DEPARTMENT OF ECONOMICS

ST. XAVIER'S COLLEGE, RANCHI

2-YEAR NEP PG CURRICULUM

M.A. ECONOMICS PROGRAMME

Implemented w.e.f.
Academic Session 2025-26 & onwards

DEPARTMENT OF ECONOMICS

BOARD OF STUDIES

A meeting of the board of studies for approval of the syllabus of M.A. Economics was held on 22/11/2025 in the Department of Economics, St. Xavier's College at 11:30 A.M. The following members were present:

Sl. No.	Name	Designation	Signature
1.	Dr. Jyoti Prakash	Assistant Professor, P.G. Dept. of Economics, Ranchi University, Ranchi (University Nominee)	22/11/2025
2.	Dr. Amrendra	Professor, H.O.D., Department of Economics, Govt RBR NES PG College, Jashpur (CG) (University Expert)	22.11.2025
3.	Dr. P.C. Deogharia	Retd. Associate Professor, Department of Economics, Vinoba Bhave University, Hazaribagh. (University Expert)	22/11/2025
4.	Mr. Lalit Tripathi	Director, Vedant Asset Management Co., Main Road, Ranchi. (Industrial Representative)	22/11/25

5.	Diwas Tomar	Alumnus, Dept. of Economics, St. Xavier's College, Ranchi. (P.G. Alumnus)	Diwas Tomar 22/11/2025
6.	Eram Afroz	Alumnus, Dept. of Economics, St. Xavier's College, Ranchi. (P.G. Alumnus)	Eram Afroz 22/11/25
7.	Dr. M. Barla	Head, Associate Professor, Dept. of Economics, St. Xavier's College, Ranchi. (Member)	Barla 22.11.2025
8.	Dr. V.K. Pandey	Asst. Professor, Dept. of Economics, St. Xavier's College, Ranchi. (Member)	22/11/25
9.	Dr. D.M. Pathak	Asst. Professor, Dept. of Economics, St. Xavier's College, Ranchi. (Member)	22/11/2025
10.	Zeba Ashraf	Guest Faculty, St. Xavier's College, Ranchi. (Member)	22/11/25

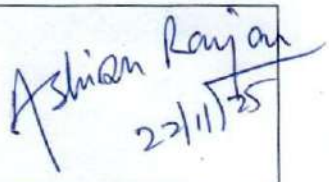
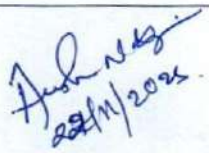
11.	Ashish Ranjan	Guest Faculty, St. Xavier's College, Ranchi. (Member)	
12.	Anshu Neeva Kujur	Guest Faculty, St. Xavier's College, Ranchi. (Member)	

Table of Contents

--- x ---

HIGHLIGHTS OF NEP PG CURRICULUM

CREDIT OF COURSES

The term 'credit' refers to the weightage given to a course, usually in terms of the number of instructional hours per week assigned to it. The workload relating to a course is measured in terms of credit hours. It determines the number of hours of instruction required per week over a semester (minimum 15 weeks).

a) One hour of teaching/ Lectures or two hours of laboratory /practical work will be assigned per class/interaction.

One credit for Theory	= 15 Hours of Teaching
One credit for Practicum	= 30 Hours of Practical work
One credit for Internship	= 02 Weeks of Practical experience

b) For credit determination, instruction is divided into three major components:
Hours (L) – Classroom Hours of one hour duration.
Tutorials (T) – Special, elaborate instructions on specific topics of one hour duration
Practical (P) – Laboratory or field exercises in which the student has to do experiments or other practical work of a two-hour duration.

Internship – For the Exit option after 1st year of the 2-year P.G. Programme for the award of P.G. Diploma, Level 6.5, Students can either complete two 4-week internships worth 2 credits each or one 8-week internship for all 4 credits. This practical experience connects academic learning with real-world applications, offering valuable exposure to professional environments in their fields of study

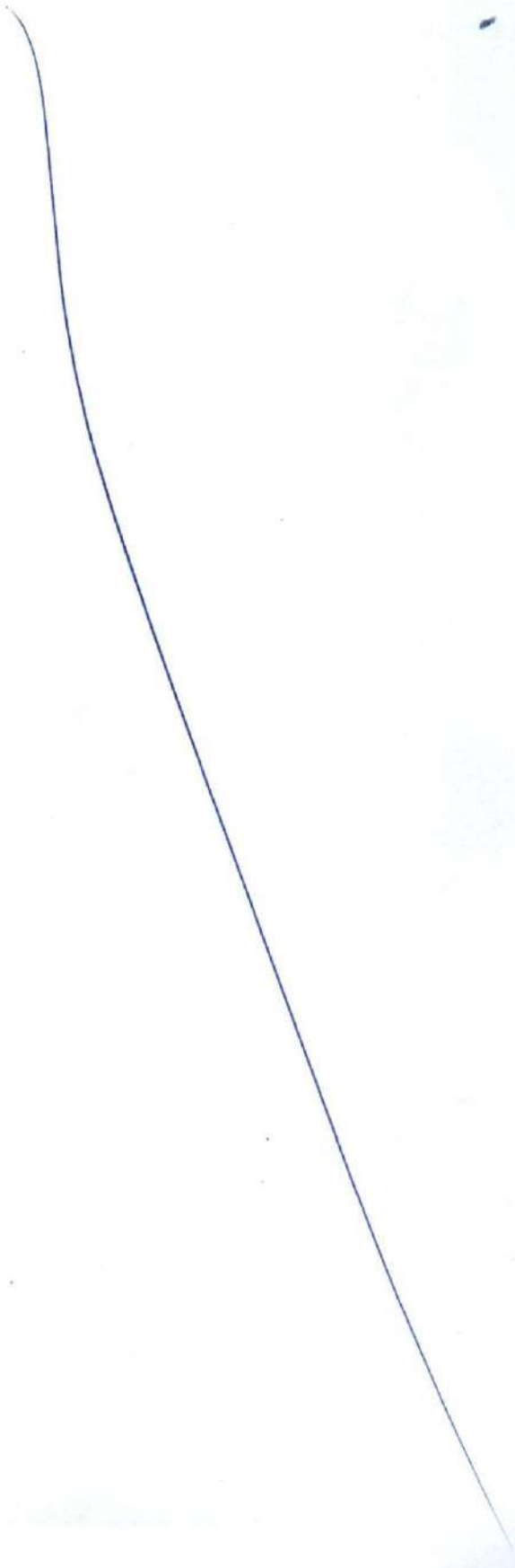
PG CURRICULUM

1. The PG Curriculum will be either of 1-year duration for students who studied the four-year UG Programme (FYUGP) or a 2-year duration for students who studied a three-year UG programme from a CBCS/LOCF/FYUGP Curriculum.
2. There is a flexible mode in the PG programme offered to the students of Ranchi University, Ranchi. The total credit for any semester will be 20 credits.
3. **Two-year PG curriculum:** The First year of the PG curriculum offers coursework only. There will be 3 courses at level 400 and 2 courses at level 500 in the first and the second semesters of any 2-year PG programme.
4. **One-year PG curriculum:** The Courses in the 1-year PG programme and the second year of the 2-year PG programme are the same.
   a. **Course work only**: There will be 5 courses at level 500 of 4 credits each in every semester for the coursework offered in the programme.
   b. **Course work and Research**: There will be 5 courses at the level 500 bearing 4 credits each in the first semester of a 1-year PG or in the third semester of a 2-year PG. There will be Research work offered in the next semester for this mode offered in the programme. The eligibility for this mode is available in the NEP PG curriculum of Ranchi University, Ranchi.
   c. **Research work only**: The eligible student will be offered this mode to conduct extensive research under the supervision of a guide. Each semester will be equivalent to 20 credits. The selection of a candidate for the research mode will depend upon the eligibility of the student, availability of the guide and seat in the department/institution of Ranchi University, Ranchi.

PROMOTION CRITERIA

Two Years Post-graduation programme having coursework only:

i. Each course shall be of **100 marks** having two components: **30 marks for Sessional Internal Assessment (SIA), conducted by the Department/College and 70 marks shall be assigned to the End Semester University Examination (ESUE), conducted by the University.**
ii. The marks of SIA shall further break into, 20 for Internal Written Examinations, 05 for Written Assignment/ Seminar presentation and 05 for overall performance of a student including regularity in the class room lectures and other activities of the Department/College.



iii. The Requisite Marks obtained by a student in a particular subject will be the criteria for promotion to the next Semester.

iv. There shall be two written internal examinations, each of 1 hour duration and each of 20 marks, in a semester out of which the **'Better One out of Two'** shall be taken for computation of marks under SIA.

v. If a student failed to secure pass marks in Mid Semester, he/she has to reappear in Mid & End Semester Examinations.

vi. In case a student is fail to secure pass marks in End Semester Examination, then he/she has to appear only in End Semester Examination of following Sessions within period of Upper Limit of Four Years and the Marks of Mid Semester will be carried for the preparation of result.

vii. Students' final marks and the result will be based on the marks obtained in Mid Semester and End Semester Examination organized taken together.

viii. The pass marks in the programme will be 45% of the total marks obtained in each Core/ Elective/ Other Courses offered.

ix. In absolute terms of marks obtained in a course, **a minimum of 28 marks is essential in the ESUE** and **a minimum of 17 marks is to be secured in the SIA** to clear the course. In other words, a student shall have to pass separately in the ESUE and in the SIA by securing the minimum marks prescribed here.

x. Every candidate seeking to appear in the ESUE shall be issued an Admit Card by the University. **No candidate will be permitted to appear in the examination without a valid admit card.**

xi. A candidate shall be permitted to proceed in next Semester (2nd, 3rd and 4th) **provided he/she has passed at least in 3 courses out of 5 courses** in the respective semester in theory and practical/ project courses taken together.

xii. A student will have to clear all his papers within maximum of Four Years of duration to qualify for the degree.

However, it will be necessary to procure pass marks in each of the papers before completion of the programme.

VALUE ADDED COURSES

1. The Value added course will be of **2 credits** to be covered during the first semester.
2. There will be objective-type questions asked in the End Semester University Examination (ESUE).
3. There will be OMR-based examination and the correct answer is to be marked by a black ballpoint pen only on the OMR sheet provided by the University.
4. For **50 Marks Examination** the student will be provided **Two hours** for marking their responses.
5. Students are not allowed to choose or repeat courses already undergone at the undergraduate level in the proposed major and minor streams.
6. The performance in this course will not influence the SGPA or CGPA of the PG Programme where the student is registered to obtain the Master's Degree. However, it will be mandatory to secure minimum pass marks in the course before exit from the PG Programme.
7. If the student fails to secure the minimum pass marks in the Value added course in the first semester, he may appear in the examination of the said course with the following batch of the next session.
8. The student may appear in the examination of the said course further if could not clear the course in the following attempt, subject to the date of validation of the Registration.

The Regulations related to any concern not mentioned above shall be guided by the existing Regulations of the PG Curriculum of Ranchi University, Ranchi.

--- x ---

COURSE STRUCTURE FOR PG **'PG DIPLOMA/ COURSEWORK ONLY/ COURSEWORK WITH RESEARCH/ RESEARCH ONLY'**

Table 1: Credit Framework for One Year Postgraduate Programme (PG) [Total Credits = 80]

Academic Level	Level of Courses	Semester	Coursework Level 400	Coursework Level 500	Research Preparedness	Research thesis/ Project/ Patent	Total Credits
YEAR 1							
Level 6.5	**Coursework**	**I**	4+4+4	4+4	---	---	**20**
		II	4+4+4	4+4	---	---	**20**
YEAR 2:	**Exit Point: Having Internship of 4 credits Exit allowed with PG Diploma Certificate**						
Level 6.5	**Coursework**	**III**	---	4+4+4+4+4	---	---	**20**
		IV	---	4+4+4+4+4	---	---	**20**
OR							
Level 6.5	**Coursework + Research**	**III**	---	4+4+4+4+4	---	---	**20**
		IV	---	---	**20**		**20**
OR							
Level 6.5	**Research**	**III**	---	---	**20**	---	**20**
		IV	---	---	---	**20**	**20**
						Total credits of P.G. Programme = **80**	

Note: **Having Internship of 4 credits 'Exit' is allowed with awarding the PG Diploma Certificate.**

Implemented from Academic Session 2025-26 & Onwards

AIMS OF MASTER'S DEGREE PROGRAMME IN ECONOMICS

The aim of Master's degree programme in Economics is intended to provide:

- **Strong Theoretical Foundation**
  Provide in-depth knowledge of microeconomics, macroeconomics, and international trade to build analytical rigor.

- **Quantitative and Research Skills**
  Train students in econometrics, statistics, and research methodology to enhance their empirical and problem-solving abilities.

- **Interdisciplinary Integration**
  Encourage cross-learning by including courses in agricultural economics, environmental economics, labor and human resource economics, and managerial economics.

- **Understanding Development and Policy**
  Equip students with tools to critically Analyse issues of growth, development, inequality, globalization, and sustainability.

- **Indian Economic Perspectives**
  Strengthen understanding of India's economic history, policy challenges, and contemporary debates while integrating Indian Knowledge Systems (IKS).

- **Practical and Applied Orientation**
  Provide exposure to real-world issues through project work, dissertations, and internships that connect theory with practice.

- **Critical and Ethical Thinking**
  Promote critical analysis of economic systems with an emphasis on ethics, sustainability, and welfare.

- **Skill Development for Employability**
  Enhance skills required for careers in academia, research, government, finance, corporate sector, NGOs, and international organizations.

- **Global and Local Relevance**
  Prepare students to address both global challenges like climate change, inequality, and financial crises, as well as local issues such as regional disparities, rural development, and resource management.

- **Lifelong Learning and Higher Studies**
  Inspire students to pursue higher research (M.Phil./Ph.D.) and cultivate lifelong learning in economics and related fields.

PROGRAMME LEARNING OUTCOMES

The broad aims of Master's degree programme in Economics are:

- **Theoretical Mastery**
  Demonstrate advanced understanding of core areas of economics including microeconomics, macroeconomics, international trade, and development economics.

- **Quantitative and Analytical Competence**
  Apply mathematical, statistical, and econometric techniques to Analyse economic data, test hypotheses, and evaluate policies.

- **Research and Inquiry Skills**
  Design and conduct independent research projects, applying appropriate methodologies and presenting findings in a scholarly manner.

- **Policy Analysis and Evaluation**
  Critically assess economic policies in areas such as public finance, environment, labor, agriculture, banking, and social sectors, both in the Indian and global context.

- **Application of Indian and Global Perspectives**
  Integrate traditional Indian knowledge (e.g., history of economic thought, Arthashastra) with contemporary global economic theories and practices.

