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UNIVERSITY OF CALCUTTA

NOTICE

Program Outcome (PO)/ Program Specific Outcome (PSO)/ Course Outcome (CO) for the following Subjects, offered by the University of Calcutta pertaining to the U.G. (4-Year Honours & Honours with Research/ 3-Year MDC) Courses of Studies under CCF , as laid down in the accompanying pamphlets:-

1. Bio-Chemistry
2. French
3. Human Development
4. Political Science
5. Economics
6. Mathematics
7. Philosophy
8. Women's Studies

20/06/2025

Secretary
U.G. Councils

University of Calcutta
Program: B.A./ B.Sc. in Economics (CCF)
Program Specification: Major – Minor – MDC –IDC
Course: Economics (1st Sem – 6th Sem)

Prepared by, UGBOS (Economics)

1 Program Outcome, Program Specific Outcome, Course Outcome

In the context of undergraduate education, Program Outcome (PO), Program Specific Outcome (PSO), and Course Outcome (CO) are key components of **Outcome-Based Education (OBE)**. They help to define what students are expected to know, understand, and be able to do by the end of a program or course.

1.1 Program Outcomes (POs)

Program Outcomes (POs) are statements that describe what students are expected to know, understand, and be able to do by the time they graduate from an academic program. These outcomes are broad, overarching goals that reflect the knowledge, skills, attitudes, and competencies students should acquire during their course of study. POs are designed to align with the mission and vision of the institution and the program, ensuring that graduates are well-prepared for their careers, further education, and societal contributions.

1.2 Program Specific Outcomes (PSOs)

Program Specific Outcomes (PSOs) are statements that describe the specific knowledge, skills, and competencies students are expected to acquire by the time they graduate from a particular academic program. Unlike Program Outcomes (POs), which are broader and more general, PSOs are tailored to the specific discipline or field of study. They reflect the unique goals and objectives of the program and are designed to ensure that graduates are well-prepared for careers, further education, or research in their chosen field.

Program Specific Outcomes (PSOs) are essential for defining the unique goals of an academic program and ensuring that students develop the discipline-specific knowledge, skills, and competencies needed for success in their field. They provide a framework for curriculum design, assessment, and continuous improvement, ensuring that the program remains relevant and effective in preparing graduates for careers, further education, and societal contributions.

1.3 Course Outcomes (COs)

Course Outcomes (COs) are specific statements that describe what students are expected to know, understand, and be able to do by the end of a particular course. These outcomes are designed to align with the broader Program Outcomes (POs) and Program Specific Outcomes (PSOs) of the academic program. COs provide a clear and measurable framework for assessing student learning and ensuring that the course contributes to the overall goals of the program.

These COs would then be mapped to the broader Program Outcomes (POs) and Program Specific Outcomes (PSOs) of the program.

Course Outcomes (COs) are essential for defining the specific learning goals of a course and ensuring that students achieve the intended knowledge, skills, and competencies. They provide a clear and measurable framework for curriculum design, assessment, and continuous improvement, ensuring that the course contributes to the overall goals of the program. By aligning COs with POs and PSOs, institutions can ensure that their programs are coherent, relevant, and effective in preparing students for their careers and further education.

1.4 Economics: PO, PSO, CO

Let's take an example Let, one student has taken admission in an undergraduate college affiliated to Calcutta University. He has taken Economics as his/ her major subject. Let, he/ she is a B.Sc.student. Here's a breakdown of these concepts and their differences:

1.4.1 Program Outcome (PO)

Program Outcomes are broad statements that describe what graduates of a specific program are expected to achieve by the time they complete their degree. These outcomes are aligned with the mission and vision of the institution and reflect the skills, knowledge, and attitudes students should possess after completing the program.

- **Example for B.A./B.Sc. in Economics:**
  - Graduates will demonstrate a deep understanding of economic theories and their applications.
  - Graduates will be able to analyze and interpret economic data using appropriate tools and techniques.
  - Graduates will develop critical thinking and problem-solving skills to address real-world economic issues.
- **Key Characteristics:**
  - Broad and holistic.
  - Applicable to the entire program.
  - Focus on long-term career and life skills.

1.4.2 Program Specific Outcome (PSO)

Program Specific Outcomes are narrower than POs and focus on the specific knowledge, skills, and abilities that graduates of a particular program should acquire. These outcomes are tailored to the unique aspects of the program and its specialization.

- **Example for B.A./B.Sc. in Economics (Major in Economics):**
  - Students will be able to apply economic theories to analyze market behavior and policy decisions.
  - Students will demonstrate proficiency in using statistical software for economic data analysis.
  - Students will be able to evaluate the impact of economic policies on society and the environment.
- **Key Characteristics:**
  - Specific to the program or specialization.
  - More focused than POs but broader than COs.
  - Reflect the unique goals of the program.

1.4.3 Course Outcome (CO)

Course Outcomes are specific, measurable statements that describe what students should know, understand, and be able to do by the end of a particular course. These outcomes are directly linked to the syllabus and assessment methods of the course.

- **Example for a Course in Economics (e.g., Microeconomics):**
  - Students will be able to explain the principles of consumer behavior and demand theory.
  - Students will be able to analyze market structures and their implications for pricing and output decisions.
  - Students will be able to apply game theory to strategic decision-making in economics.

- **Key Characteristics:**
  - Specific to a single course.
  - Measurable and assessable.
  - Aligned with the course content and teaching methods.

1.4.4 Areas of Difference Among PO, PSO, and CO

- **Aspect: Program Outcome (PO)**
  - Scope: Broad and program-wide
  - Focus: Overall skills and knowledge after graduation
  - Level of Detail: General and holistic
  - Alignment: Aligned with institutional goals
  - Example: Graduates will be critical thinkers
- **Aspect: Program Specific Outcome (PSO)**
  - Scope: Specific to the program or specialization
  - Focus: Unique skills and knowledge of the program
  - Level of Detail: More detailed than PO but less than CO
  - Alignment: Aligned with program goals
  - Example: Graduates will analyze economic data
- **Aspect: Course Outcome (CO)**
  - Scope: Specific to a single course
  - Focus: Knowledge and skills from a specific course
  - Level of Detail: Highly detailed and specific
  - Alignment: Aligned with course objectives
  - Example: Students will explain demand theory

1.4.5 Example in Context of B.A./B.Sc. in Economics

- PO: Graduates will be able to apply economic principles to solve real-world problems.
- PSO (Major in Economics): Students will be able to evaluate the impact of fiscal and monetary policies on economic growth.
- CO (Microeconomics Course): Students will be able to analyze consumer choice using utility theory.

Hence, POs are broad and apply to the entire program. PSOs are specific to the program or specialization. COs are specific to individual courses and are measurable.

In this context, it is to mention here that following Calcutta University guideline (https://www.caluniv.ac.in/ccf-ug/files/exam-regulation-CSR-44.pdf), we may have the following cases:

1. A candidate clearing all the papers of the 1st and 2nd semesters and also completing a 3 credit Internship and exiting the course at the end of the 1st year shall get a **certificate** of 45 credits.
2. A candidate clearing all the papers of the 1st, 2nd, 3rd & 4th semesters and also completing a 3 credit Internship and exiting the course at the end of the 2nd year shall get a **Diploma** of 88 credits.
3. A candidate clearing all the papers of the 1st to 6th semesters and also completing a 3 credit Internship, obtaining a CGPA less than 4.00 but obtaining a minimum CGPA of 3.0 at the end of the 3rd year shall get a **3-year B.A./B.Sc. degree**, as the case may be.

4. A candidate clearing all the papers of the 1st to 6th semesters and also completing a 3 credit Internship, obtaining a minimum CGPA of 4.00 than 4.00 and exiting the course at the end of the 3rd year shall get a **3-year B.A./B.Sc. Honours degree**, as the case may be.

5. Candidates pursuing the 4th year of study without Research & securing qualifying marks in all the papers of 7th & 8th semesters and also obtaining a minimum CGPA 4.00 after the 8th semester shall be awarded a **4-year B.A./B.Sc. Honours degree**, as the case may be.

6. Candidates pursuing the 4th year of study with Research & securing qualifying marks in all the papers of 7th & 8th semesters and also obtaining a minimum CGPA 4.00 after the 8th semester shall be awarded a **4-year B.A./B.Sc. Honours with Research degree**, as the case may be.

2 Program Outcome (B.A./ B.Sc. in Economics)

The Program Outcomes (POs) for an undergraduate B.A./B.Sc. in Economics are broad statements that describe the knowledge, skills, and competencies students are expected to acquire by the time they complete their degree. These outcomes are designed to align with the goals of the program, the institution's mission, and the expectations of employers and society.

Below is an elaboration of the Program Outcomes for a B.A./B.Sc. in Economics:

1. Understanding of Economic Theories and Concepts

- Outcome: Graduates will demonstrate a comprehensive understanding of fundamental and advanced economic theories, principles, and concepts.
- Elaboration:
  - Students will be able to explain key economic theories such as supply and demand, market structures, macroeconomic policies, and international trade.
  - They will understand the historical and contemporary context of economic thought and its evolution.
  - Graduates will be able to apply theoretical knowledge to analyze real-world economic phenomena.

2. Analytical and Quantitative Skills

- Outcome: Graduates will develop strong analytical and quantitative skills to interpret and analyze economic data.
- Elaboration:
  - Students will be proficient in using statistical and econometric tools to analyze data and test hypotheses.
  - They will be able to interpret graphs, charts, and tables to draw meaningful conclusions.
  - Graduates will demonstrate the ability to use software like Excel, R, Stata, or Python for economic analysis.

3. Critical Thinking and Problem-Solving

- Outcome: Graduates will be able to critically evaluate economic issues and propose evidence-based solutions.
- Elaboration:
  - Students will develop the ability to identify, define, and analyze complex economic problems.
  - They will be able to evaluate the strengths and weaknesses of different economic policies and their implications.
  - Graduates will demonstrate creativity and innovation in addressing economic challenges.

4. Communication of Economic Ideas

- Outcome: Graduates will be able to effectively communicate economic ideas and analysis in written and oral forms.
- Elaboration:
  - Students will be able to write clear, concise, and well-structured reports, essays, and research papers on economic topics.
  - They will be able to present economic arguments and findings to both technical and non-technical audiences.
  - Graduates will develop the ability to engage in informed debates and discussions on economic issues.

5. Awareness of Global and Local Economic Issues

- Outcome: Graduates will demonstrate an understanding of global and local economic issues and their interconnections.
- Elaboration:
  - Students will be aware of global economic trends, such as globalization, trade wars, and climate change, and their impact on local economies.
  - They will understand the role of international institutions like the IMF, World Bank, and WTO in shaping global economic policies.
  - Graduates will be able to analyze the economic challenges faced by developing and developed countries.

6. Ethical and Social Responsibility

- Outcome: Graduates will recognize the ethical and social implications of economic decisions and policies.
- Elaboration:
  - Students will understand the ethical dimensions of economic behavior, such as fairness, equity, and sustainability.
  - They will be able to evaluate the social impact of economic policies, such as income inequality, poverty, and environmental degradation.
  - Graduates will demonstrate a commitment to using their economic knowledge for the betterment of society.

7. Research and Lifelong Learning

- Outcome: Graduates will be equipped with research skills and a mindset for lifelong learning.
- Elaboration:
  - Students will be able to design and conduct independent research projects using appropriate methodologies.
  - They will develop the ability to critically review and synthesize economic literature.
  - Graduates will demonstrate a willingness to continuously update their knowledge and skills in response to changing economic environments.

8. Interdisciplinary Perspective

- Outcome: Graduates will be able to integrate knowledge from other disciplines to address economic issues.
- Elaboration:

- Students will understand the intersection of economics with fields like political science, sociology, environmental studies, and mathematics.
- They will be able to apply interdisciplinary approaches to solve complex economic problems.
- Graduates will appreciate the role of economics in shaping public policy and decision-making across sectors.

9. Professional and Career Readiness

- Outcome: Graduates will be prepared for careers in economics and related fields.
- Elaboration:
  - Students will develop skills relevant to careers in academia, government, finance, consulting, and international organizations.
  - They will be able to demonstrate professionalism, teamwork, and leadership in their work.
  - Graduates will be equipped with the knowledge and skills to pursue advanced studies in economics or related disciplines.

10. Policy Analysis and Evaluation

- Outcome: Graduates will be able to analyze and evaluate the effectiveness of economic policies.
- Elaboration:
  - Students will understand the process of policy formulation, implementation, and evaluation.
  - They will be able to assess the impact of fiscal, monetary, and trade policies on economic growth, employment, and inflation.
  - Graduates will be able to recommend policy changes based on empirical evidence and theoretical insights.

Hence, the Program Outcomes for a B.A./B.Sc. in Economics are designed to ensure that graduates are well-rounded individuals with a strong foundation in economic theory, practical skills for data analysis, and the ability to apply their knowledge to real-world problems. These outcomes prepare students for diverse career paths and equip them with the tools to contribute meaningfully to society.

3 Program Specific Outcome (PSO): Economics (Major)

Program: B.A./ B.Sc. in Economics

Program Specification: Economics (Major)

The Program Specific Outcomes (PSOs) for an undergraduate Major in Economics are tailored to the specific knowledge, skills, and abilities that students are expected to acquire by the end of the program, based on the given syllabus structure. These outcomes are narrower than the Program Outcomes (POs) and focus on the unique aspects of the Economics major.

Sem1

Paper	Course	Name of the Paper	Credit	Pg. no.
DSCC1	ECOM	Microeconomics (I)	3+1	16
SEC1	ECOM	Introductory Statistics & Application (I)	3+1	20

Sem2

Paper	Course	Name of the Paper	Credit	Pg. no.
DSCC2	ECOM	Macroeconomics (I)	3+1	33
SEC2	ECOM	Introductory Statistics & Application (II)	1+3	36

Sem 3

Paper	Course	Name of the Paper	Credit	Pg. no.
DSCC3	ECOM	Microeconomics (II)	3+1	39
DSCC4	ECOM	Development Economics (I)	3+1	42
SEC3	ECOM	Data Analysis and Research Methodology	2+2	45

Sem 4

Paper	Course	Name of the Paper	Credit	Pg. no.
DSCC5	ECOM	Mathematical Economics (I)	3+1	48
DSCC6	ECOM	Macroeconomics (II)	3+1	51
DSCC7	ECOM	Statistics for Economics	3+1	55
DSCC8	ECOM	Indian Economics (I)	3+1	58

Sem 5

Paper	Course	Name of the Paper	Credit	Pg. no.
DSCC9	ECOM	Microeconomics (III)	3+1	64
DSCC10	ECOM	Macroeconomics (III)	3+1	66
DSCC11	ECOM	Mathematical Economics (II)	3+1	68
DSCC12	ECOM	Econometrics (I)	3+1	71

Sem 6

Paper	Course	Name of the Paper	Credit	Pg. no.
DSCC13	ECOM	International Economics (I)	3+1	80
DSCC14	ECOM	Environmental & Resource Economics (I)	3+1	84
DSCC15	ECOM	Public Economics (I)	3+1	87
Internship	ECOM	Summer Internship	3	90

Sem 7

Paper	Course	Name of the Paper	Credit	Pg. no.
DSCC16	ECOM	Financial Economics (I)	3+1	
DSCC17	ECOM	Development Economics (II)	3+1	
DSCC18	ECOM	Environmental & Resource Economics (II)	3+1	
DSCC19	ECOM	Advanced Microeconomic Theory	3+1	
DSCC20	ECOM	Public Economics (II)	3+1	
(Any one of the two papers,		Indian Economics (II)	3+1	
or **Research work**)		**Dissertation**	4	

Sem 8

Paper	Course	Name of the Paper	Credit	Pg. no.
DSCC21	ECOM	Econometrics (II)	3+1	
DSCC22	ECOM	International Economics (II)	3+1	
DSCC23	ECOM	Advanced Macroeconomic Theory	3+1	
DSCC24	ECOM	Financial Economics (II)	3+1	
(Any one of the two papers,		Managerial Economics	3+1	
or **Research work**)		**Dissertation**	4	
DSCC25	ECOM	Gender Economics	3+1	
(Any one of the two papers,		Economic History of India (1857-1947)	3+1	
or **Research work**)		**Dissertation**	4	

With obvious reasons, after fulfilling the eligibility criteria, if any student opts for **Research work (Dissertation)** in the 7th Semester (DSCC20), then he/ she must go for the continuation of the same in the 8th semester (DSCC24 & DSCC25) as well.

Below is an elaboration of the Program Specific Outcomes (PSOs) for the given syllabus structure:

1. Mastery of Core Economic Theories

- Outcome: Graduates will demonstrate a deep understanding of core economic theories in microeconomics, macroeconomics, and their applications.
- Elaboration:
  - Students will be able to analyze consumer behavior, production, market structures, and welfare economics through Microeconomics I, II, and III.
  - They will understand macroeconomic concepts such as national income, inflation, unemployment, and monetary and fiscal policies through Macroeconomics I, II, and III.
  - Graduates will apply these theories to real-world economic problems and policy analysis.

2. Proficiency in Quantitative and Analytical Tools

- Outcome: Graduates will be proficient in using statistical, mathematical, and econometric tools for economic analysis.
- Elaboration:
  - Students will develop skills in data analysis, probability, and statistical inference through Introductory Statistics & Application I and II, and Statistics for Economics.
  - They will apply mathematical techniques to economic models through Mathematical Economics I and II.
  - Graduates will be able to use econometric methods for empirical research through Econometrics I and II.

3. Understanding of Development Economics

- Outcome: Graduates will understand the theories and challenges of economic development and their relevance to developing economies.
- Elaboration:
  - Students will analyze issues such as poverty, inequality, human development, and sustainable development through Development Economics I and II.
  - They will evaluate the role of institutions, policies, and globalization in economic development.
  - Graduates will be able to propose solutions to development challenges faced by countries like India.

4. Knowledge of Indian Economy

- Outcome: Graduates will demonstrate a comprehensive understanding of the structure, functioning, and challenges of the Indian economy.
- Elaboration:
  - Students will study the historical and contemporary issues of the Indian economy through Indian Economics I and II.
  - They will analyze India's economic policies, growth trajectory, and sectoral performance.
  - Graduates will be able to critically evaluate the impact of economic reforms and globalization on India.

5. Expertise in International Economics

- Outcome: Graduates will understand the principles of international trade and finance and their implications for global and national economies.
- Elaboration:
  - Students will study trade theories, balance of payments, exchange rates, and trade policies through International Economics I and II.
  - They will analyze the impact of globalization, trade agreements, and international institutions on economic growth and development.
  - Graduates will be able to evaluate the challenges and opportunities of international economic integration.

6. Application of Environmental and Resource Economics

- Outcome: Graduates will understand the economic dimensions of environmental issues and natural resource management.
- Elaboration:
  - Students will study the concepts of externalities, market failures, and sustainable development through Environmental & Resource Economics I and II.

  - They will analyze policies for environmental protection, climate change mitigation, and resource conservation.
  - Graduates will be able to apply economic tools to address environmental challenges.

7. Understanding of Public Economics

- Outcome: Graduates will understand the role of the government in the economy and the principles of public policy.
- Elaboration:
  - Students will study public goods, taxation, public expenditure, and fiscal federalism through Public Economics I and II.
  - They will analyze the efficiency and equity implications of government policies.
  - Graduates will be able to evaluate the effectiveness of public programs and policies.

8. Research and Data Analysis Skills

- Outcome: Graduates will be equipped with research methodology and data analysis skills for economic research.
- Elaboration:
  - Students will learn research design, data collection, and analysis techniques through Data Analysis and Research Methodology.
  - They will apply these skills in their dissertations and internships.
  - Graduates will be able to conduct independent research and present findings effectively.

9. Practical Exposure through Internships

- Outcome: Graduates will gain practical experience in applying economic concepts to real-world problems.
- Elaboration:
  - Students will undertake internships to gain hands-on experience in industries, government agencies, or research organizations.
  - They will apply theoretical knowledge to practical scenarios and develop professional skills.
  - Graduates will be better prepared for careers in economics and related fields.

10. Specialization in Advanced Topics

- Outcome: Graduates will demonstrate expertise in advanced topics such as financial economics, gender economics, and managerial economics.
- Elaboration:
  - Students will study financial markets, investment, and risk management through Financial Economics I and II.
  - They will analyze gender disparities and their economic implications through Gender Economics.
  - Graduates will apply economic principles to business decision-making through Managerial Economics.

11. Interdisciplinary Perspective

- Outcome: Graduates will integrate knowledge from related disciplines to address complex economic issues.
- Elaboration:

- Students will study the economic history of India (1857-1947) to understand the historical context of economic development.
- They will explore interdisciplinary topics such as environmental economics, development economics, and gender economics.
- Graduates will be able to approach economic problems from a multidisciplinary perspective.

12. Critical Evaluation of Economic Policies

- Outcome: Graduates will be able to critically evaluate the effectiveness of economic policies and their impact on society.
- Elaboration:
  - Students will analyze the design, implementation, and outcomes of economic policies in areas such as public finance, international trade, and environmental regulation.
  - They will use empirical evidence and theoretical frameworks to assess policy effectiveness.
  - Graduates will be able to recommend evidence-based policy solutions.

The Program Specific Outcomes (PSOs) for the undergraduate Major in Economics are designed to ensure that graduates acquire specialized knowledge and skills in economics, aligned with the given syllabus structure. These outcomes focus on core economic theories, quantitative tools, development economics, Indian economy, international economics, environmental economics, public economics, and advanced topics. Graduates will be equipped with research skills, practical experience, and the ability to critically evaluate economic policies, preparing them for diverse careers and advanced studies in economics.

4 Program Specific Outcome (PSO): Economics (Minor & MDC)

Program: B.A./ B.Sc. in Economics

Program Specification: Economics (Minor & MDC)

The **Program Specific Outcomes (PSOs)** for an undergraduate Minor Course in Economics and Multi Disciplinary Course (MDC) in Economics are designed to provide students with a foundational understanding of economic principles and their applications, even if they are not majoring in Economics. These outcomes are tailored to the specific syllabus structure and focus on equipping students with essential economic knowledge and skills that complement their primary field of study.

Sem1

Paper	Course	Name of the Paper	Credit	Pg. no.
MN1	MECO	Microeconomics (I)	3+1	16
CC1/CC2	MECO-MDC1-CC	Microeconomics (I)	3+1	16
SEC1	MECO-SEC	Economic Data Analysis and Report Writing	3+1	24
(Any one of the two papers)		Entrepreneurship and Development	3+1	27

Sem2

Paper	Course	Name of the Paper	Credit	Pg. no.
MN2	MECO	Macroeconomics (I)	3+1	33
CC1/CC2	MECO-MDC2-CC	Macroeconomics (I)	3+1	33
SEC2	MECO-SEC	Economic Data Analysis and Report Writing	3+1	24
(Any one of the two papers)		Entrepreneurship and Development	3+1	27

Sem 3

Paper	Course	Name of the Paper	Credit	Pg. no.
MN3	MECO	Microeconomics (I)	3+1	16
CC1/CC2	MECO-MDC3-CC	Development Economics (I)	3+1	42
MDC_m 1	MECO-MDC1-Minor	Microeconomics (I)	3+1	16
SEC3	MECO-SEC	Economic Data Analysis and Report Writing	3+1	24
(Any one of the two papers)		Entrepreneurship and Development	3+1	27

Sem 4

Paper	Course	Name of the Paper	Credit	Pg. no.
MN4	MECO	Macroeconomics (I)	3+1	33
CC1/CC2	MECO-MDC4-CC	Indian Economics (I)	3+1	58
CC1/CC2	MECO-MDC5-CC	Sustainable Development	3+1	61
MDC_m 2	MECO-MDC2-Minor	Macroeconomics (I)	3+1	33

Sem 5

Paper	Course	Name of the Paper	Credit	Pg. no.
MN5	MECO	Development Economics (I)	3+1	42
CC1/CC2	MECO-MDC6-CC	Economic History of India (1857-1947)	3+1	74
CC1	MECO-MDC7-CC	Public Finance	3+1	77
MDC_m 3	MECO-MDC3-Minor	Development Economics (I)	3+1	42
MDC_m 4	MECO-MDC4-Minor	Indian Economics (I)	3+1	58

Sem 6

Paper	Course	Name of the Paper	Credit	Pg. no.
MN6	MECO	Indian Economics (I)	3+1	58
CC2	MECO-MDC7-CC	Public Finance	3+1	77
CC1/CC2	MECO-MDC8-CC	Rural Development	3+1	91
MDC_m 5	MECO-MDC5-Minor	Sustainable Development	3+1	61
MDC_m 6	MECO-MDC6-Minor	Economic History of India (1857-1947)	3+1	74

Below is an elaboration of the Program Specific Outcomes (PSOs) for the given syllabus structure:

1. Understanding of Basic Economic Principles

- Outcome: Graduates will demonstrate a foundational understanding of microeconomic and macroeconomic principles.
- Elaboration:
  - Students will learn the basics of demand and supply, consumer behavior, production, and market structures through Microeconomics I.
  - They will understand macroeconomic concepts such as national income, inflation, unemployment, and fiscal and monetary policies through Macroeconomics I.
  - Graduates will be able to apply these principles to analyze simple economic problems.

2. Awareness of Development Economics

- Outcome: Graduates will understand the key issues and challenges in economic development.
- Elaboration:
  - Students will study the theories and strategies of economic development through Development Economics I.
  - They will analyze issues such as poverty, inequality, human development, and sustainable development.
  - Graduates will be able to evaluate the role of policies and institutions in promoting development.

3. Knowledge of the Indian Economy

- Outcome: Graduates will demonstrate an understanding of the structure, functioning, and challenges of the Indian economy.
- Elaboration:
  - Students will study the historical and contemporary issues of the Indian economy through Indian Economics I.
  - They will analyze India's economic policies, growth trajectory, and sectoral performance.

  - Graduates will be able to critically evaluate the impact of economic reforms and globalization on India.

4. Understanding of Sustainable Development

- Outcome: Graduates will understand the principles of sustainable development and their economic implications.
- Elaboration:
  - Students will study the concepts of sustainability, environmental economics, and resource management through Sustainable Development.
  - They will analyze the trade-offs between economic growth and environmental conservation.
  - Graduates will be able to propose solutions for achieving sustainable development goals.

5. Proficiency in Economic Data Analysis

- Outcome: Graduates will develop basic skills in economic data analysis and report writing.
- Elaboration:
  - Students will learn to collect, analyze, and interpret economic data through Economic Data Analysis and Report Writing.
  - They will be able to use statistical tools and software for data analysis.
  - Graduates will be able to present their findings in clear and concise reports.

6. Awareness of Entrepreneurship and Development

- Outcome: Graduates will understand the role of entrepreneurship in economic development.
- Elaboration:
  - Students will study the concepts of entrepreneurship, innovation, and their impact on economic growth through Entrepreneurship and Development.
  - They will analyze the challenges and opportunities for entrepreneurs in developing economies.
  - Graduates will be able to apply entrepreneurial thinking to solve economic problems.

7. Understanding of Public Finance

- Outcome: Graduates will understand the principles of public finance and the role of government in the economy.
- Elaboration:
  - Students will study public goods, taxation, public expenditure, and fiscal policies through Public Finance.
  - They will analyze the efficiency and equity implications of government policies.
  - Graduates will be able to evaluate the effectiveness of public programs and policies.

8. Knowledge of Rural Development

- Outcome: Graduates will understand the challenges and strategies for rural development.
- Elaboration:
  - Students will study the issues of rural poverty, agriculture, and infrastructure development through Rural Development.
  - They will analyze the role of policies and programs in promoting rural development.
  - Graduates will be able to propose solutions for addressing rural economic challenges.

9. Understanding of Economic History

- Outcome: Graduates will demonstrate an understanding of the economic history of India and its impact on current economic issues.
- Elaboration:
  - Students will study the economic history of India from 1857 to 1947 through Economic History of India (1857-1947).
  - They will analyze the historical context of India's economic development and policy-making.
  - Graduates will be able to draw lessons from history to address contemporary economic challenges.

10. Interdisciplinary Perspective

- Outcome: Graduates will be able to integrate economic knowledge with other disciplines.
- Elaboration:
  - Students will study interdisciplinary topics such as sustainable development, entrepreneurship, and rural development.
  - They will apply economic principles to analyze issues in their primary field of study.
  - Graduates will be able to approach problems from a multidisciplinary perspective.

11. Critical Thinking and Problem-Solving

- Outcome: Graduates will develop critical thinking and problem-solving skills in the context of economic issues.
- Elaboration:
  - Students will learn to analyze economic problems, evaluate evidence, and propose solutions.
  - They will apply economic theories and tools to address real-world challenges.
  - Graduates will be able to make informed decisions based on economic reasoning.

12. Communication and Report Writing Skills

- Outcome: Graduates will be able to effectively communicate economic ideas and analysis.
- Elaboration:
  - Students will develop skills in writing clear and concise economic reports through Economic Data Analysis and Report Writing.
  - They will be able to present economic arguments and findings to both technical and non-technical audiences.
  - Graduates will demonstrate professionalism in their communication.

