories of exchange rate determination and forex market participants (Analyse)

CO5: Describe the various international monetary and trade systems and various international agencies working in the field. (Understand)

Content:

Module I- Introduction to International Economics (10 hrs)

Nature and scope of international economics-differences between internal and international trade
-Inter industry trade and intra-industry trade -Terms of trade –types, and factors affecting terms of trade – community indifference curve

Module II - Theory of International Trade

(15 hrs)

Gravity model of International trade- Classical theory -Theory of absolute cost advantage, Theory of Comparative cost advantage, reciprocal demand theorem - offer curves - Opportunity cost theorem, Heckscher - Ohlin theory, Leontief's paradox, Factor price equalization theorem, Gains from Trade, static and dynamic gain from trade

Module III- Balance of Payments

(20 hrs)

Meaning and structure of balance of payments – equilibrium and disequilibrium - measures to correct disequilibrium- monetary and non-monetary measures- Devaluation, depreciation and Balance of payments- Elasticity approach-Marshall- Learner condition – Jcurve effect

Module IV-Foreign Exchange Market

(25 hrs)

Functions of foreign exchange markets - Forex Market participants.-Demand and supply of foreign exchange, Determination of equilibrium exchange rates - Factors influencing exchange rates. Theories of exchange rate determination- The Mint Parity Theory, Purchasing Power Parity theory, balance of payment theory. – Fixed and floating exchange Rate, spot and forward rates, Nominal, Real and Effective Exchange rates, hedging, speculation, arbitrage, futures, options and currency swaps. Exchange rate system in India-managed floating – partial and full convertibility on current and capital accounts.

Module V- International Monetary and Trade System

(20 hrs)

Commercial Policy – free trade and protection – tariffs and quotas and their effects – other non-tariff barriers –Economic Integration-meaning, forms and benefits, European Union- Brexit (all in brief), BRICS – Gold standard – The Bretton Woods System, International Monetary Fund - World Bank. GATT -Uruguay round, WTO- Significance of RTAs

References

- Dominic Salvatore, (recent edition) International Economics. John Wiley and Sons, Delhi.
- Paul Krugman and Maurice Obstfeld (Recent Edition), International Economics: Theory and Policy, Pearson Education, Delhi.
- Dominic Salvatore, Schaum's Outlines, Theory and Problems of International Economics. Tata MacGraw Hill, Delhi.
- Francis Cherunilam, International Economics, McGraw Hill, Education.
- Government of India, Economic Survey various editions

SEMESTER VI

EC6PRB23- Project

Credits: 2

Course Outcomes:

CO1: Apply the economic concepts in statistical study (Apply)

CO2: Evaluate the Statistical Data (Analyse)

SYLLABI FOR CHOICE BASED CORE COURSES

SEMESTER VI- CHOICE BASED CORE COURSE

EC6C15AB23: BUSINESS ECONOMICS

Credits: 3

Hours per week :4

Total Lecture Hours: 72

Course Overview and Context:

In a market economy where production and allocation decisions are made on the basis of market forces, working knowledge of demand forecasting, cost estimation, diverse pricing strategies etc. are required to improve employability of students. This paper discusses the economic theory applications and the tools to examine how an establishment can achieve its objectives most efficiently and seeks to impart functional knowledge which will enhance the decision making and problem solving skills of students.

The course provides a logical and quantitative way of analyzing various problems and concerns.

Course Outcomes:

CO1: Examine the concepts of Business economics. (Understand)

CO2: Develop a comprehensive understanding about Demand analysis and forecasting (Apply)

CO3: Examine the concepts of cost, nature of production and its relationship to Business operations (Understand)

CO4: Analyse the pricing and profit decisions and its estimation (Analyse)

CO5: Describe various methods of investment criteria and its importance in business decision making(Evaluate)

Content:

Module I- Introduction to Business Economics

(10hrs)

The scope and methods of Business Economics – role in managerial decision making – Relationship with economic theory- Relationship with decision sciences- Relationship with business functions- approaches to managerial decision making theory and firms.

Module II- Demand Analysis and Forecasting

(10hrs) Demand – types – determinants of demand – Law of demand – changes in demand – elasticity of demand – income – price – cross (with numerical illustration) – demand

estimation- demand forecasting – types – methods of demand forecasting — criteria for a good forecasting method.

Module III- Production and Cost Analysis

(25hrs)

Production function: Production function with empirical studies – Cobb Douglas production function – Cost concepts and classification – accounting cost and economic cost – actual cost and opportunity cost – explicit cost and implicit or imputed cost – historical cost and replacement cost – short run and long run cost – total cost – average cost – marginal cost – cost estimation – Linear Programming; Transportation problem -The basic profit-maximising model-The agency problem-managerial theory of firm by William J. Baumol.

Module IV- Pricing and Profits

(15 hrs)

Pricing methods – Types- cost oriented pricing – accounting and economic profit - Marginal cost pricing, Mark up pricing, two part pricing, price discrimination – profit – profit theories – risk bearing theory – market imperfection theory – innovation theory — profit planning – Break- even analysis (with numerical illustration).

Module V-Long Term Investment Decisions

(12hrs)

Capital budgeting – methods of investment criteria – payback period method – Average Rate of Return method – Discounted cash flow method – Net Present Value method — Internal Rate of Return method – (with numerical illustration) – cost of capital.

References

- Craig H Petersen: W. Chris Lewis, Managerial Economics –Prentice Hall, New Delhi.
- Domnick Salvatore, Managerial Economics –McGraw Hill, New Delhi.
- G.S. Gupta, Managerial Economics –T M H, New Delhi.
- P.L. Mehta, Managerial Economics – Analysis, Problems and Cases, Sultan Chand Sons, New Delhi.
- R.L. Varshney and K.L. Maheswari, Managerial Economics –Sultan Chand and Sons, New Delhi.