- **Problem-Solving and Decision-Making**
  Use economic reasoning to solve real-world problems in development, sustainability, financial systems, and business environments.

- **Communication and Presentation Skills**
  Effectively communicate economic concepts, data-driven insights, and policy recommendations to both academic and non-academic audiences.

- **Ethics and Sustainability Awareness**
  Recognize ethical issues in economics, promote sustainable development, and Analyse trade-offs between efficiency, equity, and environmental concerns.

- **Professional Preparedness**
  Demonstrate readiness for careers in academia, research institutions, public policy, finance, and corporate sectors, as well as preparation for higher studies (Ph.D./competitive exams).

- **Lifelong Learning and Critical Thinking**
  Exhibit the capacity for continuous learning, adaptability, and critical evaluation of emerging economic challenges and global changes.

The Courses in One Year P.G. Programme and in the Second year of Two years P.G. Programme are Common.

Table 2: Semester-wise Course Code and Credit Points

Sem	Core, AE/ GE/ DC/ EC & Compulsory FC Courses				Examination Structure		
	Paper	Paper Code	Credit	Name of Paper	Mid Semester Evaluation (F.M.)	End Semester Evaluation (F.M.)	End Semester Practical/ Viva (F.M.)
I	Foundation Course	FCECO101	4	Growth and Development	30	70	----
	Core Course	CCECO102	4	Basics of Econometrics	30	70	----
	Core Course	CCECO103	4	Research Methodology	30	70	----
	Core Course	CCECO104	4	A. Mathematical Economics/ B. Agricultural Economics	30	70	----
	Core Course	CCECO105	4	Study on Development Components (Index)	30	70	----
II	Core Course	CCECO201	4	Financial Institutions and Banking	30	70	----
	Core Course	CCECO202	4	Economics of Social Sector	30	70	----
	Core Course	CCECO203	4	A. Econometrics/ B. Introductory Demography	30	70	----
	Core Course	CCECO204	4	Contemporary Issues in Indian Economy	30	70	----
	Core Course	CCECO205	4	Public Finance	30	70	----
III	Core Course	CCECO301	4	IKS – Indian History of Economic Thoughts	30	70	----
	Skill Enhancement Course	ECECO302	4	A. Report Writing/ Project Preparation/ B. Data Analysis and Basic Statistics	30	70	----
	Core Course	CCECO303	4	Advanced Microeconomics	30	70	----
	Core Course	CCECO304	4	Advanced Macroeconomics	30	70	----
	Core Course	CCECO305	4	International Trade and Globalisation	30	70	----
IV	Elective	ECECO401	4	A. Advanced Mathematical Economics/ B. Advanced Agricultural Economics/ C. Managerial Economics	30	70	----
	Elective	ECECO402	4	A. Advanced Econometrics/ B. Economics of Demography and Human Capital/ C. Economics of Labour and Human Resources	30	70	----
	Core Course	CCECO403	4	Environmental Economics and policy Analysis	30	70	----
	Core Course	CCECO404	4	Globalization and Sustainable Development	30	70	----
	PROJECT	PRECO405	4	Dissertation/ Project Work/ Teaching Aptitude	----	----	100

*** Either One Internship of 4 credits or Two Internships of 2 credits each is required before opting for the 'Exit' option after First year of the P.G. Programme.**

INSTRUCTION TO QUESTION SETTER

SEMESTER INTERNAL EXAMINATION (SIE):

There **Marks Weightage of a Course:** Each non-practical/non-project course shall be of **100 marks** having two components: **70 marks shall be assigned to the End Semester University Examination (ESUE), conducted by the University, and, 30 marks for Sessional Internal Assessment (SIA), conducted by the Department/College.**

The marks of SIA shall further break into, 20 for Internal Written Examinations, 05 for Written Assignment/ Seminar presentation and 05 for overall performance of a student including regularity in the class room lectures and other activities of the Department/College. There shall be two written internal examinations, each of 1-hour duration and each of 20 marks, in a semester out of which the **'Better One out of Two'** shall be taken for computation of marks under SIA.

In absolute terms of marks obtained in a course, **a minimum of 28 marks is essential in the ESUE and a minimum of 17 marks is to be secured in the SIA to clear the course.** In other words, a student shall have to pass separately in the ESUE and in the SIA by securing the minimum marks prescribed here.

A. (SIE 20+5=25 marks):

There will be a uniform pattern of questions for mid semester examinations in all the courses and of all the programmes. There will be **two** groups of questions in 20 marks written examinations. **Group A is compulsory** and will contain five questions of **very short answer type** consisting of 1 mark each. **Group B will contain descriptive type five** questions of five marks each, out of which any three are to be answered. Department may conduct Sessional Internal Examinations in other format as per need of the course.

The Semester Internal Examination shall have two components. (a) One Semester Internal Assessment Test (SIA) of 20 Marks, (b) Class Attendance Score (CAS) of 5 marks.

Conversion of Attendance into score may be as follows:

Attendance Upto 45%, 1mark; 45<Attd.<55, 2 marks; 55<Attd.<65, 3 marks; 65<Attd.<75, 4 marks; 75<Attd, 5 marks.

END SEMESTER UNIVERSITY EXAMINATION (ESUE):

A. (ESUE 70 marks):

There will be a uniform pattern of questions for all the courses and of all the programmes. There will be **two** groups of questions. **Group A is compulsory** and will contain two questions. **Question No.1 will be very short answer type** consisting of five questions of 1 mark each. **Question No.2 will be short answer type** of 5 marks. **Group B will contain descriptive type six** questions of fifteen marks each, out of which any four are to be answered. The questions will be so framed that examinee could answer them within the stipulated time.

[**Note:** There may be subdivisions in each question asked in Theory Examinations]

B. (ESUE 100 marks):

Practical/ Project courses would also be of 100 marks but there **shall be no internal written examinations** of the type specified above. The total 100 marks will have two components: **70 marks for the practical ESUE and 20 marks for the Viva-voce examination** conducted during the ESUE to assess the applied and practical understanding of the student.

The written component of the project (**Project Report**) shall be of **70 marks and 20 marks will be for the Viva-voce examination** jointly conducted by an external examiner, appointed by the University, and the internal supervisor/guide.

10 marks will be assigned on cumulative assessment of examinee during the semester and will be awarded by the department/faculty concerned.

--- x ---

FORMAT OF QUESTION PAPER FOR MID/ END SEMESTER EXAMINATIONS

Question format for **20 Marks**:

Subject/ Code

F.M. =20 **Time**=1Hr. Exam Year

General Instructions:

i. **Group A** carries very short answer type compulsory questions.
ii. **Answer 1 out of 2** subjective/ descriptive questions given in **Group B**.
iii. Answer in your own words as far as practicable.
iv. Answer all sub parts of a question at one place.
v. Numbers in right indicate full marks of the question.

Group A

1. [5x1=5]
   i. .....
   ii. .....
   iii. .....
   iv. .....
   v. .....
2. ..... [5]

Group B

3. ..... [10]
4. ..... [10]

Note: There may be subdivisions in each question asked in Theory Examination.

Question format for **70 Marks**:

Subject/ Code

F.M. =70 **Time**=3HrS. Exam Year

General Instructions:

i. **Group A** carries very short answer type compulsory questions.
ii. **Answer 4 out of 6** subjective/ descriptive questions given in **Group B**.
iii. Answer in your own words as far as practicable.
iv. Answer all sub parts of a question at one place.
v. Numbers in right indicate full marks of the question.

Group A

1. [5x1=5]
   i. .....
   ii. .....
   iii. .....
   iv. .....
   v. .....
2. ..... [5]

Group B

3. ..... [15]
4. ..... [15]
5. ..... [15]
6. ..... [15]
7. ..... [15]
8. ..... [15]

Note: There may be subdivisions in each question asked in Theory Examination.

SEMESTER I

I. FOUNDATION COURSE [FCECO101]

GROWTH AND DEVELOPMENT

Marks: 30 (MSE: 20 Th. 1Hr + 5 Attd. + 5 Assign.) + 70 (ESE: 3 Hrs) = 100	Pass Marks: (MSE: 17 + ESE:28) = 45

(Credits: Theory-04, 60 Hours)

Course Objectives:

The objective of this course is to provide students with a comprehensive understanding of the key concepts, theories, and models that explain economic growth and development. It aims to differentiate between growth and development, explore various classical and modern growth theories, and examine the role of capital, labour, technology, and institutions in shaping economic outcomes.

Course Learning Outcomes:

Upon successful completion of this course, students will be able to understand the major determinants of economic growth, compare and contrast various growth models, and critically assess traditional and contemporary development theories. They will develop the ability to analyse the relevance of development approaches in real-world contexts and will be equipped to engage with debates on economic planning, policy-making, and inclusive development.

Course Content:

Unit I: Introduction

1.1 Economic growth and Economic Development,
1.2 Indicators of Economic growth- various indices, capability approach,
1.3 Factors affecting economic growth - capital, labour & technology.

Unit II: Theories of Economic Development

2.1 Adam Smith's theory
2.2 The Ricardian theory
2.3 Mill's theory
2.4 The Marxian theory,
2.5 The Schumpeterian theory.
2.6 Rostow's Stages of Economic Growth

Unit III: Growth Models and Empirics

3.1 The Harrod-Domar model,
3.2 Solow-Swan model
3.3 Meade model
3.4 Endogenous Growth Models,

Unit IV: Approaches to Development

4.1 Nurkse's Theory of Disguised Unemployment as a saving potential,
4.2 Lewis' Theory of Unlimited Supplies of Labour, Fei-Renis Theory,
4.3 Jorgenson's Neo-classical Model of a Dual Economy, Endogenous Growth Models.

Unit V: Some Other Approaches to Development

5.1 Leibenstein's critical minimum effort Thesis, Nelson's Low - level equilibrium Trap, The Big push Theory,
5.2 The Doctrine of Balanced Growth,
5.3 The Concept of Unbalanced Growth, Dualistic Theories,
5.4 Dependence theory of Development

Reference Books:

1. Adelman: Theories of Economics of Growth & Development, Stanford Uni. Press).
2. Ray, D. (1998). Development economics. Princeton University Press.
3. J. Hogendorn: Economic Development, Addison Wesley.
4. C. P. Kindleberger: Economic Development, McGraw Hill
5. H. Myint: The Economic of Underdeveloped Countries
6. Lekhi, R.K ; Development and Environmental Economics
7. M. P. Todaro: Economic Development
8. G. M. Meier: Leading Issues in Economic Development
9. A.P. Thirwal: Growth & Development, McMillan
10. Higgins: Economic Development
11. Misra, S. K. and Puri, Growth and Development, Mumbai: Himalaya Publishers, 2005. McMillan, 2005.

II. CORE COURSE [CCECO103]
BASICS OF ECONOMETRICS

Marks: 30 (MSE: 20 Th. 1 Hr + 5 Attd. + 5 Assign.) + 70 (ESE: 3 Hrs) = 100	Pass Marks: (MSE: 17 + ESE: 28) = 45

(Credits: Theory-04, 60 Hours)

Course Objectives:

To introduce students to basic concepts in probability, sampling, and econometrics. The course aims to develop foundational skills for analyzing economic data, understanding regression models, and applying statistical methods to real-world economic problems.

Course Learning Outcomes:

By the end of the course, students will have a foundational understanding of statistical and econometric concepts essential for economic analysis. They will be able to apply basic probability and sampling techniques, differentiate between population parameters and sample statistics, and understand various types of economic data. Students will also be able to construct and interpret simple linear regression models using Ordinary Least Squares (OLS) and assess the reliability and fit of these models in practical contexts.

Course Content:

Unit 1: Probability & Distribution

1.1 Basic Concept – Random Experiments; Sample Space and Events
1.2 Definition of Probability – Classical, Statistical and Axiomatic
1.3 Rules of Probability – Addition and Multiplication Theorems; Conditional Probability; Bayes' Theorem
1.4 Basic Distributions: Normal Distribution; Poisson Distribution; Binomial Distribution

Unit 2: Fundamentals of Population, Sampling, and Statistical Estimation

2.1 Population and Sample: Definitions, key differences, and real-world economic examples
2.2 Parameters vs Statistics: Conceptual distinction; role in estimation; examples like population mean vs sample mean
2.3 Basic Sampling Methods: Introduction to simple random sampling, stratified sampling, and systematic sampling; understanding bias and representativeness
2.4 Sampling Distributions: Concept and importance; sampling distribution of the sample mean; basic idea of the Central Limit Theorem (CLT)

Unit 3: Introduction and Methodology of Econometrics

3.1 Definition, Methodology and its relationship with other disciplines.
3.2 Types of data: cross-section, time series, and panel data
3.3 Basics of Model Specification and Data Collection
3.4 Limitations and Scope of Econometrics

Unit 4: Two Variable Regression Model

4.1 Stochastic vs Non-Stochastic Relationships; Role of Randomness in Economic Models
4.2 The Classical Linear Regression Model (CLRM): Basic Assumptions
4.3 Estimation of Parameters using Ordinary Least Squares (OLS)
4.4 Concept of Goodness of Fit (R^2) – A basic measure of fit

Reference Books:

1. Freund, J. E. (2012). John E. Freund's Mathematical Statistics with Applications (8th ed.). Pearson Education India
2. Jay L. Devore, Probability and Statistics for Engineers, Cengage Learning, 2010.
3. Wackerly, D. D., Mendenhall, W., & Scheaffer, R. L. (2008). Mathematical statistics with applications (7th ed.). Cengage Learning
4. Hogg, R. V., McKean, J. W., & Craig, A. T. (2021). Introduction to Mathematical Statistics (8th ed.). Pearson Education.
5. Gujarati, D. N., & Porter, D. C. (2009). Essentials of econometrics (4th ed., International ed.). McGraw-Hill.
6. Wooldridge, J. M. (2019). Introductory econometrics: A modern approach (7th ed.). Cengage Learning.
7. Koutsoyiannis, A. (1977). Theory of econometrics (2nd ed.). Macmillan.

III. CORE COURSE [CCECO103]
RESEARCH METHODOLOGY

Marks: 30 (MSE: 20 Th. 1 Hr + 5 Attd. + 5 Assign.) + 70 (ESE: 3 Hrs) = 100	Pass Marks: (MSE: 17 + ESE: 28) = 45

(Credits: Theory-04, 60 Hours)

Course Objectives:
Course Objectives:
This course introduces undergraduate students to the foundational principles and broad understanding of research in social sciences. It covers the nature and purpose of research, types of research in simple terms, the role of scientific inquiry, basic data collection methods, and ethical considerations. It also emphasizes understanding research as a systematic process and introduces students to academic writing in a concise and accessible manner.