The Program Specific Outcomes (PSOs) for the undergraduate Minor Course and Multi Disciplinary Course (MDC) in Economics are designed to provide students with a foundational understanding of economic principles and their applications. These outcomes focus on core economic theories, development economics, Indian economy, sustainable development, public finance, rural development, and economic history. Graduates will develop skills in data analysis, critical thinking, and communication, enabling them to apply economic knowledge to their primary field of study and address real-world challenges.

5 Program Specific Outcome (PSO): Economics (IDC)

Program: B.A./ B.Sc. in Economics

Program Specification: Economics (IDC)

The **Program Specific Outcomes (PSOs)** for an undergraduate Inter Disciplinary Course (IDC) in Economics are designed to provide students from diverse academic backgrounds with a foundational understanding of economic principles and their applications. The IDC in Economics, such as Elementary Economics, aims to equip students with basic economic knowledge and analytical skills that can complement their primary field of study.

Sem1

Paper	Course	Name of the Paper	Credit	Pg. no.
IDC1	ECOD	Elementary Economics	2+1	30

Sem2

Paper	Course	Name of the Paper	Credit	Pg. no.
IDC2	ECOD	Elementary Economics	2+1	30

Sem 3

Paper	Course	Name of the Paper	Credit	Pg. no.
IDC3	ECOD	Elementary Economics	2+1	30

Below is an elaboration of the Program Specific Outcomes (PSOs) for the given syllabus structure:

1. Understanding of Basic Economic Concepts

- Outcome: Graduates will demonstrate a foundational understanding of basic economic concepts and principles.
- Elaboration:
  - Students will learn the fundamental concepts of economics, such as scarcity, choice, opportunity cost, demand and supply, and market equilibrium.
  - They will understand the difference between microeconomics (individual and firm behavior) and macroeconomics (economy-wide issues).
  - Graduates will be able to apply these concepts to analyze simple economic problems in their daily lives.

2. Awareness of Economic Decision-Making

- Outcome: Graduates will understand how individuals, firms, and governments make economic decisions.
- Elaboration:
  - Students will study consumer behavior, production decisions, and market structures.
  - They will analyze how governments make decisions regarding taxation, public spending, and regulation.
  - Graduates will be able to evaluate the trade-offs involved in economic decision-making.

3. Understanding of Market Mechanisms

- Outcome: Graduates will understand how markets function and the role of prices in allocating resources.
- Elaboration:
  - Students will learn how demand and supply interact to determine prices and quantities in a market.
  - They will analyze the impact of market interventions such as price controls, taxes, and subsidies.
  - Graduates will be able to explain the efficiency and limitations of market mechanisms.

4. Knowledge of Macroeconomic Issues

- Outcome: Graduates will demonstrate an understanding of key macroeconomic issues and policies.
- Elaboration:
  - Students will study concepts such as GDP, inflation, unemployment, and economic growth.
  - They will understand the role of fiscal and monetary policies in stabilizing the economy.
  - Graduates will be able to analyze the impact of macroeconomic policies on individuals and businesses.

5. Application of Economic Principles to Real-World Issues

- Outcome: Graduates will be able to apply economic principles to analyze real-world issues.
- Elaboration:
  - Students will study case studies and examples of economic issues such as poverty, inequality, environmental degradation, and globalization.
  - They will apply economic theories to evaluate the causes and consequences of these issues.
  - Graduates will be able to propose evidence-based solutions to economic problems.

6. Development of Critical Thinking Skills

- Outcome: Graduates will develop critical thinking skills to evaluate economic arguments and policies.
- Elaboration:
  - Students will learn to analyze economic data, interpret graphs, and evaluate the validity of economic claims.
  - They will critically assess the strengths and weaknesses of different economic policies.
  - Graduates will be able to make informed decisions based on economic reasoning.

7. Interdisciplinary Perspective

- Outcome: Graduates will be able to integrate economic knowledge with their primary field of study.
- Elaboration:
  - Students will apply economic principles to analyze issues in their own discipline, such as business, politics, sociology, or environmental studies.
  - They will understand the economic dimensions of interdisciplinary problems, such as climate change, public health, and technological innovation.
  - Graduates will be able to approach problems from a multidisciplinary perspective.

8. Communication of Economic Ideas

- Outcome: Graduates will be able to effectively communicate economic ideas and analysis.
- Elaboration:
  - Students will develop skills in writing and presenting economic arguments in a clear and concise manner.
  - They will be able to explain economic concepts to both technical and non-technical audiences.
  - Graduates will demonstrate professionalism in their communication.

9. Ethical and Social Awareness

- Outcome: Graduates will recognize the ethical and social implications of economic decisions and policies.
- Elaboration:
  - Students will understand the ethical dimensions of economic behavior, such as fairness, equity, and sustainability.
  - They will analyze the social impact of economic policies, such as income inequality, poverty, and environmental degradation.
  - Graduates will demonstrate a commitment to using their economic knowledge for the betterment of society.

10. Lifelong Learning and Economic Literacy

- Outcome: Graduates will develop a foundation for lifelong learning and economic literacy.
- Elaboration:
  - Students will gain the ability to read and interpret economic news, reports, and research.
  - They will develop a curiosity and willingness to continuously update their knowledge of economic issues.
  - Graduates will be equipped to make informed decisions as consumers, workers, and citizens.

The **Program Specific Outcomes (PSOs)** for the undergraduate Inter Disciplinary Course (IDC) in Economics, such as Elementary Economics, are designed to provide students with a foundational understanding of economic principles and their applications. These outcomes focus on basic economic concepts, decision-making, market mechanisms, macroeconomic issues, and real-world applications. Graduates will develop critical thinking, interdisciplinary, and communication skills, enabling them to apply economic knowledge to their primary field of study and address real-world challenges. The course also emphasizes ethical awareness and lifelong learning, preparing students to be informed and responsible citizens.

6 Course Outcome: Microeconomics (I)

The Course Outcomes (COs) for the undergraduate Microeconomics (I) course are specific, measurable statements that describe what students are expected to know, understand, and be able to do by the end of the course. These outcomes are aligned with the syllabus and focus on building foundational knowledge and analytical skills in microeconomics. Below is an elaboration of the Course Outcomes (COs) for the given syllabus:

1. Understanding the Scope and Method of Economics

- Outcome: Students will be able to explain the fundamental concepts and methods of economics.
- Elaboration:
  - Students will define economics and distinguish between microeconomics and macroeconomics.
  - They will understand the basic economic questions, such as what to produce, how to produce, and for whom to produce.
  - Students will explain the concepts of scarcity, choice, opportunity cost, and efficiency.
  - They will differentiate between normative and positive economics.

2. Application of Microeconomic Principles

- Outcome: Students will be able to apply the principles of microeconomics to analyze individual and market behavior.
- Elaboration:
  - Students will explain the principles of individual decision-making, such as trade-offs, marginal analysis, and cost-benefit analysis.

  - They will understand the principles of economic interactions, including trade, market economies, and property rights.
  - Students will analyze market failures, externalities, and market power.

3. Understanding Utility Theory

- Outcome: Students will be able to analyze consumer behavior using utility theory.
- Elaboration:
  - Students will differentiate between cardinal and ordinal utility approaches.
  - They will explain total utility, marginal utility, and the utility maximization principle in the cardinal approach.
  - Students will analyze consumer preferences using indifference curves, budget constraints, and the concept of marginal rate of substitution (MRS).
  - They will determine consumer equilibrium for both interior and corner solutions.

4. Analysis of Demand and Supply

- Outcome: Students will be able to explain the theory of demand and supply and their role in market price determination.
- Elaboration:
  - Students will identify the factors influencing demand and supply.
  - They will explain the demand curve, supply curve, and the concepts of movement along and shifts in these curves.
  - Students will determine equilibrium price and quantity in a competitive market.
  - They will analyze the impact of changes in demand and supply on market equilibrium.

5. Understanding Market Structures and Adjustments

- Outcome: Students will be able to explain the functioning of different market structures and their adjustments.
- Elaboration:
  - Students will describe the evolution of market economies and the role of the price system.
  - They will differentiate between households, firms, and central authorities as decision-makers.
  - Students will explain the concepts of individual markets, interlinked markets, and the differences between competitive, goods, and factor markets.
  - They will analyze the characteristics of public goods, private goods, common resources, and natural monopolies.

6. Application of Elasticity Concepts

- Outcome: Students will be able to calculate and interpret different types of elasticity and their applications.
- Elaboration:
  - Students will explain the importance of elasticity in economic decision-making.
  - They will calculate arc elasticity and point elasticity for demand and supply.
  - Students will analyze the factors affecting price elasticity of demand and supply.
  - They will interpret income elasticity and cross-price elasticity of demand.
  - Students will apply elasticity concepts to real-world case studies, such as OPEC and oil prices.

7. Critical Thinking and Problem-Solving

- Outcome: Students will develop critical thinking and problem-solving skills in the context of microeconomic issues.
- Elaboration:
  - Students will analyze real-world economic problems using microeconomic theories and tools.
  - They will evaluate the impact of economic policies and market changes on consumer and producer behavior.
  - Students will propose solutions to economic problems based on theoretical and empirical analysis.

8. Graphical and Analytical Skills

- Outcome: Students will be able to use graphs and diagrams to analyze microeconomic concepts.
- Elaboration:
  - Students will draw and interpret graphs for demand and supply, indifference curves, budget constraints, and market equilibrium.
  - They will use diagrams to explain concepts such as utility maximization, consumer equilibrium, and elasticity.
  - Students will analyze economic scenarios using graphical representations.

9. Interdisciplinary Perspective

- Outcome: Students will be able to apply microeconomic principles to interdisciplinary issues.
- Elaboration:
  - Students will analyze the economic dimensions of issues such as environmental degradation, public health, and technological innovation.
  - They will integrate microeconomic concepts with knowledge from other disciplines, such as sociology, political science, and environmental studies.
  - Students will evaluate the role of economics in shaping public policy and decision-making.

10. Communication of Economic Ideas

- Outcome: Students will be able to effectively communicate microeconomic concepts and analysis.
- Elaboration:
  - Students will write clear and concise explanations of microeconomic theories and their applications.
  - They will present economic arguments and findings using appropriate terminology and graphical tools.
  - Students will demonstrate professionalism in their communication of economic ideas.

The **Course Outcomes (COs)** for the undergraduate Microeconomics (I) course are designed to ensure that students develop a strong foundation in microeconomic theory and its applications. These outcomes focus on understanding economic principles, analyzing consumer and market behavior, and applying elasticity concepts. Students will also develop critical thinking, graphical, and communication skills, enabling them to analyze real-world economic problems and communicate their findings effectively. The course prepares students for advanced studies in economics and provides them with tools to apply microeconomic concepts in interdisciplinary contexts.

6.1 Interconnection Among PO, PSO, and CO

The interconnection among these three levels of outcomes can be established by mapping how the Course Outcomes (COs) contribute to the Program Specific Outcomes (PSOs), which in turn contribute to the Program Outcomes (POs).

Below is an example of this mapping for the Microeconomics (I) course in our undergraduate Economics major program.

6.1.1 Mapping COs to PSOs and POs

1. CO1: Students will be able to explain the principles of consumer behavior and demand theory.
   PSO1: Students will be able to apply economic theories to analyze market behavior.
   PO1: Graduates will demonstrate a deep understanding of economic theories.
2. CO2: Students will be able to analyze market structures and their implications for pricing and output.
   PSO2: Students will demonstrate proficiency in using economic tools for analysis.
   PO2: Graduates will develop strong analytical and quantitative skills.
3. CO3: Students will be able to apply elasticity concepts to real-world economic scenarios.
   PSO3: Students will be able to evaluate the impact of economic policies on society.
   PO3: Graduates will be able to critically evaluate economic policies.
4. CO4: Students will be able to use graphs and diagrams to analyze microeconomic concepts.
   PSO4: Students will develop critical thinking and problem-solving skills in economics.
   PO4: Graduates will be able to solve real-world economic problems.
5. CO5: Students will be able to communicate microeconomic concepts effectively.
   CPSO5: Students will be able to present economic arguments and findings effectively.
   PO5: Graduates will be able to communicate economic ideas effectively.

6.1.2 Explanation of the Interconnection

- **COs Contribute to PSOs:**

The Course Outcomes (COs) of the Microeconomics (I) course are designed to help students achieve the Program Specific Outcomes (PSOs). For example:

- – CO1 (understanding consumer behavior) contributes to PSO1 (applying economic theories to analyze market behavior).
  – CO3 (applying elasticity concepts) contributes to PSO3 (evaluating the impact of economic policies).
  – CO5 (communication skills) contributes to PSO5 (presenting economic arguments effectively).

- **PSOs Contribute to POs:**

The Program Specific Outcomes (PSOs) are aligned with the broader Program Outcomes (POs). For example:

- – PSO1 (applying economic theories) contributes to PO1 (demonstrating a deep understanding of economic theories).
  – PSO2 (using economic tools) contributes to PO2 (developing analytical and quantitative skills).
  – PSO3 (evaluating policy impacts) contributes to PO3 (critically evaluating economic policies).

- **COs Ultimately Contribute to POs:**

Since COs contribute to PSOs, and PSOs contribute to POs, the Course Outcomes (COs) ultimately contribute to the Program Outcomes (POs). For example:

- – CO2 (analyzing market structures) contributes to PSO2 (using economic tools), which in turn contributes to PO2 (developing analytical skills).
  – CO4 (using graphs and diagrams) contributes to PSO4 (developing critical thinking), which in turn contributes to PO4 (solving real-world problems).

6.1.3 Example of Interconnection in Practice

A student completes the Microeconomics (I) course.

- **Scenario 1:**
  - CO1: The student learns about consumer behavior and demand theory.
  - PSO1: This knowledge helps the student apply economic theories to analyze market behavior in other courses and projects.
  - PO1: By the end of the program, the student demonstrates a deep understanding of economic theories, partly due to the foundation built in the Microeconomics (I) course.
- **Scenario 2:**
  - CO3: The student learns to apply elasticity concepts to analyze the impact of oil price changes.
  - PSO3: This skill helps the student evaluate the impact of economic policies, such as fuel subsidies or taxes, in advanced courses.
  - PO3: By graduation, the student is able to critically evaluate economic policies, thanks to the skills developed in the Microeconomics (I) course.

The interconnection among PO, PSO, and CO ensures that the learning outcomes at each level are aligned and contribute to the overall goals of the program. The Course Outcomes (COs) of individual courses, such as Microeconomics (I), directly support the Program Specific Outcomes (PSOs), which in turn contribute to the broader Program Outcomes (POs). This alignment ensures that students acquire the necessary knowledge, skills, and competencies to succeed in their academic and professional careers.

7 Course Outcome: Introductory Statistics and Applications (I)

The Course Outcomes (COs) for the undergraduate Introductory Statistics and Applications (I) course are specific, measurable statements that describe what students are expected to know, understand, and be able to do by the end of the course. These outcomes are aligned with the given syllabus and focus on building foundational knowledge and skills in statistics, which are essential for economic analysis. Below is an elaboration of the Course Outcomes (COs) for the given syllabus:

1. Understanding the Subject Matter of Statistics

- Outcome: Students will be able to explain the basic concepts and methods of statistics.
- Elaboration:
  - Students will define statistics and its role in economic analysis.
  - They will understand the steps involved in statistical methods: collection, presentation, and analysis of data.
  - Students will differentiate between primary and secondary data sources and explain the methods of data collection.
  - They will identify and classify variables (discrete, continuous, and categorical) and understand the concepts of population and sample.

2. Data Collection and Presentation Skills

- Outcome: Students will be able to collect, classify, and present data effectively.
- Elaboration:
  - Students will demonstrate the ability to collect data from primary and secondary sources.
  - They will present data using textual, tabular, and diagrammatic methods.
  - Students will construct frequency distributions, ogives, column diagrams, frequency polygons, histograms, and frequency curves.

- They will interpret and analyze univariate and bivariate data.

3. Calculation of Measures of Central Tendency

- Outcome: Students will be able to compute and interpret measures of central tendency.
- Elaboration:
  - Students will calculate the arithmetic mean, geometric mean, harmonic mean, median, and mode for both ungrouped and grouped data.
  - They will compare the different measures of central tendency and understand their applications.
  - Students will compute quartiles, deciles, and percentiles and interpret their significance.

4. Understanding Index Numbers

- Outcome: Students will be able to construct and interpret index numbers.
- Elaboration:
  - Students will explain the problems and methods of constructing price index numbers, including simple and weighted aggregative methods and price-relatives methods.
  - They will compute Laspeyres, Paasche, and Fisher's index numbers and understand their differences.
  - Students will calculate quantity index numbers and apply tests of index numbers.
  - They will interpret wholesale price index and cost of living index and understand their uses.

5. Calculation of Measures of Dispersion

- Outcome: Students will be able to compute and interpret measures of dispersion.
- Elaboration:
  - Students will calculate absolute measures of dispersion, such as range, quartile deviation, mean deviation, and standard deviation, for both ungrouped and grouped data.
  - They will compute relative measures of dispersion, such as the coefficient of variation, coefficient of mean deviation, and coefficient of quartile deviation.
  - Students will compare different measures of dispersion and understand their applications.

6. Analysis of Income and Wealth Distribution

- Outcome: Students will be able to analyze the distribution of income and wealth using statistical tools.
- Elaboration:
  - Students will construct and interpret the Lorenz curve.
  - They will calculate the Gini coefficient and Theil's index to measure inequality.
  - Students will analyze the implications of income and wealth distribution for economic policy.

7. Understanding Skewness and Kurtosis

- Outcome: Students will be able to compute and interpret measures of skewness and kurtosis.
- Elaboration:
  - Students will calculate central and non-central moments and convert between them.
  - They will compute measures of skewness, such as Bowley's measure and the coefficient of quartile deviation, and interpret their significance.

- Students will calculate measures of kurtosis based on moments and understand their applications.

8. Bivariate Data Analysis

- Outcome: Students will be able to analyze bivariate data using correlation and regression.
- Elaboration:
  - Students will construct and interpret scatter diagrams for bivariate data.
  - They will calculate the simple correlation coefficient and understand its properties and limitations.
  - Students will perform simple linear regression using the least squares technique and interpret the regression coefficients.
  - They will analyze the relationship between two variables and make predictions based on regression results.

9. Application of Statistical Tools

- Outcome: Students will be able to apply statistical tools to real-world economic problems.
- Elaboration:
  - Students will use statistical methods to analyze economic data, such as price indices, income distribution, and bivariate relationships.
  - They will interpret statistical results and draw meaningful conclusions for economic decision-making.
  - Students will apply statistical tools to evaluate economic policies and their impact.

10. Communication of Statistical Analysis

- Outcome: Students will be able to communicate statistical analysis effectively.
- Elaboration:
  - Students will present statistical findings using appropriate tables, graphs, and diagrams.
  - They will write clear and concise reports explaining statistical methods and results.
  - Students will demonstrate the ability to communicate complex statistical concepts to both technical and non-technical audiences.

The Course Outcomes (COs) for the undergraduate Introductory Statistics and Applications (I) course are designed to ensure that students develop a strong foundation in statistical methods and their applications in economics. These outcomes focus on data collection and presentation, measures of central tendency and dispersion, index numbers, income distribution analysis, skewness and kurtosis, and bivariate data analysis. Students will also develop critical thinking, analytical, and communication skills, enabling them to apply statistical tools to real-world economic problems and communicate their findings effectively. This course prepares students for advanced studies in economics and provides them with essential skills for data-driven decision-making.

7.1 Interconnection Among PO, PSO, and CO

It is essential to establish a clear interconnection among Program Outcomes (POs), Program Specific Outcomes (PSOs), and Course Outcomes (COs) for the Introductory Statistics and Applications (I) course. This alignment ensures that the course contributes meaningfully to the overall goals of the undergraduate Economics program and that students achieve the desired knowledge, skills, and competencies by the end of their degree.

The interconnection among these three levels of outcomes can be established by mapping how the Course Outcomes (COs) contribute to the Program Specific Outcomes (PSOs), which in turn contribute to the Program Outcomes (POs). Below is an example of this mapping for the Introductory Statistics and Applications (I) course in an undergraduate Economics major program:

7.1.1 Mapping COs to PSOs and POs

1. CO1: Students will be able to collect, classify, and present data effectively.
   PSO1: Students will demonstrate proficiency in data collection, analysis, and interpretation.
   PO1: Graduates will develop strong analytical and quantitative skills.
2. CO2: Students will be able to compute and interpret measures of central tendency and dispersion.
   PSO2: Students will be able to apply statistical tools for economic analysis.
   PO2: Graduates will demonstrate a deep understanding of economic theories.
3. CO3: Students will be able to construct and interpret index numbers.
   PSO3: Students will be able to evaluate the impact of economic policies using empirical data.
   PO3: Graduates will be able to critically evaluate economic policies.
4. CO4: Students will be able to analyze bivariate data using correlation and regression.
   PSO4: Students will develop critical thinking and problem-solving skills in economics.
   PO4: Graduates will be able to solve real-world economic problems.
5. CO5: Students will be able to communicate statistical analysis effectively.
   PSO5: Students will be able to present economic arguments and findings effectively.
   PO5: Graduates will be able to communicate economic ideas effectively.

7.1.2 Explanation of the Interconnection

- **COs Contribute to PSOs:**

The Course Outcomes (COs) of the Introductory Statistics and Applications (I) course are designed to help students achieve the Program Specific Outcomes (PSOs). For example:

- – CO1 (data collection and presentation) contributes to PSO1 (proficiency in data collection, analysis, and interpretation).
  – CO2 (measures of central tendency and dispersion) contributes to PSO2 (applying statistical tools for economic analysis).
  – CO3 (index numbers) contributes to PSO3 (evaluating the impact of economic policies using empirical data).

- **PSOs Contribute to POs:**

The Program Specific Outcomes (PSOs) are aligned with the broader Program Outcomes (POs). For example:

- – PSO1 (data analysis skills) contributes to PO1 (developing strong analytical and quantitative skills).
  – PSO2 (applying statistical tools) contributes to PO2 (demonstrating a deep understanding of economic theories).
  – PSO3 (evaluating policy impacts) contributes to PO3 (critically evaluating economic policies).

- **COs Ultimately Contribute to POs:**

Since COs contribute to PSOs, and PSOs contribute to POs, the Course Outcomes (COs) ultimately contribute to the Program Outcomes (POs). For example:

- – CO4 (bivariate data analysis) contributes to PSO4 (developing critical thinking and problem-solving skills), which in turn contributes to PO4 (solving real-world economic problems).
  – CO5 (communication of statistical analysis) contributes to PSO5 (presenting economic arguments effectively), which in turn contributes to PO5 (communicating economic ideas effectively).

7.1.3 Example of Interconnection in Practice

A student completes the "Introductory Statistics and Applications (I)" course.

- **Scenario 1:**
  - CO1: The student learns to collect, classify, and present data effectively.
  - PSO1: This skill helps the student analyze economic data in other courses and projects.
  - PO1: By the end of the program, the student demonstrates strong analytical and quantitative skills, partly due to the foundation built in the Introductory Statistics and Applications (I) course.
- **Scenario 2:**
  - CO3: The student learns to construct and interpret index numbers, such as the Consumer Price Index (CPI).
  - PSO3: This skill helps the student evaluate the impact of inflation and economic policies in advanced courses.
  - PO3: By graduation, the student is able to critically evaluate economic policies, thanks to the skills developed in the Introductory Statistics and Applications (I) course.

The interconnection among PO, PSO, and CO ensures that the learning outcomes at each level are aligned and contribute to the overall goals of the program. The Course Outcomes (COs) of the Introductory Statistics and Applications (I) course directly support the Program Specific Outcomes (PSOs), which in turn contribute to the broader Program Outcomes (POs). This alignment ensures that students acquire the necessary knowledge, skills, and competencies to succeed in their academic and professional careers. The course prepares students for advanced studies in economics and provides them with essential statistical tools for data-driven decision-making.

8 Course Outcome: Economic Data Analysis and Report Writing (EDARW)

The Course Outcomes (COs) for the Introductory Economic Data Analysis and Report Writing (EDARW) course are specific, measurable statements that describe what students are expected to know, understand, and be able to do by the end of the course. These outcomes are aligned with the given syllabus and focus on building foundational knowledge and skills in data analysis, descriptive statistics, and report writing, which are essential for economic research and decision-making. Below is an elaboration of the Course Outcomes (COs) for the given syllabus:

1. Tabular and Graphical Representation of Data

- Outcome: Students will be able to represent and interpret statistical data using tables and graphs.
- Elaboration:
  - Students will construct and interpret frequency distribution tables.
  - They will use graphical tools such as line diagrams, bar charts, divided bar charts, pie charts, frequency polygons, histograms, and ogives to represent data.
  - Students will analyze the implications of different types of data representation for economic analysis.

2. Calculation and Interpretation of Measures of Central Tendency

- Outcome: Students will be able to compute and interpret measures of central tendency.
- Elaboration:
  - Students will calculate the arithmetic mean, geometric mean, and harmonic mean and understand their uses in economic data analysis.

- They will compute the median and mode and analyze their applications in economic contexts.
- Students will compare the mean, median, and mode as measures of central tendency and understand their strengths and limitations.

3. Calculation and Interpretation of Measures of Dispersion

- Outcome: Students will be able to compute and interpret measures of dispersion.
- Elaboration:
  - Students will calculate range, mean deviation, standard deviation, and quartile deviation and understand their properties.
  - They will compare different measures of dispersion and analyze their implications.
  - Students will interpret the coefficient of variation and use it to measure income inequality.
  - They will understand the basic concepts of the Gini coefficient and Lorenz curve and their applications in analyzing income distribution.

4. Understanding Correlation and Regression Analysis

- Outcome: Students will be able to understand the basic concepts of correlation and regression analysis.
- Elaboration:
  - Students will interpret the relationship between two variables using correlation analysis.
  - They will understand the principles of simple linear regression and its applications in economic data analysis.
  - Students will analyze the significance of correlation and regression results for economic decision-making.

5. Development of Report Writing Skills

- Outcome: Students will be able to write clear and concise economic reports.
- Elaboration:
  - Students will identify the basic issues, conduct a theme-based literature survey, and define the objectives of a study.
  - They will use tables, graphs, and measures of central tendency and dispersion to analyze and present data.
  - Students will insert footnotes or end notes and prepare a bibliography following standard citation formats.
  - They will develop writing skills to communicate economic analysis effectively.

6. Application of Statistical Tools in Economic Analysis

- Outcome: Students will be able to apply statistical tools to analyze economic data.
- Elaboration:
  - Students will use descriptive statistics to summarize and interpret economic data.
  - They will apply measures of central tendency and dispersion to analyze economic issues such as income inequality and price fluctuations.
  - Students will use graphical and tabular representations to present economic findings.

7. Critical Thinking and Problem-Solving

- Outcome: Students will develop critical thinking and problem-solving skills in the context of economic data analysis.

- Elaboration:
  - Students will analyze economic data to identify trends, patterns, and anomalies.
  - They will evaluate the strengths and limitations of different statistical tools and methods.
  - Students will propose solutions to economic problems based on data-driven analysis.

8. Communication of Economic Analysis

- Outcome: Students will be able to communicate economic analysis effectively.
- Elaboration:
  - Students will present economic data and analysis using appropriate tables, graphs, and statistical measures.
  - They will write clear and concise reports that explain the methodology, findings, and implications of their analysis.
  - Students will demonstrate professionalism in their communication of economic ideas.

8.1 Interconnection Among PO, PSO, and CO

The interconnection among Program Outcomes (POs), Program Specific Outcomes (PSOs), and Course Outcomes (COs) for the Introductory Economic Data Analysis and Report Writing (EDARW) course can be established as follows:

8.1.1 Mapping COs to PSOs and POs

1. CO1: Students will be able to represent and interpret statistical data using tables and graphs.
   PSO1: Students will demonstrate proficiency in data collection, analysis, and interpretation.
   PO1: Graduates will develop strong analytical and quantitative skills.
2. CO2: Students will be able to compute and interpret measures of central tendency.
   PSO2: Students will be able to apply statistical tools for economic analysis.
   PO2: Graduates will demonstrate a deep understanding of economic theories.
3. CO3: Students will be able to compute and interpret measures of dispersion.
   PSO3: Students will be able to evaluate the impact of economic policies using empirical data.
   PO3: Graduates will be able to critically evaluate economic policies.
4. CO4: Students will be able to understand the basic concepts of correlation and regression.
   PSO4: Students will develop critical thinking and problem-solving skills in economics.
   PO4: Graduates will be able to solve real-world economic problems.
5. CO5: Students will be able to write clear and concise economic reports.
   PSO5: Students will be able to present economic arguments and findings effectively.
   PO5: Graduates will be able to communicate economic ideas effectively.

8.1.2 Explanation of the Interconnection

- **COs Contribute to PSOs:**

The Course Outcomes (COs) of the EDARW course are designed to help students achieve the Program Specific Outcomes (PSOs). For example:

-
  - CO1 (data representation) contributes to PSO1 (proficiency in data analysis).
  - CO2 and CO3 (measures of central tendency and dispersion) contribute to PSO2 (applying statistical tools).
  - CO5 (report writing) contributes to PSO5 (presenting economic arguments effectively).