- Nellis and Parker (2006). Principles of Business Economics. Pearson Education. New Delhi.
- H.L. Ahuja. Business Economics. S.Chand
- S. Sankaran. (2002). Managerial Economics. Margham Publication
- Mankar and Pillai. (2000). Business and managerial Economics. Himalaya.
- Mote Paul and Gupta (2000) Managerial Economics. Tata McGraw Hill.
- Sampat Mukherjee. Business and Managerial Economics. New Central Book Agency (P) Ltd.
- Francis Cherunilam. Business Economics.

**SEMESTER VI- CHOICE BASED CORE COURSE
EC6C15BB23: MATHEMATICAL ECONOMICS**

Credits: 3

Hours per week :4

Total Lecture Hours: 72

Course Overview and Context:

The course provides a wider and deeper exposure to the Calculus of functions and their application to the discipline of Economics. It helps students gain an understanding of how to solve mathematical problems that are common to economic modeling.

It facilitates the ability of students to demonstrate the economic applications of differentiation and use it to formulate economic problems and also help in developing the ability to accurately translate complex economic problems into mathematical models and hone the skills to solve the problems through a wide array of mathematical techniques.

Course Outcomes:

CO1: Explain the basic economic concepts. (Understand)

CO2: Illustrate the applications of calculus. (Analyse)

CO3: Examine the foundations of major techniques to solve optimization problems in economics. (Analyse)

CO4: Illustrate the economic applications of differentiation, and use it to formulate economic problems (Evaluate)

Content:

Module I- Functions of one real variable (25hrs)

Types of functions- constant- polynomial- rational-exponential-logarithmic- Graphs and graphs of functions-Limit and continuity of functions-slope of curvilinear function. The Derivatives— rules of differentiation- higher –order derivatives- implicit differentiation- Economic applications.

Module II- Calculus of multivariable functions

(25 hrs)

Functions of several variable- partial derivatives- rules of partial derivatives-second order partial derivatives. Optimization of multivariate functions- constrained optimization with Lagrange multiplier. Differentials-total and partial differentials-total derivatives-implicit and inverse function rules-Economic applications.

Module III- Integral Calculus

(22 hrs)

The indefinite integral-integration-rule of integration- integration by substitution and by part. The definite integral- properties of definite integrals- area under a curve- area between curves- Economic application- consumer and producer surplus.

References

- Dowling,Edward T(2008): Introduction to Mathematical Economics,3rdEd,Schaum'sOutline Series, McGraw Hill.(Chapters 3-6, 16-17)
- Knut Sydsaeter, Peter Hammond and Arne Strom(2012): Essential Mathematics for Economic Analysis 4th Ed, Pearson India,.(Chapters-4-9)
- MikWisneiwski(1998): Introductory Mathematical Methods in Economics, 2nd Ed McGraw- Hill,. (Chapters -7-10 and 13).
- Michael Hoy,et.al(2009): Mathematics for Economics,2ndEd,PHI.(Chapters-Part IV-11-12 and Part V-16).
- Geoff Renshaw(2009): Maths for economics, 2ndEd,OUP.(Ch-6-9, 14-16 and 18).
- K.Holden and A.W.Pearson(2010): Introductory Mathematics for Economics and Business,2nd Ed. Macmillan.(Ch-5-7).
- Ian Jacques(2015): Mathematics for Economics and Business,5thEd,PH. (Ch-4-6).
- Akihito Asano(2013): An Introduction to Mathematics for Economics, CUP, (Ch-4- 7)
- Jean Soper(2016): Mathematics for Economics and Business: An Interactive Introduction,2nd,Blackwell.(Ch-5-10).
- Mike Roser(2014): Basic Mathematics for Economists,2ndEd,Routledge(Ch-8-11)
- Caroline Dinwiddy(2002): Elementary Mathematics for Economists:2nd,OUP. (Ch-6- 9)
- J.M Pearson(1989): Mathematics for Economists: A First Course: Longman.(Ch-5-7).
- Carl P Simon and Lawrence Blue(2002): Mathematics for Economists,WW Norton.

SEMESTER VI- CHOICE BASED CORE COURSE

EC6C15CB23: HISTORY OF ECONOMIC THOUGHT

Credits: 3

Hours per week :4

Total Lecture Hours: 72

Course overview and Context:

The aim of the course is to portrait the routes through which the Science of Economics has evolved as well as its development through the ages primarily demonstrating how past mainstream thoughts has contributed to the scope and content of modern economics. It is also designed to discuss deviations from orthodoxy that have helped to shape contemporary economic thought.

The course provides general insights into economic methodology and reasoning and helps to deepen understanding of modern economic analysis.

Course Outcomes:

CO1: Examine the origins of key economic concepts and models (Understand)

CO2: Appraise the chronological development of economic thought and relate the developments in different schools of thought with contemporary issues. (Analyse)

CO3: Compare and contrast different schools of economic thought (Evaluate)

CO4: Summarise the economic ideas of Indian economics thinkers. (Understand)

Content:

Module I- Introduction(10hrs)

History of Economic Thought –Reasons for studying Economic Thought- Approach to the History of Economic Thought: Relative and Absolute- Evolution of Methodological Thought- Logical Positivism- Falsification- From Falsificationism to Paradigms- From Research Programmes to Sociological and Rhetorical Approaches- Post Rhetorical Approach (Only an overview is Required) Economics as a System of Natural Harmony- Naturalism V/S Supernaturalism V/S Utopian Socialism(Overview only).