Course Learning Outcomes:
Students will learn to define research and its objectives, differentiate between broad types of research, understand the steps involved in conducting research, apply basic data collection methods, recognize fundamental ethical concerns, and prepare simple research reports with appropriate referencing. They will be capable of appreciating research as a structured inquiry rather than mastering complex methodologies.

Course Content:

Unit 1: Introduction to Research
1.1 Meaning and Definition of Research, Objectives and Importance of Research, Research as A Systematic Inquiry,
1.2 Characteristics of Scientific Research, Types of Research: Basic Vs Applied, Descriptive Vs Exploratory, Qualitative vs Quantitative (Basic Ideas), Limitations and Challenges of Research

Unit 2: Overview of the Research Process
2.1 General Steps in Research: Problem Identification, Literature Review, Hypothesis (Simple Explanation),
2.2 Data Collection, Analysis (Overview), Conclusion, Report Writing,
2.3 Importance of Reviewing Literature, Finding Research Topics, Understanding Research Questions

Unit 3: Research Design Fundamentals
3.1 Purpose and Need for Research Design, Simple Classification: Exploratory, Descriptive,
3.2 Case Study, Correlational (Introductory Concepts),
3.3 Role of Research Design in Planning, Identifying Variables (Independent, Dependent) in Basic Terms, Understanding Control and Extraneous Variables Without Technical Depth

Unit 4: Data Collection Techniques
4.1 Primary vs Secondary Data, Simple Methods of Data Collection: Observation, Questionnaire, Interview (Unstructured and Structured), Advantages and Limitations of Each Method,
4.2 Basics of Sampling: Concept of Population and Sample (No Complex Sampling Techniques), Sources of Secondary Data (Government Reports, Websites, Books)

Unit 5: Introduction to Research Ethics
5.1 Basic Principles of Research Ethics: Honesty, Respect, Confidentiality, Consent, Avoiding Plagiarism (Simple Explanation), Ethical Responsibilities of Researchers,
5.2 Consequences of Unethical Conduct, Basic Awareness About Copyright and Data Protection

Unit 6: Writing A Research Report
6.1 Structure of a Research Report: Title, Introduction, Methodology (Simple Description), Findings, Conclusion, References,
6.2 Basic Referencing: What, why, And How, Introduction to Bibliography, Simple Tips for Writing Clearly and Avoiding Plagiarism, Presentation Skills for Research

Reference Books:

1. Kothari, C.R., Research Methodology: Methods and Techniques (Simplified Version)
2. Deepak Chawla & N. Sondhi, Research Methodology: Concepts and Cases (Selected Chapters)
3. Ranjit Kumar, Research Methodology: A Step-By-Step Guide for Beginners
4. Wilkinson, T.S. & Bhandarkar, P.L., Methodology and Techniques of Social Research (Basic Concepts)

IV. CORE COURSE [CCECO104A]
MATHEMATICAL ECONOMICS

Marks: 30 (MSE: 20 Th. 1 Hr + 5 Attd. + 5 Assign.) + 70 (ESE: 3 Hrs) = 100	Pass Marks: (MSE: 17 + ESE: 28) = 45

(Credits: Theory-04, 60 Hours)

Course Objectives:

This course aims to equip students with a strong foundation in the mathematical tools and techniques essential for advanced economic analysis. It will enable students to understand and apply mathematical concepts to model, Analyse, and solve complex economic problems across various fields, fostering their analytical and problem-solving skills for advanced studies and research in economics.

Course Learning Outcomes:

Upon completing this course, students will gain proficiency in applying optimization techniques for single and multivariable functions, formulating and solving constrained optimization problems with Lagrangian multipliers and their economic significance, analyzing economic equilibrium using mathematical tools, comprehending and solving various differential equations for dynamic economic models, utilizing matrix algebra and linear programming for economic problem-solving, understanding fundamental concepts of game theory and input-output analysis, and interpreting economic problems within a mathematical framework to derive meaningful conclusions.

Course Content:

Unit 1: Differentiation and Its Application for Constrained and Unconstrained Optimisation of Functions

1.1 Optimisation of function with one and more than one independent variable - Relative Versus Absolute Extreme Value;

1.2 Lagrange multiplier and its applications

Unit 2: Integration and Its Application

2.1 Integration: Indefinite and Definite Integrals.

2.2 Economic Applications of Indefinite Integrals - MC, MR, MPS, MPC, Investment.

2.3 Economic Applications of Definite Integrals - Consumer's Surplus; Consumer's Surplus under Monopoly; Consumer's and Producer's Surplus under Perfect Competition.

Unit 3: Advanced Matrix Operations and Their Applications

3.1 Singular and Non-Singular Matrix; Matrix Inversion; Rank of Matrix.

3.2 Solution of Linear Non-Homogeneous Equation System using Matrix Method.

3.3 Linear Programming - Concepts, Assumptions and Limitations; Formulating a Linear Programming problem; Graphic Solution to a Linear Programming problem

3.4 Game Theory - Concepts of Zero sum and Constant Sum game, Saddle point; Graphic Solution of Game Involving Pure and Mixed Strategies.

Reference Books:

1. Sydsaeter, K., & Hammond, P. (2002). Mathematics for economic analysis. Pearson Educational Asia.
2. Allen, R.G.D., *Mathematical Analysis for Economists*, All India Publishers and Distributors.
3. Chiang, A.C., *Fundamental Methods of Mathematical Economics*, McGraw Hill Publications.
4. Mehta, B.C. and Madnani, G.M.K. (Hindi), *Mathematics for Economics*, Sultan Chand and Sons

OR CORE COURSE [CCECO104B]

AGRICULTURAL ECONOMICS

Marks: 30 (MSE: 20 Th. 1 Hr + 5 Attd. + 5 Assign.) + 70 (ESE: 3 Hrs) = 100	Pass Marks: (MSE: 17 + ESE: 28) = 45

(Credits: Theory-04, 60 Hours)

Course Objectives:

The course aims to provide a comprehensive understanding of the role of agriculture in economic development, covering key areas such as production, resource use, marketing, finance, and policy. Students will gain the ability to analyse agricultural systems, evaluate policy impacts, understand market and credit dynamics, and apply research skills through field-based projects and internships, aligning with real-world agricultural challenges and sustainable practices.

Course Learning Outcomes:

By the end of the course, students will be able to critically Analyse the structure and role of agriculture in the economy, assess production efficiency and resource use, interpret agricultural market and price behaviour, understand financial and risk management in farming, evaluate agricultural policies, and apply research skills through practical fieldwork and internships.

Course Content:

Unit 1: Overview of Agricultural Economics

1.1 Meaning, Nature and Scope of Agriculture: Traditional agriculture and its modernization;
1.2 Role of Agriculture in economic development;
1.3 Interdependence of Agriculture and Industry; Backward and forward linkages.
1.4 Characteristics of Indian agriculture; Agricultural transformation in the 21st century
1.5 Ranis – Fei Model of Agricultural Growth.

Unit 2: Principles of Agricultural Economics

2.1 Farm Management: Features, Objectives and Principles of farm management and Kinds of firm ownership: individual, cooperative, corporate, and contract farming.
2.2 Farm Size and Productivity: Size-productivity relationship, Factors affecting farm size.
2.3 Cultivation Systems: Intensive vs. Extensive Cultivation, Vertical and horizontal farming.
2.4 Classification of Agricultural Products (Cash Crops vs. Food Crops, Cereal vs. Non-Cereal Crops, Horticulture, floriculture, aquaculture)

Unit 3: Application of Production function in Agriculture and Diversification of Agriculture

3.1 Production and Production Functions: Short Run and Long Run Production Function.
3.2 Diversification of Agriculture: Introduction, objectives
3.3 Objective of diversification of Indian Agriculture - Saving of Ground Water; Promotion of Exports; Problems in meeting the two objectives; Progress of Diversification with regard to the two objectives

Unit 4: Land and Labor in Agriculture

4.1 Land holdings: types and patterns. Land reforms in India: objectives and outcomes
4.2 Agricultural labour: characteristics and problems
4.3 Tenancy and leasing issues

Unit 5: Agricultural Marketing and Agricultural Prices

5.1 Meaning and Scope of Agricultural Marketing: Functions, services, structure and types of agricultural markets
5.3 Significance of Agricultural Marketing: Role in rural development and poverty alleviation.
5.3 Problems in agricultural marketing. Marketed vs. Marketable Surplus: Influencing factors and measurement
5.4 Agricultural Prices: Meaning and Importance of Agricultural Prices.
5.5 MSP (Minimum Support Price) system: rationale and impact; Role in income distribution and rural development.

Reference Books:

1. Andrew Barkley, Principles of Agricultural Economics, Routledge Taylor and Francies, London and New York.
2. Mellor, J.W. – *The Economics of Agricultural Development*
3. Dantwala, M.L. – *Agricultural Policy and Development Growth*
4. Acharya, S.S. & Agarwal, N.L. – *Agricultural Marketing in India*
5. Reddy, S., Ram, P., Sastry, T.V. – *Agricultural Economics*
6. Government reports: Economic Survey of India, NITI Aayog, NABARD Reports
7. Journals: *Indian Journal of Agricultural Economics, Economic & Political Weekly*

V. CORE COURSE [CCECO105]
STUDY ON DEVELOPMENT COMPONENTS (INDEX)

Marks: 30 (MSE: 20 Th. 1Hr + 5 Attd. + 5 Assign.) + 70 (ESE: 3 Hrs) = 100	Pass Marks: (MSE: 17 + ESE:28) = 45

(Credits: Theory-04, 60 Hours)

Course Objectives:

This course aims to develop a comprehensive understanding of development indices, focusing on their construction, interpretation, and application in economic analysis. It enables students to critically examine how development is quantified through composite indicators and how these indices inform policy and planning at national and global levels.

Course Learning Outcomes:

By the end of the course, students will understand the conceptual foundation of development indices, gain practical knowledge in constructing composite indices, and be able to interpret and compare indices across regions and countries. They will be equipped to evaluate the significance and limitations of popular indices and use index-based analysis for policy recommendations.

Course Content:

UNIT 1: Introduction to Development Indices

Definition and purpose of development indices; need for composite indicators; overview of key global indices; evolution of development measurement; components and structure of indices; conceptual differences between economic growth and development measures.

UNIT 2: Human Development Index and Its Variants

Structure and methodology of the Human Development Index (HDI); historical background and evolution; interpretation of HDI scores and rankings; Gender Development Index (GDI); Gender Inequality Index (GII); Inequality-adjusted HDI (IHDI); limitations and critiques of HDI-based measures.

UNIT 3: Multidimensional Poverty and Social Progress Indices

Multidimensional Poverty Index (MPI): indicators, dimensions, and cut-offs; comparison with income-based poverty; methodology and aggregation techniques; Social Progress Index (SPI): components and global ranking framework; role of non-economic indicators in measuring well-being.

UNIT 4: Sustainable Development and Global Indices

Sustainable Development Goals (SDG) Index: methodology, targets, and indicators; Environmental Performance Index (EPI); Global Hunger Index (GHI); Climate Risk Index; global inequality indices; interpreting trends in international reports and rankings.

UNIT 5: Construction and Analysis of Composite Indices

Steps in constructing an index: selecting indicators, normalization, weighting, aggregation; data sources and quality issues; use of principal component analysis (PCA) in index construction; country case studies on custom indices; interpretation and policy implications; hands-on exercises with datasets.

Reference Books:

1. UNDP – *Human Development Reports* (latest editions)
2. Alkire, S. & Santos, M.E. – *Measuring Acute Poverty: The Multidimensional Poverty Index*, OPHI Working Papers
3. OECD – *Handbook on Constructing Composite Indicators*
4. Todaro, M.P. & Smith, S.C. – *Economic Development*, Pearson
5. Sen, A. – *Development as Freedom*, Oxford University Press
6. World Bank – *World Development Indicators*
7. Sustainable Development Solutions Network – *SDG Index and Dashboards Report*

SEMESTER II

I. CORE COURSE [CCECO201]

FINANCIAL INSTITUTIONS AND BANKING

Marks: 30 (MSE: 20 Th. 1 Hr + 5 Attd. + 5 Assign.) + 70 (ESE: 3 Hrs) = 100	Pass Marks: (MSE: 17 + ESE: 28) = 45

(Credits: Theory-04, 60 Hours)

Course Objectives:

This course introduces students to the fundamental concepts and principles of banking and non-banking financial institutions, the banking process, and recent banking reforms in India. It aims to develop understanding of the financial behavior of individuals, institutions, and the economy, emphasizing digital literacy, financial inclusion, and the evolving banking landscape in line with NEP 2020.

Course Learning Outcomes:

On completion, students will understand the structure and functions of banking and nonbanking financial institutions, grasp the banking process including credit creation and digital banking innovations, and critically Analyse banking reforms and policies promoting financial inclusion, literacy, and sustainability.

Course Content:

Unit 1: Banking and Financial Institutions

1.1 Types of Financial Institutions: Banking vs Non-Banking

1.2 Central Bank – Meaning, Functions, Instruments of Monetary Control (CRR, SLR, Repo, Reverse Repo, Bank Rate, OMO)

1.3 Commercial Bank - Meaning, Functions; Credit Creation, Role in Economic Development.

1.4 Regional Rural Banks (RRBs) and Development Banks: Definitions, Functions, and Role in Rural and Industrial Development, NBFCs.

1.5 Digital Banking and Financial Inclusion: Brief Introduction.

Unit 2: Money and Inflation

2.1 Money: Meaning, Functions, and Importance.

2.2 Inflation: Meaning, Causes, Types: Demand Pull; Cost Push Inflation, Effects, and Measurement (CPI, WPI).

2.3 Measures to Control Inflation - Fiscal Policy; Monetary Policy.

2.4 Contemporary Issues: Deflation, Stagflation, and Hyperinflation (Basic Understanding).

Unit 3: Banking Institutions

1.1 Reserve Bank of India: History, structure, and functions

1.2 Commercial Banks: Meaning, nationalization, objectives

1.3 Regional Rural Banks (RRBs): Meaning and functions

1.4 Co-operative Banks: Meaning and functions; Development Banks: Meaning and functions

Unit 4: Banking Process in India

4.1 Digital Banking: Internet banking, mobile banking, Unified Payments Interface (UPI) system in Monetary Economy

4.2 FinTech Innovations: Blockchain, digital wallets, AI applications in banking. Basics of Cybersecurity in Banking

Unit 5: Banking Reforms and Policy Framework in India

5.1 Digital Rupee and JAM Trinity (Jan Dhan, Aadhaar, Mobile) driving financial digitization

5.2 Financial Literacy and Financial Inclusion: Programs and impact

5.3 Banking and Insurance Regulatory Bodies: RBI and IRDAI – formation and functions

5.4 SARFAESI Act, 2002 – overview

5.5 Sustainable and Ethical Banking Practices, Customer Rights, Protection, and Grievance Redressal Mechanisms

Reference Books:

1. Vaish, M.C., Money, Banking, Trade & Public Finance, New Age International Pvt Ltd.
2. Sundaram, K.P.M., Money, Banking and International Trade, S Chand Publications.
3. Mithani, D.M., Money Banking, International Trade & Public Finance, 20th Ed, Himalaya Publishing House.
4. Boden, A., Banking On It, Penguin Business, 2020.
5. Uppal, R. K., Banking Sector Reforms in India, New Century Publications.
6. Aggarwal, A., Business Process of Banking: Regulations, Operations, Digital Banking & IT Infrastructure, Notion Press, Vol I, 2021.
7. Raghuram Rajan, The Third Pillar: How Markets and the State Leave the Community Behind, Penguin India, 2019. (For understanding social aspects of finance)
8. RBI Publications and Reports on Digital Payments and Financial Inclusion (latest editions).
9. IRDAI Annual Reports and Guidelines (available online).