- **PSOs Contribute to POs:**

The Program Specific Outcomes (PSOs) are aligned with the broader Program Outcomes (POs). For example:

- – PSO1 (data analysis skills) contributes to PO1 (developing strong analytical and quantitative skills).
  – PSO2 (applying statistical tools) contributes to PO2 (demonstrating a deep understanding of economic theories).
  – PSO5 (communication skills) contributes to PO5 (communicating economic ideas effectively).

- **COs Ultimately Contribute to POs:**

Since COs contribute to PSOs, and PSOs contribute to POs, the Course Outcomes (COs) ultimately contribute to the Program Outcomes (POs). For example:

- – CO4 (correlation and regression) contributes to PSO4 (developing critical thinking and problem-solving skills), which in turn contributes to PO4 (solving real-world economic problems).
  – CO5 (report writing) contributes to PSO5 (presenting economic arguments effectively), which in turn contributes to PO5 (communicating economic ideas effectively).

The interconnection among PO, PSO, and CO ensures that the learning outcomes at each level are aligned and contribute to the overall goals of the program. The Course Outcomes (COs) of the Introductory Economic Data Analysis and Report Writing (EDARW) course directly support the Program Specific Outcomes (PSOs), which in turn contribute to the broader Program Outcomes (POs). This alignment ensures that students acquire the necessary knowledge, skills, and competencies to succeed in their academic and professional careers. The course prepares students for advanced studies in economics and provides them with essential tools for data-driven decision-making and effective communication of economic analysis.

9 Course Outcome: Entrepreneurship and Development (ED)

The Course Outcomes (COs) for the Introductory Entrepreneurship and Development (ED) course are specific, measurable statements that describe what students are expected to know, understand, and be able to do by the end of the course. These outcomes are aligned with the given syllabus and focus on building foundational knowledge and skills in entrepreneurship, its role in economic development, and the challenges faced by entrepreneurs. Below is an elaboration of the Course Outcomes (COs) for the given syllabus:

1. Understanding the Basics of Entrepreneurship

- Outcome: Students will be able to explain the basic features and importance of entrepreneurship.
- Elaboration:
  - – Students will define entrepreneurship and understand its role in economic development.
  - – They will analyze the linkages between entrepreneurship and economic growth.
  - – Students will explain the growth of entrepreneurship in India and its contribution to the economy.

2. Role of Entrepreneurship in Economic Development

- Outcome: Students will be able to analyze the role of entrepreneurship in economic development.
- Elaboration:
  - – Students will evaluate the Planning Commission's guidelines for formulating a project report by an entrepreneur.
  - – They will understand the challenges of rural entrepreneurship in India and propose solutions.

  - Students will analyze case studies of successful entrepreneurs and their impact on economic development.

3. Knowledge of Financial Resources for Entrepreneurs

- Outcome: Students will be able to identify and evaluate financial resources for new ventures.
- Elaboration:
  - Students will explain the sources of finance and the concept of capital structure for startups.
  - They will analyze the role of institutional support systems, such as the National Small Industries Board, State Small Industries Development Corporation, District Industries Center, and Industrial Estates.
  - Students will evaluate the Indian experience of institutional support for entrepreneurship.

4. Understanding Growth Strategies in Small Business

- Outcome: Students will be able to analyze growth strategies for small businesses.
- Elaboration:
  - Students will explain the stages of growth in small businesses.
  - They will evaluate different growth strategies, such as expansion, diversification, joint ventures, mergers, and subcontracting.
  - Students will analyze the advantages and challenges of each growth strategy.

5. Understanding Industrial Sickness in Small Business

- Outcome: Students will be able to identify and analyze the causes and consequences of industrial sickness.
- Elaboration:
  - Students will define industrial sickness and identify its symptoms in small businesses.
  - They will analyze the causes of industrial sickness, such as poor management, lack of finance, and market competition.
  - Students will evaluate the consequences of industrial sickness for the economy and propose preventive measures.

6. Development of Entrepreneurial Skills

- Outcome: Students will develop entrepreneurial skills and mindset.
- Elaboration:
  - Students will learn to identify business opportunities and formulate project reports.
  - They will develop problem-solving skills to address challenges faced by entrepreneurs.
  - Students will demonstrate creativity and innovation in proposing business ideas.

7. Application of Entrepreneurship Concepts

- Outcome: Students will be able to apply entrepreneurship concepts to real-world scenarios.
- Elaboration:
  - Students will analyze case studies of successful and failed entrepreneurial ventures.
  - They will apply their knowledge of financial resources, growth strategies, and industrial sickness to propose solutions for entrepreneurial challenges.
  - Students will evaluate the impact of entrepreneurship on economic development in different contexts.

8. Communication of Entrepreneurial Ideas

- Outcome: Students will be able to communicate entrepreneurial ideas effectively.
- Elaboration:
  - Students will present business ideas and project reports using appropriate formats.
  - They will write clear and concise reports explaining entrepreneurial concepts and strategies.
  - Students will demonstrate professionalism in their communication of entrepreneurial ideas.

9.1 Interconnection Among PO, PSO, and CO

The interconnection among Program Outcomes (POs), Program Specific Outcomes (PSOs), and Course Outcomes (COs) for the Introductory Entrepreneurship and Development (ED) course can be established as follows:

9.1.1 Mapping COs to PSOs and POs

1. CO1: Students will be able to explain the basic features and importance of entrepreneurship.
   PSO1: Students will understand the role of entrepreneurship in economic development.
   PO1: Graduates will demonstrate a deep understanding of economic theories.
2. CO2: Students will be able to analyze the role of entrepreneurship in economic development.
   PSO2: Students will be able to evaluate the impact of entrepreneurship on economic growth.
   PO2: Graduates will develop strong analytical and quantitative skills.
3. CO3: Students will be able to identify and evaluate financial resources for new ventures.
   PSO3: Students will be able to apply economic concepts to analyze entrepreneurial challenges.
   PO3: Graduates will be able to critically evaluate economic policies.
4. CO4: Students will be able to analyze growth strategies for small businesses.
   PSO4: Students will develop critical thinking and problem-solving skills in economics.
   PO4: Graduates will be able to solve real-world economic problems.
5. CO5: Students will be able to identify and analyze the causes of industrial sickness.
   PSO5: Students will be able to present economic arguments and findings effectively.
   PO5: Graduates will be able to communicate economic ideas effectively.

9.1.2 Explanation of the Interconnection

- **COs Contribute to PSOs:**

The Course Outcomes (COs) of the ED course are designed to help students achieve the Program Specific Outcomes (PSOs). For example:

-
  - CO1 (basics of entrepreneurship) contributes to PSO1 (understanding the role of entrepreneurship in economic development).
  - CO3 (financial resources) contributes to PSO3 (applying economic concepts to entrepreneurial challenges).
  - CO5 (industrial sickness) contributes to PSO4 (developing critical thinking and problem-solving skills).

- **PSOs Contribute to POs:**

The Program Specific Outcomes (PSOs) are aligned with the broader Program Outcomes (POs). For example:

- – PSO1 (role of entrepreneurship) contributes to PO1 (demonstrating a deep understanding of economic theories).
  – PSO2 (impact of entrepreneurship) contributes to PO2 (developing strong analytical skills).
  – PSO5 (communication skills) contributes to PO5 (communicating economic ideas effectively).

- **COs Ultimately Contribute to POs:**

Since COs contribute to PSOs, and PSOs contribute to POs, the Course Outcomes (COs) ultimately contribute to the Program Outcomes (POs). For example:

- – CO4 (growth strategies) contributes to PSO4 (developing critical thinking and problem-solving skills), which in turn contributes to PO4 (solving real-world economic problems).
  – CO5 (industrial sickness) contributes to PSO5 (presenting economic arguments effectively), which in turn contributes to PO5 (communicating economic ideas effectively).

The interconnection among PO, PSO, and CO ensures that the learning outcomes at each level are aligned and contribute to the overall goals of the program. The Course Outcomes (COs) of the Introductory Entrepreneurship and Development (ED) course directly support the Program Specific Outcomes (PSOs), which in turn contribute to the broader Program Outcomes (POs). This alignment ensures that students acquire the necessary knowledge, skills, and competencies to succeed in their academic and professional careers. The course prepares students to understand the role of entrepreneurship in economic development, analyze entrepreneurial challenges, and communicate their ideas effectively.

10 Course Outcome: Elementary Economics

The Course Outcomes (COs) for the Introductory Elementary Economics course are specific, measurable statements that describe what students are expected to know, understand, and be able to do by the end of the course. These outcomes are aligned with the given syllabus and focus on building foundational knowledge in microeconomics, macroeconomics, economic development, and Indian economics. Below is an elaboration of the Course Outcomes (COs) for the given syllabus:

1. Understanding Elementary Microeconomic Concepts

- Outcome: Students will be able to explain and analyze basic microeconomic concepts.
- Elaboration:
  – Students will understand the theory of demand and supply, including determinants, laws, and curves.
  – They will explain the concepts of price elasticity and income elasticity of demand and supply and their implications.
  – Students will analyze the theory of production and cost, including production functions (TP, AP, MP) and cost curves (short-run and long-run).
  – They will understand market structures, pricing, and output decisions under perfect competition and monopoly (using diagrams).

2. Understanding Elementary Macroeconomic Concepts

- Outcome: Students will be able to explain and analyze basic macroeconomic concepts.
- Elaboration:
  – Students will understand national income accounting, including circular flow, GNP, GDP, NNP, NDP, and national income.
  – They will explain the functions of money, measures of money supply, and the roles of central and commercial banks.
  – Students will analyze inflation, its types, and anti-inflationary policies.
  – They will understand fiscal policy, monetary policy, and their objectives and instruments.

  - Students will explain international trade concepts, including balance of payments (BOP), IMF, World Bank, WTO, and exchange rates (PPP).

3. Understanding Elementary Economic Development Concepts

- Outcome: Students will be able to explain and analyze basic concepts of economic development.
- Elaboration:
  - Students will differentiate between economic growth and development.
  - They will analyze development indicators such as HDI, GDI, MPI, and GINI indices, and understand India's rank in these indices.
  - Students will explain the concept of sustainable development and its goals.

4. Understanding Elementary Concepts of Indian Economics

- Outcome: Students will be able to explain and analyze basic concepts of Indian economics.
- Elaboration:
  - Students will understand the background and steps of economic reforms in India, including trade, industry, and financial sector reforms.
  - They will analyze the structure and objectives of NITI Aayog and its role in India's economic planning.

5. Application of Economic Concepts

- Outcome: Students will be able to apply economic concepts to real-world scenarios.
- Elaboration:
  - Students will analyze real-world economic issues using microeconomic and macroeconomic theories.
  - They will evaluate the impact of economic policies, such as fiscal and monetary policies, on the economy.
  - Students will apply development indicators to assess the economic progress of countries, including India.

6. Critical Thinking and Problem-Solving

- Outcome: Students will develop critical thinking and problem-solving skills in the context of economic issues.
- Elaboration:
  - Students will analyze economic problems, such as inflation, unemployment, and inequality, using theoretical frameworks.
  - They will evaluate the effectiveness of economic policies and propose solutions to economic challenges.
  - Students will critically assess the role of international institutions like the IMF, World Bank, and WTO in global economic governance.

7. Communication of Economic Ideas

- Outcome: Students will be able to communicate economic ideas effectively.
- Elaboration:
  - Students will present economic concepts and analysis using appropriate terminology and diagrams.
  - They will write clear and concise explanations of economic theories and their applications.
  - Students will demonstrate professionalism in their communication of economic ideas.

10.1 Interconnection Among PO, PSO, and CO

The interconnection among Program Outcomes (POs), Program Specific Outcomes (PSOs), and Course Outcomes (COs) for the Introductory Elementary Economics course can be established as follows:

10.1.1 Mapping COs to PSOs and POs

1. CO1: Students will be able to explain and analyze basic microeconomic concepts.
   PSO1: Students will demonstrate a foundational understanding of economic theories.
   PO1: Graduates will demonstrate a deep understanding of economic theories.
2. CO2: Students will be able to explain and analyze basic macroeconomic concepts.
   PSO2: Students will be able to apply economic concepts to analyze real-world issues.
   PO2: Graduates will develop strong analytical and quantitative skills.
3. CO3: Students will be able to explain and analyze basic concepts of economic development.
   PSO3: Students will be able to evaluate the impact of economic policies on society.
   PO3: Graduates will be able to critically evaluate economic policies.
4. CO4: Students will be able to explain and analyze basic concepts of Indian economics.
   PSO4: Students will develop critical thinking and problem-solving skills in economics.
   PO4: Graduates will be able to solve real-world economic problems.
5. CO5: Students will be able to apply economic concepts to real-world scenarios.
   PSO5: Students will be able to present economic arguments and findings effectively.
   PO5: Graduates will be able to communicate economic ideas effectively.

10.1.2 Explanation of the Interconnection

- **COs Contribute to PSOs:**

The Course Outcomes (COs) of the Elementary Economics course are designed to help students achieve the Program Specific Outcomes (PSOs). For example:

- – CO1 (microeconomic concepts) contributes to PSO1 (foundational understanding of economic theories).
  – CO2 (macroeconomic concepts) contributes to PSO2 (applying economic concepts to real-world issues).
  – CO5 (application of economic concepts) contributes to PSO5 (presenting economic arguments effectively).

- **PSOs Contribute to POs:**

The Program Specific Outcomes (PSOs) are aligned with the broader Program Outcomes (POs). For example:

- – PSO1 (understanding economic theories) contributes to PO1 (demonstrating a deep understanding of economic theories).
  – PSO2 (applying economic concepts) contributes to PO2 (developing strong analytical skills).
  – PSO5 (communication skills) contributes to PO5 (communicating economic ideas effectively).

- **COs Ultimately Contribute to POs:**

Since COs contribute to PSOs, and PSOs contribute to POs, the Course Outcomes (COs) ultimately contribute to the Program Outcomes (POs). For example:

- – CO3 (economic development concepts) contributes to PSO3 (evaluating the impact of economic policies), which in turn contributes to PO3 (critically evaluating economic policies).

- CO4 (Indian economics concepts) contributes to PSO4 (developing critical thinking and problem-solving skills), which in turn contributes to PO4 (solving real-world economic problems).

The interconnection among PO, PSO, and CO ensures that the learning outcomes at each level are aligned and contribute to the overall goals of the program. The Course Outcomes (COs) of the Introductory Elementary Economics course directly support the Program Specific Outcomes (PSOs), which in turn contribute to the broader Program Outcomes (POs). This alignment ensures that students acquire the necessary knowledge, skills, and competencies to succeed in their academic and professional careers. The course prepares students to understand and apply basic economic concepts, analyze real-world economic issues, and communicate their ideas effectively.

11 Course Outcome: Macroeconomics (I)

The Course Outcomes (COs) for the Introductory Macroeconomics (I) course are specific, measurable statements that describe what students are expected to know, understand, and be able to do by the end of the course. These outcomes are aligned with the given syllabus and focus on building foundational knowledge in macroeconomic theory, national income accounting, income determination, investment theory, classical economics, and inflation. Below is an elaboration of the Course Outcomes (COs) for the given syllabus:

1. Understanding National Income Accounting

- Outcome: Students will be able to explain and analyze the concepts and methods of national income accounting.
- Elaboration:
  - Students will understand the circular flow of income in a three-sector economy.
  - They will explain the concepts of GNP, GDP, NNP, and NDP at market price and factor cost, and differentiate between real and nominal GDP.
  - Students will calculate national income and understand the problem of double counting.
  - They will analyze the role of government, corporate income, personal income, and savings in national income accounting.
  - Students will evaluate the relationship between saving-investment gaps, budget deficits, and trade surpluses.

2. Income Determination in the Short Run

- Outcome: Students will be able to analyze income determination using the Simple Keynesian Model (SKM).
- Elaboration:
  - Students will explain the consumption function, saving function, and the concept of effective demand.
  - They will determine equilibrium income in a closed economy using the SKM and calculate the Keynesian multiplier.
  - Students will analyze the paradox of thrift and the impact of government expenditure and taxes on equilibrium income.
  - They will understand the concept of the balanced budget multiplier.

3. Understanding the Basic Theory of Investment

- Outcome: Students will be able to explain the determinants of investment and the concepts of marginal productivity and efficiency of capital.
- Elaboration:

- Students will analyze the investment function and its determinants.
- They will explain the concepts of marginal productivity of capital (MPC), marginal efficiency of capital (MEC), and marginal efficiency of investment (MEI).
- Students will evaluate the role of investment in income determination and economic growth.

4. Understanding the Classical System

- Outcome: Students will be able to explain the basic ideas of classical macroeconomics and its implications for income and employment determination.
- Elaboration:
  - Students will understand Say's Law, the quantity theory of money, and the loanable funds theory.
  - They will analyze the classical theory of income and employment determination and the concept of full employment.
  - Students will explain wage-price flexibility, the neutrality of money, and the classical dichotomy.

5. Understanding Inflation

- Outcome: Students will be able to explain the concepts, types, and policies related to inflation.
- Elaboration:
  - Students will define inflation and differentiate between demand-pull and cost-push inflation.
  - They will analyze the inflationary gap and its implications for the economy.
  - Students will evaluate anti-inflationary policies and their effectiveness.

6. Application of Macroeconomic Concepts

- Outcome: Students will be able to apply macroeconomic concepts to real-world scenarios.
- Elaboration:
  - Students will analyze real-world economic issues, such as income determination, inflation, and investment, using macroeconomic theories.
  - They will evaluate the impact of government policies, such as fiscal and monetary policies, on the economy.
  - Students will apply national income accounting methods to assess the economic performance of countries.

7. Critical Thinking and Problem-Solving

- Outcome: Students will develop critical thinking and problem-solving skills in the context of macroeconomic issues.
- Elaboration:
  - Students will analyze macroeconomic problems, such as unemployment, inflation, and income inequality, using theoretical frameworks.
  - They will evaluate the effectiveness of macroeconomic policies and propose solutions to economic challenges.
  - Students will critically assess the assumptions and implications of classical and Keynesian theories.

8. Communication of Macroeconomic Ideas

- Outcome: Students will be able to communicate macroeconomic ideas effectively.

- Elaboration:
  - Students will present macroeconomic concepts and analysis using appropriate terminology and diagrams.
  - They will write clear and concise explanations of macroeconomic theories and their applications.
  - Students will demonstrate professionalism in their communication of macroeconomic ideas.

11.1 Interconnection Among PO, PSO, and CO

The interconnection among Program Outcomes (POs), Program Specific Outcomes (PSOs), and Course Outcomes (COs) for the Introductory Macroeconomics (I) course can be established as follows:

11.1.1 Mapping COs to PSOs and POs

1. CO1: Students will be able to explain and analyze the concepts and methods of national income accounting.

   PSO1: Students will demonstrate a foundational understanding of macroeconomic theories.

   PO1: Graduates will demonstrate a deep understanding of economic theories.

2. CO2: Students will be able to analyze income determination using the Simple Keynesian Model (SKM).

   PSO2: Students will be able to apply macroeconomic concepts to analyze real-world issues.

   PO2: Graduates will develop strong analytical and quantitative skills.

3. CO3: Students will be able to explain the determinants of investment and the concepts of MEC and MEI.

   PSO3: Students will be able to evaluate the impact of economic policies on the economy.

   PO3: Graduates will be able to critically evaluate economic policies.

4. CO4: Students will be able to explain the basic ideas of classical macroeconomics.

   PSO4: Students will develop critical thinking and problem-solving skills in economics.

   PO4: Graduates will be able to solve real-world economic problems.

5. CO5: Students will be able to explain the concepts, types, and policies related to inflation.

   PSO5: Students will be able to present economic arguments and findings effectively.

   PO5: Graduates will be able to communicate economic ideas effectively.

11.1.2 Explanation of the Interconnection

- **COs Contribute to PSOs:**

The Course Outcomes (COs) of the Macroeconomics (I) course are designed to help students achieve the Program Specific Outcomes (PSOs). For example:

-
  - CO1 (national income accounting) contributes to PSO1 (foundational understanding of macroeconomic theories).
  - CO2 (income determination) contributes to PSO2 (applying macroeconomic concepts to real-world issues).
  - CO5 (inflation) contributes to PSO5 (presenting economic arguments effectively).

- **PSOs Contribute to POs:**

The Program Specific Outcomes (PSOs) are aligned with the broader Program Outcomes (POs). For example:

-
  - PSO1 (understanding macroeconomic theories) contributes to PO1 (demonstrating a deep understanding of economic theories).

  - PSO2 (applying macroeconomic concepts) contributes to PO2 (developing strong analytical skills).
  - PSO5 (communication skills) contributes to PO5 (communicating economic ideas effectively).

- **COs Ultimately Contribute to POs:**

Since COs contribute to PSOs, and PSOs contribute to POs, the Course Outcomes (COs) ultimately contribute to the Program Outcomes (POs). For example:

-
  - CO3 (investment theory) contributes to PSO3 (evaluating the impact of economic policies), which in turn contributes to PO3 (critically evaluating economic policies).
  - CO4 (classical macroeconomics) contributes to PSO4 (developing critical thinking and problem-solving skills), which in turn contributes to PO4 (solving real-world economic problems).

The interconnection among PO, PSO, and CO ensures that the learning outcomes at each level are aligned and contribute to the overall goals of the program. The Course Outcomes (COs) of the Introductory Macroeconomics (I) course directly support the Program Specific Outcomes (PSOs), which in turn contribute to the broader Program Outcomes (POs). This alignment ensures that students acquire the necessary knowledge, skills, and competencies to succeed in their academic and professional careers. The course prepares students to understand and apply macroeconomic concepts, analyze real-world economic issues, and communicate their ideas effectively.

12 Course Outcome: Introductory Statistics and Applications (II)

The Course Outcomes (COs) for the Introductory Statistics and Applications (II) course are specific, measurable statements that describe what students are expected to know, understand, and be able to do by the end of the course. These outcomes are aligned with the given syllabus and focus on building foundational knowledge and skills in economic data analysis, data management, and the use of Microsoft Excel for statistical applications. Below is an elaboration of the Course Outcomes (COs) for the given syllabus:

1. Understanding Economic Data Types and Field Surveys

- Outcome: Students will be able to explain the types of economic data and the importance of field surveys.
- Elaboration:
  - Students will differentiate between cross-section, time-series, pooled, and panel data.
  - They will understand the nature, advantages, and disadvantages of field survey data.
  - Students will explain the role of pilot surveys in economic data collection and analysis.

2. Proficiency in Microsoft Excel for Data Management

- Outcome: Students will be able to use Microsoft Excel for data entry, formatting, validation, and analysis.
- Elaboration:
  - Students will input data accurately into Excel and apply formatting options (e.g., number formatting, date formatting).
  - They will use data validation and conditional formatting to ensure data accuracy and highlight trends.
  - Students will sort and filter data to organize and analyze information effectively.
  - They will import and export data from external sources (e.g., CSV files) and export data to different formats (e.g., PDF).

3. Application of Basic Formulas and Functions in Excel

- Outcome: Students will be able to use basic formulas and functions in Excel for data analysis.
- Elaboration:
  - Students will create formulas using mathematical operators (+, -, *, /).
  - They will use built-in functions such as SUM, AVERAGE, MAX, MIN, IF, COUNTIF, VLOOKUP, and HLOOKUP.
  - Students will apply these functions to perform calculations and analyze data.

4. Frequency Analysis and Data Visualization

- Outcome: Students will be able to perform frequency analysis and create visual representations of data.
- Elaboration:
  - Students will convert raw data into grouped data and construct frequency tables.
  - They will create different types of tabulation (e.g., two-way, three-way, pivot tables).
  - Students will generate frequency graphs such as bar charts, column charts, frequency polygons, histograms, and pie diagrams.
  - They will customize graphs to improve readability and interpret data visually.

5. Calculation of Descriptive Statistics

- Outcome: Students will be able to calculate and interpret descriptive statistics using Excel.
- Elaboration:
  - Students will compute measures of central tendency (mean, median, mode) for both ungrouped and grouped data.
  - They will calculate measures of dispersion (e.g., range, standard deviation) and inequality (e.g., Gini coefficient, Lorenz curve).
  - Students will interpret descriptive statistics using graphical tools such as box plots and histograms.

6. Bivariate Analysis Using Excel

- Outcome: Students will be able to perform bivariate analysis using Excel.
- Elaboration:
  - Students will create scatter diagrams and calculate correlation coefficients to analyze relationships between variables.
  - They will perform simple linear regression for two variables and estimate predicted values and regression residuals.
  - Students will interpret the results of bivariate analysis for economic decision-making.

7. Random Number Generation and Data Simulation

- Outcome: Students will be able to generate random numbers and simulate data using Excel.
- Elaboration:
  - Students will use Excel to generate random numbers for simulations and statistical experiments.
  - They will apply random number generation techniques to analyze economic scenarios.

8. Communication of Statistical Analysis

- Outcome: Students will be able to communicate statistical analysis effectively.
- Elaboration:
  - Students will present data analysis results using tables, charts, and graphs.
  - They will write clear and concise reports explaining the methodology, findings, and implications of their analysis.
  - Students will demonstrate professionalism in their communication of statistical ideas.

12.1 Interconnection Among PO, PSO, and CO

The interconnection among Program Outcomes (POs), Program Specific Outcomes (PSOs), and Course Outcomes (COs) for the Introductory Statistics and Applications (II) course can be established as follows:

12.1.1 Mapping COs to PSOs and POs

1. CO1: Students will be able to explain the types of economic data and the importance of field surveys.

   PSO1: Students will demonstrate proficiency in data collection, analysis, and interpretation.

   PO1: Graduates will develop strong analytical and quantitative skills.

2. CO2: Students will be able to use Microsoft Excel for data entry, formatting, validation, and analysis.

   PSO2: Students will be able to apply statistical tools for economic analysis.

   PO2: Graduates will demonstrate a deep understanding of economic theories.

3. CO3: Students will be able to use basic formulas and functions in Excel for data analysis.

   PSO3: Students will be able to evaluate the impact of economic policies using empirical data.

   PO3: Graduates will be able to critically evaluate economic policies.

4. CO4: Students will be able to perform frequency analysis and create visual representations of data.

   PSO4: Students will develop critical thinking and problem-solving skills in economics.

   PO4: Graduates will be able to solve real-world economic problems.

5. CO5: Students will be able to calculate and interpret descriptive statistics using Excel.

   PSO5: Students will be able to present economic arguments and findings effectively.

   PO5: Graduates will be able to communicate economic ideas effectively.

12.1.2 Explanation of the Interconnection

- **COs Contribute to PSOs:**

The Course Outcomes (COs) of the Introductory Statistics and Applications (II) course are designed to help students achieve the Program Specific Outcomes (PSOs). For example:

-
  - CO1 (economic data types) contributes to PSO1 (proficiency in data collection and analysis).
  - CO3 (Excel formulas and functions) contributes to PSO2 (applying statistical tools for economic analysis).
  - CO5 (descriptive statistics) contributes to PSO5 (presenting economic arguments effectively).

- **PSOs Contribute to POs:**

The Program Specific Outcomes (PSOs) are aligned with the broader Program Outcomes (POs). For example:

-
  - PSO1 (data analysis skills) contributes to PO1 (developing strong analytical and quantitative skills).

  - PSO2 (applying statistical tools) contributes to PO2 (demonstrating a deep understanding of economic theories).
  - PSO5 (communication skills) contributes to PO5 (communicating economic ideas effectively).

- **COs Ultimately Contribute to POs:**

Since COs contribute to PSOs, and PSOs contribute to POs, the Course Outcomes (COs) ultimately contribute to the Program Outcomes (POs). For example:

-
  - CO4 (frequency analysis and visualization) contributes to PSO4 (developing critical thinking and problem-solving skills), which in turn contributes to PO4 (solving real-world economic problems).
  - CO5 (descriptive statistics) contributes to PSO5 (presenting economic arguments effectively), which in turn contributes to PO5 (communicating economic ideas effectively).

The interconnection among PO, PSO, and CO ensures that the learning outcomes at each level are aligned and contribute to the overall goals of the program. The Course Outcomes (COs) of the Introductory Statistics and Applications (II) course directly support the Program Specific Outcomes (PSOs), which in turn contribute to the broader Program Outcomes (POs). This alignment ensures that students acquire the necessary knowledge, skills, and competencies to succeed in their academic and professional careers. The course prepares students to understand and apply statistical tools, analyze economic data, and communicate their findings effectively.

13 Course Outcome: Microeconomics (II)

The Course Outcomes (COs) for the Introductory Microeconomics (II) course are specific, measurable statements that describe what students are expected to know, understand, and be able to do by the end of the course. These outcomes are aligned with the given syllabus and focus on building advanced knowledge and skills in consumer behavior, production and cost analysis, market structures, and input markets. Below is an elaboration of the Course Outcomes (COs) for the given syllabus:

1. Understanding Consumer Behavior and Applications

- Outcome: Students will be able to analyze consumer behavior and its applications using advanced microeconomic tools.
- Elaboration:
  - Students will derive demand curves from indifference curves and analyze the composite good convention.
  - They will explain the concepts of price consumption curve, income consumption curve, and Engel curve.
  - Students will decompose the price effect into income and substitution effects using Hicks and Slutsky methods.
  - They will analyze inferior goods, Giffen goods, and the differences between Marshallian and compensated demand curves.
  - Students will apply consumer behavior theory to labor-leisure trade-offs and inter-temporal choice (saving and borrowing).
  - They will understand revealed preference theory, including the Weak Axiom of Revealed Preference (WARP) and the Strong Axiom of Revealed Preference (SARP).
  - Students will analyze choice under uncertainty, including utility functions, expected utility, risk aversion, and risk preference.