Module II- Ancient Economic Thought

(10 hrs)

Ancient Economic Thought: Hebrew Thought (Old Testament - Subsequent Collections of Laws- Greek Economic Thought (General view)-Roman Economic Thought. Precursors of Classical economic Thought: Mercantilism- Economic Ideas of Thomas Mun, Francoise Quesnay (Physiocracy) (Only an Overview is required)

Module III- Classical Economic Thought

(20 hrs)

Classical Economic Thought: Its Critics and Reformers- Economics of Adam Smith- The Definitional Basis of the Wealth of Nations- The Analysis of Value- Analysis of Income Distribution- Analysis of Capital Accumulation - Economics of Thomas Robert Malthus:-The law of Population- David Ricardo: Method, Policy and Scope- The Ricardian Reformulation of the Theory of Value, Jean- Baptiste Say- Says Law of Market- Says Identity- Dichotomization of the Pricing Process- Says Identity and Quantity Theory of Money- Says Equality- The Revisionism of John Stuart Mill- Reciprocal Demand- Laws of Production and Distribution- Jeremy Bentham and Utilitarianism- Critics and Reformers of Classical School- Works of Sismondi- Friedrich List – An Over View of Utopian Socialist- Karl Marx and Economics of Das Capital.

Module IV- The Marginal Revolution and the Neo-Classical School

(20 hrs)

The Marginal Revolution: Herman Heinrich, William Stanley Jevons- Carl Menger- Leon Walras- Marshallian Economics- Paretian Welfare Economics- Marginal Productivity Theory- Product exhaustion theorem – Wicksteed- Wicksell, J.B Clarks Marginal Productivity Theory and the Theory of Capital- Economics of Arthur Cecil Pigou- Economics of Welfare- Unemployment - The Pigou Effect-Keynes and Keynes Economics-Overview of Monetarism- New Classical Economics- Supply side economics-New Keynesianism.

Module V-Indian Economic Thought

(12 hrs)

Economic Ideas Kautilya- DadabhaiNaoroji-Gandhian Philosophy and Economic Ideas-DR. Gadgil, CN Vakil. P R Brahmananda - K N Raj- P C Mahalanobis- V K R V Rao-Amarthya Sen.

References

- Lewis H Haney: History of Economic Thought, Surjeeth Publications, New Delhi, 1979, 4thEdn.
- Harry Landreth and David C Colander: History of Economic Thought, 4thEdn, Houghton Mifflin Company, Boston
- Eric Roll: A History of Economic Thought, Faber and Faber, London 2004
- Robert Lekachmn: History of Economic Ideas, The Universal Book Stall, New Delhi
- Mark Blaug: Economic Theory in Retrospect, 4thEdn, Cambridge University Press.
- Lokanathan V: History of Economic Thought, S Chand and Company, 1993
- William J Barber: A History of Economic Thought, Penguin
- Paul R R: History of Economic Thought, Kalyani Publications, Ludhiana, 1993
- Bhatia H L: History of Economic Thought, Vikas Publishing House, Delh

SYLLABI FOR OPEN COURSES

**SEMESTER V-OPEN COURSE
EC5D01AB23: GENDER ECONOMICS**

Credits: 3

Hours per week :4

Total Lecture Hours: 72

Course Overview and Context:

Gender Economics is an emerging field of study that builds on the theories of diversity and promotes the value of gender balance, particularly in the area of innovation and creativity. It looks at how gender influences economics and economic decisions and how those decisions impact gender.

The course will look into the many different facets of the economics of gender. It discusses the issues of gender discrimination with the participants in order to develop a knowledge system and pedagogy free from all sorts of gender stereotypes.

Course Outcome:

CO1: Explain the theoretical concepts in the area of Gender economics (Understand)

CO2: Examine the gender review of socio economic and demographic development programmes and strategies (Understand)

CO3: Analyze gender influences on economic decisions (Analyze)

CO4:Analyse the identified problems, and select appropriate decision tools in order to solve them (Evaluate)

Content:

Module I–Basic Concepts (16 hrs)

The subject of Gender Economics-Interdisciplinary Approach in gender studies-HDI and incorporation of gender factor into HDI-Gender equality indices-GDI and GEM. Gender status in India and Kerala-Concept of Missing women

Module II- Economic Growth and Gender Equality

(20 hrs)

Women's contribution to GDP-Feminization of poverty – Basic causes-Impact of gender equality on economic growth and socio economic development-Positive and negative impact of globalization on gender status-Occupational segregation-Gender discrimination in Education, Health, Employment, Political participation and decision making

Module 3- Demographic Changes and Gender Status

(16 hrs)

The gender factor in demographic development-Global demographic changes-Gender shift and demographic development-Impact on gender status-Gender differences in mortality- Concepts and factors-Biological factors.

Module 4 -Gender Policy

(20 hrs)

Objectives and methods of gender policy-Global and National gender policy-Gender inequality indicators- Indicators of gender differences in socio economic development-Main gender issues in socio economic development in developed and developing countries-International organizations and the role of gender studies and gender policy implementation-Gender Budgeting-Approaches and principles-Budgeting policies to reduce gender disparities.

References

- The Economics of Gender Joyce P. Jacobsen
- Gita Sen and Canen Crown; Gender and Class in Development Experience
- Leela Gulati and Ramalingam; Kerala Women: A profile
- Neera Desai and MaithreyiKrishnaraj; Health-A Gender Issue in India
- Lourdes Beneria and Savithri Biswanath; Gender and Development: Theoretical, Empirical and Practical Approaches.
- Lekha Chakraborti; Invisibility of Women's Work in Budgeting.
- National Institute of public Finance and policy (NIPFP); Gender Budgeting in India, www.nipfp.org.in.
- UNDP - Human Development Reports
- Gender Issues in Business and Economics, Paoloni, Paola, Lombardi, Rosa (Eds.)