II. CORE COURSE [CCECO202]
ECONOMICS OF SOCIAL SECTOR

Marks: 30 (MSE: 20 Th. 1 Hr + 5 Attd. + 5 Assign.) + 70 (ESE: 3 Hrs) = 100	Pass Marks: (MSE: 17 + ESE: 28) = 45

(Credits: Theory-04, 60 Hours)

Course Objectives:

The aim of this course is to introduce students to the positive aspects of social sector in India and its developmental concepts and how it can help in the economic development of the country. It makes students aware of the important principles of socialsector and related development policies in India. The course also focuses on the rapid transformation in social sector structure of India.

Course Learning Outcomes:

After completion of the course, students will be oriented towards appreciating the relationship between policy implemented and the Social Sector development of the economy. They will understand the subject with the help of various theoretical aspects of framework of education health concepts and interdisciplinary impacts in economic development of India. They will have an understanding of the quantitative and qualitative aspects of studies and various derived concepts social sector structure in India.

Course Content:

Unit 1: Human Resource and its Role in Economic Development

1.1 Human Resource: Meaning and Concepts of Economic Development, Social Sector and its Components.
1.2 Government Policies for Educational Development; NEP 2020.
1.3 Policies for Health: Ayushmann Bharat; System of Delivery of Public Health.

Unit 2: Education and Development

2.1 Education as Public Goods; Education as an instrument of Economic Growth.
2.2 Benefits of Education: Private and Social Benefits; Cost Benefit Analysis of Education, Committees and Commission on Education.
2.3 Demand for Education - Private Demand and Social Demand; Determinants of Demand for Education.
2.4 Costs of Education - Private Costs and Social Costs; Wastage and Stagnation in Education.

Unit 3: Economics of Health

3.1 Health: Meaning and Determinants of Health, Mortality and Morbidity, Health Status of Women in India
3.2 Measurement of Health Status - BMI; Stunting; Wasting; Underweight.
3.3 Factors Influencing Health and Nutrition, Inequalities in Health in India: Class and Gender Perspectives, Public Expenditure on Health in India.

Unit 4: Development Policy in India

4.1 Gender Analysis Framework; Gender Mainstreaming and Gender Budgeting.
4.2 Analyzing Policy and Programmes: Gender blind; Gender Neutral and Gender Redistributive Policy.
4.3 Women's Education - Gender Bias in Enrolment, Drop-Outs, Information Technology - Impact on Women's Development Sustainable Development and Impact on Women.

Reference Books:

1. Arya P.P. and B.B. Tandon (Ed) 2004: Human Resource Development, Deep & Deep Pub. New Delhi.
2. Goel, S.L. and P.N. Gautam (2005): Human Resource Development in the 21st century, Concept and case studies, Deep & Deep Pub. New Delhi.
3. Raj, Nitesh; Economics of Social Environment
4. Meier, Gerald M. and James' E. Rauch (2010): Leading issues in economic development, Oxford Univ. Press, New York.
5. Todaro, Michael P and Stephen C. Smith (2003): Economic Development, Pearson Education Ltd.
6. World Development Report (World Bank).
7. Human Development Report (UNDP).

III. CORE COURSE [CCECO203A]
ECONOMETRICS

Marks: 30 (MSE: 20 Th. 1 Hr + 5 Attd. + 5 Assign.) + 70 (ESE: 3 Hrs) = 100	Pass Marks: (MSE: 17 + ESE: 28) = 45

(Credits: Theory-04, 60 Hours)

Course Objectives:

The objective of this course is to provide students with an in-depth understanding of advanced econometric techniques. It focuses on extending basic regression models, diagnosing and correcting econometric problems, using dummy variables, handling simultaneous equation models, and applying time series analysis. The course aims to build students' capacity to apply these methods in analyzing economic data and policy issues.

Course Learning Outcomes:

Upon successful completion of this course, students will be able to:

Extend and interpret complex regression models including functional forms and dummy variables. Identify and address econometric issues like multicollinearity, autocorrelation, and heteroscedasticity. Understand and estimate simultaneous equation models and address identification problems. Analyse time series data using various techniques and apply them in economic forecasting and research.

Course Content:

Unit I: Extension of Two-Variable Linear Regression Model

1.1 Regression through origin, scaling and units of measurement, regression on standardized variables, functional forms of regression models,

1.2 How to measure elasticity: log linear and semi log models

Unit II: Problems in Regression Analysis:

2.1 Multicollinearity, Auto-correlation and Heteroscedasticity;

2.2 Meaning, nature, causes, consequences, tests and remedial steps,

2.3 Problem of specification error, Errors of Measurement.

Unit III: Dummy Variable Regression Models:

3.1 Dummy Variable Technique, ANOVA models, Interaction Effects, Seasonal Analysis,

3.2 Piecewise linear regression,

3.3 Use of dummy variable in regression with dummy dependent variables,

3.4 The LPM model

Unit IV: Simultaneous-Equation Models and Identification Problem

4.1 Simultaneous equation models; nature, examples,

4.2 Methods of estimation, Simultaneous Equation Bias,

4.3 The Identification Problem; notations and definitions, rules for Identification, a test of simultaneity

Unit V: Time Series Analysis

5.1 Introduction to time series, definition, meaning and importance,

5.2 Components of time series (trend, seasonal, cyclical, regular variations),

5.3 Measurement of trend (graphical, semi-average, moving average and least square method),

5.4 Forecasting with time series (trend lines), applications of time series in Economics.

Reference Books:

1. Koutsoyiannis, A. (1977): Theory of Econometrics, 2nd Edition, The McMillan Press Ltd. London
2. Wooldridge, J. M. (2019). Introductory Econometrics: A Modern Approach (7th ed.). Cengage Learning.
3. Gujarati, D.N. (1995): Basic Econometrics, 2nd Edition Mc Graw Hill, New Delhi.
4. . Gujarati, D.N., Dawn, C. Porter & Sangeetha Gunasekar. (2012): Basic Econometrics (5th Edition) Tata Mc Graw Hill Education Pvt. Ltd., New Delhi.
5. Amemiya, T. (1985): Advanced Econometrics, Haward Univ. Press, Cambridge, Mass
6. Maddala, G.S. (Ed) (1993): Econometric Methods and Applications (2 Vols) Aldershot, UK.
7. Krishna, K.L. (Ed) (1997): Econometric Application in India, Oxford Univ. Press, New Delhi.
8. Statistical Methods, S.P. Gupta, Sultan Chand & Sons

OR CORE COURSE [CCECO203B]

INTRODUCTORY DEMOGRAPHY

Marks: 30 (MSE: 20 Th. 1 Hr + 5 Attd. + 5 Assign.) + 70 (ESE: 3 Hrs) = 100	Pass Marks: (MSE: 17 + ESE: 28) = 45

(Credits: Theory-04, 60 Hours)

Course Objectives:

The aim of this course is to introduce students to the positive aspects of population and how it can help in the economic development of the country. It makes students aware of the important principles of demography. The concepts of fertility, mortality and marriage have a direct impact on population growth, so these have been included. Various population indices have been included. The course also focuses on the demography of India and population policy in India.

Course Learning Outcomes:

After completion of the course, students will be oriented towards appreciating the relationship between demography and the development of the economy. They will understand the subject with the help of various theoretical aspects of demography. They will have an understanding of the quantitative and qualitative aspects of population studies and various demographic concepts and indices.

Course Content:

Unit 1: Population and Development

1.1 Meaning and Scope of Demography, Population Growth; Components of Population growth; Measurement of Population Growth.

1.2 Theories of Population - Malthus theory; Optimum theory; Theory of Demographic Transition.

Unit 2: Analysis of Population Data

2.1. Fertility: Meaning; Importance of study of fertility; Meaning; Formula of Important Birth Rate Concepts - Crude Birth Rate; Age Specific Birth Rate; Total Fertility Rate; Gross Reproduction Rate; Net Reproduction Rate; Factors affecting fertility rate; Trend of fertility ratio India.

2.2. Mortality – Meaning; Concepts; Measurements of Important Death Rates- Crude Death Rate, Age Specific Death Rate; Infant Mortality Rate; Neo-Natal Mortally Rate; Maternal Mortality Rate; Factors Responsible for Decline in Mortality in Recent Past.

2.3. Migration: Meaning; Types; Factors promoting migration; Effects of Out-Migration; Effects of In-Migration. Urbanization: Meaning; Characteristics of Urban and Rural areas; Status and Trend of Urbanization in India

Unit 3: Sources of Demographic Data in India

3.1 Sources of Demographic data - Census; Registration and Sample Survey its features.

3.2 Population Census: Methodology of Collecting Census Data; Peculiar features of Census; Nature of Information Collected in 1991, 2001 and 2011.

3.3 NSSO and its Rounds; MOSPI and Demographic Data.

3.4 National Population Policy 2000.

Unit 4: Population Indices

3.1 Meaning of Life table; Basic Concepts of Life Table, Forms of Life Table; Preparation of Life Table.

3.2 Population Pyramid- Concept; Significance; Construction of Population Pyramid; Shapes of Population Pyramid; Their Implications.

3.3 Population Projection; Methods of population projections

3.1 Meaning and Components of Vital Statistics

Reference Books:

1. Desai, J. N. Jhingan M. L. and Bhatt B. K. (2003), Demography, Vrinda Publications.
2. Mishra J, (2016), Demography, Sahitya Bhawan Publications.
3. Preston, S, Heuveline, P, and Guillot, Michel (2000), Demography: Measuring and Modelling Population Processes, John Wiley and Sons Publications.
4. Sinha, V. C. and Sinha, P, (2018) (English and Hindi), Demography, SBPD Publication.
5. Weinstein, Jay and Pillai, Vijayan K. (2000), Demography: The Science of Population, Rowman and Littlefield Publications (2015).
6. Mishra, J. P., Jananki (Hindi), (Revised edition 2021) Sahitya Bhawan Publications.

IV. CORE COURSE [CCECO204]
CONTEMPORARY ISSUES IN INDIAN ECONOMY

Marks: 30 (MSE: 20 Th. 1 Hr + 5 Attd. + 5 Assign.) + 70 (ESE: 3 Hrs) = 100	Pass Marks: (MSE: 17 + ESE: 28) = 45

(Credits: Theory-04, 60 Hours)

Course Objectives:

To enable the students to grasp the current economic problems in India. To highlight the important economic sectors and challenges faced by them in recent years. To acquaint students with the major policy regimes of government to resolve problems in agriculture, industry and service sector of India.

Course Learning Outcomes:

By the End of this course Students will identify the current economic problems in India. They will identify the important economic sectors and challenges faced by them in the recent years. They will learn the major policy regimes of government and also try to resolve problems from agriculture, industry and service sector of India.

Course Content:

UNIT 1: Structure of the Indian Economy

Major sectors of the Economy and their subsectors; Sectoral composition of GNP, Employment and changes over time; Appraisal of growth and development status of Indian Economy.

UNIT 2: Population and Human Resources

Conflicting views on role of population growth in development process; Composition of population in India, Birth and Death rates of population in India; Growth of population and Demographic transition; Role of education and health in Economy – Literary level and Health Status in India

UNIT 3: Agriculture

Significance of agriculture in the Indian Economy; Land use Pattern, Cropping Pattern, Production and Productivity of crops – Reasons for the low crop productivity; Agricultural Credit Marketing, Institutional sources of agricultural credit.

UNIT 4: Industry

Role of industrialization in the economy; Importance and problems of large and small-scale industries in India and their remedial measures; MSME: Composition; Importance; Major Problems faced by MSME; Financial Institutions providing short-term and long-term industrial credit.

UNIT 5: Service Sector

Role of the service sector in the Indian economy; Significance and composition in GDP -Banking, Insurance, Transport and Communication; Significance and composition in GDP - Trade, Hotels and Restaurants

UNIT 6: External Sector

Structure and Direction of BOP; Issues in Export-Import Policy & FEMA Exchange rate policy; Foreign Capital and MNC's in India, Globalisation of Indian Economy; W.T.O. and its impact in different sectors of the economy.

Reference Books:

1. Puri V.K and Mishra S.K, Indian Economy, (English and Hindi) (January 2022), Himalaya Pub. House.
2. Dutt, Gaurav and Sundaram, Indian Economy, (English and Hindi) (Latest edition), S Chand & Co Ltd.
3. Kapila, Uma, Indian Economy: Performance and Policies, (22nd edition 2021), Academic Foundation Publications.
4. Rudra Dutt & Sundaram: Indian Economy, S. Chand Publication Co, New Delhi, 2008.

V. CORE COURSE [CCECO205]
PUBLIC FINANCE

Marks: 30 (MSE: 20 Th. 1Hr + 5 Attd. + 5 Assign.) + 70 (ESE: 3 Hrs) = 100	Pass Marks: (MSE: 17 + ESE:28) = 45

(Credits: Theory-04, 60 Hours)

Course Objectives:

Public Finance is a study of government activities from the point of view of efficiency and equity. The course aims to introduce students to the importance of government intervention by exposing the students to a host of topics including public goods, market failures and externalities. It aims to equip students with understanding the role of fiscal policy in achieving the desired macro-economic goals. The centre-state financial relations in a federal system have also been included.

Course Learning Outcomes:

At the end of the unit the students should be able to demonstrate their understanding of the theory of three tools of public economics, namely, public expenditure, taxation and public debt. Extensive use of diagrams will enhance their comprehension of the concepts. Study of functioning of fiscal policy and Centre- State financial relations will enhance their knowledge on public economics.

Course Content:

UNIT 1: Nature and Scope of Public Finance

Meaning, Nature and Scope of Public Finance; Distinction between Private and Public Finance; Concept of public goods, private goods, common goods, club goods, social goods and merit goods; Market failure and rationale for government intervention

UNIT 2: Public Expenditure

Meaning and Classification of Public Expenditure; Principles of Public Expenditure; Cannons of Public Expenditure; Effects of Public Expenditure; Causes of Growth of Public Expenditure and Trends in Public Expenditure in India.