2. Understanding Production and Cost Analysis

- Outcome: Students will be able to analyze production functions and cost structures in the short run and long run.
- Elaboration:

- Students will explain the concept of production functions, including total, average, and marginal products, and returns to factor and scale.
- They will analyze isoquants, the marginal rate of technical substitution (MRTS), and firm equilibrium using output maximization and cost minimization approaches.
- Students will understand the expansion path, ridge lines, and elasticity of substitution.
- They will analyze different types of production functions, such as Cobb-Douglas, fixed-coefficient, and CES functions.
- Students will explain cost structures, including implicit, explicit, accounting, sunk, economic, fixed, variable, total, average, and marginal costs.
- They will analyze short-run and long-run cost curves and economies of scale.

3. Understanding Perfect Market Structures

- Outcome: Students will be able to analyze firm behavior and market equilibrium in perfect competition.
- Elaboration:
  - Students will explain the profit maximization behavior of firms and the relationship between total revenue, average revenue, marginal revenue, and price elasticity of demand.
  - They will analyze short-run and long-run competitive equilibrium, including the firm's supply curve and industry supply curve.
  - Students will explain economic rent, profit, and long-run industry supply under constant, increasing, and decreasing costs.
  - They will analyze consumer and producer surplus, welfare, and efficiency in competitive equilibrium.
  - Students will evaluate the impact of government interventions, such as price ceilings, price floors, and taxes, on market equilibrium and deadweight loss.

4. Understanding Input Markets in Perfect Competition

- Outcome: Students will be able to analyze input markets and the marginal productivity theory of distribution.
- Elaboration:
  - Students will explain the concepts of derived demand, marginal product, value of marginal product, and marginal revenue product.
  - They will analyze the marginal productivity theory of distribution and its implications for factor pricing.
  - Students will explain labor market dynamics, including labor supply and competitive labor markets.
  - They will analyze land markets and rent, including the Ricardian theory and modern theory of rent.

5. Application of Microeconomic Concepts

- Outcome: Students will be able to apply microeconomic concepts to real-world scenarios.
- Elaboration:
  - Students will analyze real-world economic issues, such as consumer choice, production decisions, and market equilibrium, using microeconomic theories.
  - They will evaluate the impact of government policies, such as taxes and subsidies, on consumer behavior and market outcomes.
  - Students will apply production and cost analysis to assess firm behavior and industry dynamics.

6. Critical Thinking and Problem-Solving

- Outcome: Students will develop critical thinking and problem-solving skills in the context of microeconomic issues.
- Elaboration:
  - Students will analyze microeconomic problems, such as consumer choice under uncertainty, firm profit maximization, and market efficiency, using theoretical frameworks.
  - They will evaluate the effectiveness of microeconomic policies and propose solutions to economic challenges.
  - Students will critically assess the assumptions and implications of microeconomic theories.

7. Communication of Microeconomic Ideas

- Outcome: Students will be able to communicate microeconomic ideas effectively.
- Elaboration:
  - Students will present microeconomic concepts and analysis using appropriate terminology and diagrams.
  - They will write clear and concise explanations of microeconomic theories and their applications.
  - Students will demonstrate professionalism in their communication of microeconomic ideas.

13.1 Interconnection Among PO, PSO, and CO

The interconnection among Program Outcomes (POs), Program Specific Outcomes (PSOs), and Course Outcomes (COs) for the Introductory Microeconomics (II) course can be established as follows:

13.1.1 Mapping COs to PSOs and POs

1. CO1: Students will be able to analyze consumer behavior and its applications using advanced microeconomic tools.

   PSO1: Students will demonstrate a deep understanding of microeconomic theories.

   PO1: Graduates will demonstrate a deep understanding of economic theories.

2. CO2: Students will be able to analyze production functions and cost structures in the short run and long run.

   PSO2: Students will be able to apply microeconomic concepts to analyze real-world issues.

   PO2: Graduates will develop strong analytical and quantitative skills.

3. CO3: Students will be able to analyze firm behavior and market equilibrium in perfect competition.

   PSO3: Students will be able to evaluate the impact of economic policies on market outcomes.

   PO3: Graduates will be able to critically evaluate economic policies.

4. CO4: Students will be able to analyze input markets and the marginal productivity theory of distribution.

   PSO4: Students will develop critical thinking and problem-solving skills in economics.

   PO4: Graduates will be able to solve real-world economic problems.

5. CO5: Students will be able to apply microeconomic concepts to real-world scenarios.

   PSO5: Students will be able to present economic arguments and findings effectively.

   PO5: Graduates will be able to communicate economic ideas effectively.

13.1.2 Explanation of the Interconnection

- **COs Contribute to PSOs:**

The Course Outcomes (COs) of the Microeconomics (II) course are designed to help students achieve the Program Specific Outcomes (PSOs). For example:

- – CO1 (consumer behavior) contributes to PSO1 (deep understanding of microeconomic theories).
  – CO3 (perfect competition) contributes to PSO3 (evaluating the impact of economic policies).
  – CO5 (application of microeconomic concepts) contributes to PSO5 (presenting economic arguments effectively).

- **PSOs Contribute to POs:**

The Program Specific Outcomes (PSOs) are aligned with the broader Program Outcomes (POs). For example:

- – PSO1 (understanding microeconomic theories) contributes to PO1 (demonstrating a deep understanding of economic theories).
  – PSO2 (applying microeconomic concepts) contributes to PO2 (developing strong analytical skills).
  – PSO5 (communication skills) contributes to PO5 (communicating economic ideas effectively).

- **COs Ultimately Contribute to POs:**

Since COs contribute to PSOs, and PSOs contribute to POs, the Course Outcomes (COs) ultimately contribute to the Program Outcomes (POs). For example:

- – CO4 (input markets) contributes to PSO4 (developing critical thinking and problem-solving skills), which in turn contributes to PO4 (solving real-world economic problems).
  – CO5 (application of microeconomic concepts) contributes to PSO5 (presenting economic arguments effectively), which in turn contributes to PO5 (communicating economic ideas effectively).

The interconnection among PO, PSO, and CO ensures that the learning outcomes at each level are aligned and contribute to the overall goals of the program. The Course Outcomes (COs) of the Introductory Microeconomics (II) course directly support the Program Specific Outcomes (PSOs), which in turn contribute to the broader Program Outcomes (POs). This alignment ensures that students acquire the necessary knowledge, skills, and competencies to succeed in their academic and professional careers. The course prepares students to understand and apply advanced microeconomic concepts, analyze real-world economic issues, and communicate their ideas effectively.

14 Course Outcome: Development Economics (I)

The Course Outcomes (COs) for the Introductory Development Economics (I) course are specific, measurable statements that describe what students are expected to know, understand, and be able to do by the end of the course. These outcomes are aligned with the given syllabus and focus on building foundational knowledge in development economics, including theories of development, poverty and inequality, dual economies, and financial inclusion. Below is an elaboration of the Course Outcomes (COs) for the given syllabus:

1. Understanding Development Economics

- Outcome: Students will be able to explain the scope, goals, and indicators of development economics.
- Elaboration:
  – Students will define development economics and understand its historical perspective and theories.

- They will differentiate between economic growth and development and analyze the goals of development.
- Students will explain the Human Development Index (HDI) and other indicators of development.
- They will compare the income approach and capability approach to development.
- Students will analyze the challenges and opportunities faced by developing economies in international comparisons.

2. Analyzing Poverty and Inequality

- Outcome: Students will be able to analyze the causes, consequences, and measurement of poverty and inequality.
- Elaboration:
  - Students will explain the causes and consequences of poverty in developing economies.
  - They will measure poverty using concepts such as the poverty line, Human Poverty Index (HPI), and Multidimensional Poverty Index (MPI).
  - Students will analyze the vicious circle of poverty hypothesis and its implications for development.
  - They will evaluate income inequality and wealth distribution using tools such as the Lorenz curve and Gini coefficient.
  - Students will explain gender inequality and analyze the Gender Inequality Index (GII).

3. Understanding Dual Economies and Development Strategies

- Outcome: Students will be able to analyze dual economies and development strategies.
- Elaboration:
- Students will explain the concepts of surplus labor and disguised unemployment in dual economies.
  - They will analyze the Lewis model of economic development with unlimited supply of labor.
  - Students will compare balanced and unbalanced growth strategies and their implications for development.
  - They will evaluate the choice of techniques in development planning.

4. Understanding Financial Inclusion and Development

- Outcome: Students will be able to analyze the role of financial inclusion in economic development.
- Elaboration:
  - Students will explain the concept of financial inclusion and its impact on economic development.
  - They will analyze access to credit and financial services in rural areas and the role of microfinance in poverty alleviation.
  - Students will evaluate the role of banks and financial institutions in promoting development.
  - They will explain the objectives and functions of international financial institutions such as the IMF, World Bank, and WTO.

5. Application of Development Economics Concepts

- Outcome: Students will be able to apply development economics concepts to real-world scenarios.
- Elaboration:
  - Students will analyze real-world economic issues, such as poverty, inequality, and financial inclusion, using development economics theories.

  - They will evaluate the effectiveness of development strategies and policies in addressing economic challenges.
  - Students will apply development indicators to assess the economic progress of countries.

6. Critical Thinking and Problem-Solving

- Outcome: Students will develop critical thinking and problem-solving skills in the context of development economics.
- Elaboration:
  - Students will analyze development problems, such as poverty, inequality, and unemployment, using theoretical frameworks.
  - They will evaluate the effectiveness of development policies and propose solutions to economic challenges.
  - Students will critically assess the assumptions and implications of development theories.

7. Communication of Development Economics Ideas

- Outcome: Students will be able to communicate development economics ideas effectively.
- Elaboration:
  - Students will present development economics concepts and analysis using appropriate terminology and diagrams.
  - They will write clear and concise explanations of development economics theories and their applications.
  - Students will demonstrate professionalism in their communication of development economics ideas.

14.1 Interconnection Among PO, PSO, and CO

The interconnection among Program Outcomes (POs), Program Specific Outcomes (PSOs), and Course Outcomes (COs) for the Introductory Development Economics (I) course can be established as follows:

14.1.1 Mapping COs to PSOs and POs

1. CO1: Students will be able to explain the scope, goals, and indicators of development economics.
   PSO1: Students will demonstrate a foundational understanding of development economics.
   PO1: Graduates will demonstrate a deep understanding of economic theories.
2. CO2: Students will be able to analyze the causes, consequences, and measurement of poverty and inequality.
   PSO2: Students will be able to apply development economics concepts to analyze real-world issues.
   PO2: Graduates will develop strong analytical and quantitative skills.
3. CO3: Students will be able to analyze dual economies and development strategies.
   PSO3: Students will be able to evaluate the impact of development policies on economic growth.
   PO3: Graduates will be able to critically evaluate economic policies.
4. CO4: Students will be able to analyze the role of financial inclusion in economic development.
   PSO4: Students will develop critical thinking and problem-solving skills in economics.
   PO4: Graduates will be able to solve real-world economic problems.
5. CO5: Students will be able to apply development economics concepts to real-world scenarios.
   PSO5: Students will be able to present economic arguments and findings effectively.
   PO5: Graduates will be able to communicate economic ideas effectively.

14.1.2 Explanation of the Interconnection

- **COs Contribute to PSOs:**

The Course Outcomes (COs) of the Development Economics (I) course are designed to help students achieve the Program Specific Outcomes (PSOs). For example:

- – CO1 (scope and goals of development economics) contributes to PSO1 (foundational understanding of development economics).
  - CO2 (poverty and inequality) contributes to PSO2 (applying development economics concepts to real-world issues).
  - CO5 (application of development economics concepts) contributes to PSO5 (presenting economic arguments effectively).

- **PSOs Contribute to POs:**

The Program Specific Outcomes (PSOs) are aligned with the broader Program Outcomes (POs). For example:

- – PSO1 (understanding development economics) contributes to PO1 (demonstrating a deep understanding of economic theories).
  - PSO2 (applying development economics concepts) contributes to PO2 (developing strong analytical skills).
  - PSO5 (communication skills) contributes to PO5 (communicating economic ideas effectively).

- **COs Ultimately Contribute to POs:**

Since COs contribute to PSOs, and PSOs contribute to POs, the Course Outcomes (COs) ultimately contribute to the Program Outcomes (POs). For example:

- – CO3 (dual economies and development strategies) contributes to PSO3 (evaluating the impact of development policies), which in turn contributes to PO3 (critically evaluating economic policies).
  - CO4 (financial inclusion) contributes to PSO4 (developing critical thinking and problem-solving skills), which in turn contributes to PO4 (solving real-world economic problems).

The interconnection among PO, PSO, and CO ensures that the learning outcomes at each level are aligned and contribute to the overall goals of the program. The Course Outcomes (COs) of the Introductory Development Economics (I) course directly support the Program Specific Outcomes (PSOs), which in turn contribute to the broader Program Outcomes (POs). This alignment ensures that students acquire the necessary knowledge, skills, and competencies to succeed in their academic and professional careers. The course prepares students to understand and apply development economics concepts, analyze real-world economic issues, and communicate their ideas effectively.

15 Course Outcome: Data Analysis and Research Methodology

The Course Outcomes (COs) for the Introductory Data Analysis and Research Methodology course are specific, measurable statements that describe what students are expected to know, understand, and be able to do by the end of the course. These outcomes are aligned with the given syllabus and focus on building foundational knowledge and skills in data collection, analysis, report writing, and the use of tools like Microsoft Excel and Power BI. Below is an elaboration of the Course Outcomes (COs) for the given syllabus:

1. Understanding Data Collection Methodologies

- Outcome: Students will be able to design and implement data collection methodologies.
- Elaboration:
  - Students will differentiate between complete enumeration and sample surveys.

- They will understand and apply sampling techniques, such as simple random sampling, stratified random sampling, and sampling proportional to size.
- Students will use random number tables to draw random samples.
- They will prepare blank tables and design questionnaires for field surveys.

2. Recording and Validating Data

- Outcome: Students will be able to record, validate, and represent data effectively.
- Elaboration:
  - Students will record data manually and digitally after completing surveys.
  - They will represent data in tabular form and cross-check for accuracy.
  - Students will understand the role of units of measurement in data validation.

3. Writing Research Reports

- Outcome: Students will be able to write clear and concise research reports.
- Elaboration:
  - Students will identify research issues, conduct theme-based literature surveys, and define study objectives.
  - They will use tables, graphs, and measures of central tendency and dispersion to analyze and present data.
  - Students will insert footnotes or endnotes and prepare bibliographies following standard citation formats.

4. Using Power Query in MS Excel and Power BI

- Outcome: Students will be able to use Power Query in Excel and Power BI for data analysis and visualization.
- Elaboration:
  - Students will connect, transform, combine, and load data using Power Query in Excel.
  - They will use Power BI to load Excel data, visualize data, explore data, and make informed decisions.
  - Students will create dynamic dashboards for data presentation and interpretation.

5. Conducting Sample Surveys and Data Analysis

- Outcome: Students will be able to conduct sample surveys and analyze data using Excel.
- Elaboration:
  - Students will prepare questionnaires and collect primary data for small sample surveys.
  - They will use Excel Worksheet Program software to perform statistical analysis and create dynamic interactive dashboards.
  - Students will interpret and analyze survey results and present findings in a report.

6. Communication of Research Findings

- Outcome: Students will be able to communicate research findings effectively.
- Elaboration:
  - Students will present survey results and analysis using appropriate tables, graphs, and dashboards.
  - They will write clear and concise reports explaining the methodology, findings, and implications of their research.
  - Students will demonstrate professionalism in their communication of research ideas.

15.1 Interconnection Among PO, PSO, and CO

The interconnection among Program Outcomes (POs), Program Specific Outcomes (PSOs), and Course Outcomes (COs) for the Introductory Data Analysis and Research Methodology course can be established as follows:

15.1.1 Mapping COs to PSOs and POs

1. CO1: Students will be able to design and implement data collection methodologies.
   PSO1: Students will demonstrate proficiency in data collection, analysis, and interpretation.
   PO1: Graduates will develop strong analytical and quantitative skills.
2. CO2: Students will be able to record, validate, and represent data effectively.
   PSO2: Students will be able to apply statistical tools for economic analysis.
   PO2: Graduates will demonstrate a deep understanding of economic theories.
3. CO3: Students will be able to write clear and concise research reports.
   PSO3: Students will be able to evaluate the impact of economic policies using empirical data.
   PO3: Graduates will be able to critically evaluate economic policies.
4. CO4: Students will be able to use Power Query in Excel and Power BI for data analysis and visualization.
   PSO4: Students will develop critical thinking and problem-solving skills in economics.
   PO4: Graduates will be able to solve real-world economic problems.
5. CO5: Students will be able to conduct sample surveys and analyze data using Excel.
   PSO5: Students will be able to present economic arguments and findings effectively.
   PO5: Graduates will be able to communicate economic ideas effectively.

15.1.2 Explanation of the Interconnection

- **COs Contribute to PSOs:**

The Course Outcomes (COs) of the Data Analysis and Research Methodology course are designed to help students achieve the Program Specific Outcomes (PSOs). For example:

- – CO1 (data collection methodologies) contributes to PSO1 (proficiency in data collection and analysis).
  – CO3 (report writing) contributes to PSO3 (evaluating the impact of economic policies using empirical data).
  – CO5 (sample surveys and data analysis) contributes to PSO5 (presenting economic arguments effectively).

- **PSOs Contribute to POs:**

The Program Specific Outcomes (PSOs) are aligned with the broader Program Outcomes (POs). For example:

- – PSO1 (data analysis skills) contributes to PO1 (developing strong analytical and quantitative skills).
  – PSO2 (applying statistical tools) contributes to PO2 (demonstrating a deep understanding of economic theories).
  – PSO5 (communication skills) contributes to PO5 (communicating economic ideas effectively).

- **COs Ultimately Contribute to POs:**

Since COs contribute to PSOs, and PSOs contribute to POs, the Course Outcomes (COs) ultimately contribute to the Program Outcomes (POs). For example:

- – CO4 (Power Query and Power BI) contributes to PSO4 (developing critical thinking and problem-solving skills), which in turn contributes to PO4 (solving real-world economic problems).
  - CO5 (sample surveys and data analysis) contributes to PSO5 (presenting economic arguments effectively), which in turn contributes to PO5 (communicating economic ideas effectively).

The interconnection among PO, PSO, and CO ensures that the learning outcomes at each level are aligned and contribute to the overall goals of the program. The Course Outcomes (COs) of the Introductory Data Analysis and Research Methodology course directly support the Program Specific Outcomes (PSOs), which in turn contribute to the broader Program Outcomes (POs). This alignment ensures that students acquire the necessary knowledge, skills, and competencies to succeed in their academic and professional careers. The course prepares students to understand and apply data analysis and research methodologies, analyze real-world economic issues, and communicate their findings effectively.

16 Course Outcome: Mathematical Economics (I)

The Course Outcomes (COs) for the Introductory Mathematical Economics (I) course are specific, measurable statements that describe what students are expected to know, understand, and be able to do by the end of the course. These outcomes are aligned with the given syllabus and focus on building foundational knowledge and skills in mathematical tools and techniques used in economic analysis. Below is an elaboration of the Course Outcomes (COs) for the given syllabus:

1. Understanding Mathematical Preliminaries

- Outcome: Students will be able to apply mathematical concepts such as sets, matrices, and functions to economic analysis.
- Elaboration:
  - Students will understand set operations, Cartesian products, and convex sets.
  - They will perform matrix operations, including finding determinants, inverses, and eigenvalues, and solve systems of linear equations using Cramer's rule.
  - Students will analyze functions of one real variable, including their geometric properties, limits, continuity, and differentiability.
  - They will apply concepts such as convexity, concavity, quasi-convexity, and quasi-concavity to economic functions.
  - Students will graph linear, quadratic, polynomial, power, exponential, and logarithmic functions.

2. Analyzing Functions of Several Variables

- Outcome: Students will be able to analyze functions of several variables and their applications in economics.
- Elaboration:
  - Students will compute partial and total derivatives and understand the Hessian matrix.
  - They will analyze monotonic transformations, homogeneous and homothetic functions, and apply Euler's theorem.
  - Students will use the Implicit Function Theorem and Jacobian determinants to solve systems of non-linear equations.
  - They will analyze level curves, including their slope and curvature, and apply these concepts to utility functions, demand functions, and production functions.

3. Single Variable Optimization

- Outcome: Students will be able to solve single-variable optimization problems and apply them to economic models.

- Elaboration:
  - Students will understand the concepts of local and global maxima/minima and stationary points.
  - They will apply first-order and second-order conditions for optimization.
  - Students will analyze profit maximization for a competitive firm and the effects of different types of taxes (lump-sum, specific, ad valorem) under perfect competition.

4. Optimization of Functions of Several Variables

- Outcome: Students will be able to solve unconstrained and constrained optimization problems for functions of several variables.
- Elaboration:
  - Students will analyze unconstrained optimization using Hessian determinants and conditions for maxima/minima.
  - They will apply constrained optimization techniques, including the Lagrange method and bordered Hessian determinants, to economic problems.
  - Students will derive demand curves, income consumption curves, and indirect utility functions from utility maximization problems.
  - They will analyze expenditure minimization problems, including compensated demand functions and Shephard's lemma.
  - Students will apply Kuhn-Tucker conditions for optimization with inequality constraints.

5. Linear Programming and Economic Applications

- Outcome: Students will be able to formulate and solve linear programming problems and apply them to economic models.
- Elaboration:
  - Students will formulate linear programming problems (LPPs) and find graphical solutions.
  - They will understand basic feasible solutions, slack and surplus variables, and duality in linear programming.
  - Students will apply linear programming to economic problems such as the diet problem, production problem, and Leontief models.
  - They will interpret the economic implications of dual problems and Hawkins-Simon conditions.

6. Application of Mathematical Tools in Economics

- Outcome: Students will be able to apply mathematical tools to analyze economic models and problems.
- Elaboration:
  - Students will use mathematical techniques to analyze consumer behavior, firm behavior, and market equilibrium.
  - They will apply optimization techniques to solve economic problems such as profit maximization, cost minimization, and utility maximization.
  - Students will use linear programming to analyze resource allocation and production planning.

7. Critical Thinking and Problem-Solving

- Outcome: Students will develop critical thinking and problem-solving skills in the context of mathematical economics.
- Elaboration:

  - Students will analyze economic problems using mathematical models and techniques.
  - They will evaluate the effectiveness of mathematical tools in solving economic problems.
  - Students will propose solutions to economic challenges based on mathematical analysis.

8. Communication of Mathematical Economics Ideas

- Outcome: Students will be able to communicate mathematical economics ideas effectively.
- Elaboration:
  - Students will present mathematical models and analysis using appropriate terminology and diagrams.
  - They will write clear and concise explanations of mathematical economics theories and their applications.
  - Students will demonstrate professionalism in their communication of mathematical economics ideas.

16.1 Interconnection Among PO, PSO, and CO

The interconnection among Program Outcomes (POs), Program Specific Outcomes (PSOs), and Course Outcomes (COs) for the Introductory Mathematical Economics (I) course can be established as follows:

16.1.1 Mapping COs to PSOs and POs

1. CO1: Students will be able to apply mathematical concepts such as sets, matrices, and functions to economic analysis.

   PSO1: Students will demonstrate proficiency in mathematical tools for economic analysis.

   PO1: Graduates will develop strong analytical and quantitative skills.

2. CO2: Students will be able to analyze functions of several variables and their applications in economics.

   PSO2: Students will be able to apply mathematical techniques to analyze economic models.

   PO2: Graduates will demonstrate a deep understanding of economic theories.

3. CO3: Students will be able to solve single-variable optimization problems and apply them to economic models.

   PSO3: Students will be able to evaluate the impact of economic policies using mathematical tools.

   PO3: Graduates will be able to critically evaluate economic policies.

4. CO4: Students will be able to solve unconstrained and constrained optimization problems for functions of several variables.

   PSO4: Students will develop critical thinking and problem-solving skills in economics.

   PO4: Graduates will be able to solve real-world economic problems.

5. CO5: Students will be able to formulate and solve linear programming problems and apply them to economic models.

   PSO5: Students will be able to present economic arguments and findings effectively.

   PO5: Graduates will be able to communicate economic ideas effectively.

16.1.2 Explanation of the Interconnection

- **COs Contribute to PSOs:**

The Course Outcomes (COs) of the Mathematical Economics (I) course are designed to help students achieve the Program Specific Outcomes (PSOs). For example:

- – CO1 (mathematical concepts) contributes to PSO1 (proficiency in mathematical tools for economic analysis).
  – CO3 (single-variable optimization) contributes to PSO3 (evaluating the impact of economic policies using mathematical tools).
  – CO5 (linear programming) contributes to PSO5 (presenting economic arguments effectively).

- **PSOs Contribute to POs:**

The Program Specific Outcomes (PSOs) are aligned with the broader Program Outcomes (POs). For example:

- – PSO1 (mathematical tools) contributes to PO1 (developing strong analytical and quantitative skills).
  – PSO2 (mathematical techniques) contributes to PO2 (demonstrating a deep understanding of economic theories).
  – PSO5 (communication skills) contributes to PO5 (communicating economic ideas effectively).

- **COs Ultimately Contribute to POs:**

Since COs contribute to PSOs, and PSOs contribute to POs, the Course Outcomes (COs) ultimately contribute to the Program Outcomes (POs). For example:

- – CO4 (constrained optimization) contributes to PSO4 (developing critical thinking and problem-solving skills), which in turn contributes to PO4 (solving real-world economic problems).
  – CO5 (linear programming) contributes to PSO5 (presenting economic arguments effectively), which in turn contributes to PO5 (communicating economic ideas effectively).

The interconnection among PO, PSO, and CO ensures that the learning outcomes at each level are aligned and contribute to the overall goals of the program. The Course Outcomes (COs) of the Introductory Mathematical Economics (I) course directly support the Program Specific Outcomes (PSOs), which in turn contribute to the broader Program Outcomes (POs). This alignment ensures that students acquire the necessary knowledge, skills, and competencies to succeed in their academic and professional careers. The course prepares students to understand and apply mathematical tools, analyze economic models, and communicate their ideas effectively.

17 Course Outcome: Macroeconomics (II)

The Course Outcomes (COs) for the Introductory Macroeconomics (II) course are specific, measurable statements that describe what students are expected to know, understand, and be able to do by the end of the course. These outcomes are aligned with the given syllabus and focus on building advanced knowledge and skills in macroeconomic theory, including income determination, aggregate demand and supply, monetary policy, and inflation-unemployment trade-offs. Below is an elaboration of the Course Outcomes (COs) for the given syllabus:

1. Understanding the IS-LM Model

- Outcome: Students will be able to analyze income determination in the short run using the IS-LM model.
- Elaboration:
  – Students will explain the equilibrium, stability, and comparative statics of the IS-LM model.
  – They will analyze the effects of fiscal and monetary policies on the IS-LM model.

  - Students will understand the concept of crowding out and its implications for policy effectiveness.

2. Analyzing Aggregate Demand and Aggregate Supply

- Outcome: Students will be able to derive and analyze aggregate demand and aggregate supply curves.
- Elaboration:
  - Students will derive the aggregate demand curve and explain its components.
  - They will derive aggregate supply curves in the presence and absence of wage rigidity.
  - Students will analyze equilibrium, stability, and the effects of monetary and fiscal policies on aggregate demand and supply.
  - They will understand the concept of unemployment equilibrium and possible solutions, including the real balance effect.

3. Comparing Keynesian and Classical Models

- Outcome: Students will be able to compare and contrast Keynesian and classical macroeconomic models.
- Elaboration:
  - Students will explain the differences between Keynesian and classical systems.
  - They will analyze hybrid models that combine classical and Keynesian frameworks.
  - Students will understand Friedman's restatement of classical ideas and its implications for macroeconomic policy.

4. Understanding Money Supply and Monetary Policy

- Outcome: Students will be able to analyze money supply, monetary policy, and government budgetary operations.
- Elaboration:
  - Students will explain the measures of money supply (M1, M2, M3, M4) with reference to India.
  - They will analyze the balance sheet view of money supply by the banking sector and the concept of high-powered money.
  - Students will understand the balance sheets of the Reserve Bank of India and commercial banks.
  - They will explain the money multiplier theory, including deposit, currency, reserve, credit, and money multipliers.
  - Students will analyze the interest sensitivity of money supply and its impact on the slope of the LM curve.
  - They will evaluate monetary policy tools such as open market operations, statutory liquidity ratio, bank rate, variable reserve ratio, and repo rate.
  - Students will understand the implications of government budget deficits and deficit financing on monetary policy.