SEMESTER V- OPEN COURSE
EC5D01BB23: LOGIC AND REASONING APTITUDE

Credits: 3

Hours per week :4

Total Lecture Hours: 72

Course Overview and Context:

The course introduces students to the essential ideas and techniques from logic that are widely used in Philosophy, computer Science and Mathematics.

it will improve their reasoning skills as required by them in fulfilling their individual and organisational goals. The course exposes the students to 'logical tools' and 'quantitative reasoning methods' and enable them to apply these logical strategies in business decision making.

Course Outcomes:

- CO1:** Explain the basic concepts essential to a critical examination and evaluation of argumentative discourses (Understand)
- CO2:** Evaluate the four categorical sentence forms, identify and classify the sample Sentences and assess information in order to arrive at reasoned conclusions (Evaluate)
- CO3:** Assess the validity/ invalidity of deductive arguments by analysing a categorical syllogism (minor, major and middle terms, and minor and major premises) (Analyse)
- CO4:** Apply rules of inference and equivalence in proving the validity of deductive arguments(Evaluate)

Content:

Module I – Introduction to Logic

(8 hrs)

What is Logic? Logic as a science of reasoning- Sample brainteasers-definition of logic-two types of reasoning: deduction and induction -Deductive reasoning - Difference between induction and deduction – Terms, propositions and arguments- Truth and Validity

Module II – Categorical Propositions

(16 hrs)

Propositions: Categorical and Conditional – Categorical Propositions AEIO – Quality, Quantity and distribution – Venn diagram-Immediate and Mediate inferences- Square of opposition Further immediate inferences: Conversion, Obversion, Contraposition

Module III – Categorical Syllogism

(12 hrs)

Deductive arguments –Categorical syllogism: Rules and fallacies- Hypothetical - Rules and fallacies, Disjunction- Rules and fallacies - Dilemma- Rebutting the dilemma Reasoning exercises based on mediate inference.

Module IV - Propositional Logic – Truth Table Method

(20 hrs)

Propositional Logic: Symbols and Translation – Truth Function – Truth Table for testing the validity of Propositions and Argument (Direct and Indirect method)

Module V - Propositional Logic – Natural Theory of Deduction

(16 hrs)

Natural Deductions in Propositional Logic – Rules in Inference and its application- Gentzen system (Tree method).

References

- Robert Baum, Logic, 4th Edition, Harcourt Brace College Publishers, New York.
- Robert. J. Kreyche, Logic for undergraduates, Holt, Rinehart and Winston, Inc, New York.
- Morris. R. Cohen & Ernest Nagel, An Introduction to Logic and Scientific method, Allied
- I.M. Copi & Carl Cohen, Introduction to logic, Prentice Hall. New York.
- Ben-Ari, M.: Mathematical Logic for Computer Science, Prentice Hall, 1993.
- Hurley, A Concise Introduction to Logic (8th Edition)

SEMESTER V- OPEN COURSE

EC5D01CB23: FUNDAMENTALS OF ECONOMICS

Credits:3

Hours per week :4

Total Lecture Hours: 72

Course Overview and Context:

This course is designed to make the undergraduate students of other disciplines aware of the basic ideas and concepts in Economics .Develop the ability to explain core economic terms, concepts, and theories. Explain the function of market and prices as allocative mechanisms.

Course Outcomes:

CO1: Examine the basic economic concepts in Economics (Understand)

CO2: Explain the concepts of public economics (Understand)

CO3: Analyse financial system and the international trade scenario (Analyse)

CO4: Illustrate the development trail of our country (Apply)

Content:

Module I- Basic Concepts

(12 hrs)

Economics – micro and macro – deduction and induction – basic economic problems-production possibility curve. Utility - total and marginal. Law of Demand – elasticity of demand - price elasticity - types. Law of supply. National income – meaning - components of national income

Module II- Public Economics

(16 hrs)

State vs Market - public revenue - public expenditure – tax and non-tax revenue – direct and indirect taxes – goods and service tax in India - budget – types - fiscal deficit - revenue deficit - public debt – trade cycle and its phases - fiscal and monetary policies as tools for combating inflation and deflation.

Module III-Financial System and International Trade

(24 hrs)

Negotiable and non-negotiable instruments – cheques – drafts - bills of exchange – promissory notes-letter of credit - certificate of deposits – commercial papers - banking and non-banking institutions - commercial banks — Core Banking, Internet Banking, Mobile Banking, ATM/Debit & Credit Cards, IFSC, NEFT, RTGS—NPA in Indian banking sector RBI – functions - money and capital market – major financial instruments – shares, debentures and bonds – Insurance: meaning, nature and types - stock exchange – BSE, NSE – stock market indices – SEBI - mutual funds. Terms of trade - balance of trade - balance of payments - foreign exchange - exchange rate – spot – forward – fixed – floating - IMF, World Bank – WTO

Module IV- Indian Economic Development

(20 hrs)

An overview of Planning in India - Planning Commission –NITI Aayog- Finance Commission – Green revolution – changing pattern of India's industrialisation - Liberalization - Privatization - Globalization (LPG) – Major features of population in India and Kerala - Kerala model of development

References

- R R Paul (2008), Monetary Economics, Kalyani Publishers, Lidhiyana
- V K Bhalla (2008), Investment Management, S. Chand & Co., New Delhi.
- Bo Sodersten & Reed Dominic, International Economics, palgravemcmillan
- Samuelson (2009), Economics, Tata McGraw Hill, New Delhi.
- Gaurav Datt & Ashwani Mahajan, (recent edition) Datt & Sundharam Indian Economy, S. Chand & Co., New Delhi (recent edition)
- Alwin Prakash, Kerala's Economic Development (2004), Sage Publications, New Delhi.
- Meera Bai M (ed) (2008), Kerala Economy, Serials Publication, New Delhi.