UNIT 3: Taxation

Meaning; Cannons of Taxation; Classification of Taxes; Characteristics of a Good Tax System; Division of Tax Burden - The Benefit Approach; Ability-to-Pay Approach; Impact and Incidence of Taxes; Taxable Capacity; Effects of Taxation on Production and Distribution; Tax reforms; VAT; GST.

UNIT 4: Public Debt and Financial Administration

Meaning, Types, Sources, and Need of Public Debt; Effects of Public Debt; Burden of Public Debt; Classification of Public Debt; Methods of Debt Redemption.

UNIT 5: Budgeting, Indian Public Finance and Financial Decentralization in India

Fiscal Federalism in India; Centre-State financial relations in India; Fiscal Crisis and Fiscal Sector Reform in India; Role of Finance Commission; Features of Current Finance Commission; Government Budget: Meaning, classification, and components; FRBM Act and its implications; GST: Structure and implications

Reference Books:

1. Musgrave R. A. & Musgrave P. B.– Public Finance in Theory and Practice, McGraw Hill.
2. Rosen, H. S., & Gayer, T. (2014). *Public Finance*. McGraw-Hill Education.
3. Singh, S. K., Public Finance in Theory and Practice, S. Chand Publications.
4. Singh, S. K., Lok Vitt (Hindi), S. Chand Publications.
5. Bhatia, H. L., Public Finance, Vikas Publishing House.
6. Bhatia, H.L., Lok Vitt, (Hindi), Vikas Publishing House.
7. Sundaram, K. P. M. and Andley, K. K., Public Finance, S. Chand Publications.
8. Tyagi, B. P.– Public Finance, Jai Prakash Nath & Co.
9. Government of India, Economic Survey (latest edition) – Chapters on Public Finance
10. Reports of the Finance Commission (latest)

SEMESTER III

I. CORE COURSE [CCECO301]

IKS – INDIAN HISTORY OF ECONOMIC THOUGHTS

Marks: 30 (MSE: 20 Th. 1 Hr + 5 Attd. + 5 Assign.) + 70 (ESE: 3 Hrs) = 100	Pass Marks: (MSE: 17 + ESE: 28) = 45

(Credits: Theory-04, 60 Hours)

Course Objectives:

This course aims to introduce postgraduate students to Indigenous Indian Economic Thought within the framework of the Indian Knowledge System (IKS). It covers the philosophical, historical, and practical dimensions of India's economic heritage and its relevance today.

1. Understanding the Foundation and Meaning of IKS:
   a. Define IKS as the holistic system of indigenous knowledge, rooted in lived experience, ethics, nature, and community.
   b. Understand IKS in an economic context: its spiritual, ecological, and humanistic orientation.
2. Objective and Scope of the Paper:
   a. Re-examine classical Indian economic texts and practices from a contemporary lens.
   b. Enable application of IKS concepts to modern challenges like inequality, unemployment, climate change, and rural distress.
   c. Stimulate interdisciplinary thinking combining economics, history, ethics, and policy.
3. Historical Evaluation and Evolution:
   a. Trace the growth of Indian economic thought from the Vedic age to the colonial period.
   b. Understand the shifts and resilience of indigenous practices over time.
4. Exploring Sources of IKS – Textual and Oral:
   a. Introduce students to both documented treatises (Chanakya's Arthashastra, Shukraniti, etc.) and unwritten, community-transmitted knowledge (folk customs, craft traditions).
5. Importance of Studying IKS Today:
   a. Offer ethical alternatives to current economic models.
   b. Support sustainable development, climate resilience, and inclusive planning through indigenous insights.
6. Relevance for Postgraduate Students:
   a. Prepare students for grounded policy research, curriculum development, and community engagement.
   b. Build analytical and comparative skills in economic thought and developmental strategy.

Course Learning Outcomes:

By the end of this course, students will have a foundational understanding of India's indigenous economic thought as expressed through ancient texts, oral traditions, and community practices. They will be able to identify and explain key economic principles rooted in Indian Knowledge Systems (IKS), such as ethical governance, sustainability, self-reliance, and community welfare. Students will develop the ability to relate these traditional ideas to modern issues like environmental protection, inclusive growth, and local development, thereby appreciating the continued relevance of IKS in contemporary economic thinking.

Course Content:

UNIT 1: Understanding Indian Knowledge System (IKS)

Meaning, scope, and classification of IKS: Material, intellectual, institutional Philosophical foundations of IKS in Indian culture: Dharma, Artha, Kama, Moksha. Epistemological base of IKS – Shruti, Smriti, Anubhava, Lokapramana. Oral traditions and the role of community memory in economic transmission. Need for IKS in present-day discourse: sustainability, decolonization, self-reliance. Revival of IKS: Education, research, and development planning. IKS and economic challenges: inequality, unemployment, ecological degradation. Interfacing IKS with modern disciplines: economics, public policy, environmental Science

UNIT 2: Foundations of Indian Economic Thought

Arthashastra, Shukraniti: Fiscal discipline, taxation, statecraft. Indigenous land systems: ownership, revenue (Bali, Bhaga), tenancy. Guilds (Shrenis), cooperative institutions, and traditional accounting methods. Economic function of Varna and Ashrama systems: division of labour, moral economy. Ancient perspectives on resource management, welfare, and justice

UNIT 3: Indigenous Models of Trade and Business

Structure and sustainability of family enterprises, artisanship, and rural industries. Trade routes: Uttarapatha, Dakshinapatha, Silk Route, maritime links. Ancient ports: Lothal, Tamralipta, Muziris – case studies. Gandhian economics: Trusteeship, decentralization, Swadeshi model. S. Gurumurthy's and Kanagasabapathi's indigenous business models. Ethics of business and wealth creation in Indian texts (Artha, Kama, Dharma)

UNIT 4: Comparative Frameworks & Modern Relevance

Mapping ancient economic ideas with GDP, productivity, and human development. Decentralization and Atmanirbhar Bharat: policy parallels. Ethical foundations of economic behaviour and sustainable growth. Economic indicators in Indian tradition: abundance, prosperity, harmony. Bridging ancient economic logic with SDGs, circular economy, and localism Comparative analysis with western thinkers: Adam Smith vs Kautilya, Gandhi vs Keynes, Commercialization of Indigenous Medicinal Knowledge.

UNIT 5: Regional and Tribal Economies in India

Case studies of tribal communities (Santhal, Ho, Oraon, Munda, Asura): forest, hunting, and artisan economies. Role of barter, customary trade, and indigenous markets. Ecological economy and symbiosis with nature: sacred groves, biodiversity preservation and disaster risk mitigation. Gendered roles in traditional economies: women as keepers of knowledge and finance. Community-based forest governance, seed banks, water-sharing systems. Lessons for contemporary rural development and climate policy.

UNIT 6: Public Policy, Governance, and Arthashastra

State's economic role in Kautilya's model: regulation, redistribution, and welfare. Taxation, public goods, and disaster management in ancient India. Kautilya's corporate governance and accountability principles. Resource optimization, corruption control, and administrative economics. Public finance models: relevance to GST, cooperative federalism.

Reference Books:

1. Kautilya's Arthashastra – R. Shamasastry (Translation)
2. Indian Knowledge System: An Introduction – Dr. Kapil Kapoor
3. Tribal Economy in India – R.R. Prasad (Ed.)
4. S. Gurumurthy's Essays – Swadeshi Economics
5. The Argumentative Indian – Amartya Sen
6. An Uncertain Glory: India and its Contradictions – Jean Drèze & Amartya Sen
7. Dharmanomics: A Indigenous and Sustainable Economic Model – Sriram
8. Balasubramanian
9. K.R. Kanagasabapathi – Indian Models of Economy and Management (selected chapters)
10. J.K. Mehta – Pleasure Economy

II. SKILL ENHANCEMENT COURSE - A [ECECO302A]
REPORT WRITING/ PROJECT PREPARATION

Marks: 30 (MSE: 20 Th. 1 Hr + 5 Attd. + 5 Assign.) + 70 (ESE: 3 Hrs) = 100	Pass Marks: (MSE: 17 + ESE: 28) = 45

(Credits: Theory-04, 60 Hours)

Course Objectives:

The objective of this course is to train students in the principles and techniques of effective report writing for academic, professional, and policy purposes. It focuses on developing clarity, coherence, and structure in writing, while emphasizing the importance of purpose, audience, and format in different types of reports.

Course Learning Outcomes:

By the end of this course, students will be able to plan, draft and present well-structured reports using appropriate language, formatting and data presentation techniques. They will also learn to summarize findings, draw conclusions and communicate complex ideas clearly and professionally.

Course Content:

UNIT 1: Introduction to Report Writing and Research Projects

Definition and Significance of Report Writing, Types of Reports – Academics, Policy, Technical and Project Reports, Principles of Report Writing, Format of a Report, Stages in Report Writing: Pre-Writing, Writing, Post-Writing Stage; Preparation of Research Proposal, Essential and Key Elements of a good Research/ Project report, Ethical Issues.

UNIT 2: Introduction to Government and Policy Documentation

Types of Government Documents: Economics Surveys, Budgets, NITI Aayog Reports, Committee Reports, and others. Objectives and Audience of Official Reports.

UNIT 3: Data Handling for Government Reports

Identifying and using official data sources: Census, NSS, NFHS, RBI, CSO, MoSPI, Economic Survey and others, Presentation of Data, Interpreting fiscal indicators, Macro aggregates, and socio-economic data.

UNIT 4: Project Formulation, Presentation and the Budgeting

Components of government projects proposals: objectives, cost estimates, timelines and stakeholders, Types of Report Presentation: Oral, Poster Presentation, Written Report, Budgeting and Cost Benefit Analysis, Policy Implication of Projects.

Reference Books:

1. Kothari, C.R., Research Methodology: Methods and Techniques (Practical Sections)
2. Dr. Prasant sarangi, Research Methodology, Taxmann Publication
3. Dr. C. Murty, Research Methodology, Vrinda Publication Private Limited.
4. Deepak Chawla & N. Sondhi: Research Methodology, Concept & Case, Vikas Publishing House Pvt. Ltd.

OR SKILL ENHANCEMENT COURSE - B [ECECO302B]

DATA ANALYSIS AND BASIC STATISTICS

Marks: 30 (MSE: 20 Th. 1 Hr + 5 Attd. + 5 Assign.) + 70 (ESE: 3 Hrs) = 100	Pass Marks: (MSE: 17 + ESE: 28) = 45

(Credits: Theory-04, 60 Hours)

Course Objectives:

The primary objective of this course is to provide postgraduate economics students with a clear understanding of the fundamental principles of statistics and data analysis, enabling them to apply quantitative tools in economic research and decision-making. The course emphasizes practical applications over theoretical depth, focusing on the interpretation of data, understanding of statistical concepts, and use of software tools relevant to analyzing economic trends and policy impacts.

Course Learning Outcomes:

By the end of the course, students will be able to comprehend and apply basic statistical techniques to economic data, interpret descriptive and inferential statistics, and conduct simple regression analysis. They will develop the ability to evaluate data critically, draw meaningful conclusions, and present results using appropriate visual and analytical methods. The course will also equip students with the basic skills to use statistical software, enhancing their capacity to carry out data-driven economic analysis and research.

Course Content:

UNIT 1: Introduction to Data and Descriptive Statistics

Types of data: cross-sectional, time-series, panel, Levels of measurement: nominal, ordinal, interval, ratio, Data collection methods and data sources (including economic databases), Measures of central tendency: mean, median, mode, Measures of dispersion: range, variance, standard deviation, co-efficient of variation, Data visualization: histograms, box plots, bar charts, pie charts

UNIT 2: Probability and Sampling

Basic probability concepts: events, sample space, conditional probability, Random variables and probability distributions (discrete and continuous), Introduction to key distributions: Binomial, Normal, t-distribution, Law of large numbers and Central Limit Theorem (basic intuition), Sampling techniques: random and non-random, Sampling distribution and standard error

UNIT 3: Inferential Statistics

Estimation: point and interval estimates, Hypothesis testing: null and alternative hypotheses, Type I & II errors, Tests for mean and proportion (one and two-sample z and t-tests), Chi-square tests for independence and goodness of fit, p-values and significance levels

UNIT 4: Correlation and Regression Analysis

Scatterplots and interpretation, Pearson's and Spearman's correlation, Simple linear regression: estimation, interpretation of coefficients, Assumptions of the classical linear regression model, Introduction to multiple regression, Application to economic data (inflation, GDP, unemployment)

UNIT 5: Introduction to Statistical Software and Data Analysis Projects

Introduction to MS Excel and one statistical software (e.g., SPSS, or Stata), Data cleaning and transformation, Descriptive statistics and visualization in software, Simple regression and correlation in software, Mini project: Analyse a small economic dataset and present findings, Application of STATA, SPSS, R, Python

Reference Books:

1. Gupta, S.C. & Kapoor, V.K. – Fundamentals of Mathematical Statistics, Sultan Chand
2. Anderson, D.R., Sweeney, D.J. & Williams, T.A. – Statistics for Business and Economics, Cengage
3. Gujarati, D.N. & Porter, D.C. – Basic Econometrics, McGraw-Hill
4. Newbold, P., Carlson, W.L. & Thorne, B. – Statistics for Business and Economics, Pearson
5. Wooldridge, J.M. – Introductory Econometrics: A Modern Approach, Cengage (Chapters 1–4 for basics)
6. Chawla, N.K. & Sondhi, N. – Economics and Business Statistics, Vikas Publishing House.

III. CORE COURSE [CCECO303]
ADVANCED MICROECONOMICS

Marks: 30 (MSE: 20 Th. 1 Hr + 5 Attd. + 5 Assign.) + 70 (ESE: 3 Hrs) = 100	Pass Marks: (MSE: 17 + ESE: 28) = 45

(Credits: Theory-04, 60 Hours)

Course Objectives:
On completion of this course, the students will be able to understand: To develop deeper understanding of consumer and producer behaviour, market structures, and general equilibrium using advanced tools.

Course Learning Outcomes:
On successful completion of this course the student should know: Understand Consumer and Producer behavior, Analyse market structure and equilibrium, apply microeconomic tools to real world issues.

Course Content:

UNIT 1: Consumer Behaviour
Indifference Curve - Definition, Properties of IC, Budget Line, Consumer's Equilibrium, Income, Substitution Effect & Price Effect, Slutsky Effect, Hicksian Effect, Compensated Demand Curve, Derivation of Demand Curve from IC, Application of IC, Consumer's Surplus - Four concepts of Hicksian C.S., Revealed Preference Theory, Modern theory of Consumer behaviour

UNIT 2: Theory of Production
Short-run Production Function: Law of Variable Proportion, Isoquant and Isocost Line, Long-run Production Function: Returns to Scale, Isoquant and Isocost Line, Producer's Equilibrium, Expansion Path, Ridge Line, Homogeneous and Heterogeneous Production Function, Cobb-Douglas Production Function, CES Production Function.