5. Analyzing Inflation-Unemployment Trade-offs and Expectations

- Outcome: Students will be able to analyze the trade-off between inflation and unemployment and the role of expectations.
- Elaboration:

- Students will explain the inflation-unemployment trade-off and derive the Phillips curve from the aggregate supply curve.
- They will analyze four models of aggregate supply: the sticky-wage model, worker-misperception model, imperfect information model, and sticky-price model.
- Students will differentiate between short-run and long-run Phillips curves and the role of adaptive and rational expectations.
- They will understand the concepts of disinflation, sacrifice ratio, and policy ineffectiveness.

6. Application of Macroeconomic Concepts

- Outcome: Students will be able to apply macroeconomic concepts to real-world scenarios.
- Elaboration:
  - Students will analyze real-world economic issues, such as income determination, inflation, and unemployment, using macroeconomic models.
  - They will evaluate the impact of monetary and fiscal policies on economic stability and growth.
  - Students will apply macroeconomic theories to analyze the effects of government budgetary operations and deficit financing.

7. Critical Thinking and Problem-Solving

- Outcome: Students will develop critical thinking and problem-solving skills in the context of macroeconomic issues.
- Elaboration:
  - Students will analyze macroeconomic problems, such as inflation, unemployment, and policy effectiveness, using theoretical frameworks.
  - They will evaluate the effectiveness of macroeconomic policies and propose solutions to economic challenges.
  - Students will critically assess the assumptions and implications of Keynesian and classical macroeconomic models.

8. Communication of Macroeconomic Ideas

- Outcome: Students will be able to communicate macroeconomic ideas effectively.
- Elaboration:
  - Students will present macroeconomic concepts and analysis using appropriate terminology and diagrams.
  - They will write clear and concise explanations of macroeconomic theories and their applications.
  - Students will demonstrate professionalism in their communication of macroeconomic ideas.

17.1 Interconnection Among PO, PSO, and CO

The interconnection among Program Outcomes (POs), Program Specific Outcomes (PSOs), and Course Outcomes (COs) for the Introductory Macroeconomics (II) course can be established as follows:

17.1.1 Mapping COs to PSOs and POs

1. CO1: Students will be able to analyze income determination in the short run using the IS-LM model.

   PSO1: Students will demonstrate a deep understanding of macroeconomic theories.

   PO1: Graduates will demonstrate a deep understanding of economic theories.

2. CO2: Students will be able to derive and analyze aggregate demand and aggregate supply curves.

   PSO2: Students will be able to apply macroeconomic concepts to analyze real-world issues.

   PO2: Graduates will develop strong analytical and quantitative skills.

3. CO3: Students will be able to compare and contrast Keynesian and classical macroeconomic models.

   PSO3: Students will be able to evaluate the impact of economic policies on the economy.

   PO3: Graduates will be able to critically evaluate economic policies.

4. CO4: Students will be able to analyze money supply, monetary policy, and government budgetary operations.

   PSO4: Students will develop critical thinking and problem-solving skills in economics.

   PO4: Graduates will be able to solve real-world economic problems.

5. CO5: Students will be able to analyze the trade-off between inflation and unemployment and the role of expectations.

   PSO5: Students will be able to present economic arguments and findings effectively.

   PO5: Graduates will be able to communicate economic ideas effectively.

17.1.2 Explanation of the Interconnection

- **1. COs Contribute to PSOs:**

The Course Outcomes (COs) of the Macroeconomics (II) course are designed to help students achieve the Program Specific Outcomes (PSOs). For example:

- – CO1 (IS-LM model) contributes to PSO1 (deep understanding of macroeconomic theories).
  – CO3 (Keynesian vs. classical models) contributes to PSO3 (evaluating the impact of economic policies).
  – CO5 (inflation-unemployment trade-off) contributes to PSO5 (presenting economic arguments effectively).

- **2. PSOs Contribute to POs:**

The Program Specific Outcomes (PSOs) are aligned with the broader Program Outcomes (POs). For example:

- – PSO1 (understanding macroeconomic theories) contributes to PO1 (demonstrating a deep understanding of economic theories).
  – PSO2 (applying macroeconomic concepts) contributes to PO2 (developing strong analytical skills).
  – PSO5 (communication skills) contributes to PO5 (communicating economic ideas effectively).

- **3. COs Ultimately Contribute to POs:**

Since COs contribute to PSOs, and PSOs contribute to POs, the Course Outcomes (COs) ultimately contribute to the Program Outcomes (POs). For example:

- – CO4 (money supply and monetary policy) contributes to PSO4 (developing critical thinking and problem-solving skills), which in turn contributes to PO4 (solving real-world economic problems).

- CO5 (inflation-unemployment trade-off) contributes to PSO5 (presenting economic arguments effectively), which in turn contributes to PO5 (communicating economic ideas effectively).

The interconnection among PO, PSO, and CO ensures that the learning outcomes at each level are aligned and contribute to the overall goals of the program. The Course Outcomes (COs) of the Introductory Macroeconomics (II) course directly support the Program Specific Outcomes (PSOs), which in turn contribute to the broader Program Outcomes (POs). This alignment ensures that students acquire the necessary knowledge, skills, and competencies to succeed in their academic and professional careers. The course prepares students to understand and apply advanced macroeconomic concepts, analyze real-world economic issues, and communicate their ideas effectively.

18 Course Outcome: Statistics for Economics

The Course Outcomes (COs) for the Introductory Statistics for Economics course are specific, measurable statements that describe what students are expected to know, understand, and be able to do by the end of the course. These outcomes are aligned with the given syllabus and focus on building foundational knowledge and skills in probability theory, probability distributions, sampling theory, and statistical inference. Below is an elaboration of the Course Outcomes (COs) for the given syllabus:

1. Understanding Elementary Probability Theory

- Outcome: Students will be able to explain and apply basic concepts of probability theory.
- Elaboration:
  - Students will define sample spaces and events using set theory.
  - They will explain classical and axiomatic definitions of probability and compare them.
  - Students will analyze conditional probability, independence of events, and apply the theorem of total probability, compound probability, and Bayes' theorem.

2. Understanding Probability Distributions

- Outcome: Students will be able to analyze and apply probability distributions for discrete and continuous random variables.
- Elaboration:
  - Students will define random variables, probability mass functions (pmf), probability density functions (pdf), and distribution functions.
  - They will calculate expected values, including mean, variance, raw moments, central moments, and moment generating functions (mgf).
  - Students will analyze properties of commonly used distributions, such as binomial, Poisson, and normal distributions.
  - They will understand joint distributions, marginal distributions, conditional distributions, and independence of random variables.

3. Understanding Sampling Theory and Distributions

- Outcome: Students will be able to explain and apply sampling theory and sampling distributions.
- Elaboration:
  - Students will differentiate between complete enumeration and sample surveys and understand sampling and non-sampling errors.
  - They will explain concepts such as population, sample, statistic, parameter, and sampling distribution.
  - Students will apply simple random sampling (SRS) with and without replacement and calculate the mean and standard error of sample means and proportions.
  - They will understand basic concepts of stratified and multi-stage sampling.

- Students will analyze properties of chi-square, Student's t, and F distributions.

4. Understanding Statistical Inference

- Outcome: Students will be able to perform statistical inference, including estimation and hypothesis testing.
- Elaboration:
  - Students will explain the basic ideas of estimation and testing, including point estimation and interval estimation.
  - They will evaluate criteria for good estimators, such as unbiasedness, minimum variance, consistency, and sufficiency.
  - Students will apply estimation methods, including ordinary least squares, maximum likelihood, and method of moments.
  - They will construct confidence intervals for population means, standard deviations, and proportions.
  - Students will perform hypothesis testing, including defining null and alternative hypotheses, Type I and Type II errors, and calculating p-values.
  - They will test hypotheses related to population means, standard deviations, and proportions.

5. Application of Statistical Concepts

- Outcome: Students will be able to apply statistical concepts to real-world economic problems.
- Elaboration:
  - Students will use probability theory to analyze economic events and risks.
  - They will apply probability distributions to model economic variables and outcomes.
  - Students will use sampling theory to design and analyze surveys and experiments.
  - They will apply statistical inference to estimate population parameters and test economic hypotheses.

6. Critical Thinking and Problem-Solving

- Outcome: Students will develop critical thinking and problem-solving skills in the context of statistical analysis.
- Elaboration:
  - Students will analyze statistical problems, such as estimating parameters and testing hypotheses, using theoretical frameworks.
  - They will evaluate the effectiveness of statistical methods and propose solutions to economic challenges.
  - Students will critically assess the assumptions and implications of statistical models.

7. Communication of Statistical Analysis

- Outcome: Students will be able to communicate statistical analysis effectively.
- Elaboration:
  - Students will present statistical concepts and analysis using appropriate terminology and diagrams.
  - They will write clear and concise explanations of statistical theories and their applications.
  - Students will demonstrate professionalism in their communication of statistical ideas.

18.1 Interconnection Among PO, PSO, and CO

The interconnection among Program Outcomes (POs), Program Specific Outcomes (PSOs), and Course Outcomes (COs) for the Introductory Statistics for Economics course can be established as follows:

18.1.1 Mapping COs to PSOs and POs

1. CO1: Students will be able to explain and apply basic concepts of probability theory.
   PSO1: Students will demonstrate proficiency in statistical tools for economic analysis.
   PO1: Graduates will develop strong analytical and quantitative skills.
2. CO2: Students will be able to analyze and apply probability distributions for discrete and continuous random variables.
   PSO2: Students will be able to apply statistical concepts to analyze real-world issues.
   PO2: Graduates will demonstrate a deep understanding of economic theories.
3. CO3: Students will be able to explain and apply sampling theory and sampling distributions.
   PSO3: Students will be able to evaluate the impact of economic policies using empirical data.
   PO3: Graduates will be able to critically evaluate economic policies.
4. CO4: Students will be able to perform statistical inference, including estimation and hypothesis testing.
   PSO4: Students will develop critical thinking and problem-solving skills in economics.
   PO4: Graduates will be able to solve real-world economic problems.
5. CO5: Students will be able to apply statistical concepts to real-world economic problems.
   PSO5: Students will be able to present economic arguments and findings effectively.
   PO5: Graduates will be able to communicate economic ideas effectively.

18.1.2 Explanation of the Interconnection

- **1. COs Contribute to PSOs:**

The Course Outcomes (COs) of the Statistics for Economics course are designed to help students achieve the Program Specific Outcomes (PSOs). For example:

- – CO1 (probability theory) contributes to PSO1 (proficiency in statistical tools for economic analysis).
  – CO3 (sampling theory) contributes to PSO3 (evaluating the impact of economic policies using empirical data).
  – CO5 (application of statistical concepts) contributes to PSO5 (presenting economic arguments effectively).

- **2. PSOs Contribute to POs:**

The Program Specific Outcomes (PSOs) are aligned with the broader Program Outcomes (POs). For example:

- – PSO1 (statistical tools) contributes to PO1 (developing strong analytical and quantitative skills).
  – PSO2 (applying statistical concepts) contributes to PO2 (demonstrating a deep understanding of economic theories).
  – PSO5 (communication skills) contributes to PO5 (communicating economic ideas effectively).

- **3. COs Ultimately Contribute to POs:**

Since COs contribute to PSOs, and PSOs contribute to POs, the Course Outcomes (COs) ultimately contribute to the Program Outcomes (POs). For example:

- – CO4 (statistical inference) contributes to PSO4 (developing critical thinking and problem-solving skills), which in turn contributes to PO4 (solving real-world economic problems).
  – CO5 (application of statistical concepts) contributes to PSO5 (presenting economic arguments effectively), which in turn contributes to PO5 (communicating economic ideas effectively).

The interconnection among PO, PSO, and CO ensures that the learning outcomes at each level are aligned and contribute to the overall goals of the program. The Course Outcomes (COs) of the Introductory Statistics for Economics course directly support the Program Specific Outcomes (PSOs), which in turn contribute to the broader Program Outcomes (POs). This alignment ensures that students acquire the necessary knowledge, skills, and competencies to succeed in their academic and professional careers. The course prepares students to understand and apply statistical tools, analyze real-world economic issues, and communicate their findings effectively.

19 Course Outcome: Indian Economics (I)

The Course Outcomes (COs) for the Introductory Indian Economics (I) course are specific, measurable statements that describe what students are expected to know, understand, and be able to do by the end of the course. These outcomes are aligned with the given syllabus and focus on building foundational knowledge and skills in the economic development of India, population and human development, growth and distribution, and economic reforms. Below is an elaboration of the Course Outcomes (COs) for the given syllabus:

1. Understanding Economic Development since Independence

- Outcome: Students will be able to analyze India's economic development under different policy regimes.
- Elaboration:
  - Students will explain the objectives, achievements, and failures of economic planning in India.
  - They will analyze the economic crisis during the late 1980s and the subsequent economic reforms.
  - Students will critically evaluate the structural changes in the post-reforms period.
  - They will understand the regional variations in growth and development across India.

2. Analyzing Population and Human Development

- Outcome: Students will be able to analyze demographic trends and human development issues in India.
- Elaboration:
  - Students will explain demographic trends and their implications for economic development.
  - They will analyze basic problems in health and education and evaluate government measures to address them.
  - Students will understand the significance of the Right to Education (RTE) Act, 2009, and its impact on education in India.

3. Understanding Growth and Distribution

- Outcome: Students will be able to analyze trends in GDP, per capita GDP, poverty, inequality, and unemployment in India.
- Elaboration:
  - Students will explain trends in GDP and per capita GDP and their implications for economic growth.
  - They will analyze poverty and inequality in India and evaluate government policies to address these issues.

  - Students will understand the challenges of unemployment, particularly youth unemployment, and the transition from school to work.

4. Understanding Economic Reforms in India

- Outcome: Students will be able to analyze the economic reforms in India and their impact on various sectors.
- Elaboration:
  - Students will explain the reforms in the industrial, financial, fiscal, trade, and external sectors.
  - They will analyze labor market reforms and their implications for employment and wages.
  - Students will evaluate reforms in the public sector and their impact on economic efficiency and growth.

5. Application of Economic Concepts

- Outcome: Students will be able to apply economic concepts to analyze India's economic development and policies.
- Elaboration:
  - Students will use economic theories to analyze India's economic growth, development, and reforms.
  - They will evaluate the effectiveness of government policies in addressing issues such as poverty, inequality, and unemployment.
  - Students will apply their knowledge of economic reforms to assess their impact on different sectors of the Indian economy.

6. Critical Thinking and Problem-Solving

- Outcome: Students will develop critical thinking and problem-solving skills in the context of Indian economic issues.
- Elaboration:
  - Students will analyze economic problems, such as poverty, inequality, and unemployment, using theoretical frameworks.
  - They will evaluate the effectiveness of economic policies and propose solutions to economic challenges.
  - Students will critically assess the assumptions and implications of economic reforms in India.

7. Communication of Economic Ideas

- Outcome: Students will be able to communicate economic ideas effectively.
- Elaboration:
  - Students will present economic concepts and analysis using appropriate terminology and diagrams.
  - They will write clear and concise explanations of economic theories and their applications.
  - Students will demonstrate professionalism in their communication of economic ideas.

19.1 Interconnection Among PO, PSO, and CO

The interconnection among Program Outcomes (POs), Program Specific Outcomes (PSOs), and Course Outcomes (COs) for the Introductory Indian Economics (I) course can be established as follows:

19.1.1 Mapping COs to PSOs and POs

1. CO1: Students will be able to analyze India's economic development under different policy regimes.
   PSO1: Students will demonstrate a foundational understanding of Indian economic development.
   PO1: Graduates will demonstrate a deep understanding of economic theories.
2. CO2: Students will be able to analyze demographic trends and human development issues in India.
   PSO2: Students will be able to apply economic concepts to analyze real-world issues.
   PO2: Graduates will develop strong analytical and quantitative skills.
3. CO3: Students will be able to analyze trends in GDP, per capita GDP, poverty, inequality, and unemployment.
   PSO3: Students will be able to evaluate the impact of economic policies on society.
   PO3: Graduates will be able to critically evaluate economic policies.
4. CO4: Students will be able to analyze the economic reforms in India and their impact on various sectors.
   PSO4: Students will develop critical thinking and problem-solving skills in economics.
   PO4: Graduates will be able to solve real-world economic problems.
5. CO5: Students will be able to apply economic concepts to analyze India's economic development and policies.
   PSO5: Students will be able to present economic arguments and findings effectively.
   PO5: Graduates will be able to communicate economic ideas effectively.

19.1.2 Explanation of the Interconnection

- **COs Contribute to PSOs:**

The Course Outcomes (COs) of the Indian Economics (I) course are designed to help students achieve the Program Specific Outcomes (PSOs). For example:

- – CO1 (economic development) contributes to PSO1 (foundational understanding of Indian economic development).
  – CO3 (growth and distribution) contributes to PSO3 (evaluating the impact of economic policies on society).
  – CO5 (application of economic concepts) contributes to PSO5 (presenting economic arguments effectively).

- **PSOs Contribute to POs:**

The Program Specific Outcomes (PSOs) are aligned with the broader Program Outcomes (POs). For example:

- – PSO1 (understanding Indian economic development) contributes to PO1 (demonstrating a deep understanding of economic theories).
  – PSO2 (applying economic concepts) contributes to PO2 (developing strong analytical skills).
  – PSO5 (communication skills) contributes to PO5 (communicating economic ideas effectively).

- **COs Ultimately Contribute to POs:**

Since COs contribute to PSOs, and PSOs contribute to POs, the Course Outcomes (COs) ultimately contribute to the Program Outcomes (POs). For example:

- – CO4 (economic reforms) contributes to PSO4 (developing critical thinking and problem-solving skills), which in turn contributes to PO4 (solving real-world economic problems).
  – CO5 (application of economic concepts) contributes to PSO5 (presenting economic arguments effectively), which in turn contributes to PO5 (communicating economic ideas effectively).

The interconnection among PO, PSO, and CO ensures that the learning outcomes at each level are aligned and contribute to the overall goals of the program. The Course Outcomes (COs) of the Introductory Indian Economics (I) course directly support the Program Specific Outcomes (PSOs), which in turn contribute to the broader Program Outcomes (POs). This alignment ensures that students acquire the necessary knowledge, skills, and competencies to succeed in their academic and professional careers. The course prepares students to understand and apply economic concepts, analyze India's economic development and policies, and communicate their ideas effectively.

20 Course Outcome: Sustainable Development

The Course Outcomes (COs) for the Introductory Sustainable Development course are specific, measurable statements that describe what students are expected to know, understand, and be able to do by the end of the course. These outcomes are aligned with the given syllabus and focus on building foundational knowledge and skills in sustainability, environmental economics, and sustainable resource management. Below is an elaboration of the Course Outcomes (COs) for the given syllabus:

1. Understanding the Approach Towards Sustainability

- Outcome: Students will be able to explain key environmental issues and the economic approach to sustainability.
- Elaboration:
  - Students will identify key environmental issues and problems, such as pollution, resource depletion, and waste management.
  - They will analyze the circular flow of environmental pollutants and the role of waste recycling in sustainability.
  - Students will understand the laws of thermodynamics and their implications for resource use and sustainability.
  - They will differentiate between renewable and non-renewable resources and explain the challenges of achieving sustainability.

2. Understanding Sustainable Development

- Outcome: Students will be able to define and analyze sustainable development and its principles.
- Elaboration:
  - Students will explain different definitions of sustainable development and their implications.
  - They will analyze the rules and measures of sustainable development, including economic, social, and environmental dimensions.
  - Students will understand the role of property rights in the sustainable management of resources.
  - They will analyze the stakeholders involved in the sustainable management of renewable resources, such as fisheries, forestry, and water.
  - Students will explain the concept of sustainable livelihoods in the context of sustainable resource management.

3. Analyzing Transboundary Pollution and Climate Change

- Outcome: Students will be able to analyze transboundary pollution, climate change, and their impact on sustainable development.
- Elaboration:
  - Students will evaluate the implementation of environmental policies in developing countries and learn from international experiences.
  - They will analyze transboundary environmental problems and the role of international meetings, protocols, and treaties in addressing these issues.

  - Students will understand the economics of climate change, including the basic ideas of the carbon credit market, clean development mechanism (CDM), and international emission trading.

4. Application of Sustainable Development Concepts

- Outcome: Students will be able to apply sustainable development concepts to real-world scenarios.
- Elaboration:
  - Students will use economic theories to analyze environmental issues and propose sustainable solutions.
  - They will evaluate the effectiveness of environmental policies and international agreements in promoting sustainable development.
  - Students will apply their knowledge of sustainable resource management to assess the impact of resource use on livelihoods and ecosystems.

5. Critical Thinking and Problem-Solving

- Outcome: Students will develop critical thinking and problem-solving skills in the context of sustainable development.
- Elaboration:
  - Students will analyze environmental problems, such as pollution, resource depletion, and climate change, using theoretical frameworks.
  - They will evaluate the effectiveness of sustainable development policies and propose solutions to environmental challenges.
  - Students will critically assess the assumptions and implications of sustainable development strategies.

6. Communication of Sustainable Development Ideas

- Outcome: Students will be able to communicate sustainable development ideas effectively.
- Elaboration:
  - Students will present sustainable development concepts and analysis using appropriate terminology and diagrams.
  - They will write clear and concise explanations of sustainable development theories and their applications.
  - Students will demonstrate professionalism in their communication of sustainable development ideas.

20.1 Interconnection Among PO, PSO, and CO

The interconnection among Program Outcomes (POs), Program Specific Outcomes (PSOs), and Course Outcomes (COs) for the Introductory Sustainable Development course can be established as follows:

20.1.1 Mapping COs to PSOs and POs

1. CO1: Students will be able to explain key environmental issues and the economic approach to sustainability.

   PSO1: Students will demonstrate a foundational understanding of sustainable development.

   PO1: Graduates will demonstrate a deep understanding of economic theories.

2. CO2: Students will be able to define and analyze sustainable development and its principles.

   PSO2: Students will be able to apply sustainable development concepts to analyze real-world issues.

   PO2: Graduates will develop strong analytical and quantitative skills.

3. CO3: Students will be able to analyze transboundary pollution, climate change, and their impact on sustainable development.

   PSO3: Students will be able to evaluate the impact of environmental policies on sustainable development.

   PO3: Graduates will be able to critically evaluate economic policies.

4. CO4: Students will be able to apply sustainable development concepts to real-world scenarios.

   PSO4: Students will develop critical thinking and problem-solving skills in economics.

   PO4: Graduates will be able to solve real-world economic problems.

5. CO5: Students will be able to communicate sustainable development ideas effectively.

   PSO5: Students will be able to present economic arguments and findings effectively.

   PO5: Graduates will be able to communicate economic ideas effectively.

20.1.2 Explanation of the Interconnection

- **COs Contribute to PSOs:**

The Course Outcomes (COs) of the Sustainable Development course are designed to help students achieve the Program Specific Outcomes (PSOs). For example:

- – CO1 (environmental issues) contributes to PSO1 (foundational understanding of sustainable development).
  – CO3 (transboundary pollution and climate change) contributes to PSO3 (evaluating the impact of environmental policies).
  – CO5 (communication of sustainable development ideas) contributes to PSO5 (presenting economic arguments effectively).

- **PSOs Contribute to POs:**

The Program Specific Outcomes (PSOs) are aligned with the broader Program Outcomes (POs). For example:

- – PSO1 (understanding sustainable development) contributes to PO1 (demonstrating a deep understanding of economic theories).
  – PSO2 (applying sustainable development concepts) contributes to PO2 (developing strong analytical skills).
  – PSO5 (communication skills) contributes to PO5 (communicating economic ideas effectively).

- **COs Ultimately Contribute to POs:**

Since COs contribute to PSOs, and PSOs contribute to POs, the Course Outcomes (COs) ultimately contribute to the Program Outcomes (POs). For example:

- – CO4 (application of sustainable development concepts) contributes to PSO4 (developing critical thinking and problem-solving skills), which in turn contributes to PO4 (solving real-world economic problems).
  – CO5 (communication of sustainable development ideas) contributes to PSO5 (presenting economic arguments effectively), which in turn contributes to PO5 (communicating economic ideas effectively).

The interconnection among PO, PSO, and CO ensures that the learning outcomes at each level are aligned and contribute to the overall goals of the program. The Course Outcomes (COs) of the Introductory Sustainable Development course directly support the Program Specific Outcomes (PSOs), which in turn contribute to the broader Program Outcomes (POs). This alignment ensures that students acquire the necessary knowledge, skills, and competencies to succeed in their academic and professional careers. The course prepares students to understand and apply sustainable development concepts, analyze environmental issues, and communicate their ideas effectively.

21 Course Outcome: Microeconomics (III)

The Course Outcomes (COs) for the Introductory Microeconomics (III) course are specific, measurable statements that describe what students are expected to know, understand, and be able to do by the end of the course. These outcomes are aligned with the given syllabus and focus on building advanced knowledge and skills in imperfect market structures, input markets under imperfect competition, and general equilibrium and welfare analysis. Below is an elaboration of the Course Outcomes (COs) for the given syllabus:

1. Understanding Imperfect Market Structures

Outcome: Students will be able to analyze imperfect market structures, including monopoly, monopolistic competition, and oligopoly.

Elaboration:

- Students will explain the characteristics of monopoly, including barriers to entry, output determination, and pricing rules.
- They will measure monopoly power and analyze its social costs, including deadweight loss.
- Students will understand pricing strategies under market power, such as price discrimination (first, second, and third-degree), intertemporal price discrimination, peak-load pricing, and two-part tariffs.
- They will analyze monopolistic competition, including short-run and long-run equilibrium, and the concept of excess capacity.
- Students will explain oligopoly models, including Cournot, Bertrand, and Stackelberg, and use isoprofit curves and game theory to interpret oligopoly equilibrium.
- They will analyze non-collusive equilibrium using the kinked demand curve model and understand collusive behavior in cartels and price leadership.

2. Understanding Input Markets under Imperfect Competition

Outcome: Students will be able to analyze input markets under imperfect competition, including monopsony and bilateral monopoly.

Elaboration:

- Students will explain the concept of monopsony and its implications for input markets.
- They will analyze bilateral monopoly in the labor market and understand monopolistic and monopsonistic exploitation.

3. Understanding General Equilibrium and Welfare

Outcome: Students will be able to analyze general equilibrium, economic efficiency, and welfare.

Elaboration:

- Students will explain the concepts of general equilibrium and economic efficiency in exchange and production.
- They will understand Pareto optimality and use the Edgeworth box and contract curve to analyze Pareto efficiency.
- Students will analyze the reasons for market failure, including externalities, public goods, and asymmetric information.
- They will understand the role of property rights and the Coase theorem in addressing market failures.
- Students will explain concepts of asymmetric information, including adverse selection, moral hazard, and agency problems.

4. Application of Microeconomic Concepts

Outcome: Students will be able to apply microeconomic concepts to real-world scenarios.

Elaboration:

- Students will use microeconomic theories to analyze imperfect market structures and their implications for pricing and output decisions.
- They will evaluate the impact of market power on social welfare and propose solutions to mitigate its negative effects.
- Students will apply general equilibrium and welfare analysis to assess the efficiency of market outcomes and the role of government intervention.

5. Critical Thinking and Problem-Solving

Outcome: Students will develop critical thinking and problem-solving skills in the context of microeconomic issues.

Elaboration:

- Students will analyze microeconomic problems, such as market power, inefficiency, and market failure, using theoretical frameworks.
- They will evaluate the effectiveness of microeconomic policies and propose solutions to economic challenges.
- Students will critically assess the assumptions and implications of microeconomic models.

6. Communication of Microeconomic Ideas

Outcome: Students will be able to communicate microeconomic ideas effectively.

Elaboration:

- Students will present microeconomic concepts and analysis using appropriate terminology and diagrams.
- They will write clear and concise explanations of microeconomic theories and their applications.
- Students will demonstrate professionalism in their communication of microeconomic ideas.

21.1 Interconnection Among PO, PSO, and CO

The interconnection among Program Outcomes (POs), Program Specific Outcomes (PSOs), and Course Outcomes (COs) for the Introductory Microeconomics (III) course can be established as follows:

21.1.1 Mapping COs to PSOs and POs

1. Course Outcome (CO) for Microeconomics (III) Program Specific Outcome (PSO) Program Outcome (PO)
2. CO1: Students will be able to analyze imperfect market structures, including monopoly, monopolistic competition, and oligopoly. PSO1: Students will demonstrate a deep understanding of microeconomic theories. PO1: Graduates will demonstrate a deep understanding of economic theories.
3. CO2: Students will be able to analyze input markets under imperfect competition, including monopsony and bilateral monopoly. PSO2: Students will be able to apply microeconomic concepts to analyze real-world issues. PO2: Graduates will develop strong analytical and quantitative skills.
4. CO3: Students will be able to analyze general equilibrium, economic efficiency, and welfare. PSO3: Students will be able to evaluate the impact of economic policies on market outcomes. PO3: Graduates will be able to critically evaluate economic policies.
5. CO4: Students will be able to apply microeconomic concepts to real-world scenarios. PSO4: Students will develop critical thinking and problem-solving skills in economics. PO4: Graduates will be able to solve real-world economic problems.
6. CO5: Students will be able to communicate microeconomic ideas effectively. PSO5: Students will be able to present economic arguments and findings effectively. PO5: Graduates will be able to communicate economic ideas effectively.