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SEMESTER V- OPEN COURSE
EC5D01DB23: ECONOMICS OF POPULATION

Credits:3

Hours per week: 4

Total Lecture Hours: 72

Course Overview and Context:

This course seeks to familiarize students with the composition of population, Concept of ageing and other such demographic concepts and theories.

Course Outcomes:

CO1: Examine the basic concepts of demography (Understand)

CO2: Analyse the composition of population (Analyse)

CO3: Examine the various theories of population (Understand)

Content:

Module I- Introduction to the study of Demography (20 hrs)

Definition, scope and historical background of formal demography - Recent population trends World - More Developed Regions - Less developed Regions and Least Developed Regions of the world - components of population growth - population composition- age composition in more developed and less developed regions of the world - population growth in India. Basic demographic methodology - rates in demography- birth (fertility) - mortality - marriage (Nuptiality) - infant mortality rate- computation of infant mortality rate –population projection- sources of population data - sources of demographic data in India.

Module II- Theories of population (12 hrs)

Thomas Robert Malthus - Micheal Thomas Sadler - an overview of sociological theories - optimum theory of population- demographic transition theory- demographic dividend - population and economic growth - economic characteristics of population- economically active population- work participation and unemployment - working population and work participation rate in India.

Module III- Composition of Population

(20 hrs)

Pattern of sex and age structure in developed and developing countries- determinants of age and sex structure- demographic effects of age - sex- structural transition- ageing and younging of population- feminization. Determinants of population ageing - ageing index-median age - dependency ratio - potential support ratio and parental support ratio - Madrid plan - concepts of active ageing - healthy ageing - successful ageing and productive ageing- age structure transition and population ageing in India and Kerala.

Module IV- Fertility - Mortality – Nuptiality

(12 hrs)

Trends and differentials in fertility transition in India and Kerala - causes of demographic changes in South India- trends and differentials in mortality in India and Kerala- Foetal and infant mortality - life expectancy - still birth, abortion and prenatal mortality - laws relating to abortion in India- epidemiological transition- morbidity in Kerala.

Module V – Migration

(8 hrs)

Concepts - types - laws- Theories of migration - Todaro- Fei-Rani's models - cause and effect of migration

References

- D.J.Bogue, Principles of Demography, Wiley 1971
- Spiegelmon M, Introduction to Demography
- H.S.Shryok, The Methods and Materials of Demography
- A.A.Bhande, Principles of population studies, Himalaya and T. Kanitkar
- Debraj Ray, Development Economics OXFORD, INDIA
- RobVos, Jose, Ageing Development, Antonio Ocampo and Orient and Black swan
- S. Irudaya Rajan, US Misra & P.Sankara Sarma, India's Elderly -Burden or Challenge, Sage publications, New Delhi

SYLLABI FOR COMPLEMENTARY COURSES

SEMESTER I

EC1B01B23: PRINCIPLES OF ECONOMICS

[COMPLEMENTARY COURSE FOR BACHELOR'S PROGRAMME IN HISTORY]

Credits: 4

Hours per week :6

Total Lecture Hours: 108

Course Overview and Context:

The course is designed to introduce the subject matter of economics and the major concepts used in the discipline. The course covers the nature and scope of economics, the basic concepts of demand, supply, price determination, consumer theory, utility, production and a glimpse of different market structures prevalent in an economic system.

This course makes students capable of understanding historical developments from an economic angle and equip them to be economic interpreters of history and policy analysts.

The course envisions to give an understanding of the basic concepts of economics and enable the students to apply them in day-to-day issues that they encounter.

Course outcomes:

CO1: Explain the basic concepts in economics (Understand)

CO2:: Interpret the impact of shifts in both market supply and demand curves on equilibrium price and output.(Apply)

CO3: Explain the basic elements of consumer theory.(Understand)

CO4: Compare short run and long run production function (analyse)

CO5: Evaluate the functioning of perfect and imperfect markets.(Evaluate)

Content:

Module I - Nature and Scope of Economics

(13 hrs)

Definitions: Wealth, Welfare, Scarcity and Growth - Significance of Economics - Micro Economics and Macro Economics - Normative and Positive Economics. Basic economic problems - production possibilities- Basic features of prevalent economic systems-capitalism, socialism, mixed economy –Gandhian economic principles.

Module II - Prices and Markets

(30 hrs)

Demand – Individual demand and market demand - Demand curve- Law of demand Exceptions to the Law of Demand – Law of Supply – Individual supply and market supply –Market equilibrium - shift in demand, supply and price – Elasticity of demand – meaning, degrees and measurement.

Module III - Consumer Behaviour

(20 hrs)

Consumption - meaning - Utility – Cardinal and Ordinal – Law of Diminishing Marginal Utility. Law of Equi-marginal Utility -Indifference Curve Analysis-consumers surplus.

Module IV - Production, Product Pricing and Distribution

(20 hrs)

Production – basic concepts of costs – opportunity cost - Production function – Short run and Long run – Returns to a factor-Law of variable proportions -Laws of returns to scale-economies and diseconomies of scale - internal and external economies of scale.

Module V – Markets

(25 hrs)

Main market forms - Perfect Competition, Monopoly, Monopolistic competition: Price and output determination under Perfect Competition and Monopoly - Oligopoly (features only).

References

- Samuelson. P.A. Nordhaus (2009), Economics, Tata McGraw Hill
- Mankiw, Gregory (recent edition), Principles of Economics, Cengage Learning,

Delhi

- Case & Fair (2007), Principles of Economics, Pearson Education, Delhi
- Koutsoyiannis (1979), Modern Microeconomics, Macmillan Press Ltd. London.