UNIT 3: Theory of Cost & Revenue
Concept of Opportunity Cost, Explicit Cost, Implicit Cost, Modern Theory of Cost Curves, Average Variable Cost (AVC), Average Fixed Cost (AFC), Average Cost (AC), Short-run & Long-run Costs, Economies of Scale and Economies of Scope, Revenue Curves under different market conditions

UNIT 4: Market Structure and Equilibrium Market
Meaning, Structure, Types, Conditions of Perfect Competition (P.C.), Perfect Competition, Firm's Supply (P.S.), Equilibrium of the Market and the Firm (M.C.), Monopoly, Equilibrium under different conditions, Monopolistic Competition, Chamberlin Model, Oligopoly, Collusive Oligopoly, Non-collusive Oligopoly, Kinked Demand Curve, Equilibrium of the firm and equilibrium under Collusive and Non-Collusive Oligopoly, Complete features of Oligopoly

UNIT 5: Alternative Theories of the Firm & Distribution
Alternative Theories of the Firm: Baumol's Sales Maximisation Theory, Willamson's Model of Managerial Discretion, Morris Model of Managerial Enterprise, Hall & Hitch Full Cost Pricing Theory, Game Theory Models – Neumann – Morgenstern Theory, Distribution: Theory of Distribution under different market conditions

UNIT 6: Welfare Economics
Definition and Scope of Welfare Economics, Pigou's Welfare Economics, Pareto Optimality & Contract Curve, Condition of Optimum Production, Condition of Optimum Exchange, Condition of Optimum Consumption, Compensation Criteria: Contribution of Kaldor, Contribution of Hicks, Scitovsky Reversal Test, Social Welfare Function, Theory of Second Best, Arrow's Impossibility Theorem

Reference Books:

1. Baumal- Economic theory and Operations analysis, Prentice Hall.
2. Breit, William and Hochman, Harold M-Readings in Microeconomics, Rinehart and Winston Inc. G S Madala- Microeconomics
3. Hal R Varian and W.W. Norton - Microeconomic Analysis (third edition).
4. Koutsoyiannis- Modern Microeconomics, Macmillan.
5. Robert S Pindyck and Daniel L Rubinfeld- Microeconomics (fifth edition), Prentice Hall.
6. Steven E Landsburg -Price Theory and Applications, (fifth edition), South Western Thomson Learning.
7. Walter Nicholson- Microeconomic Theory: Basic Principles and Extensions (eighth edition), South Western Thomson Learning.
8. Arrow, K.J. (1951) Social Choice and Individual Values, Yale Univ. Press.
9. Pigou, A.C. (1962) Economics of Welfare (4th Edition) Mac Milan.
10. Samuelson, P.A. (1947) Foundation of Economic Analysis, Howard Univ. Press.

IV. CORE COURSE [CCECO304]
ADVANCED MACROECONOMICS

Marks: 30 (MSE: 20 Th. 1 Hr + 5 Attd. + 5 Assign.) + 70 (ESE: 3 Hrs) = 100	Pass Marks: (MSE: 17 + ESE: 28) = 45

(Credits: Theory-04, 60 Hours)

Course Objectives:
This course is designed to develop a comprehensive understanding of macroeconomic theory and its practical applications. It enables students to critically Analyse economic performance, policy interventions, and market dynamics using classical, Keynesian, and modern macroeconomic frameworks. Emphasis is placed on cultivating analytical thinking, evaluating real-world macroeconomic challenges, and applying empirical tools to assess policy outcomes, with a special focus on the Indian economy within the global context.

Course Learning Outcomes:
Students will gain a deep understanding of macroeconomic theories and be able to Analyse and evaluate economic performance and policies using various macro frameworks. They will apply models and indicators to interpret real-world issues and conduct empirical analysis, especially in the Indian and global context, enabling them to form data-driven insights on current macroeconomic challenges.

Course Content:

UNIT 1: Foundations of Macroeconomics
National income: Some Concepts used in calculation of National Income and their measurement), Input-output method, Balance of Payment method and fund-flow method, difficulties in measurement, Price indices: CPI, WPI, GDP deflator

UNIT 2: Demand and Supply of Money
Demand for Money: Classical Quantity Theory, Keynesian theory, Baumol and Tobin models, Friedman's modern quantity theory; Supply of Money: High powered money and money multiplier, Role of central bank and financial intermediaries, Control of money supply: CRR, SLR, Repo, Reverse Repo

UNIT 3: Consumption and Investment Function
Absolute, Relative, Permanent Income, Life-Cycle Hypotheses, Consumption under uncertainty; Marginal efficiency of capital, accelerator theory, Neoclassical investment theory

UNIT 4: Determination of Output and Employment
Classical model of employment (Say's Law, Wage-Price Flexibility); Keynesian model (Effective Demand, Principle of Multiplier)

UNIT 5: IS-LM Framework
Derivation of IS and LM curves; Shifts and slopes of IS and LM; Policy analysis through IS-LM model: Fiscal Vs Monetary policy, Flexible Price and Labour market, Keynesian and Pigou Effect

UNIT 6: Inflation and the Phillips Curve
Concepts and measurement of inflation, Demand-pull vs. cost-push inflation, Structural inflation and inflationary gap, Effects of inflation on income distribution, output, and employment; Short-run Phillips Curve and trade-off between inflation and unemployment, Long-run Phillips Curve

UNIT 7: Business Cycles and Stabilization Policies
Phases and features of business cycles; Theories: Real Business Cycle, Keynesian, Monetarist; Stabilization policies: Lags, effectiveness, credibility, Samuelson – Hicks Trade Cycle

UNIT 8: Macroeconomic Policy and Open Economy Issues
Fiscal policy: Types, budget deficits, debt sustainability; Monetary policy: Objectives, tools, inflation targeting; Policy coordination in closed and open economy

Reference Books:

1. Dornbusch, R. & Fischer, S. (1997): Macroeconomics
2. Mankiw, N. Gregory: Macroeconomics
3. Ackley, G. (1978): Macroeconomics: Theory and Policy
4. Branson, W.H.: Macroeconomic Theory and Policy
5. Shapiro, E.: Macroeconomic Analysis
6. Dwivedi, D.N.; Macroeconomics Theory and Policy -3rd edition
7. R.D.Gupta –Keynes, Post-Keynesian Economics
8. S.B. Gupta: Monetary Economics
9. Dr. Neelu Kumari – Arthashastra ka Parichay – Disha International Publishing House
10. Hall, R.E. & Taylor, J.B.: Macroeconomics
11. Hajdra, B.J. & Frederick: Foundations of Modern Macroeconomic

V. CORE COURSE [CCECO305]
INTERNATIONAL TRADE AND GLOBALISATION

Marks: 30 (MSE: 20 Th. 1Hr + 5 Attd. + 5 Assign.) + 70 (ESE: 3 Hrs) = 100	Pass Marks: (MSE: 17 + ESE:28) = 45

(Credits: Theory-04, 60 Hours)

Course Objectives:
This course aims to provide students with a foundational understanding of international trade theory and policy. It introduces key trade models, foreign exchange mechanisms, trade policy tools, and the role of global institutions. The course emphasizes India's trade strategy within the global context, encouraging critical thinking in line with NEP 2020's focus on applied learning and global awareness.

Course Learning Outcomes:
By the end of the course, students will understand major trade theories, policy instruments, and foreign exchange systems. They will be able to Analyse trade policies, interpret balance of payments data, and assess India's engagement with institutions like the IMF, World Bank, and WTO. Students will also develop the ability to connect global trade trends with national development goals.

Course Content:

UNIT 1: Classical and Modern Theories of International Trade
Absolute Advantage (Adam Smith), Comparative Advantage (Ricardo),
Opportunity Cost and Gains from Trade,
Terms of Trade: Net Barter and Gross Barter Terms, Heckscher-Ohlin Theory
Factor Price Equalization and Empirical Anomalies (Leontief Paradox)
Krugman's New Trade Theory: Increasing Returns and Imperfect Competition
Intra-Industry Trade and Product Life Cycle Model, Specific Factors Model

UNIT 2: Trade Policy and Global Debates
Free Trade vs. Protectionism: Arguments and Empirical Evidence
Tools of Trade Policy: Tariffs, Quotas, Subsidies, NTBs
Strategic Trade Policy and Political Economy of Trade
Economic Integration: Customs Union, Common Market, Economic Union
Trade Policy and Income Distribution: Stolper-Samuelson Theorem

UNIT 3: Balance of Payments and Exchange Rate Regimes
Balance of Payments: Concepts, Structure, Causes of Disequilibrium, Adjustment Mechanisms, Types of Exchange Rate Regime: Fixed vs. Floating Exchange Rates, Managed Float and Crawling Peg
Theories of Exchange Rate: Purchasing Power Parity (PPP), Interest Rate Parity (IRP), and Real vs Nominal Exchange Rate, Currency Crises: Origins, Contagion, Policy Responses

UNIT 4: Capital Flows and Financial Globalization
Types of International Capital Flows: FDI, FPI, Loans, Aid
Benefits and Risks of Financial Globalization
Role of Capital Controls and Policy Dilemmas
Sovereign Debt, Credit Ratings, and Global Financial Stability
Role of IMF in Crisis Management and Structural Adjustment

UNIT 5: Global Institutions and India in the Global Economy
WTO: Evolution, Objectives, Key Principles (MFN, National Treatment)
WTO Agreements: TRIPS, TRIMS, GATS, AoA
Regional Trade Agreements: EU, NAFTA/USMCA, ASEAN, SAFTA
India's Foreign Trade Policy: Overview, Shifts Post-1991 Reforms
Globalization and Developing Economies: Challenges and Opportunities

Reference Books:

1. Krugman, P., Obstfeld, M., & Melitz, M. *International Economics: Theory and Policy*. Pearson.
2. Salvatore, D. *International Economics*. Oxford University Press.
3. Feenstra, R., & Taylor, A. *International Economics*. Worth Publishers.
4. Bhagwati, J. *Protectionism*. MIT Press.
5. Panagariya, A. *India in the Global Economy*. Oxford University Press.
6. WTO Annual Reports, IMF Country Surveillance Reports, India's FTP Documents.

SEMESTER IV

I. ELECTIVE COURSE-A [ECECO401A]

ADVANCED MATHEMATICAL ECONOMICS

Marks: 30 (MSE: 20 Th. 1 Hr + 5 Attd. + 5 Assign.) + 70 (ESE: 3 Hrs) = 100	Pass Marks: (MSE: 17 + ESE: 28) = 45

(Credits: Theory-04, 60 Hours)

Course Objectives:

This course aims to equip students with advanced mathematical techniques necessary for rigorous economic analysis and research. It focuses on optimization, differential equations, linear programming, and dynamic models, enabling students to explore complex economic relationships and structures analytically.

Course Learning Outcomes:

Upon completion, students will be able to construct and solve advanced economic models involving constrained optimization, dynamic systems, and equilibrium analysis. They will be proficient in applying mathematical tools to evaluate economic policies, conduct formal research, and pursue further studies in theoretical and applied economics.

Course Content:

UNIT 1: Theory of Optimization

Conditions for relative maximum and minima values, extreme values, one variable, two variable case, quadratic forms, concavity and convexity of functions, optimization with equality constraints, Lagrange and total differential methods, First and second order conditions, quasi concavity and quasi convexity

UNIT 2: Application of optimization theory

Utility maximization and consumer demand, Slutsky equation; Compensated and normal demand functions; Homogeneous Production Function, Least cost combination of inputs, expansion path, Cobb-Douglas Production Function, CES production Function, Producer's Equilibrium, Constrained Optimization of a producer, Input demand functions; Adding up Theorem

UNIT 3: Market Equilibrium

Single Market equilibrium, Multi Market Equilibrium system, Existence, Stability and Uniqueness of Equilibrium.

UNIT 4: Differential and Difference Equations

Order and Degree of Differential and Difference Equations, Solution of Differential and Difference Equations, Application in Economics.

UNIT 5: Application of Matrices

Solution of Non-homogenous and homogenous equations systems, characteristics roots and vectors; linear programming - simplex and graphic method of solution; primal and dual formulation and solution; Game theory – solution with pure and mixed strategies – graphic method, equation method and linear programming method. Input-output analysis – open and closed models; static and dynamic models, Simon – Hawkins conditions, IS-LM model in a closed economy.

UNIT 6: Growth models and fluctuations

General and particular solutions of first, second and third order linear difference and differential equations, complex numbers and complex roots, Cobweb model, Determination of income and fluctuations in income – Classical and Keynesian macro systems; Static and dynamic multiplier, Trade cycle models of Samuelson and Hicks, Growth models – Harrod, Solow.

Reference Books:

1. A.C. Chiang – Fundamentals of Mathematical Economics, Mc Graw Hill, New York.
2. R.G.D Allen. – Mathematics for Economics, Mc Milan Press.
3. Taro Yamane – Mathematics for Economics – An Elementary Survey Prentice Hall of India, Pvt. Ltd. New Delhi.

OR ELECTIVE COURSE-B [ECECO401B]

ADVANCED AGRICULTURAL ECONOMICS

Marks: 30 (MSE: 20 Th. 1 Hr + 5 Attd. + 5 Assign.) + 70 (ESE: 3 Hrs) = 100	Pass Marks: (MSE: 17 + ESE: 28) = 45

(Credits: Theory-04, 60 Hours)

Course Objectives:

The course aims to provide a comprehensive understanding of the role of agriculture in economic development, covering key areas such as production, resource use, marketing, finance, and policy. Students will gain the ability to Analyse agricultural systems, evaluate policy impacts, understand market and credit dynamics, and apply research skills through field-based projects and internships, aligning with real-world agricultural challenges and sustainable practices.

Course Learning Outcomes:

By the end of the course, students will be able to critically Analyse the structure and role of agriculture in the economy, assess production efficiency and resource use, interpret agricultural market and price behavior, understand financial and risk management in farming, evaluate agricultural policies, and apply research skills through practical fieldwork and internships.