21.1.2 Explanation of the Interconnection

- **COs Contribute to PSOs:**

The Course Outcomes (COs) of the Microeconomics (III) course are designed to help students achieve the Program Specific Outcomes (PSOs). For example:

- – CO1 (imperfect market structures) contributes to PSO1 (deep understanding of microeconomic theories).
  - CO3 (general equilibrium and welfare) contributes to PSO3 (evaluating the impact of economic policies).
  - CO5 (communication of microeconomic ideas) contributes to PSO5 (presenting economic arguments effectively).
- **PSOs Contribute to POs:**

The Program Specific Outcomes (PSOs) are aligned with the broader Program Outcomes (POs). For example:

- – PSO1 (understanding microeconomic theories) contributes to PO1 (demonstrating a deep understanding of economic theories).
  – PSO2 (applying microeconomic concepts) contributes to PO2 (developing strong analytical skills).
  – PSO5 (communication skills) contributes to PO5 (communicating economic ideas effectively).

- **COs Ultimately Contribute to POs:**

Since COs contribute to PSOs, and PSOs contribute to POs, the Course Outcomes (COs) ultimately contribute to the Program Outcomes (POs). For example:

- – CO4 (application of microeconomic concepts) contributes to PSO4 (developing critical thinking and problem-solving skills), which in turn contributes to PO4 (solving real-world economic problems).
  – CO5 (communication of microeconomic ideas) contributes to PSO5 (presenting economic arguments effectively), which in turn contributes to PO5 (communicating economic ideas effectively).

The interconnection among PO, PSO, and CO ensures that the learning outcomes at each level are aligned and contribute to the overall goals of the program. The Course Outcomes (COs) of the Introductory Microeconomics (III) course directly support the Program Specific Outcomes (PSOs), which in turn contribute to the broader Program Outcomes (POs). This alignment ensures that students acquire the necessary knowledge, skills, and competencies to succeed in their academic and professional careers. The course prepares students to understand and apply advanced microeconomic concepts, analyze real-world economic issues, and communicate their ideas effectively.

22 Course Outcome: Macroeconomics (III)

The Course Outcomes (COs) for the Introductory Macroeconomics (III) course are specific, measurable statements that describe what students are expected to know, understand, and be able to do by the end of the course. These outcomes are aligned with the given syllabus and focus on building advanced knowledge and skills in macroeconomic theories, consumption, demand for money, and economic growth. Below is an elaboration of the Course Outcomes (COs) for the given syllabus:

1. Understanding New Classical and New Keynesian Theories

Outcome: Students will be able to explain and analyze the basic tenets of New Classical and New Keynesian theories.

Elaboration:

- Students will explain the concept of rational expectations and the theory of real business cycles in the New Classical framework.
- They will analyze nominal and real rigidities, rigidities in interest rates, and credit rationing in the New Keynesian framework.
- Students will compare and contrast the New Classical and New Keynesian approaches to macroeconomic analysis.

2. Understanding Macroeconomic Foundations

Outcome: Students will be able to analyze consumption behavior and the demand for money.

Elaboration:

- Students will explain the Keynesian consumption function and its implications for aggregate demand.
- They will analyze Fisher's theory of optimal inter-temporal choice and its implications for savings and consumption.
- Students will understand the life-cycle hypothesis, permanent income hypothesis, and Dusenberry's relative income hypothesis.
- They will explain the demand for money using Tobin's portfolio choice model and Baumol's inventory theoretic model.

3. Understanding Economic Growth

Outcome: Students will be able to analyze models of economic growth and their implications.

Elaboration:

- Students will explain the Harrod and Domar models of economic growth and their assumptions.
- They will analyze the Solow one-sector growth model, including the concepts of steady state, golden rule, and dynamic efficiency.
- Students will understand the role of technological progress in economic growth.
- They will explain the basic ideas of endogenous growth theory, including the AK model.

4. Application of Macroeconomic Concepts

Outcome: Students will be able to apply macroeconomic concepts to real-world scenarios.

Elaboration:

- Students will use macroeconomic theories to analyze consumption behavior, demand for money, and economic growth.
- They will evaluate the impact of economic policies on consumption, savings, and investment.
- Students will apply growth models to assess the long-term growth prospects of economies.

5. Critical Thinking and Problem-Solving

Outcome: Students will develop critical thinking and problem-solving skills in the context of macroeconomic issues.

Elaboration:

- Students will analyze macroeconomic problems, such as consumption behavior, demand for money, and economic growth, using theoretical frameworks.
- They will evaluate the effectiveness of macroeconomic policies and propose solutions to economic challenges.
- Students will critically assess the assumptions and implications of macroeconomic models.

6. Communication of Macroeconomic Ideas

Outcome: Students will be able to communicate macroeconomic ideas effectively.

Elaboration:

- Students will present macroeconomic concepts and analysis using appropriate terminology and diagrams.
- They will write clear and concise explanations of macroeconomic theories and their applications.
- Students will demonstrate professionalism in their communication of macroeconomic ideas.

22.1 Interconnection Among PO, PSO, and CO

The interconnection among Program Outcomes (POs), Program Specific Outcomes (PSOs), and Course Outcomes (COs) for the Introductory Macroeconomics (III) course can be established as follows:

22.1.1 Mapping COs to PSOs and POs

1. CO1: Students will be able to explain and analyze the basic tenets of New Classical and New Keynesian theories.

   PSO1: Students will demonstrate a deep understanding of macroeconomic theories.

   PO1: Graduates will demonstrate a deep understanding of economic theories.

2. CO2: Students will be able to analyze consumption behavior and the demand for money.

   PSO2: Students will be able to apply macroeconomic concepts to analyze real-world issues.

   PO2: Graduates will develop strong analytical and quantitative skills.

3. CO3: Students will be able to analyze models of economic growth and their implications.

   PSO3: Students will be able to evaluate the impact of economic policies on the economy.

   PO3: Graduates will be able to critically evaluate economic policies.

4. CO4: Students will be able to apply macroeconomic concepts to real-world scenarios.

   PSO4: Students will develop critical thinking and problem-solving skills in economics.

   PO4: Graduates will be able to solve real-world economic problems.

5. CO5: Students will be able to communicate macroeconomic ideas effectively.

   PSO5: Students will be able to present economic arguments and findings effectively.

   PO5: Graduates will be able to communicate economic ideas effectively.

22.1.2 Explanation of the Interconnection

- **COs Contribute to PSOs:**

The Course Outcomes (COs) of the Macroeconomics (III) course are designed to help students achieve the Program Specific Outcomes (PSOs). For example:

- – CO1 (New Classical and New Keynesian theories) contributes to PSO1 (deep understanding of macroeconomic theories).
  – CO3 (economic growth models) contributes to PSO3 (evaluating the impact of economic policies).
  – CO5 (communication of macroeconomic ideas) contributes to PSO5 (presenting economic arguments effectively).

- **PSOs Contribute to POs:**

The Program Specific Outcomes (PSOs) are aligned with the broader Program Outcomes (POs). For example:

- – PSO1 (understanding macroeconomic theories) contributes to PO1 (demonstrating a deep understanding of economic theories).
  – PSO2 (applying macroeconomic concepts) contributes to PO2 (developing strong analytical skills).
  – PSO5 (communication skills) contributes to PO5 (communicating economic ideas effectively).

- **COs Ultimately Contribute to POs:**

Since COs contribute to PSOs, and PSOs contribute to POs, the Course Outcomes (COs) ultimately contribute to the Program Outcomes (POs). For example:

- – CO4 (application of macroeconomic concepts) contributes to PSO4 (developing critical thinking and problem-solving skills), which in turn contributes to PO4 (solving real-world economic problems).
  – CO5 (communication of macroeconomic ideas) contributes to PSO5 (presenting economic arguments effectively), which in turn contributes to PO5 (communicating economic ideas effectively).

The interconnection among PO, PSO, and CO ensures that the learning outcomes at each level are aligned and contribute to the overall goals of the program. The Course Outcomes (COs) of the Introductory Macroeconomics (III) course directly support the Program Specific Outcomes (PSOs), which in turn contribute to the broader Program Outcomes (POs). This alignment ensures that students acquire the necessary knowledge, skills, and competencies to succeed in their academic and professional careers. The course prepares students to understand and apply advanced macroeconomic concepts, analyze real-world economic issues, and communicate their ideas effectively.

23 Course Outcome: Mathematical Economics (II)

The Course Outcomes (COs) for the Introductory Mathematical Economics (II) course are specific, measurable statements that describe what students are expected to know, understand, and be able to do by the end of the course. These outcomes are aligned with the given syllabus and focus on building advanced knowledge and skills in game theory, integration, difference equations, and differential equations, with applications in economics. Below is an elaboration of the Course Outcomes (COs) for the given syllabus:

1. Understanding Game Theory

- Outcome: Students will be able to analyze strategic interactions using game theory.
- Elaboration:

  - Students will explain the concept of a game, including pure and mixed strategies, constant-sum, and non-constant-sum games.
  - They will analyze static games using solution methods such as maximin-minimax, dominant strategy equilibrium, iterated dominant strategy equilibrium, and Nash equilibrium.
  - Students will understand mixed strategy solutions and apply them to common games like the Prisoner's Dilemma, Battle of the Sexes, and Matching Pennies.
  - They will analyze dynamic games using the method of backward induction.

2. Understanding Integration of Functions

- Outcome: Students will be able to integrate functions and apply integration techniques to economic problems.
- Elaboration:
  - Students will perform integration of functions using substitution and integration by parts.
  - They will apply integration to find total functions from marginal functions and calculate present value in economic contexts.

3. Understanding Difference Equations

- Outcome: Students will be able to solve and analyze difference equations and apply them to economic models.
- Elaboration:
  - Students will solve first-order and second-order linear difference equations.
  - They will analyze non-linear difference equations using qualitative-graphic approaches.
  - Students will apply difference equations to economic models such as the Cobweb model, lagged adjustment models, and Samuelson's multiplier-accelerator model.

4. Understanding Differential Equations

- Outcome: Students will be able to solve and analyze differential equations and apply them to economic models.
- Elaboration:
  - Students will solve first-order and second-order linear differential equations.
  - They will solve systems of linear differential equations using eigenvalues and substitution methods.
  - Students will analyze fixed points and stability in differential equations.
  - They will use qualitative-graphic approaches, including one-variable and two-variable phase diagrams, to analyze differential equations.
  - Students will linearize non-linear differential equation systems and perform stability analysis.
  - They will apply differential equations to economic models such as price dynamics, multi-market equilibrium, inflation-unemployment interaction, the Solow model, and the IS-LM model.

5. Application of Mathematical Tools in Economics

- Outcome: Students will be able to apply mathematical tools to analyze economic models and problems.
- Elaboration:
  - Students will use game theory to analyze strategic interactions in economics.

- They will apply integration techniques to solve economic problems involving total and marginal functions.
- Students will use difference and differential equations to model and analyze dynamic economic systems.

6. Critical Thinking and Problem-Solving

- Outcome: Students will develop critical thinking and problem-solving skills in the context of mathematical economics.
- Elaboration:
  - Students will analyze economic problems using mathematical models and techniques.
  - They will evaluate the effectiveness of mathematical tools in solving economic problems.
  - Students will propose solutions to economic challenges based on mathematical analysis.

7. Communication of Mathematical Economics Ideas

- Outcome: Students will be able to communicate mathematical economics ideas effectively.
- Elaboration:
  - Students will present mathematical models and analysis using appropriate terminology and diagrams.
  - They will write clear and concise explanations of mathematical economics theories and their applications.
  - Students will demonstrate professionalism in their communication of mathematical economics ideas.

23.1 Interconnection Among PO, PSO, and CO

The interconnection among Program Outcomes (POs), Program Specific Outcomes (PSOs), and Course Outcomes (COs) for the Introductory Mathematical Economics (II) course can be established as follows:

23.1.1 Mapping COs to PSOs and POs

1. CO1: Students will be able to analyze strategic interactions using game theory.

   PSO1: Students will demonstrate proficiency in mathematical tools for economic analysis.

   PO1: Graduates will develop strong analytical and quantitative skills.

2. CO2: Students will be able to integrate functions and apply integration techniques to economic problems.

   PSO2: Students will be able to apply mathematical techniques to analyze economic models.

   PO2: Graduates will demonstrate a deep understanding of economic theories.

3. CO3: Students will be able to solve and analyze difference equations and apply them to economic models.

   PSO3: Students will be able to evaluate the impact of economic policies using mathematical tools.

   PO3: Graduates will be able to critically evaluate economic policies.

4. CO4: Students will be able to solve and analyze differential equations and apply them to economic models.

   PSO4: Students will develop critical thinking and problem-solving skills in economics.

   PO4: Graduates will be able to solve real-world economic problems.

5. CO5: Students will be able to communicate mathematical economics ideas effectively.

   PSO5: Students will be able to present economic arguments and findings effectively.

   PO5: Graduates will be able to communicate economic ideas effectively.

23.1.2 Explanation of the Interconnection

- **COs Contribute to PSOs:**

The Course Outcomes (COs) of the Mathematical Economics (II) course are designed to help students achieve the Program Specific Outcomes (PSOs). For example:

- – CO1 (game theory) contributes to PSO1 (proficiency in mathematical tools for economic analysis).
  - – CO3 (difference equations) contributes to PSO3 (evaluating the impact of economic policies using mathematical tools).
  - – CO5 (communication of mathematical economics ideas) contributes to PSO5 (presenting economic arguments effectively).

- **PSOs Contribute to POs:**

The Program Specific Outcomes (PSOs) are aligned with the broader Program Outcomes (POs). For example:

- – PSO1 (mathematical tools) contributes to PO1 (developing strong analytical and quantitative skills).
  - – PSO2 (mathematical techniques) contributes to PO2 (demonstrating a deep understanding of economic theories).
  - – PSO5 (communication skills) contributes to PO5 (communicating economic ideas effectively).

- **COs Ultimately Contribute to POs:**

Since COs contribute to PSOs, and PSOs contribute to POs, the Course Outcomes (COs) ultimately contribute to the Program Outcomes (POs). For example:

- – CO4 (differential equations) contributes to PSO4 (developing critical thinking and problem-solving skills), which in turn contributes to PO4 (solving real-world economic problems).
  - – CO5 (communication of mathematical economics ideas) contributes to PSO5 (presenting economic arguments effectively), which in turn contributes to PO5 (communicating economic ideas effectively).

The interconnection among PO, PSO, and CO ensures that the learning outcomes at each level are aligned and contribute to the overall goals of the program. The Course Outcomes (COs) of the Introductory Mathematical Economics (II) course directly support the Program Specific Outcomes (PSOs), which in turn contribute to the broader Program Outcomes (POs). This alignment ensures that students acquire the necessary knowledge, skills, and competencies to succeed in their academic and professional careers. The course prepares students to understand and apply advanced mathematical tools, analyze economic models, and communicate their ideas effectively.

24 Course Outcome: Econometrics (I)

The Course Outcomes (COs) for the Introductory Econometrics (I) course are specific, measurable statements that describe what students are expected to know, understand, and be able to do by the end of the course. These outcomes are aligned with the given syllabus and focus on building foundational knowledge and skills in econometric modeling, regression analysis, and the application of econometric methods to economic data. Below is an elaboration of the Course Outcomes (COs) for the given syllabus:

1. Understanding the Nature and Scope of Econometrics

- Outcome: Students will be able to explain the nature, scope, and application of econometrics in social sciences.
- Elaboration:
  - – Students will differentiate between economic models and econometric models.

- They will understand the concept of stochastic relationships and the role of random disturbances in econometric models.
- Students will explain the application of econometrics in various branches of social science, including economics, finance, and public policy.

2. Understanding the Classical Linear Regression Model (CLRM)

- Outcome: Students will be able to estimate and interpret simple and multiple linear regression models.
- Elaboration:
  - Students will explain the classical assumptions of the linear regression model and their interpretations.
  - They will estimate simple linear regression models (SLRM) and multiple linear regression models (MLRM) with two regressors using the ordinary least squares (OLS) method.
  - Students will understand the properties of least squares estimators, including the Gauss-Markov theorem.
  - They will test hypotheses in SLRM and MLRM using single and joint tests.
  - Students will evaluate the goodness of fit using R^2, adjusted R^2, and F-statistics, and perform analysis of variance (ANOVA).
  - They will interpret regression results in terms of statistical significance and economic importance.
  - Students will explain simple, partial, and multiple correlation coefficients and their interpretations in the context of SLRM and MLRM.

3. Understanding Qualitative (Dummy) Independent Variables

- Outcome: Students will be able to incorporate and interpret dummy variables in regression models.
- Elaboration:
  - Students will use intercept and slope dummy variables in regression models and interpret their coefficients.
  - They will perform forecasting using ex-post and ex-ante forecasts and analyze forecast errors in a two-variable model.

4. Understanding Violations of Classical Assumptions

- Outcome: Students will be able to detect and address violations of classical assumptions in regression models.
- Elaboration:
  - Students will analyze multicollinearity, including its consequences, detection using variance inflation factors (VIF), and remedies.
  - They will evaluate heteroscedasticity, including its consequences, detection using Lagrange multiplier tests, and remedies.
  - Students will assess autocorrelation, including its consequences, detection using the Durbin-Watson test, and remedies.

5. Application of Econometric Methods

- Outcome: Students will be able to apply econometric methods to analyze economic data.
- Elaboration:
  - Students will use regression analysis to estimate and interpret economic relationships.

  - They will apply econometric techniques to test hypotheses and evaluate the validity of economic models.
  - Students will use econometric tools to forecast economic variables and analyze forecast errors.

6. Critical Thinking and Problem-Solving

- Outcome: Students will develop critical thinking and problem-solving skills in the context of econometric analysis.
- Elaboration:
  - Students will analyze economic data using econometric models and techniques.
  - They will evaluate the effectiveness of econometric methods in addressing economic problems.
  - Students will propose solutions to economic challenges based on econometric analysis.

7. Communication of Econometric Analysis

- Outcome: Students will be able to communicate econometric analysis effectively.
- Elaboration:
  - Students will present econometric models and analysis using appropriate terminology and diagrams.
  - They will write clear and concise explanations of econometric theories and their applications.
  - Students will demonstrate professionalism in their communication of econometric ideas.

24.1 Interconnection Among PO, PSO, and CO

The interconnection among Program Outcomes (POs), Program Specific Outcomes (PSOs), and Course Outcomes (COs) for the Introductory Econometrics (I) course can be established as follows:

24.1.1 Mapping COs to PSOs and POs

1. CO1: Students will be able to explain the nature, scope, and application of econometrics in social sciences.

   PSO1: Students will demonstrate proficiency in econometric tools for economic analysis.

   PO1: Graduates will develop strong analytical and quantitative skills.

2. CO2: Students will be able to estimate and interpret simple and multiple linear regression models.

   PSO2: Students will be able to apply econometric methods to analyze real-world issues.

   PO2: Graduates will demonstrate a deep understanding of economic theories.

3. CO3: Students will be able to incorporate and interpret dummy variables in regression models.

   PSO3: Students will be able to evaluate the impact of economic policies using econometric tools.

   PO3: Graduates will be able to critically evaluate economic policies.

4. CO4: Students will be able to detect and address violations of classical assumptions in regression models.

   PSO4: Students will develop critical thinking and problem-solving skills in economics.

   PO4: Graduates will be able to solve real-world economic problems.

5. CO5: Students will be able to communicate econometric analysis effectively.

   PSO5: Students will be able to present economic arguments and findings effectively.

   PO5: Graduates will be able to communicate economic ideas effectively.

24.1.2 Explanation of the Interconnection

- **COs Contribute to PSOs:**

The Course Outcomes (COs) of the Econometrics (I) course are designed to help students achieve the Program Specific Outcomes (PSOs). For example:

- – CO1 (nature and scope of econometrics) contributes to PSO1 (proficiency in econometric tools for economic analysis).
  – CO3 (dummy variables) contributes to PSO3 (evaluating the impact of economic policies using econometric tools).
  – CO5 (communication of econometric analysis) contributes to PSO5 (presenting economic arguments effectively).

- **PSOs Contribute to POs:**

The Program Specific Outcomes (PSOs) are aligned with the broader Program Outcomes (POs). For example:

- – PSO1 (econometric tools) contributes to PO1 (developing strong analytical and quantitative skills).
  – PSO2 (applying econometric methods) contributes to PO2 (demonstrating a deep understanding of economic theories).
  – PSO5 (communication skills) contributes to PO5 (communicating economic ideas effectively).

- **COs Ultimately Contribute to POs:**

Since COs contribute to PSOs, and PSOs contribute to POs, the Course Outcomes (COs) ultimately contribute to the Program Outcomes (POs). For example:

- – CO4 (violations of classical assumptions) contributes to PSO4 (developing critical thinking and problem-solving skills), which in turn contributes to PO4 (solving real-world economic problems).
  – CO5 (communication of econometric analysis) contributes to PSO5 (presenting economic arguments effectively), which in turn contributes to PO5 (communicating economic ideas effectively).

The interconnection among PO, PSO, and CO ensures that the learning outcomes at each level are aligned and contribute to the overall goals of the program. The Course Outcomes (COs) of the Introductory Econometrics (I) course directly support the Program Specific Outcomes (PSOs), which in turn contribute to the broader Program Outcomes (POs). This alignment ensures that students acquire the necessary knowledge, skills, and competencies to succeed in their academic and professional careers. The course prepares students to understand and apply econometric methods, analyze economic data, and communicate their findings effectively.

25 Course Outcome: Economic History of India (1857-1947)

The Course Outcomes (COs) for the Introductory Economic History of India (1857-1947) course are specific, measurable statements that describe what students are expected to know, understand, and be able to do by the end of the course. These outcomes are aligned with the given syllabus and focus on building foundational knowledge and skills in the economic history of colonial India, including agriculture, industry, railways, and the role of the state. Below is an elaboration of the Course Outcomes (COs) for the given syllabus:

1. Understanding the Colonial Economy

- Outcome: Students will be able to explain the background and macro trends of the colonial economy in India.

- Elaboration:

  - Students will understand the overview of the colonial economy and its impact on India.
  - They will analyze macro trends in national income, population, and occupational structure during the colonial period.

2. Understanding Agriculture in Colonial India

- Outcome: Students will be able to analyze the agrarian structure, land relations, and agricultural performance in colonial India.
- Elaboration:
  - Students will explain the agrarian structure and land relations under colonial rule.
  - They will analyze agricultural markets and institutions, including credit, commerce, and technology.
  - Students will evaluate trends in agricultural performance and productivity.
  - They will understand the causes and consequences of famines during the colonial period.

3. Understanding Railways and Industry in Colonial India

- Outcome: Students will be able to analyze the role of railways and the evolution of industry in colonial India.
- Elaboration:
  - Students will explain the development and impact of railways on the colonial economy.
  - They will analyze the de-industrialization debate and its implications for the Indian economy.
  - Students will understand the evolution of entrepreneurial and industrial structures during the colonial period.
  - They will evaluate the nature of industrialization in the inter-war period and the constraints to industrial breakthrough.
  - Students will analyze labor relations and their impact on industrial development.

4. Understanding the Economy and State in the Imperial Context

- Outcome: Students will be able to analyze the role of the state and the imperial priorities in shaping the colonial economy.
- Elaboration:
  - Students will explain the imperial priorities and their impact on the Indian economy.
  - They will analyze the concept of the drain of wealth and its implications for economic development.
  - Students will evaluate changes and continuities in international trade, capital flows, and the colonial economy.
  - They will understand the role of government and fiscal policy in the colonial economy.

5. Application of Economic History Concepts

- Outcome: Students will be able to apply economic history concepts to analyze the colonial economy.
- Elaboration:
  - Students will use economic history theories to analyze the impact of colonial rule on agriculture, industry, and trade.
  - They will evaluate the effectiveness of colonial policies and their impact on economic development.
  - Students will apply their knowledge of economic history to assess the long-term consequences of colonial rule on the Indian economy.

6. Critical Thinking and Problem-Solving

- Outcome: Students will develop critical thinking and problem-solving skills in the context of economic history.
- Elaboration:
  - Students will analyze economic problems, such as de-industrialization, famines, and the drain of wealth, using historical frameworks.
  - They will evaluate the effectiveness of colonial policies and propose solutions to economic challenges.
  - Students will critically assess the assumptions and implications of economic history theories.

7. Communication of Economic History Ideas

- Outcome: Students will be able to communicate economic history ideas effectively.
- Elaboration:
  - Students will present economic history concepts and analysis using appropriate terminology and diagrams.
  - They will write clear and concise explanations of economic history theories and their applications.
  - Students will demonstrate professionalism in their communication of economic history ideas.

25.1 Interconnection Among PO, PSO, and CO

The interconnection among Program Outcomes (POs), Program Specific Outcomes (PSOs), and Course Outcomes (COs) for the Introductory Economic History of India (1857-1947) course can be established as follows:

25.1.1 Mapping COs to PSOs and POs

1. CO1: Students will be able to explain the background and macro trends of the colonial economy in India.

   PSO1: Students will demonstrate a foundational understanding of economic history.

   PO1: Graduates will demonstrate a deep understanding of economic theories.

2. CO2: Students will be able to analyze the agrarian structure, land relations, and agricultural performance in colonial India.

   PSO2: Students will be able to apply economic history concepts to analyze real-world issues.

   PO2: Graduates will develop strong analytical and quantitative skills.

3. CO3: Students will be able to analyze the role of railways and the evolution of industry in colonial India.

   PSO3: Students will be able to evaluate the impact of colonial policies on economic development.

   PO3: Graduates will be able to critically evaluate economic policies.

4. CO4: Students will be able to analyze the role of the state and the imperial priorities in shaping the colonial economy.

   PSO4: Students will develop critical thinking and problem-solving skills in economics.

   PO4: Graduates will be able to solve real-world economic problems.

5. CO5: Students will be able to communicate economic history ideas effectively.

   PSO5: Students will be able to present economic arguments and findings effectively.

   PO5: Graduates will be able to communicate economic ideas effectively.

25.1.2 Explanation of the Interconnection

- **1. COs Contribute to PSOs:**

The Course Outcomes (COs) of the Economic History of India (1857-1947) course are designed to help students achieve the Program Specific Outcomes (PSOs). For example:

- – CO1 (colonial economy) contributes to PSO1 (foundational understanding of economic history).
  – CO3 (railways and industry) contributes to PSO3 (evaluating the impact of colonial policies).
  – CO5 (communication of economic history ideas) contributes to PSO5 (presenting economic arguments effectively).

- **2. PSOs Contribute to POs:**

The Program Specific Outcomes (PSOs) are aligned with the broader Program Outcomes (POs). For example:

- – PSO1 (understanding economic history) contributes to PO1 (demonstrating a deep understanding of economic theories).
  – PSO2 (applying economic history concepts) contributes to PO2 (developing strong analytical skills).
  – PSO5 (communication skills) contributes to PO5 (communicating economic ideas effectively).

- **3. COs Ultimately Contribute to POs:**

Since COs contribute to PSOs, and PSOs contribute to POs, the Course Outcomes (COs) ultimately contribute to the Program Outcomes (POs). For example:

- – CO4 (economy and state in the imperial context) contributes to PSO4 (developing critical thinking and problem-solving skills), which in turn contributes to PO4 (solving real-world economic problems).
  – CO5 (communication of economic history ideas) contributes to PSO5 (presenting economic arguments effectively), which in turn contributes to PO5 (communicating economic ideas effectively).

The interconnection among PO, PSO, and CO ensures that the learning outcomes at each level are aligned and contribute to the overall goals of the program. The Course Outcomes (COs) of the Introductory Economic History of India (1857-1947) course directly support the Program Specific Outcomes (PSOs), which in turn contribute to the broader Program Outcomes (POs). This alignment ensures that students acquire the necessary knowledge, skills, and competencies to succeed in their academic and professional careers. The course prepares students to understand and apply economic history concepts, analyze the colonial economy, and communicate their ideas effectively.

26 Course Outcome: Public Finance

The Course Outcomes (COs) for the Introductory Public Finance course are specific, measurable statements that describe what students are expected to know, understand, and be able to do by the end of the course. These outcomes are aligned with the given syllabus and focus on building foundational knowledge and skills in public finance, including public goods, externalities, taxation, public expenditure, public debt, and fiscal policies. Below is an elaboration of the Course Outcomes (COs) for the given syllabus:

1. Understanding Core Concepts of Public Finance

- Outcome: Students will be able to explain the core concepts of public finance, including public goods, externalities, public revenue, public expenditure, and public debt.
- Elaboration:
  – Students will understand the characteristics of public goods and the concept of market failures.

- They will explain the role of government in addressing externalities and providing public goods.
- Students will analyze the sources of government revenue, including taxation (direct and indirect), fees, and non-tax revenues.
- They will understand the allocation of public funds for social welfare, infrastructure, and defense.
- Students will explain the concept of public debt, its implications for the economy, and debt management strategies.
- They will differentiate between progressive, regressive, and proportional taxation systems.