B.A DEGREE (C.B.C.S) EXAMINATION, NOVEMBER 2023

SEMESTER I

**COMPLEMENTARY COURSE FOR BACHELOR'S PROGRAMME IN
HISTORY**

EC1B01B23: PRINCIPLES OF ECONOMICS

Time:3 hours Maximum marks: 80

Part A

(Answer any ten questions. Each question carries 2 marks)

Qn.No.	Questions	CO	Level of question
1.	Define Macro Economics.	1	R
2.	Explain growth definition of Economics	1	U
3.	What is production possibility curve?	1	R
4.	State the Law of demand.	2	R
5.	Define Law of diminishing marginal utility.	3	R
6.	Differentiate between total utility and marginal utility.	3	U
7.	What is an Indifference Map?	3	U
8.	What is short-run production function?	4	U
9.	What is opportunity cost?	4	R
10.	Define Marginal Product.	4	R
11.	List the four different types of market structures in an economy.	5	R
12.	Define Monopolistic competition.	5	R

(10 x 2 = 20 marks)

Part B**(Answer any six questions. Each question carries 5 marks)**

Qn.No.	Questions	CO	Level of question
13.	Compare positive economics and normative economics.	1	U
14.	Distinguish between micro and macro economics	1	U
15.	Outline the differences between Bandwagon effect and Veblen effect.	2	U
16.	Examine the reasons why a demand curve slopes downwards.	2	An
17.	Examine the concept of Diminishing Marginal Rate of Substitution	3	An
18.	Explain the basic facts of law of diminishing marginal utility.	3	E
19.	Distinguish between returns to a factor and returns to a scale.	4	U
20.	Distinguish between economies and diseconomies of scale.	4	U
21.	Briefly evaluate the features of perfect competition and why a perfectly competitive market seller known as price taker.	5	An

(6 x 5 = 30 marks)

Part C

(Answer any two questions. Each question carries 15 marks.)

Qn.No.	Questions	CO	Level of question
22.	Examine the differences between Shift in demand and change in demand? Write its implications.	2	An
23.	Explain the basic differences between cardinal and ordinal utility analysis and state the Law of Diminishing Marginal Utility.	3	E
24.	Examine how returns to a factor theory is different from returns to a scale theory?	4	An
25.	Do you agree perfectly competitive firms make super normal profits in the short run? Explain price and output determination under perfect competition in the short run.	5	An

(2 x 15 = 30 marks)

CO: Course Outcomes

Level: R – Remember, U – Understand, Ap- Apply, An- Analyze, E- Evaluate, C- Create

SEMESTER I

EC1B02B23: INTRODUCTION TO LOGIC

**[COMPLEMENTARY COURSE FOR BACHELOR'S PROGRAMME IN
SOCIOLOGY]**

Credits: 4

Hours per week :5

Total Lecture Hours: 108

Course Overview and Context:

This course introduces the basic concepts of logic and explores various principles, techniques concerning valid reasoning. It presents the basic techniques used to derive a valid conclusion from the premises of an argument.

Sound analytical, reasoning and logical skills are a prerequisite for functioning in today's complex world. Recognizing the relevance of reasoning capacity, almost all competitive exams currently include sections to assess capacity in this regard. This paper guides students through the maze of reasoning exercises in both inductive and deductive logic

Course Outcomes:

CO1: Explain the basic concepts essential to a critical examination and evaluation of argumentative discourses.(Understand)

CO2: Classify sample categorical sentences in terms of their forms(Analyse)

CO3: Appraise information to arrive at reasoned conclusions (Evaluate)

CO4: Assess the validity/invalidity of deductive arguments by analysing the structure and parts of a categorical syllogism(Analyse)

CO5: Evaluate deductive arguments by applying rules of inference and equivalence (Evaluate)

Content:

Module I - Introduction to Logic

(24 hrs)

Logic: Definition nature and scope of Logic-Terms, Propositions and Arguments (brief description)
- Deductive reasoning - Difference between deduction and induction - Laws of Thought.

Module II - Categorical propositions

(30 hrs)

Categorical propositions: Classification according to Quality, Quantity and distribution of Terms in AEIO propositions – Eulers - circle - Immediate and Mediate inferences - Square of Opposition - Edution: Conversion, Obversion.

Module III - Categorical Syllogisms

(30 hrs)

Deductive arguments - Categorical Syllogisms: Rules and Fallacies - Hypothetical and Disjunctive syllogisms: Rules and Fallacies - Dilemma - Rebutting the Dilemma.

Module IV – Scientific Enquiry

(24 hrs)

Induction - Types of Induction (Scientific and Unscientific)- Scientific Induction: Four Stages of scientific induction- Unscientific Induction: Enumerative induction and Analogy (brief description) - Postulates of Induction - Problem of induction

References

- I.M. Copi and Carl Cohen, Introduction to Logic.
- Creighton and Smart, Introduction to Logic.