Course Content:

UNIT 1: Introduction to Agricultural Economics

Meaning, scope, and nature of Agricultural Economics; Role of agriculture in the process of economic development; Distinctive features and structure of Indian agriculture; Agricultural productivity and Efficiency: Concepts and measurement

UNIT 2: Agricultural Production and Resource Use

Law of variable proportions and returns to scale in agriculture; Resource allocation and efficiency; Land reforms: History, implementation, and impact in India; Irrigation systems: Types, efficiency, and water-use policies; Mechanization and technological changes in agriculture

UNIT 3: Agricultural Marketing and Price Analysis

Structure and dynamics of agricultural markets; Price determination and market equilibrium; Government interventions and support prices; Market reforms: APMC Act, e-NAM; Export-import policies and WTO implications for Indian agriculture

UNIT 4: Agricultural Finance and Risk Management

Role and need for agricultural finance; Institutional and non-institutional sources of rural credit; Role of NABARD, commercial banks, cooperatives; Microfinance, SHGs and farmer producer organizations (FPOs); Risk and uncertainty in agriculture; Crop insurance and risk mitigation strategies

UNIT 5: Agricultural Policy and Development

Food security in India and functioning of PDS; Agricultural subsidies and their implications; Climate change and its impact on Indian agriculture; Sustainable agriculture Practices

Reference Books:

1. Acharya, S.S. & Agarwal, N.L. (2011). *Agricultural Marketing in India*
2. Reddy, S., Ram, P. & Sastry, T.V. (2016). *Agricultural Economics*
3. Government of India Reports: *Economic Survey, NABARD Annual Reports, NITI Aayog*
4. Selected readings from journals such as *EPW, Indian Journal of Agricultural Economics*

OR ELECTIVE COURSE-C [ECECO401C]

MANAGERIAL ECONOMICS

Marks: 30 (MSE: 20 Th. 1 Hr + 5 Attd. + 5 Assign.) + 70 (ESE: 3 Hrs) = 100	Pass Marks: (MSE: 17 + ESE: 28) = 45

(Credits: Theory-04, 60 Hours)

Course Objectives:

The primary objective of *Managerial Economics* is to equip students with the analytical tools and economic concepts essential for managerial decision-making. The course bridges economic theory with business practice, enabling students to apply microeconomic principles in real-world business situations such as demand forecasting, production planning, pricing strategies, and cost analysis. It aims to develop an understanding of how economic forces affect business decisions and operations.

Course Learning Outcomes:

Upon successful completion of this course, students will be able to apply economic reasoning to solve business problems, conduct demand and production analyses, interpret cost and revenue relationships, and evaluate various pricing techniques. They will gain the competence to use forecasting tools and make informed managerial decisions that contribute to strategic planning and operational efficiency in a business environment.

Course Content:

UNIT 1: Nature and Scope of Managerial Economics

Definition of Economics and Managerial Economics-Nature, Scope, functions, Uses and Limitations of Managerial Economics.

UNIT 2: Demand Analysis

Meaning-Law of Demand and its determinants- Meaning, types and degrees of elasticity; Measurement of price elasticity- Meaning- Factors involved in forecasting- Methods of forecasting- Survey method, graphical method and experimental method-criteria for good forecasting.

UNIT 3: Production Analysis

Meaning and the managerial use of a production function- Law of variable proportions- Isoquant-properties and the equilibrium. Meaning-Total, Average and Marginal cost (simple problems to calculate these values) Meaning-Total, Average and Marginal revenue (simple problems to calculate these values). Meaning-construction of a break-even chart (any one with simple practical application of it)-and the margin of safety.

UNIT 4: Techniques of Pricing

Full cost pricing- Marginal pricing – Target Pricing-Peak load pricing –Going rate pricing; Cyclical Pricing-Customary Pricing-Product-line Pricing-Skimming Pricing-Penetrating pricing; Pricing of joint product, new product.

Reference Books:

1. Joel Dean: Managerial Economics, Prentice Hall of India, 1987.
2. P.L.Mehta: Managerial Economics-Analysis, problems and causes. Sultan Chand & Sons,1992
3. R. L. Varshney and K.L. Maheswari: Managerial Economics. Sultan Chand & Sons,1987.
4. S. Sankaran- Economics Analysis, Margham Publications, Madras,1991

II. ELECTIVE COURSE-A [ECECO402A]
ADVANCED ECONOMETRICS

Marks: 30 (MSE: 20 Th. 1 Hr + 5 Attd. + 5 Assign.) + 70 (ESE: 3 Hrs) = 100	Pass Marks: (MSE: 17 + ESE: 28) = 45

(Credits: Theory-04, 60 Hours)

Course Objectives:

To deepen understanding of econometric models including time series and qualitative variables, address common issues in regression analysis, introduce dynamic models and simultaneous equation systems, and equip students with tools for structural modeling and forecasting

Course Learning Outcomes:

Apply advanced regression techniques including dummy variables and dynamic models, diagnose and correct econometric problems such as autocorrelation and specification errors. utilize time series methods for economic forecasting, estimate and interpret simultaneous-equation models.

Course Content:

UNIT 1: Basic Econometrics

Nature, Meaning and scope of econometrics. Methodology of econometric analysis, the simple linear regression and general linear regression model, Assumption, Estimation and Properties of OLS Estimates, Gauss Markov Theorem, Concept and Derivation of R2 and adjusted R2 , Concept and analysis of variance approach and its application in regression analysis.

UNIT 2: Problems in Regression Analysis:

Nature, test, consequences and remedial steps of problems of heteroscedasticity, multicollinearity and auto-correlation, problems of specification error, Errors of Measurement.

UNIT 3: Regression with Qualitative Independent Variables:

Dummy Variable Technique – Testing Structural Stability of Regression Models comparing to regression, Interaction Effects, Seasonal Analysis, Piecewise linear regression, Use of dummy variable in regression with dummy dependent variables, The LPM, Logit, Probit and Tobit models – Application, Panel data Regression Model.

UNIT 4: Dynamic Econometric Model:

Auto-regressive and Distributed Log Models – KOYCK Model, Partial Adjustment Model, Adaptive Expectations, Granger causality Test

UNIT 5: Identification

Introduction to Identification Problem, Formal Rules and Conditions for Identification (Just and Over Identification)

UNIT 6: Simultaneous Equation Model

Introduction – General Simultaneous Equation model, Reduced Form, Structural Versus Reduced Form, Final Form

UNIT 7: Simultaneous Equation Estimation Methods

Introductory- Indirect Least Squares Method (ILS), Two Stage Least Squares Estimation (2SLS), Least Variance Ratio Method (LVR), Three Stage Least Squares Estimation (3SLS), Limited Information Maximum Likelihood Estimation (LIML), Full Information Maximum Likelihood Estimation (FIML)

Reference Books:

1. Koutsoyiannis, A. (1977): Theory of Econometrics, 2nd Edition, The McMillan Press Ltd. London
2. Gujarati, D.N. (1995): Basic Econometrics, 2nd Edition Mc Graw Hill, New Delhi.
3. Gujarati, D.N., Dawn, C. Porter & Sangeetha Gunasekar. (2012): Basic Econometrics (5th Edition) Tata Mc Graw Hill Education Pvt. Ltd., New Delhi.
4. Amemiya, T. (1985): Advanced Econometrics, Haward Univ. Press, Cambridge, Mass
5. Maddala, G.S. (Ed) (1993): Econometric Methods and Applications (2 Vols) Aldershot, UK.
6. Krishna, K.L. (Ed) (1997): Econometric Application in India, Oxford Univ. Press, New Delhi.
7. Statistical Methods, S.P. Gupta, Sultan Chand & Sons
8. Statistical Methods, N.G. Das, Tata McGraw-Hill Education

OR ELECTIVE COURSE-B [ECECO402B]

ADVANCED DEMOGRAPHIC ECONOMICS

Marks: 30 (MSE: 20 Th. 1 Hr + 5 Attd. + 5 Assign.) + 70 (ESE: 3 Hrs) = 100	Pass Marks: (MSE: 17 + ESE: 28) = 45

(Credits: Theory-04, 60 Hours)

Course Objectives:

This course aims to provide students with a foundational understanding of demography, focusing on population trends, measurement techniques, and data sources in India. It introduces key demographic indicators and theories, explores the factors influencing population growth, and examines the relationship between population dynamics and development issues such as health, environment, and urbanization.

Course Learning Outcomes:

By the end of the course, students will be able to understand and interpret demographic data, Analyse population trends in India, and evaluate the impact of population growth on economic and social development. They will also be able to apply demographic theories to real-world situations and assess migration and urbanization patterns along with relevant policy implications.

Course Content:

UNIT 1: Introduction to Demography

Definition, scope, and importance; Source of Demographic data – in India – Census, NFHS, NSSO, Registration System in India. Census and demographic indicators: policy implication; Trends in composition & Distribution of India Population – Sex, Age, Religion, Rural, Urban, Occupation; Demographic rate in India – Fertility, Mortality, Literacy, Poverty.

UNIT 2: Factor affecting Population Growth

Fertility -Meaning, Important Concepts – CPR, CBR, ASBR, TFR, GRR, NRR; Factor affecting Fertility., Mortality - Meaning, Important Concepts – CDR, ASDR, IMR, MMR, NMR, NNMR, CSDR; Factors affective Mortality, Morbidity - Meaning, Type, Effects and Promoting factors; Urbanization - Meaning, Causes and Effects. Neutrality -Meaning, Important Concepts and determinants

UNIT 2: Measurement of Population Growth

Meaning of Population Growth; Models of Population Growth and Population Projection; Population Pyramid.

UNIT 4: Theories of Population

Malthusian Theory, Optimum Theory; Theories of Demographic Transition – Views of Blackes, Marx & Cowgill; Biological Theories; Socio-Economic Theories.

UNIT 5: Population Growth and Development

Relationship between population growth & economic development; Human development - Meaning, Index and relationship with population growth; Relationship between population growth and environment degradation; Relationship between population growth & health, nutrition & productivity.

UNIT 6: Migration and Urbanization

Migration: Concept and its types; International migration- its effect on population growth and pattern; factors affecting Migration; Theories of migration related to internal migration; Urbanization - growth and distribution of rural-urban population in developing countries.

Reference Books:

1. Agarwala, S.N. (1972), India's Population Problem, Tata McGr Hill Co., Bombay.
2. Bose, A. (1996), India's Basic Demographic Statistics, B. Publishing Corporation, New Delhi.
3. Bogue, D.J. (1971), Principles of Demography, John Wiley, N York.
4. Chenery, H. and T.N. Srinivasan, (Eds) (1989), Handbook Development Economics, Vol. 1 and 2,
5. Choubey, P.K. (2000), Population Policy in India, Kanish Publication, New Delhi.
6. Coale, A. J. and E.M. Hoover (1958) Population Growth a Economic Development in Low Income
7. Countries: A case study of India's prospects, Princeton University Press, Princeton
8. Gulati, S.C. (1988), Fertility in India; An Econometric Study A Metropolis, Sage Publications, New Delhi.

OR ELECTIVE COURSE-C [ECECO402C]

ADVANCED LABOUR ECONOMICS

Marks: 30 (MSE: 20 Th. 1 Hr + 5 Attd. + 5 Assign.) + 70 (ESE: 3 Hrs) = 100	Pass Marks: (MSE: 17 + ESE: 28) = 45

(Credits: Theory-04, 60 Hours)

Course Objectives:

This course aims to introduce students to the fundamental concepts and theories in labour economics. It covers the functioning of labour markets, wage determination, employment patterns, and labour institutions. Emphasis is placed on both theoretical frameworks and real-world labour issues, especially in the context of the Indian economy.

Course Learning Outcomes:

By the end of the course, students will have developed a solid foundation in labour market analysis. They will be able to critically evaluate employment trends, wage structures, and the role of trade unions and labour laws. The course will also enable them to understand and assess the challenges in labour policy and employment generation in developing economies like India.

Course Content:

UNIT 1: Introduction

Nature, Scope and Importance of Labour Economics. Concept, Types, Characteristics of Labour; Supply of Labour -Labour supply functions, Factors influencing labour supply; Demand of labour - Determinants of labour demand, wage determination; Labour Problems

UNIT 2: Employment and Unemployment

Recruitment of Labour in organised and unorganised sector; Mobility of Labour, Efficiency of Labour; Meaning, Types, Natures, Causes, Effects of Unemployment; Role of Institutions: Employment Policy in India.

UNIT 3: Industrial Labour in India

Industrial labour - Meaning and characteristics; Trade union- meaning and objective of trade unions, trade union movement in India, Problems and draw backs of the movement in India – Measures to strengthen the Trade Union prevention of Industrial disputes and the machinery of setting disputes; Movement in India Industrial disputes: meaning and causes and effects of industrial disputes

UNIT 4: Agricultural Labour in India

Meaning and characteristics of agricultural labour and their problems in India; Government measures to improve the conditions of agricultural labour; Employment in agricultural sector, marginalization minimum wages, MNREGA.

UNIT 5: Wage Determination

Meaning, Types of Wages; Wage determination – classical, neoclassical and bargaining theories; Asymmetric information and efficiency of labour markets in wage determination,Wage; Determinants; Marginal Productivity Theory of Wages; Wage Policy in India

UNIT 6: Social Security Measures of Labour in India

The meaning and the need for social security measures in India, present status of social security in India; Social assistant and social insurance review and appraisal of states policies with respect to social security and labour welfare in India, Social security Legislations in India; Workmen's Competition Act, 1923, Employees' State Insurance Scheme Act, 1948, Maternity Benefits Act 1961 and the Provident Fund, 1952, Labour Welfare Funds, Unemployment insurance, Second National Commission of Labour (1999), Dr. Arjun Sengupta Committee report.

Reference Books:

1. B.P. Tyagi (2009), Economics of labour and Social Welfare- Revised Edition, Sage Publication, New Delhi.
2. C.S Venkata Rathnam (2001) Globalisation and Labour management Relations, Dynamics of Change, Sage Publication, New Delhi.
3. C.B Memoria (1996) Labour Problems and Social Welfare in India, Kitab Mahal, Allahabad
4. G Dutta (1966) Barganing Power, Wages and Employment: An Analysis of Agricultural Labour
5. Markets in India, Sage Publication, New Delhi.
6. R. A Lester (1964) Labour Restructuring in India: A Critique of the New Economics of Labour, Macmillan, New Delhi.

III. CORE COURSE [CCECO403]
ENVIRONMENTAL ECONOMICS & POLICY ANALYSIS

Marks: 30 (MSE: 20 Th. 1 Hr + 5 Attd. + 5 Assign.) + 70 (ESE: 3 Hrs) = 100	Pass Marks: (MSE: 17 + ESE: 28) = 45

(Credits: Theory-04, 60 Hours)

Course Objectives:

To develop an in-depth understanding of the relationship between the economy and the environment, to Analyse environmental issues using economic theories and tools, to evaluate the effectiveness of environmental policies, and to promote sustainable development by integrating ecological concerns into economic decision-making.

Course Learning Outcomes:

By the end of this course, students will be able to:

Apply economic concepts to Analyse environmental problems and assess natural resource use. Evaluate environmental policies and instruments such as taxes, permits, and regulations for controlling pollution.