2. Understanding Basic Concepts of Public Finance Theories

- Outcome: Students will be able to analyze the basic theories of public finance, including the benefit principle, ability-to-pay principle, public choice theory, and fiscal federalism.
- Elaboration:
  - Students will explain the benefit principle and its application in taxation.
  - They will analyze the ability-to-pay principle and its implications for equity in taxation.
  - Students will understand the basics of public choice theory and its relevance to government decision-making.
  - They will explain the concept of fiscal federalism and its role in the allocation of resources between different levels of government.

3. Understanding Issues in Indian Public Finance

- Outcome: Students will be able to analyze current issues in India's public finance system, including taxation, monetary and fiscal policies, and the budgetary system.
- Elaboration:
  - Students will evaluate current issues in India's tax system, including the structure and efficiency of direct and indirect taxes.
  - They will analyze the working of monetary and fiscal policies in India and their impact on economic stability and growth.
  - Students will understand the Indian budgetary system, including the process of budget formulation, execution, and accountability.

4. Application of Public Finance Concepts

- Outcome: Students will be able to apply public finance concepts to analyze government policies and their impact on the economy.
- Elaboration:
  - Students will use public finance theories to evaluate the effectiveness of government policies in addressing market failures and promoting economic welfare.
  - They will apply their knowledge of taxation, public expenditure, and public debt to assess the fiscal health of the economy.
  - Students will analyze the impact of fiscal and monetary policies on economic stability and growth.

5. Critical Thinking and Problem-Solving

- Outcome: Students will develop critical thinking and problem-solving skills in the context of public finance.
- Elaboration:

- Students will analyze public finance problems, such as tax inefficiencies, public debt, and fiscal deficits, using theoretical frameworks.
- They will evaluate the effectiveness of public finance policies and propose solutions to economic challenges.
- Students will critically assess the assumptions and implications of public finance theories.

6. Communication of Public Finance Ideas

- Outcome: Students will be able to communicate public finance ideas effectively.
- Elaboration:
  - Students will present public finance concepts and analysis using appropriate terminology and diagrams.
  - They will write clear and concise explanations of public finance theories and their applications.
  - Students will demonstrate professionalism in their communication of public finance ideas.

26.1 Interconnection Among PO, PSO, and CO

The interconnection among Program Outcomes (POs), Program Specific Outcomes (PSOs), and Course Outcomes (COs) for the Introductory Public Finance course can be established as follows:

26.1.1 Mapping COs to PSOs and POs

1. CO1: Students will be able to explain the core concepts of public finance, including public goods, externalities, public revenue, public expenditure, and public debt.

   PSO1: Students will demonstrate a foundational understanding of public finance.

   PO1: Graduates will demonstrate a deep understanding of economic theories.

2. CO2: Students will be able to analyze the basic theories of public finance, including the benefit principle, ability-to-pay principle, public choice theory, and fiscal federalism.

   PSO2: Students will be able to apply public finance concepts to analyze real-world issues.

   PO2: Graduates will develop strong analytical and quantitative skills.

3. CO3: Students will be able to analyze current issues in India's public finance system, including taxation, monetary and fiscal policies, and the budgetary system.

   PSO3: Students will be able to evaluate the impact of fiscal policies on economic development.

   PO3: Graduates will be able to critically evaluate economic policies.

4. CO4: Students will be able to apply public finance concepts to analyze government policies and their impact on the economy.

   PSO4: Students will develop critical thinking and problem-solving skills in economics.

   PO4: Graduates will be able to solve real-world economic problems.

5. CO5: Students will be able to communicate public finance ideas effectively.

   PSO5: Students will be able to present economic arguments and findings effectively.

   PO5: Graduates will be able to communicate economic ideas effectively.

26.1.2 Explanation of the Interconnection

- **COs Contribute to PSOs:**

The Course Outcomes (COs) of the Public Finance course are designed to help students achieve the Program Specific Outcomes (PSOs). For example:

- – CO1 (core concepts of public finance) contributes to PSO1 (foundational understanding of public finance).

  - CO3 (issues in Indian public finance) contributes to PSO3 (evaluating the impact of fiscal policies).
  - CO5 (communication of public finance ideas) contributes to PSO5 (presenting economic arguments effectively).

- **PSOs Contribute to POs:**

The Program Specific Outcomes (PSOs) are aligned with the broader Program Outcomes (POs). For example:

- – PSO1 (understanding public finance) contributes to PO1 (demonstrating a deep understanding of economic theories).
  - PSO2 (applying public finance concepts) contributes to PO2 (developing strong analytical skills).
  - PSO5 (communication skills) contributes to PO5 (communicating economic ideas effectively).

- **COs Ultimately Contribute to POs:**

Since COs contribute to PSOs, and PSOs contribute to POs, the Course Outcomes (COs) ultimately contribute to the Program Outcomes (POs). For example:

- – CO4 (application of public finance concepts) contributes to PSO4 (developing critical thinking and problem-solving skills), which in turn contributes to PO4 (solving real-world economic problems).
  - CO5 (communication of public finance ideas) contributes to PSO5 (presenting economic arguments effectively), which in turn contributes to PO5 (communicating economic ideas effectively).

The interconnection among PO, PSO, and CO ensures that the learning outcomes at each level are aligned and contribute to the overall goals of the program. The Course Outcomes (COs) of the Introductory Public Finance course directly support the Program Specific Outcomes (PSOs), which in turn contribute to the broader Program Outcomes (POs). This alignment ensures that students acquire the necessary knowledge, skills, and competencies to succeed in their academic and professional careers. The course prepares students to understand and apply public finance concepts, analyze government policies, and communicate their ideas effectively.

27 Course Outcome: International Economics (I)

The Course Outcomes (COs) for the Introductory International Economics (I) course are specific, measurable statements that describe what students are expected to know, understand, and be able to do by the end of the course. These outcomes are aligned with the given syllabus and focus on building foundational knowledge and skills in international trade theory, trade policy, and balance of payments. Below is an elaboration of the Course Outcomes (COs) for the given syllabus:

1. Understanding Absolute and Comparative Advantage

- Outcome: Students will be able to explain and analyze the theories of absolute and comparative advantage in international trade.

- Elaboration:

  - Students will explain Adam Smith's theory of absolute advantage and its implications for trade.
  - They will analyze David Ricardo's theory of comparative advantage and its role in determining trade patterns.
  - Students will understand the concept of arbitrage and its role in cross-country price differences and trade.
  - They will analyze the production possibility frontier, relative demand and supply, terms of trade, and gains from trade in a Ricardian model.

2. Understanding the Building Blocks of Trade Theory

- Outcome: Students will be able to analyze the fundamental concepts of trade theory, including indifference curves, offer curves, and gains from trade.
- Elaboration:
  - Students will explain the concept of community indifference curves and their properties.
  - They will derive trade indifference curves and analyze their properties.
  - Students will understand offer curves, their properties, and their role in determining international equilibrium.
  - They will analyze the terms of trade, the Marshall-Lerner condition, and the stability of trade equilibrium.
  - Students will explain the gains from trade theorem and illustrate the decomposition of gains from trade.

3. Understanding Factor Endowment and Trade (Heckscher-Ohlin-Samuelson Model)

- Outcome: Students will be able to analyze the Heckscher-Ohlin-Samuelson model and its implications for trade patterns and factor prices.
- Elaboration:
  - Students will explain the Heckscher-Ohlin theorem and the concepts of relative factor abundance.
  - They will analyze the role of homothetic tastes and factor intensity reversal in the context of the Heckscher-Ohlin model.
  - Students will understand the Stolper-Samuelson theorem and the Rybczynski theorem and their implications for trade and factor prices.
  - They will explain the factor price equalization theorem and its conditions, including complete and incomplete specialization.
  - Students will analyze empirical studies, including the Leontief paradox, and their implications for trade theory.

4. Understanding Trade Policy

- Outcome: Students will be able to analyze the effects of trade policies, including tariffs, quotas, subsidies, and voluntary export restraints.
- Elaboration:
  - Students will perform partial equilibrium analysis of tariffs, quotas, and subsidies, including their cost-benefit implications.
  - They will analyze the equivalence and non-equivalence of tariffs and quotas and the monopoly effects of quotas.
  - Students will perform general equilibrium analysis of tariffs, including the welfare effects on small and large economies.
  - They will explain the concept of optimum tariffs, tariff wars, and Metzler's paradox.

5. Understanding Balance of Payments

- Outcome: Students will be able to explain the balance of payments accounts and the concepts of fixed and flexible exchange rates.
- Elaboration:
  - Students will understand the components of the balance of payments accounts, including autonomous and accommodating transactions.

- They will explain the basic concepts of fixed and flexible exchange rates and their implications for international trade and finance.

6. Application of International Economics Concepts

- Outcome: Students will be able to apply international economics concepts to analyze trade patterns, trade policies, and balance of payments issues.
- Elaboration:
  - Students will use trade theories to analyze the determinants of trade patterns and the gains from trade.
  - They will evaluate the impact of trade policies on economic welfare and propose solutions to trade-related challenges.
  - Students will apply their knowledge of balance of payments to assess the implications of exchange rate regimes on international trade and finance.

7. Critical Thinking and Problem-Solving

- Outcome: Students will develop critical thinking and problem-solving skills in the context of international economics.
- Elaboration:
  - Students will analyze international trade problems, such as trade imbalances and protectionism, using theoretical frameworks.
  - They will evaluate the effectiveness of trade policies and propose solutions to trade-related challenges.
  - Students will critically assess the assumptions and implications of international trade theories.

8. Communication of International Economics Ideas

- Outcome: Students will be able to communicate international economics ideas effectively.
- Elaboration:
  - Students will present international economics concepts and analysis using appropriate terminology and diagrams.
  - They will write clear and concise explanations of international economics theories and their applications.
  - Students will demonstrate professionalism in their communication of international economics ideas.

27.1 Interconnection Among PO, PSO, and CO

The interconnection among Program Outcomes (POs), Program Specific Outcomes (PSOs), and Course Outcomes (COs) for the Introductory International Economics (I) course can be established as follows:

27.1.1 Mapping COs to PSOs and POs

1. CO1: Students will be able to explain and analyze the theories of absolute and comparative advantage in international trade.

   PSO1: Students will demonstrate a foundational understanding of international trade theory.

   PO1: Graduates will demonstrate a deep understanding of economic theories.

2. CO2: Students will be able to analyze the fundamental concepts of trade theory, including indifference curves, offer curves, and gains from trade.

   PSO2: Students will be able to apply international economics concepts to analyze real-world issues.

   PO2: Graduates will develop strong analytical and quantitative skills.

3. CO3: Students will be able to analyze the Heckscher-Ohlin-Samuelson model and its implications for trade patterns and factor prices.

   PSO3: Students will be able to evaluate the impact of trade policies on economic development.

   PO3: Graduates will be able to critically evaluate economic policies.

4. CO4: Students will be able to analyze the effects of trade policies, including tariffs, quotas, subsidies, and voluntary export restraints.

   PSO4: Students will develop critical thinking and problem-solving skills in economics.

   PO4: Graduates will be able to solve real-world economic problems.

5. CO5: Students will be able to communicate international economics ideas effectively.

   PSO5: Students will be able to present economic arguments and findings effectively.

   PO5: Graduates will be able to communicate economic ideas effectively.

27.1.2 Explanation of the Interconnection

- **COs Contribute to PSOs:**

The Course Outcomes (COs) of the International Economics (I) course are designed to help students achieve the Program Specific Outcomes (PSOs). For example:

- – CO1 (absolute and comparative advantage) contributes to PSO1 (foundational understanding of international trade theory).
  – CO3 (Heckscher-Ohlin-Samuelson model) contributes to PSO3 (evaluating the impact of trade policies).
  – CO5 (communication of international economics ideas) contributes to PSO5 (presenting economic arguments effectively).

- **PSOs Contribute to POs:**

The Program Specific Outcomes (PSOs) are aligned with the broader Program Outcomes (POs). For example:

- – PSO1 (understanding international trade theory) contributes to PO1 (demonstrating a deep understanding of economic theories).
  – PSO2 (applying international economics concepts) contributes to PO2 (developing strong analytical skills).
  – PSO5 (communication skills) contributes to PO5 (communicating economic ideas effectively).

- **COs Ultimately Contribute to POs:**

Since COs contribute to PSOs, and PSOs contribute to POs, the Course Outcomes (COs) ultimately contribute to the Program Outcomes (POs). For example:

- – CO4 (trade policy analysis) contributes to PSO4 (developing critical thinking and problem-solving skills), which in turn contributes to PO4 (solving real-world economic problems).
  – CO5 (communication of international economics ideas) contributes to PSO5 (presenting economic arguments effectively), which in turn contributes to PO5 (communicating economic ideas effectively).

The interconnection among PO, PSO, and CO ensures that the learning outcomes at each level are aligned and contribute to the overall goals of the program. The Course Outcomes (COs) of the Introductory International Economics (I) course directly support the Program Specific Outcomes (PSOs), which in turn contribute to the broader Program Outcomes (POs). This alignment ensures that students acquire the necessary knowledge, skills, and competencies to succeed in their academic and professional careers. The course prepares students to understand and apply international economics concepts, analyze trade patterns and policies, and communicate their ideas effectively.

28 Course Outcome: Environmental & Resource Economics (I)

The Course Outcomes (COs) for the Introductory Environmental & Resource Economics (I) course are specific, measurable statements that describe what students are expected to know, understand, and be able to do by the end of the course. These outcomes are aligned with the given syllabus and focus on building foundational knowledge and skills in environmental economics, including the interlinkages between the economy and the environment, market failures, environmental policies, and the valuation of environmental costs and benefits. Below is an elaboration of the Course Outcomes (COs) for the given syllabus:

1. Understanding the Interlinkages between Environment, Ecology, and Economy

- Outcome: Students will be able to explain the interlinkages between the economy and the environment and the concept of environmental economics.
- Elaboration:
  - Students will define environmental economics and its scope.
  - They will analyze the interlinkages between the economy and the environment, including the concept of a circular economy.
  - Students will understand the elements of environmental degradation and their impact on economic activities.

2. Understanding Efficiency and Market Failure

- Outcome: Students will be able to analyze market failures in the context of environmental economics.
- Elaboration:
  - Students will explain externalities, public goods/bads, and their role in market failure.
  - They will understand the concept of property rights and the Coase theorem in addressing environmental externalities.

3. Understanding Environmental Regulations and Policies

- Outcome: Students will be able to evaluate environmental regulations and the economics of environmental policies.
- Elaboration:
  - Students will explain the history and design of environmental regulations.
  - They will analyze the monitoring and enforcement of environmental policies.
  - Students will understand Pigouvian fees, including their application to single and multiple polluters, and the comparison between fees and subsidies.
  - They will evaluate different approaches to regulating pollution, including command and control measures and economic incentives.
  - Students will explain the basic concepts of tradable pollution permits.

4. Measuring the Values of Environmental Costs and Benefits

- Outcome: Students will be able to measure and analyze the values of environmental costs and benefits.
- Elaboration:
  - Students will understand the concept of total economic value, including user value and non-user value.
  - They will analyze actual market-based valuation methods and future use value, bequest value, and vicarious value.

  - Students will evaluate objective standard-based valuation methods.
  - They will understand subjective preference-based valuation methods, including revealed preference methods (Travel Cost Method and Hedonic Price Theory) and stated preference methods (Contingent Valuation Method).

5. Application of Environmental Economics Concepts

- Outcome: Students will be able to apply environmental economics concepts to analyze environmental policies and their impact.
- Elaboration:
  - Students will use environmental economics theories to evaluate the effectiveness of environmental regulations and policies.
  - They will apply valuation methods to assess the costs and benefits of environmental resources and policies.
  - Students will analyze the impact of environmental policies on economic activities and sustainability.

6. Critical Thinking and Problem-Solving

- Outcome: Students will develop critical thinking and problem-solving skills in the context of environmental economics.
- Elaboration:
  - Students will analyze environmental problems, such as pollution and resource depletion, using theoretical frameworks.
  - They will evaluate the effectiveness of environmental policies and propose solutions to environmental challenges.
  - Students will critically assess the assumptions and implications of environmental economics theories.

7. Communication of Environmental Economics Ideas

- Outcome: Students will be able to communicate environmental economics ideas effectively.
- Elaboration:
  - Students will present environmental economics concepts and analysis using appropriate terminology and diagrams.
  - They will write clear and concise explanations of environmental economics theories and their applications.
  - Students will demonstrate professionalism in their communication of environmental economics ideas.

28.1 Interconnection Among PO, PSO, and CO

The interconnection among Program Outcomes (POs), Program Specific Outcomes (PSOs), and Course Outcomes (COs) for the Introductory Environmental & Resource Economics (I) course can be established as follows:

28.1.1 Mapping COs to PSOs and POs

1. CO1: Students will be able to explain the interlinkages between the economy and the environment and the concept of environmental economics.

   PSO1: Students will demonstrate a foundational understanding of environmental economics.

   PO1: Graduates will demonstrate a deep understanding of economic theories.

2. CO2: Students will be able to analyze market failures in the context of environmental economics.

   PSO2: Students will be able to apply environmental economics concepts to analyze real-world issues.

   PO2: Graduates will develop strong analytical and quantitative skills.

3. CO3: Students will be able to evaluate environmental regulations and the economics of environmental policies.

   PSO3: Students will be able to evaluate the impact of environmental policies on sustainability.

   PO3: Graduates will be able to critically evaluate economic policies.

4. CO4: Students will be able to measure and analyze the values of environmental costs and benefits.

   PSO4: Students will develop critical thinking and problem-solving skills in economics.

   PO4: Graduates will be able to solve real-world economic problems.

5. CO5: Students will be able to communicate environmental economics ideas effectively.

   PSO5: Students will be able to present economic arguments and findings effectively.

   PO5: Graduates will be able to communicate economic ideas effectively.

28.1.2 Explanation of the Interconnection

- **COs Contribute to PSOs:**

The Course Outcomes (COs) of the Environmental & Resource Economics (I) course are designed to help students achieve the Program Specific Outcomes (PSOs). For example:

- – CO1 (interlinkages between economy and environment) contributes to PSO1 (foundational understanding of environmental economics).
  – CO3 (environmental regulations and policies) contributes to PSO3 (evaluating the impact of environmental policies).
  – CO5 (communication of environmental economics ideas) contributes to PSO5 (presenting economic arguments effectively).

- **PSOs Contribute to POs:**

The Program Specific Outcomes (PSOs) are aligned with the broader Program Outcomes (POs). For example:

- – PSO1 (understanding environmental economics) contributes to PO1 (demonstrating a deep understanding of economic theories).
  – PSO2 (applying environmental economics concepts) contributes to PO2 (developing strong analytical skills).
  – PSO5 (communication skills) contributes to PO5 (communicating economic ideas effectively).

- **COs Ultimately Contribute to POs:**

Since COs contribute to PSOs, and PSOs contribute to POs, the Course Outcomes (COs) ultimately contribute to the Program Outcomes (POs). For example:

- – CO4 (valuation of environmental costs and benefits) contributes to PSO4 (developing critical thinking and problem-solving skills), which in turn contributes to PO4 (solving real-world economic problems).

- CO5 (communication of environmental economics ideas) contributes to PSO5 (presenting economic arguments effectively), which in turn contributes to PO5 (communicating economic ideas effectively).

The interconnection among PO, PSO, and CO ensures that the learning outcomes at each level are aligned and contribute to the overall goals of the program. The Course Outcomes (COs) of the Introductory Environmental & Resource Economics (I) course directly support the Program Specific Outcomes (PSOs), which in turn contribute to the broader Program Outcomes (POs). This alignment ensures that students acquire the necessary knowledge, skills, and competencies to succeed in their academic and professional careers. The course prepares students to understand and apply environmental economics concepts, analyze environmental policies, and communicate their ideas effectively.

29 Course Outcome: Public Economics (I)

The Course Outcomes (COs) for the Introductory Public Economics (I) course are specific, measurable statements that describe what students are expected to know, understand, and be able to do by the end of the course. These outcomes are aligned with the given syllabus and focus on building foundational knowledge and skills in public economics, including market failure, public goods, taxation, public expenditure, public debt, and fiscal federalism. Below is an elaboration of the Course Outcomes (COs) for the given syllabus:

1. Understanding the Role of Government in a Market Economy

- Outcome: Students will be able to explain the role of government in addressing market failures and providing public goods.
- Elaboration:
  - Students will revisit the concept of market failure and externalities and understand the role of government in addressing these issues.
  - They will explain the characteristics of public goods, merit goods, mixed goods, club goods, and partial public goods.
  - Students will analyze the allocation, distribution, stabilization, and regulatory functions of government intervention in the economy.

2. Understanding Public Goods and Optimal Provision

- Outcome: Students will be able to analyze the characteristics of pure public goods and their optimal provision.
- Elaboration:
  - Students will differentiate between pure public goods and private goods.
  - They will explain market failure in the case of pure public goods and the need for public provision.
  - Students will analyze the Samuelson model and Lindahl equilibrium for the optimal provision of public goods.

3. Understanding Taxation and Its Effects

- Outcome: Students will be able to analyze the principles, incidence, and effects of taxation.
- Elaboration:
  - Students will classify taxes and explain the canons of taxation.
  - They will analyze the principles of taxation, including the benefit principle, ability-to-pay principle, and equal sacrifice principle.
  - Students will understand the incidence and burden of taxation and its effects on work efforts, risk-bearing, and savings.

- They will explain the Laffer curve and its implications for tax policy.
- Students will compare direct and indirect taxes and analyze their income and substitution effects.
- They will understand the concept of optimal taxation and its implications for equity and efficiency.

4. Understanding Public Expenditure and Public Debt

- Outcome: Students will be able to analyze public expenditure, public debt, and fiscal federalism.
- Elaboration:
  - Students will explain the meaning and classification of public expenditure and understand the components of the government budget, including primary deficit, fiscal deficit, revenue deficit, and budget deficit.
  - They will analyze the meaning of public debt, Domar's model of public debt, and the concept of Ricardian equivalence.
  - Students will understand the sources of public borrowing, including internal and external borrowing, and the effects of public debt on the economy.
  - They will explain the concept of fiscal federalism and the principles of tax devolution.

5. Application of Public Economics Concepts

- Outcome: Students will be able to apply public economics concepts to analyze government policies and their impact on the economy.
- Elaboration:
  - Students will use public economics theories to evaluate the effectiveness of government policies in addressing market failures and promoting economic welfare.
  - They will apply their knowledge of taxation, public expenditure, and public debt to assess the fiscal health of the economy.
  - Students will analyze the impact of fiscal policies on economic stability and growth.

6. Critical Thinking and Problem-Solving

- Outcome: Students will develop critical thinking and problem-solving skills in the context of public economics.
- Elaboration:
  - Students will analyze public economics problems, such as tax inefficiencies, public debt, and fiscal deficits, using theoretical frameworks.
  - They will evaluate the effectiveness of public economics policies and propose solutions to economic challenges.
  - Students will critically assess the assumptions and implications of public economics theories.

7. Communication of Public Economics Ideas

- Outcome: Students will be able to communicate public economics ideas effectively.
- Elaboration:
  - Students will present public economics concepts and analysis using appropriate terminology and diagrams.
  - They will write clear and concise explanations of public economics theories and their applications.
  - Students will demonstrate professionalism in their communication of public economics ideas.

29.1 Interconnection Among PO, PSO, and CO

The interconnection among Program Outcomes (POs), Program Specific Outcomes (PSOs), and Course Outcomes (COs) for the Introductory Public Economics (I) course can be established as follows:

29.1.1 Mapping COs to PSOs and POs

1. CO1: Students will be able to explain the role of government in addressing market failures and providing public goods.

   PSO1: Students will demonstrate a foundational understanding of public economics.

   PO1: Graduates will demonstrate a deep understanding of economic theories.

2. CO2: Students will be able to analyze the characteristics of pure public goods and their optimal provision.

   PSO2: Students will be able to apply public economics concepts to analyze real-world issues.

   PO2: Graduates will develop strong analytical and quantitative skills.

3. CO3: Students will be able to analyze the principles, incidence, and effects of taxation.

   PSO3: Students will be able to evaluate the impact of fiscal policies on economic development.

   PO3: Graduates will be able to critically evaluate economic policies.

4. CO4: Students will be able to analyze public expenditure, public debt, and fiscal federalism.

   PSO4: Students will develop critical thinking and problem-solving skills in economics.

   PO4: Graduates will be able to solve real-world economic problems.

5. CO5: Students will be able to communicate public economics ideas effectively.

   PSO5: Students will be able to present economic arguments and findings effectively.

   PO5: Graduates will be able to communicate economic ideas effectively.

29.1.2 Explanation of the Interconnection

- **COs Contribute to PSOs:**

The Course Outcomes (COs) of the Public Economics (I) course are designed to help students achieve the Program Specific Outcomes (PSOs). For example:

- – CO1 (role of government) contributes to PSO1 (foundational understanding of public economics).
  – CO3 (taxation) contributes to PSO3 (evaluating the impact of fiscal policies).
  – CO5 (communication of public economics ideas) contributes to PSO5 (presenting economic arguments effectively).

- **PSOs Contribute to POs:**

The Program Specific Outcomes (PSOs) are aligned with the broader Program Outcomes (POs). For example:

- – PSO1 (understanding public economics) contributes to PO1 (demonstrating a deep understanding of economic theories).
  – PSO2 (applying public economics concepts) contributes to PO2 (developing strong analytical skills).
  – PSO5 (communication skills) contributes to PO5 (communicating economic ideas effectively).

- **COs Ultimately Contribute to POs:**

Since COs contribute to PSOs, and PSOs contribute to POs, the Course Outcomes (COs) ultimately contribute to the Program Outcomes (POs). For example:

- – CO4 (public expenditure and debt) contributes to PSO4 (developing critical thinking and problem-solving skills), which in turn contributes to PO4 (solving real-world economic problems).
  – CO5 (communication of public economics ideas) contributes to PSO5 (presenting economic arguments effectively), which in turn contributes to PO5 (communicating economic ideas effectively).

The interconnection among PO, PSO, and CO ensures that the learning outcomes at each level are aligned and contribute to the overall goals of the program. The Course Outcomes (COs) of the Introductory Public Economics (I) course directly support the Program Specific Outcomes (PSOs), which in turn contribute to the broader Program Outcomes (POs). This alignment ensures that students acquire the necessary knowledge, skills, and competencies to succeed in their academic and professional careers. The course prepares students to understand and apply public economics concepts, analyze government policies, and communicate their ideas effectively.

30 Course Outcome: Summer Internship

Notifications:

1. UGC Notification (www.ugc.gov.in/pdfnews/0063650_Draft-Guidelines-for-Internship-and-Research-Internship-for-Under-Graduate-Students.pdf)
2. Notification no. CSR/48/2023 (https://www.caluniv.ac.in/ccf-ug/files/CSR-48-2023.pdf)
3. Corrigendum (https://www.caluniv.ac.in/ccf-ug/files/corri-SI-CUS-111(Cir.)-24.pdf)
4. Explanation (https://www.caluniv.ac.in/ccf-ug/files/Notice-SIP-CUS-155-24.pdf)
5. Notification no. CSR/29/2024 (https://www.caluniv.ac.in/ccf-ug/files/SIS-UGCSR-29.pdf). **Economics: Page no.7**

Upon completion of the internship program, undergraduate Economics students will be able to:

1. Field Survey and Report Writing: Conduct field surveys, select socio-economic problems, collect and compile data, and write comprehensive reports based on analysis.
2. Secondary Data Analysis: Utilize secondary data sources to prepare and present analyses or studies on socio-economic issues, supported by scholarly or institutional research.
3. Project Assistance: Assist faculty members and researchers at Colleges/Universities/Research Institutes in research projects through data analysis and report writing.
4. Employability Skills: Acquire employability skills through work experience, enhancing their acceptability as job seekers across various sectors.
5. Government Internships: Gain experience with government agencies, performing data analysis, policy implementation, and working on projects related to labor, trade, or economic development.
6. Non-Government Organizations: Engage with non-profit and non-government organizations to address issues like poverty alleviation, social welfare, environmental sustainability, and community outreach.
7. Financial Services Internships: Develop skills in investment firms, consulting firms, or insurance companies through financial analysis, market research, investment strategies, and risk assessment.
8. Corporate Internships: Apply economic principles in corporate settings, focusing on market research, business analytics, pricing strategies, supply chain management, and corporate finance forecasting.
9. International Organizations: Work with organizations like the World Bank, IMF, UN, or WTO on global economic issues, international development projects, and policy analysis.

10. Entrepreneurial Focus: Gain hands-on experience in business development, market research, financial planning, and entrepreneurship, supporting startups and growing businesses.

These outcomes will definitely vary based on factors such as location, industry trends, and individual interests and goals.

31 Course Outcome: Rural Development

The Course Outcomes (COs) for the Introductory Rural Development course are specific, measurable statements that describe what students are expected to know, understand, and be able to do by the end of the course. These outcomes are aligned with the given syllabus and focus on building foundational knowledge and skills in rural development, including the rural economy, measures of development, rural governance, and government programs. Below is an elaboration of the Course Outcomes (COs) for the given syllabus:

1. Understanding Rural India

- Outcome: Students will be able to explain the basic elements of rural development and the importance of rural development in India.
- Elaboration:
  - Students will understand the basic elements of rural development, including growth versus development.
  - They will explain the reasons for focusing on rural development and the rising expectations associated with development.
  - Students will analyze the relationship between development and change in rural areas.