B.A DEGREE (C.B.C.S) EXAMINATION, NOVEMBER 2023
SEMESTER I
COMPLEMENTARY COURSE FOR BACHELOR'S PROGRAMME IN
SOCIOLOGY
EC1B02B23: INTRODUCTION TO LOGIC

Time: 3 hours

Maximum marks: 80

Part A

(Answer any ten questions. Each question carries 2 marks)

Qn.No.	Questions	CO	Level of question
1	Define Induction.	1	R
2	What is Deductive Reasoning?	1	R
3	List out Postulates of Induction.	1	R
4	Define Logic.	1	R
5	What is Syllogism?	1	R
6	Explain Categorical Propositions.	2	U
7	State Law of Identity.	1	R
8	What is law of uniformity of nature?	1	R
9	Define Figure.	1	R
10	Explain Mediate and Immediate Inferences.	2	U
11	What is Fallacy of Four Terms?	1	R
12	What is an Argument?	1	U

(10 x 2 = 20 marks)

Part B

(Answer any six questions. Each question carries 5 marks)

Qn.No.	Questions	CO	Level of question
13	Differentiate Between Deductive Reasoning and Inductive Reasoning.	1	U
14	What is Hypothetical Syllogism? State its rules with Examples?	3	U

15	Give account of Postulates of Induction.	1	An
16	Describe Categorical Proposition and Distribution of Terms.	2	An
17	Explain Education.	2	U
18	Explain Square of Opposition	1	U
19	Describe the Rules of Conversion, Obversion and Contraposition.	2	E
20	Explain Laws of thoughts.	1	U
21	Describe Problem of Induction.	4	An

(6 x 5 = 30 marks)

Part C

(Answer any two questions. Each question carries 15 marks.)

Qn.No.	Questions	CO	Level of question
22	What is induction? Explain Postulates of Induction?	4	An
23	Explain Syllogism and Describe Rules and Fallacies with Examples.	3	E
24	Explain Classification of Propositions and Distribution of Terms with Euler's Circle.	2	Ap
25	Write an Essay on Four Stages of Scientific Induction.	4	An

(2 x 15 = 30 marks)

CO: Course Outcomes

Level: R – Remember, U – Understand, Ap- Apply, An- Analyze, E- Evaluate, C-Create

SEMESTER II

EC2B01B23: BASIC ECONOMIC STUDIES

[COMPLEMENTARY COURSE FOR BACHELOR'S PROGRAMME IN HISTORY]

Credits: 4

Hours per week :6

Total Lecture Hours: 108

Course Overview and Context:

The course is designed to give an outlook to the advanced concepts and issues in economics. Public economics, money and banking, National Income and issues and developments in the Indian economy and Kerala economy are the broad areas covered.

This course seeks to enable the students to identify the scope of different sectors in the effective functioning of an economy and give them awareness in basic concepts used in these sectors to make them effective policy analysts and evaluators.

The issues of public economic domain and national and regional economies are taken up to enable the students to become responsible citizens.

Course Outcomes:

CO1: Identify the scope of public economics and the importance of fiscal policy. (Understand)

CO2: Explain money and banking sector of the economy and apply critical thinking in analysing economic issues (Understand)

CO3: Examine basic concepts of National Income and measurements (Remember)

CO4: Evaluate various economic issues and suggest measures to solve them (Evaluate)

CO5: Analyse the features of Kerala model of development and its impact on the Kerala economy. (Analyse)

Content:

Module I - Public Economics

(25 hrs)

Public Economics –Meaning and scope - private finance and public finance - sources of public revenue, taxation –GST-public expenditure, public debt, fiscal policy, budget - types –fiscal deficit-revenue deficit-fiscal policy-meaning, objectives and instruments of fiscal policy.

Module II - Money and Banking

(20 hrs)

Money - Meaning and Functions – Meaning and Functions of Commercial banks and Central Bank –Monetary policy - meaning, objectives and instruments. Inflation - meaning, causes and remedies.

Module III - National Income

(18 hrs)

Concept of Circular Flow-Major concepts of National Income - Methods of calculating National Income - Product method - Income method, expenditure and combined methods – Difficulties in the Estimation-National Income estimation in India.

Module IV – Introduction to the Indian Economy

(25 hrs)

Features of the Indian economy –Economic planning in India - achievements and shortfalls – Place of Agriculture in the Indian Economy. Green Revolution: Achievements, & failures - Indian money market – emerging trends in commercial banking - Special Economic Zones (SEZ) – Concept and features. NITI Ayog. Recent reforms in banking sector in India Narasimham Committee I & II.

Module V - Basic Economic Issues of Kerala

(20 hrs)

Features of Kerala economy - structural changes – self-reliance and self-help groups (SHGs)- Kerala model of development - impact of migration on Kerala economy.

References

- Samuelson. P.A., Nordhaus (2009), Economics, Tata McGraw Hill.
- Mankiw, Gregory, Principles of Economics, Cengage Learning, Delhi
- GauravDatt and Ashwani Mahajan (recent edition) Datt&Sundharam
- Indian Economy, S. Chand & Co., Delhi
- K. Rajan (2009), Kerala Economy Serials Publication, New Delhi.
- MeeraBai M. (ed) (2008), Kerala Economy, Serials Publication, New Delhi.

SEMESTER II

EC2B02B23: SYMBOLIC LOGIC

**[COMPLEMENTARY COURSE FOR BACHELOR'S PROGRAMME IN
SOCIOLOGY]**

Credits: 4

Hours per week :5

Total Lecture Hours: 108

Course Overview and Context:

This course introduces various concepts of propositional logic and discusses the issue of whether the formal system is consistent. It studies the principles of correct reasoning using the symbolic technique of propositional calculus.

Sound analytical, reasoning and logical skills are a prerequisite for functioning in today's complex world. Recognizing the relevance of reasoning capacity, almost all competitive exams currently include sections to assess capacity in this regard. This paper guides students through the maze of reasoning exercises in propositional logic.

Course Outcomes:

CO1: Express natural language sentences in symbolic language by means of symbolization key(Understand)

CO2: Explain validity of natural language arguments from the symbolic logical point of view and analyse propositions and arguments in propositional logic by truth (Analyse)

CO3: Choose equivalent propositions and identify status of a proposition (Evaluate)

CO4: Analyse arguments in propositional logic by natural deduction method and inspect validity of an argument by a deduction(Analyse)

CO5: Analyze arguments in propositional logic by truth tree method(Analyse)

Content:

Module I – Introduction to Symbolic Logic (18 hrs)

Logic and Language: three basic functions of language - emotively neutral language - symbolic logic and traditional logic - advantages of symbolization.