Course Content:

UNIT 1: Economics of Natural Resources, Sustainable Development and Environmental Accounting

Meaning and Characteristics of Environmental Goods; Theories of Optimal use of exhaustible and renewable resources; Environmental and Development trade – off and Environmental Kuznets Curve, Concept of sustainable development and SDGs; Measurement of environmentally corrected GDP; Macroeconomic policies and Environment. The Theory of Environmental Externalities, Pigouvian Taxes and subsidies, Coase's bargaining solution and collective action, Pollution control – Legislation and Provisions, Environmental Regulations and Enforcement.

UNIT 2: Measurement of Environmental Values

Rationale for valuation of environment; Concept of Total Economic Values, direct and indirect methods of Valuation; Methods based on response to hypothetical markets, Contingent valuation methods. Travel Cost method; Hedonic Pricing Method, Environmental Cost Benefit Analysis.

UNIT 3: Environmental Issues in Developing Countries

Environmental Degradation and Poverty Nexus, Urban Environmental Problems and Solid Waste managements, Climate Change - Adaption and Mitigation Strategies, Environmental Justice and Inequality.

UNIT 4: Environmental and Natural Resource

Problems and Policies in India Mechanism for environment regulation in India; Environmental laws and their implementation; National Environmental Policy; Water Policy; Forest Conservation Act; Environmental Protection Act 1986, Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981, Forest regulation Act; WTO and environment; Climate change and International Agreements.

Reference Books:

1. Bhattacharya, R.N. (2006): Environmental Economics, An Indian Perspective, Oxford University Press, New York.
2. Divan Shyam and Armin Rosencranz (2008): Environmental Law and Policy in India, Cases, Material and Statutes, Oxford University Press, New York. Ganesamurthy,
3. V.S. (2009): Environmental Economics in India, New Century Publications, New Delhi, India.
4. Sankar, Ulaganthan (2006): Environmental Economics, Oxford University Press, New York.
5. T. Eugine (2008): Environmental Economics, Vrinda Publications (P) Ltd. Tietenberg,
6. Tom (2004): Environmental and Natural Resource Economics, Pearson Education.
7. Raj, Nitesh – Economics of Environment

IV. CORE COURSE [CCECO404]
GLOBALIZATION AND SUSTAINABLE DEVELOPMENT

Marks: 30 (MSE: 20 Th. 1Hr + 5 Attd. + 5 Assign.) + 70 (ESE: 3 Hrs) = 100	Pass Marks: (MSE: 17 + ESE:28) = 45

(Credits: Theory-04, 60 Hours)

Course Objectives:

This course aims to help students understand the connection between globalisation and sustainable development. It explores how global economic changes affect the environment, social systems, and long-term development goals, especially in the context of developing countries. The course also looks at how international policies and institutions influence sustainability and how nations can balance growth with ecological and social responsibilities.

Course Learning Outcomes:

By the end of the course, students will be able to explain the basic concepts of globalisation and sustainable development, understand how global trade and investment affect the environment and society, analyse the role of national and international policies in supporting sustainability, and engage with current debates around climate change, inequality, and development. They will also be able to assess the challenges and possibilities of achieving global and national sustainability goals.

Course Content:

UNIT 1: Conceptual Foundations

Meaning and evolution of globalisation, types and dimensions of globalisation, meaning and principles of sustainable development, three pillars of sustainability—economic, social, and environmental, Brundtland Report, Earth Summit and Agenda 21, introduction to Sustainable Development Goals (SDGs), global and local linkages in sustainability.

UNIT 2: Globalisation and Environmental Impact

Trade and environment linkages, environmental consequences of globalisation, climate change and global warming, pollution and natural resource depletion, carbon footprint of trade and transport, ecological imbalances, environmental Kuznets curve, concept of ecological debt.

UNIT 3: Growth, Inequality, and Development

Globalisation and economic growth, impact on poverty and income inequality, rural and urban disparities, employment changes, informal sector and labour conditions, role of technology, issues of food security and sustainable livelihoods, inclusive growth approaches.

UNIT 4: Policy, Institutions, and Governance

Role of WTO, IMF, World Bank, World Bank, Asian Development Bank and UN in development, global environmental agreements—Kyoto Protocol and Paris Agreement, role of national policies and development planning, environmental laws and regulations, India's policy framework on sustainability, role of local governance and community initiatives.

UNIT 5: Contemporary Challenges and the Way Forward

Climate justice and equity, intergenerational responsibility, green technology and innovation, renewable energy, sustainable agriculture and water use, circular economy and waste management, post-COVID recovery and localisation, future of globalisation and sustainability, Application of AI in Green Technology.

Reference Books:

1. Earth Democracy: Justice, Sustainability, and Peace – Vandana Shiva *Natraj Publishers, Dehradun*
2. Development as Freedom – Amartya Sen *Oxford University Press, India*
3. Economic Development – Michael P. Todaro & Stephen C. Smith *Pearson Education, India*
4. Globalization and Its Discontents – Joseph E. Stiglitz *Penguin Books, India*
5. In Defense of Globalization – Jagdish Bhagwati *Oxford University Press, India*
6. The Age of Sustainable Development – Jeffrey D. Sachs *Columbia University Press*
7. Varieties of Environmentalism: Essays North and South – Ramachandra Guha & Joan Martinez-Alier *Oxford University Press, India*

V. PROJECT [PRECO405]

DISSERTATION/ PROJECT/ TEACHING APTITUDE

Marks: 30 (MSE: 20 Viva + 5 Attd. + 5 Record) + 70 (ESE Pr: 6 Hrs) = 100	Pass Marks: = 45

(Credits: Theory-04, 120 Hours)

Guidelines to Examiners for End Semester Examination (ESE):
Evaluation of project dissertation work may be as per the following guidelines:
Project model (if any) and the Project record notebook = 70 marks
Project presentation and viva-voce = 30 marks

Overall project dissertation may be evaluated under the following heads:

- *Motivation for the choice of topic*
- *Project dissertation design*
- *Methodology and Content depth*
- *Results and Discussion*
- *Future Scope & References*
- *Presentation style*
- *Viva-voce*

Course Objectives:
This course aims to equip students with the ability to conduct independent academic research by engaging them in dissertation or project work based on their area of interest in economics. It encourages analytical thinking, structured inquiry, and application of economic theories to real-world issues. Through guided supervision and hands-on research experience, students will develop essential skills such as topic formulation, data handling, academic writing, and critical evaluation.

Course Learning Outcomes:
By the end of the course, students will be able to identify a relevant research topic, conduct a literature review, formulate research questions or hypotheses, collect and analyse data, and present their findings in a clear and systematic manner. They will gain experience in writing a research report using standard academic formats and referencing styles. Students will also enhance their understanding of the research process and develop skills required for future academic, policy-based, or field-level work in economics.

Course Content:
UNIT: Dissertation / Project Work
Topic selection and research proposal preparation, identification of research problems, defining objectives and hypotheses, review of existing literature, construction of conceptual framework, research design formulation, collection and classification of data—primary and secondary, basic statistical and qualitative analysis, interpretation of findings, preparation of charts and tables, structure and writing of dissertation or project report, referencing and citation (APA or approved format), submission of final work, presentation and viva-voce before a panel.

Each student has to submit three copies of hard bound dissertation work (along with the raw data), duly forwarded by the HOD of Department concerned. The forwarded copies will be submitted in the Department of Psychology, Ranchi University, for evaluation (one month before the viva voce examination).

The paper may involve:

a) Laboratory research/ Field work/ Lab work related to the project.
b) Survey research, Case Study or any other type of Psychological research
c) One Large study/ Experiment or several studies/ Experiments depending on the objectives of the research.
d) The writing of dissertation must be in accordance with the Publication Manual of the American Psychological Association (APA) and should be within 80 to 100 pages including references and appendices.
e) Content must be typed in Font: Times New Roman with Line Spacing: 1.5 and Font Size 14 points.

Presentation of project work in the seminar on the assigned topic in the P.G. Department of Economics, Ranchi University, Ranchi & open viva there on.

Topics: As decided by the Supervisor/Guide

Teaching Aptitude: Only selected candidates, in alternative to the Dissertation, may be provided duty to teach the assigned topics in selected colleges. The performance may be evaluated based on the organized feedback for the candidate.

Department of Economics

St. Xavier's College, Ranchi

List of Examiners

List of Examiners (Approved by Board of Studies meeting held on)			
Sl.No.	**Name**	**College, University**	**Contact No.**
1.	Dr. Madhumita Das Gupta	Retd. Associate Prof., P.G. Dept. Economics, RU	9431325536
2.	Dr. Ranjana Srivastava	Retd. Associate Prof., P.G. Dept. Economics, RU	9835149577
3.	Dr. Rekha Jha	Associate Prof., DSPMU	9470139694
4.	Dr. G.C. Singh	Retd. Associate Prof., P.G. Dept. Economics, RU	9835149577
5.	Dr. G.P. Verma	Retd. Head, P.G. Dept. Economics, RU	9835507008
6.	Dr. S. Choubey	Retd., Head, Dept. of Eco., S.X.C., Ranchi	9431587186
7.	Dr. P.R. Jha	Associate Prof., Dept. Eco., Yogda S. College, Ranchi	8102040005
8.	Dr. S.N. Prajapati	Retd. Associate Prof., Dept. Eco., Yogda S. College, Ranchi	
9.	Dr. Lekha Prasad	Retd. Associate Prof., Doranda College, Ranchi	9934116299
10.	Dr. Sharmishta Ghosh	Retd., Head, Dept. of Eco., Womens College, Ranchi	8298199701
11.	Dr. S.Borbors	H.O.D., Eco., IIT, Guwahati	9435116299
12.	Dr. S.S.P. Sharma	H.O.D., Dept. of Environment, NIRD	
13.	Dr. Anil Nath	Associate Prof., ANS College, Bach	
14.	Dr. K.K. Sinha	Retd. Head, P.G. Dept. Economics, VBU, Hazaribagh	
15.	Dr. P.C. Deogharia	Retd. Associate Prof., Dept. Economics, VBU, Hazaribagh	9431375359
16.	Dr. Sajal Mukherjee	Retd. Associate Prof., Dept. Economics, VBU, Hazaribagh	
17.	Dr. Amrendra	Professor, H.O.D., Department of Economics, Govt RBR NES PG College, Jashpur (CG)	9329441575
18.	Dr. V.K. Singh	Associate Prof. & Head, P.G. Dept. Eco. Co-Operative, JSR, Kolhan	9431753277
19.	Dr. Govind Mahto	Retd. Head, P.G. Dept. Economics, Tata College, Chaibasa	
20.	Dr. I.J. Sahu	Retd. Head, P.G. Dept. Economics, RU	9431587083
21.	Dr. Kabita Banerjee	Retd. Head, Nirmala College, Ranchi	9939109368
22.	Dr. Jyoti Pandey	H.O.D, Assistant Prof., Nirmala College, Ranchi	9431386511
23.	Dr. S. Choudhary	Retd., Head, Dept. of Eco., S.X.C., Ranchi	9431189465
24.	Dr. R. K. Agarwal	PM. XISS, Ranchi	9431109076

25.	Dr. Neetu Kumari	RLSY College, Ranchi	9431787246

26.	Dr. Chaitali Adhikari	Assistant Prof.,Dept. of Economics, RWC, Ranchi	9905564589
27.	Abhishek Raj	Assistant Prof, Dept. of Law, VBU, Hazaribagh	9608129920
28.	Nancy Tirkey	RLSY College, Ranchi	9939738753
29.	Shweta Mohan	National Law University, Ranchi	8002666858
30.	Jaya Kujur	Khunti College, Khoonti	9709102008
31.	Dr. Vineeta Ekka	P.G. Dept. Economics, RU	9798739367
32.	Dr. Jyoti Prakash	P.G. Dept. Economics, RU	9431927807
33.	Dr. Nilu Singh	P.G. Dept. Economics, RU	9470193857
34.	Dr. Nitesh Raj	P.G. Dept. Economics, RU	9470512850
35.	Rajiv Kerketta	Sahebganj, P.G. Dept. Economics, SKMU, Dumka	9835779378
36.	Ashutosh Mishra	BIT, Mesra	9931322446
37.	Narendar Kumar Jha	Godda College, Godda	9430167111
38.	Dr. Shweta Sharan	Magadh Mahila College, Patna University, Patna	9308489824
39.	Dr. Ritika Gautam	R.P.S. College, Narayanpur, Bhagalpur	7004105393
40.	Dr. Shruti Priya	Gaya College, Gaya, Magadh University	9693445923
41.	Dr. Saurav Kumar	Gaya College, Gaya, Magadh University	9870175005
42.	Ambika Priya Tirkey	B.S. College, Lohardaga, RU	9534180969
43.	Murli Manohar Bando	Simdega College, Simdega, RU	9798971993
44.	Nayan Soreng	Giridih College, Giridih, RU	8292256649
45.	Dr. H. Dayal	Dept. of Economics, S.X.C., Ranchi	9835540564
46.	Dr. M. Barla	Dept. of Economics, S.X.C., Ranchi	9934399147
47.	Dr. V.K. Pandety	Dept. of Economics, S.X.C., Ranchi	9431916529
48.	Dr. D.M. Pathak	Dept. of Economics, S.X.C., Ranchi	9386766011
49.	Dr. Narendar Singh	Dept. of Commerce, S.X.C., Ranchi	9431595441
50.	Zeba Ashraf	Dept. of Economics, S.X.C., Ranchi	8092700862
51.	Ashish Ranjan	Dept. of Economics, S.X.C., Ranchi	8804717321
52.	Anshu N. Kujur	Dept. of Economics, S.X.C., Ranchi	9534180448
53.	Dr. Vidyanand Choudhary	J.N. College, Dhurwa, RU	9334432456
54.	Dr. Sukanya Chkraborty	Nirmala College, Ranchi	8797786056
55.	Arpana Anjana Ekka		879004960
56.	Dr. Basanti Renu Hembram	Marwari College, Ranchi	6202121124

57.	Abhiroop Mukherjee	Assistant Professor, Dept. of Economics, Amity University, Ranchi.	9534099135

Name of the Board Members:-

1. Dr. Jyoti Prakash 22.11.2025
2. Dr. Amredra 22.11.2025
3. Dr. P.C. Deogharia 22/11/2025
4. Mr. Lalit Tripathi 22.5.25
5. Dr. M. Barla 22/11/2025
6. Dr. V.K. Pandey 22/11/25
7. Dr. D. M. Pathak 22/11/2025
8. Zeba Ashraf 22/11/25
9. Ashish Ranjan 22/11/25
10. Anshu N. Kujur 22/11/25
11. Eram Afroz 22/11/25
12. Divas Tomar 22/11/25