Module II – Propositions (24 hrs)

Statements and Arguments - constants and variables - truth and validity - simple and compound statements - truth-functional compound statements: conjunction, negation, disjunction, implication and biconditional - truth tables.

Module III – Truth Table Techniques (24 hrs)

Truth table technique solving for Argument forms- Statement forms: Tautology, Contradiction and Contingent - Proving invalidity

Module IV – Formal Proof of Validity I (24 hrs)

Rules of Inference and their applications –

Module V - Formal Proof of Validity II(18 hrs)

Natural Deductions in Propositional Logic – Gentzen system (Tree method).

References

- I M Copi, Symbolic Logic (5th Edition)
- I M Copi and Carl Cohen, Introduction to Logic
- Chhanda Chakraborti, Logic Informal, Symbolic & Inductive

SEMESTER III

EC3B03B23: LOGIC

**[COMPLEMENTARY COURSE FOR BACHELOR'S PROGRAMME IN
ECONOMICS]**

Credits: 4

Hours per week :5

Total Lecture Hours: 108

Course Overview and Context:

This course introduces the basic concepts of logic and explores various principles, Techniques concerning valid reasoning. Since reasoning is involved in most intellectual activities, logic is relevant to broad range of pursuits. The subject matter of logic is nothing but a study of effective reasoning. Hence, the main purpose of this course is to learn the tools and techniques of various reasoning process.

Course Outcomes:

CO1: Explain the basic concepts essential to a critical examination and evaluation of argumentative discourses. (Understand)

CO2: Evaluate the four categorical sentence forms, identify and classify the sample sentences (Analyse)

CO3: Assess information in order to arrive at reasoned conclusions. (Evaluate)

CO4: Assess the validity/ invalidity of deductive arguments by analysing a categorical syllogism (minor, major and middle terms, and minor and major premises) (Analyse)

CO5: Apply rules of inference and equivalence in proving the validity of deductive arguments. (Evaluate)

Content:

Module I – Introduction

(18 hrs)

Introduction: Terms, Propositions and Arguments (brief description) - Deductive reasoning - Difference between deduction and induction - Laws of Thought.

Module II – Categorical Propositions: Mediate Inference (24 hrs)

Categorical propositions: Classification according to Quality, Quantity and distribution of Terms in AEIO propositions – Eulers - circle - Immediate and Mediate inferences - Square of Opposition - Edution: Conversion, Obversion.

Module III - Categorical Propositions: Immediate Inference (24 hrs)

Deductive arguments - Categorical Syllogisms: Rules and Fallacies - Hypothetical and Disjunctive syllogisms: Rules and Fallacies - Dilemma - Rebutting the Dilemma.

Module IV – Fallacies (24 hrs)

Fallacies of Relevance - Fallacies of Presumption - Fallacies of Ambiguity

Module V - Scientific enquiry and formulation of hypothesis (18 hrs)

Induction - Types of Induction (Scientific and Unscientific)- Scientific Induction: Four Stages of scientific induction- Unscientific Induction: Enumerative induction and Analogy (brief description) - Postulates of Induction -Problem of Induction.

References

- I.M. Copi and Carl Cohen, Introduction to Logic.
- Creighton and Smart, Introduction to Logic.

SEMESTER IV

EC4B03B23: SYMBOLIC LOGIC

(COMPLEMENTARY COURSE FOR BACHELOR'S PROGRAMME IN ECONOMICS)

Credits: 4

Hours per week :5

Total Lecture Hours: 108

Course overview and Context:

This is an introduction to formal logic and how it is applied in computer science, linguistics and philosophy. Students will learn propositional logic—its language, interpretations and proofs, and apply it to solve problems in a wide range of disciplines. It is a blend of both mathematical and philosophical flavor.

Course Outcomes:

CO1: Explain basic notions of symbolic logic and express natural language sentences in symbolic language by means of symbolization key. (Understand)

CO2: Explain validity of natural language arguments from the symbolic logical point of view, analyse propositions and arguments in propositional logic by truth tables and construct truth table of a proposition (Analyse)

CO3: Choose equivalent propositions and identify status of a proposition (Evaluate)

CO4: Analyse arguments in propositional logic by natural deduction method and inspect validity of an argument by a deduction (Analyse)

CO5: Evaluate arguments in propositional logic by truth tree method (Evaluate)

Content:

Module I – Introduction to Symbolic Logic

(18 hrs)

Logic and Language: three basic functions of language - symbolic logic and traditional logic - advantages of symbolization.

Module II - Propositional Logic

(24 hrs)

Statements and Arguments - constants and variables - truth and validity - simple and compound statements - truth-functional compound statements: conjunction, negation, disjunction, implication and bi-conditional.

Module III - Propositional Logic: Truth Table Technique

(24 hrs)

Propositional Logic (Contd.) - Truth table technique for problem solving - Truth tables for Propositions - Statement forms: Tautology, Contradiction and Contingent - Truth tables for Arguments – Testing for Validity - Indirect Truth Table method.

Module IV - Propositional Logic: Formal Proof of Validity

(24 hrs)

Natural Deductions in Propositional Logic: Rules of Inference – Rules of Implication, Rules of Replacement and their applications - Conditional Proof.

Module V - Predicate Logic: Quantification

(18 hrs)

Quantification Theory - Symbols and Translation

References

- I M Copi, Symbolic Logic (5th Edition)
- I M Copi and Carl Cohen, Introduction to Logic
- ChhandaChakraborti, Logic Informal, Symbolic & Inductive
- Hurley, A Concise Introduction to Logic (8th Edition)