2. Understanding the Rural Economy of India

- Outcome: Students will be able to analyze the size, structure, and characteristics of the rural economy in India.
- Elaboration:
  - Students will explain the size and structure of the rural economy, including population and resource distribution.
  - They will analyze the characteristics of the rural sector and the roles of the agricultural and non-agricultural subsectors.
  - Students will evaluate the challenges and opportunities in the rural economy.

3. Understanding Measures of Rural Development

- Outcome: Students will be able to use and interpret measures of rural development, including PQLI, HDI, Lorenz Curve, and Gini Coefficient.
- Elaboration:
  - Students will explain measures of the level of rural development, such as the Physical Quality of Life Index (PQLI) and Human Development Index (HDI).
  - They will analyze measures of income distribution, including the Lorenz Curve and Gini Coefficient.
  - Students will understand simplified measures of development and concepts of rural poverty, including definitions, criteria, and measures.

4. Understanding Rural Governance and Institutions

- Outcome: Students will be able to analyze the role of rural governance and institutions in rural development.
- Elaboration:

  - Students will explain the role of Panchayati Raj institutions in rural development.
  - They will analyze the role of rural credit institutions, including NABARD and Regional Rural Banks (RRBs).
  - Students will understand the role of self-help groups (SHGs) and microfinance in rural development.
  - They will evaluate the role of non-governmental organizations (NGOs) in promoting rural development.

5. Understanding Selected Government Programs for Rural Development

- Outcome: Students will be able to analyze selected government programs aimed at rural development.
- Elaboration:
  - Students will explain the objectives and impact of the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).
  - They will analyze the Pradhan Mantri Awas Yojana-Gramin (PMAY-G) and its role in providing rural housing.
  - Students will understand the Mid-Day Meal Scheme (MDM) and its impact on education and nutrition.
  - They will evaluate the National Rural Livelihoods Mission (NRLM) and its role in poverty alleviation.
  - Students will analyze the National Rural Health Mission (NRHM) and its impact on rural healthcare.
  - They will understand the Pradhan Mantri Gram Sadak Yojana (PMGSY) and its role in improving rural connectivity.

6. Application of Rural Development Concepts

- Outcome: Students will be able to apply rural development concepts to analyze government policies and their impact on rural areas.
- Elaboration:
  - Students will use rural development theories to evaluate the effectiveness of government policies in addressing rural challenges.
  - They will apply their knowledge of rural governance and institutions to assess the impact of rural development programs.
  - Students will analyze the role of government programs in promoting rural development and improving the quality of life in rural areas.

7. Critical Thinking and Problem-Solving

- Outcome: Students will develop critical thinking and problem-solving skills in the context of rural development.
- Elaboration:
  - Students will analyze rural development problems, such as poverty, lack of infrastructure, and inadequate healthcare, using theoretical frameworks.
  - They will evaluate the effectiveness of rural development policies and propose solutions to rural challenges.
  - Students will critically assess the assumptions and implications of rural development theories.

8. Communication of Rural Development Ideas

- Outcome: Students will be able to communicate rural development ideas effectively.

- Elaboration:
  - Students will present rural development concepts and analysis using appropriate terminology and diagrams.
  - They will write clear and concise explanations of rural development theories and their applications.
  - Students will demonstrate professionalism in their communication of rural development ideas.

31.1 Interconnection Among PO, PSO, and CO

The interconnection among Program Outcomes (POs), Program Specific Outcomes (PSOs), and Course Outcomes (COs) for the Introductory Rural Development course can be established as follows:

31.1.1 Mapping COs to PSOs and POs

1. CO1: Students will be able to explain the basic elements of rural development and the importance of rural development in India.

   PSO1: Students will demonstrate a foundational understanding of rural development.

   PO1: Graduates will demonstrate a deep understanding of economic theories.

2. CO2: Students will be able to analyze the size, structure, and characteristics of the rural economy in India.

   PSO2: Students will be able to apply rural development concepts to analyze real-world issues.

   PO2: Graduates will develop strong analytical and quantitative skills.

3. CO3: Students will be able to use and interpret measures of rural development, including PQLI, HDI, Lorenz Curve, and Gini Coefficient.

   PSO3: Students will be able to evaluate the impact of rural development policies on economic development.

   PO3: Graduates will be able to critically evaluate economic policies.

4. CO4: Students will be able to analyze the role of rural governance and institutions in rural development.

   PSO4: Students will develop critical thinking and problem-solving skills in economics.

   PO4: Graduates will be able to solve real-world economic problems.

5. CO5: Students will be able to communicate rural development ideas effectively.

   PSO5: Students will be able to present economic arguments and findings effectively.

   PO5: Graduates will be able to communicate economic ideas effectively.

31.1.2 Explanation of the Interconnection

- **COs Contribute to PSOs:**

The Course Outcomes (COs) of the Rural Development course are designed to help students achieve the Program Specific Outcomes (PSOs). For example:

-
  - CO1 (basic elements of rural development) contributes to PSO1 (foundational understanding of rural development).
  - CO3 (measures of rural development) contributes to PSO3 (evaluating the impact of rural development policies).
  - CO5 (communication of rural development ideas) contributes to PSO5 (presenting economic arguments effectively).

- **PSOs Contribute to POs:**

The Program Specific Outcomes (PSOs) are aligned with the broader Program Outcomes (POs). For example:

- – PSO1 (understanding rural development) contributes to PO1 (demonstrating a deep understanding of economic theories).
  - PSO2 (applying rural development concepts) contributes to PO2 (developing strong analytical skills).
  - PSO5 (communication skills) contributes to PO5 (communicating economic ideas effectively).

- **COs Ultimately Contribute to POs:**

Since COs contribute to PSOs, and PSOs contribute to POs, the Course Outcomes (COs) ultimately contribute to the Program Outcomes (POs). For example:

- – CO4 (rural governance and institutions) contributes to PSO4 (developing critical thinking and problem-solving skills), which in turn contributes to PO4 (solving real-world economic problems).
  - CO5 (communication of rural development ideas) contributes to PSO5 (presenting economic arguments effectively), which in turn contributes to PO5 (communicating economic ideas effectively).

The interconnection among PO, PSO, and CO ensures that the learning outcomes at each level are aligned and contribute to the overall goals of the program. The Course Outcomes (COs) of the Introductory Rural Development course directly support the Program Specific Outcomes (PSOs), which in turn contribute to the broader Program Outcomes (POs). This alignment ensures that students acquire the necessary knowledge, skills, and competencies to succeed in their academic and professional careers. The course prepares students to understand and apply rural development concepts, analyze government policies, and communicate their ideas effectively.

32 Future Prospects with Economics

The future for an undergraduate Economics student in India is promising, given the country's rapid growth as a global economic powerhouse. With India's focus on digital transformation, sustainability, and global trade, economists are in demand across diverse sectors. Career paths include private roles like financial analysts, consultants, or data scientists in firms like Deloitte or Amazon; public sector jobs with RBI, IES, or NITI Aayog; and research opportunities in think tanks like ICRIER or international bodies like the World Bank. Emerging fields such as environmental economics, behavioral economics, and fintech further broaden prospects, especially for those with interdisciplinary skills.

To thrive, students should hone quantitative skills, pursue internships, and consider master's degrees from institutes like CU, JU, ISI, IIT, DSE or JNU for specialization. While competition for prestigious roles and urban-centric opportunities pose challenges, upskilling in data analysis and policy expertise can ensure success. By aligning with India's economic priorities—digitalization, green growth, and job creation—graduates can build impactful careers in a dynamic job market, and can contribute to Indian economy.The undergraduate Economics syllabus from the University of Calcutta offers a comprehensive foundation in economic theory, quantitative methods, and applied economics.

Students of Economics equip themself with a blend of theoretical rigor, quantitative skills, and applied knowledge, opening diverse career avenues:

1. **Public Sector:**
   (a) Civil Services (IAS, IFS, IRS via UPSC)
   (b) Economic Services (Indian Economic Service, RBI Grade B)
   (c) Statistical Services (ISSO, NSSO)
2. **Private Sector:**
   (a) Consulting (McKinsey, BCG, Deloitte)
   (b) Banking and Finance (HDFC, ICICI, Goldman Sachs)
   (c) Data Analytics and Tech (Amazon, Google, TCS)
   (d) Market Research (Nielsen, Ipsos)

3. **International Organizations:**
   (a) Economist or Analyst roles (World Bank, IMF, UN)
   (b) Development Specialist (UNDP, ADB, IFC)
4. **Academia and Research:**
   (a) PhD and Professorship (IITs, IIMs, Foreign Universities)
   (b) Research Fellow (NIPFP, ICRIER, IGIDR)
5. **Development and NGO Sector:**
   (a) Program Managers (Oxfam, CARE India)
   (b) Policy Advisors (NITI Aayog, State Governments)
6. **Entrepreneurship:**
   (a) Startups in EdTech, FinTech, or Social Enterprises
   (b) Consulting for SMEs and rural businesses

Below, we outline the future prospects and career options for each paper (course), detailing how each subject equips students with skills applicable to various professional fields.

32.1 Microeconomics (I)

1. **Content Overview: Introduces the scope of economics, utility theory, demand and supply, market adjustments, and elasticity, emphasizing individual decision-making and market interactions without calculus.**
2. **Skills Gained:**
   - Analytical thinking for understanding consumer behavior and market dynamics.
   - Ability to interpret demand and supply shifts and elasticities.
   - Problem-solving through diagrammatic and intuitive analysis.
3. **Future Prospects:**
   - Economics and Policy Analysis: Understanding microeconomic principles is foundational for roles in policy analysis, where professionals assess how policies affect markets (e.g., tax policies, subsidies).
   - Market Research: Skills in demand analysis are valuable for market research analysts who study consumer preferences and market trends.
   - Consulting: Microeconomic insights aid in consulting roles, advising firms on pricing strategies or market entry.
4. **Career Options:**
   - Policy Analyst (Government, Think Tanks like Centre for Policy Research)
   - Market Research Analyst (Firms like Nielsen, Kantar)
   - Economic Consultant (McKinsey, BCG, PwC)
   - Corporate Strategist (FMCG, Retail sectors)
   - Preparation for competitive exams (IAS, IES, RBI Grade B)

32.2 Introductory Statistics & Application (I)

1. **Content Overview: Covers basics of statistics, data collection, presentation, and descriptive statistics (central tendency, dispersion, skewness, kurtosis, correlation, regression).**
2. **Skills Gained:**
   - Data collection and presentation skills (tabular, graphical).
   - Statistical analysis for summarizing data (mean, median, variance).
   - Basic bivariate analysis for understanding relationships between variables.
3. **Future Prospects:**
   - Data Analysis: Foundational statistics skills are crucial for data analyst roles across industries, interpreting economic and social data.
   - Research: Prepares students for research assistant roles in academia or think tanks, analyzing economic data.
   - Business Intelligence: Understanding data trends supports roles in business analytics, aiding corporate decision-making.
4. **Career Options:**
   - Data Analyst (Banking, E-commerce like Amazon, Flipkart)
   - Research Assistant (Universities, NITI Aayog)
   - Business Analyst (TCS, Infosys, Accenture)
   - Statistical Analyst (Government agencies like NSSO)
   - Actuarial Analyst (Insurance firms like LIC, ICICI Prudential)

32.3 Economic Data Analysis and Report Writing

1. **Content Overview: Focuses on tabular/graphical data representation, descriptive statistics, and report writing, emphasizing practical data analysis and communication.**
2. **Skills Gained:**
   - Proficiency in visualizing data (charts, histograms, Lorenz curves).
   - Report writing for clear communication of findings.
   - Application of statistical measures to economic problems like inequality.
3. **Future Prospects:**
   - Economic Journalism: Report writing skills are valuable for communicating economic insights to a broader audience.
   - Policy Research: Data visualization and interpretation skills support roles in policy evaluation.
   - Corporate Reporting: Companies value professionals who can analyze and present data clearly for strategic planning.
4. **Career Options:**
   - Economic Journalist (The Economic Times, Business Standard)
   - Policy Researcher (Institute for Economic Growth, ICRIER)
   - Data Visualization Specialist (Consulting firms, NGOs)
   - Corporate Analyst (Reliance, Aditya Birla Group)
   - Content Developer for Economic Reports (UNDP, World Bank)

32.4 Entrepreneurship and Development

1. **Content Overview: Explores entrepreneurship, its role in economic development, financial resources, growth strategies, and issues like industrial sickness.**
2. **Skills Gained:**
   - Understanding of entrepreneurial ecosystems and economic development linkages.
   - Knowledge of financing and growth strategies for small businesses.
   - Problem-solving for rural and small-scale entrepreneurship challenges.
3. **Future Prospects:**
   - Entrepreneurship: Equips students to start their own ventures, particularly in rural or social entrepreneurship.
   - Development Sector: Prepares for roles in NGOs or government programs promoting entrepreneurship.
   - Business Development: Skills in growth strategies are applicable in corporate business development roles.
4. **Career Options:**
   - Entrepreneur (Startups, Social Enterprises)
   - Development Consultant (NGOs like PRADAN, SEWA)
   - Business Development Manager (SMEs, Corporates)
   - Project Coordinator (SIDBI, NABARD)
   - Policy Advisor for MSMEs (Ministry of MSME)

32.5 Elementary Economics

1. **Content Overview: Introduces basic microeconomic and macroeconomic concepts, economic development indicators, and Indian economic reforms.**
2. **Skills Gained:**
   - Broad understanding of economic principles (demand, supply, GDP, inflation).
   - Awareness of development metrics (HDI, Gini) and Indian policy reforms.
   - Ability to connect economic theory to real-world issues.
3. **Future Prospects:**
   - Generalist Roles: Provides a foundation for roles requiring economic literacy, such as in administration or journalism.
   - Public Sector: Prepares for competitive exams needing economic knowledge.
   - Corporate Training: Useful for entry-level roles requiring economic awareness.
4. **Career Options:**
   - Civil Servant (IAS, IPS via UPSC)
   - Economic Content Writer (Online platforms, EdTech like Unacademy)
   - Junior Analyst (Banks, Financial Institutions)
   - NGO Worker (Focus on development projects)
   - CSR Coordinator (Corporates like Tata, Infosys)

32.6 Macroeconomics (I)

1. **Content Overview: Covers national income accounting, simple Keynesian model, classical system, investment theory, and inflation basics.**
2. **Skills Gained:**
   - Understanding of macroeconomic aggregates (GDP, NNP) and their measurement.
   - Analysis of income determination and multiplier effects.
   - Insight into inflation and classical economic theories.
3. **Future Prospects:**
   - Economic Policy: Knowledge of macroeconomic models aids in designing fiscal and monetary policies.
   - Financial Analysis: Understanding national income supports roles in banking and finance.
   - Research: Prepares for macroeconomic research in government or academia.
4. **Career Options:**
   - Economic Policy Analyst (RBI, Finance Ministry)
   - Financial Analyst (Banks like SBI, HDFC)
   - Research Associate (EPW, NIPFP)
   - Budget Analyst (Government, Corporates)
   - Economist (International organizations like IMF)

32.7 Introductory Statistics & Application (II)

1. **Content Overview: Focuses on economic data types (cross-section, time series), field survey methods, and practical applications using Microsoft Excel.**
2. **Skills Gained:**
   - Proficiency in handling different data types and survey methods.
   - Excel-based data analysis (sorting, filtering, descriptive statistics).
   - Visualization skills (charts, histograms, scatter diagrams).
3. **Future Prospects:**
   - Data Science: Excel proficiency is a stepping stone to advanced data analytics roles.
   - Survey Research: Skills in field surveys are valuable for market and social research.
   - Business Analytics: Data visualization supports strategic decision-making in firms.
4. **Career Options:**
   - Data Scientist (Entry-level, Tech firms like Wipro, Cognizant)
   - Survey Researcher (ORF, CSDS)
   - Business Intelligence Analyst (E-commerce, Retail)
   - Statistical Consultant (Government projects, NSSO)
   - Excel Trainer (EdTech, Corporate training)

32.8 Microeconomics (II)

1. **Content Overview: Advances consumer behavior (demand curves, income/substitution effects), production, costs, perfect competition, and input markets.**
2. **Skills Gained:**
   - Deeper analysis of consumer preferences and firm behavior.
   - Understanding production functions and cost structures.
   - Application of competitive market dynamics to real-world scenarios.
3. **Future Prospects:**
   - Industry Analysis: Production and cost knowledge aids in analyzing firm efficiency.
   - Labor Economics: Input market insights support HR and labor policy roles.
   - Advanced Studies: Prepares for postgraduate studies in microeconomics or industrial organization.
4. **Career Options:**
   - Industry Analyst (FICCI, CII)
   - Labor Economist (ILO, Ministry of Labor)
   - Strategy Consultant (Deloitte, EY)
   - Academic Researcher (IITs, IIMs)
   - Pricing Analyst (Telecom, Airlines)

32.9 Development Economics (I)

1. **Content Overview: Introduces development economics, poverty, inequality, dual economy models, and financial inclusion.**
2. **Skills Gained:**
   - Analysis of poverty and inequality metrics (Gini, HDI, MPI).
   - Understanding development strategies (Lewis model, balanced growth).
   - Knowledge of financial inclusion and its economic impact.
3. **Future Prospects:**
   - Development Sector: Core for roles in poverty alleviation and development projects.
   - International Organizations: Knowledge of global development metrics aids in UN/World Bank roles.
   - Microfinance: Financial inclusion focus supports careers in microfinance institutions.
4. **Career Options:**
   - Development Economist (UNDP, Oxfam)
   - Program Manager (NGOs, World Vision)
   - Microfinance Specialist (Bandhan Bank, SKS Microfinance)
   - Policy Advisor (NITI Aayog, State Governments)
   - Researcher (IDS, Sussex, or local institutes)

32.10 Data Analysis and Research Methodology

1. **Content Overview: Covers sampling techniques, data recording/validation, report writing, and Power Query/Power BI basics.**
2. **Skills Gained:**
   - Sampling and survey design for robust data collection.
   - Advanced data analysis using Excel and Power BI.
   - Research methodology for structured report writing.
3. **Future Prospects:**
   - Research and Analytics: Sampling and Power BI skills are in demand for advanced research roles.
   - Data Visualization: Power BI proficiency supports business intelligence roles.
   - Academic Research: Prepares for rigorous research in economics or social sciences.
4. **Career Options:**
   - Research Analyst (IGIDR, TERI)
   - BI Developer (Microsoft, Tableau-focused firms)
   - Survey Methodologist (Government, Private research firms)
   - Academic Researcher (PhD preparation)
   - Data Consultant (KPMG, Grant Thornton)

32.11 Mathematical Economics (I)

1. **Content Overview: Introduces sets, matrices, functions, derivatives, and optimization, with applications to utility, demand, and production.**
2. **Skills Gained:**
   - Mathematical modeling of economic problems.
   - Optimization techniques for economic decision-making.
   - Analytical rigor for complex economic analysis.
3. **Future Prospects:**
   - Quantitative Economics: Essential for roles requiring mathematical modeling (e.g., econometrics).
   - Finance and Risk Analysis: Optimization skills are valuable in financial modeling.
   - Academia: Prepares for advanced studies in economic theory.
4. **Career Options:**
   - Quantitative Analyst (Goldman Sachs, JP Morgan)
   - Econometrician (RBI, World Bank)
   - Risk Analyst (Insurance, Banking)
   - Academic (Teacher, Professor, Researcher in Economics)
   - Operations Research Analyst (Logistics, Manufacturing)

32.12 Macroeconomics (II)

1. **Content Overview: Explores IS-LM model, aggregate demand/supply, Keynes vs. Classics, money supply, and inflation-unemployment trade-offs.**
2. **Skills Gained:**
   - Analysis of macroeconomic policy interactions (fiscal, monetary).
   - Understanding money supply and banking operations.
   - Insight into Phillips curve and policy effectiveness.
3. **Future Prospects:**
   - Central Banking: Knowledge of monetary policy is key for RBI or other central bank roles.
   - Economic Forecasting: AD-AS models aid in GDP and inflation forecasting.
   - Policy Analysis: Prepares for evaluating government budgets and policies.
4. **Career Options:**
   - Monetary Policy Analyst (RBI, Federal Reserve)
   - Economic Forecaster (IMF, OECD)
   - Budget Analyst (Finance Ministry, State Governments)
   - Financial Economist (Banks, Rating Agencies)
   - Researcher (NCAER, Brookings India)

32.13 Statistics for Economics

1. **Content Overview: Covers probability theory, probability distributions, sampling, and statistical inference.**
2. **Skills Gained:**
   - Probability-based decision-making under uncertainty.
   - Sampling techniques for reliable data analysis.
   - Hypothesis testing and estimation for economic research.
3. **Future Prospects:**
   - Econometrics: Statistical inference is foundational for econometric modeling.
   - Data Science: Probability and sampling skills are transferable to data science.
   - Risk Management: Probability distributions aid in assessing economic risks.
4. **Career Options:**
   - Econometrician (Consulting, Academia)
   - Data Scientist (Tech, Finance sectors)
   - Risk Manager (Banks, Insurance)
   - Statistical Officer (Government, CSO)
   - Market Researcher (Ipsos, Gallup)

32.14 Indian Economics (I)

1. **Content Overview: Examines India's economic development, population, human development, growth, inequality, and reforms.**
2. **Skills Gained:**
   - Contextual understanding of Indian economic policies and challenges.
   - Analysis of demographic trends and human development metrics.
   - Evaluation of economic reforms and their impacts.
3. **Future Prospects:**
   - Policy Making: Deep knowledge of Indian economy aids in policy design and evaluation.
   - Development Consulting: Focus on poverty and inequality supports development roles.
   - Public Sector: Prepares for administrative roles requiring economic expertise.
4. **Career Options:**
   - Policy Analyst (NITI Aayog, PMO)
   - Development Consultant (UNICEF, ADB)
   - Economic Advisor (State Governments, Ministries)
   - Researcher (CPR, RIS)
   - Civil Servant (UPSC, State PSC)

32.15 Sustainable Development

1. **Content Overview: Covers environmental issues, sustainable development principles, resource management, and climate change economics.**
2. **Skills Gained:**
   - Understanding of sustainability and environmental economics.
   - Analysis of resource management and property rights.
   - Insight into global environmental policies and carbon markets.
3. **Future Prospects:**
   - Environmental Economics: Prepares for roles in green policy and sustainability.
   - Corporate Sustainability: Skills are valuable for CSR and ESG roles.
   - International Development: Knowledge of climate change policies aids in global roles.
4. **Career Options:**
   - Environmental Economist (TERI, WWF)
   - Sustainability Consultant (EY, PwC)
   - CSR Manager (Tata, Reliance)
   - Climate Policy Analyst (UNFCC, IPCC)
   - Green Finance Specialist (Green Bonds, IFC)

32.16 Microeconomics (III)

1. **Content Overview: Focuses on imperfect markets (monopoly, oligopoly), input markets, general equilibrium, and market failures.**
2. **Skills Gained:**
   - Analysis of market structures and pricing strategies.
   - Understanding of general equilibrium and welfare economics.
   - Insight into market failures like externalities and asymmetric information.
3. **Future Prospects:**
   - Industrial Organization: Monopoly and oligopoly knowledge aids in analyzing firm behavior.
   - Regulatory Economics: Market failure insights support roles in regulation.
   - Advanced Research: Prepares for PhD-level work in microeconomic theory.
4. **Career Options:**
   - Competition Analyst (CCI, Antitrust bodies)
   - Regulatory Economist (TRAI, CERC)
   - Strategy Consultant (Bain, BCG)
   - Academic Researcher (JNU, DSE)
   - Pricing Strategist (Tech, Retail)

32.17 Macroeconomics (III)

1. **Content Overview: Covers new classical/Keynesian theories, consumption, money demand, and economic growth models (Harrod-Domar, Solow).**
2. **Skills Gained:**
   - Understanding of modern macroeconomic theories and growth dynamics.
   - Analysis of consumption and money demand behaviors.
   - Modeling economic growth and technological progress.
3. **Future Prospects:**
   - Growth Economics: Growth models are key for long-term policy planning.
   - Financial Economics: Money demand knowledge aids in monetary policy analysis.
   - Research: Prepares for advanced macroeconomic research.
4. **Career Options:**
   - Growth Economist (World Bank, ADB)
   - Financial Economist (RBI, SEBI)
   - Policy Researcher (IGIDR, NIPFP)
   - Investment Analyst (Mutual Funds, Hedge Funds)
   - Academic (IIMs, Foreign Universities)

32.18 Mathematical Economics (II)

1. **Content Overview: Introduces game theory, integration, difference/differential equations, with applications to economic models (Cobweb, Solow).**
2. **Skills Gained:**
   - Strategic thinking through game theory (Nash equilibrium).
   - Dynamic modeling using difference and differential equations.
   - Application of mathematical tools to economic problems.
3. **Future Prospects:**
   - Game Theory Applications: Useful in negotiation, auctions, and strategy roles.
   - Economic Modeling: Dynamic equations support advanced econometric work.
   - Tech and AI: Game theory is applicable in AI strategy and tech policy.
4. **Career Options:**
   - Game Theorist (Consulting, Tech firms)
   - Economic Modeler (RBI, IMF)
   - Strategy Analyst (Google, Amazon)
   - Quantitative Researcher (Academia, Think Tanks)
   - Operations Research Specialist (Supply Chain, Logistics)

32.19 Econometrics (I)

1. **Content Overview: Covers econometric models, simple/multiple regression, dummy variables, and violations like multicollinearity.**
2. **Skills Gained:**
   - Estimation and testing of economic relationships.
   - Interpretation of regression results for policy and business.
   - Handling data issues like heteroscedasticity and autocorrelation.
3. **Future Prospects:**
   - Econometrics: Core for data-driven economic analysis and forecasting.
   - Data Science: Regression skills are transferable to machine learning.
   - Policy Evaluation: Enables rigorous impact assessment of policies.
4. **Career Options:**
   - Econometrician (World Bank, RBI)
   - Data Scientist (Finance, Tech sectors)
   - Policy Evaluator (Government, NGOs)
   - Risk Analyst (Credit Rating Agencies)
   - Research Consultant (McKinsey, EIU)

32.20 Economic History of India (1857-1947)

1. **Content Overview: Examines colonial economy, agriculture, industry, railways, and imperial policies.**
2. **Skills Gained:**
   - Historical perspective on economic development.
   - Analysis of structural changes in agriculture and industry.
   - Understanding of colonial economic policies and their impacts.
3. **Future Prospects:**
   - Economic History: Prepares for specialized research in historical economics.
   - Policy Analysis: Historical context aids in understanding current policy challenges.
   - Education: Useful for teaching and curriculum development.
4. **Career Options:**
   - Economic Historian (Academia, Archives)
   - Policy Analyst (Focus on historical context)
   - Museum Curator (Economic Exhibits)
   - Educator (Schools, Colleges)
   - Researcher (IHC, ASI)

32.21 Public Finance

1. **Content Overview: Covers public goods, externalities, revenue, expenditure, debt, taxation principles, and Indian fiscal issues.**
2. **Skills Gained:**
   - Analysis of government budgeting and taxation.
   - Understanding of public goods and fiscal policy.
   - Insight into Indian tax systems and fiscal federalism.
3. **Future Prospects:**
   - Fiscal Policy: Key for roles in budget analysis and tax policy.
   - Public Administration: Prepares for administrative roles managing public funds.
   - Consulting: Taxation knowledge supports financial advisory roles.
4. **Career Options:**
   - Fiscal Policy Analyst (Finance Ministry, RBI)
   - Tax Consultant (PwC, Deloitte)
   - Budget Analyst (State Governments, PSUs)
   - Public Finance Specialist (IMF, World Bank)
   - Civil Servant (IRS, IAS)

32.22 International Economics (I)

1. **Content Overview: Covers trade theories (Ricardo, Heckscher-Ohlin), trade policy, and balance of payments.**
2. **Skills Gained:**
   - Analysis of comparative advantage and trade gains.
   - Evaluation of trade policies (tariffs, quotas).
   - Understanding of balance of payments and exchange rat**es.**
3. **Future Prospects:**
   - Trade Policy: Essential for roles in international trade negotiations.
   - Global Finance: Balance of payments knowledge aids in forex analysis.
   - Export-Import: Trade theory supports strategic roles in global commerce.
4. **Career Options:**
   - Trade Policy Analyst (WTO, Ministry of Commerce)
   - Forex Analyst (Banks, Financial Institutions)
   - Export-Import Manager (Trade Firms, Logistics)
   - International Economist (UNCTAD, ITC)
   - Consultant (Global Trade Advisory, EY)

32.23 Environmental & Resource Economics (I)

1. **Content Overview: Explores environmental economics, externalities, regulations, and valuation methods (CVM, TCM).**
2. **Skills Gained:**
   - Analysis of environmental costs and benefits.
   - Understanding of pollution control policies and market failures.
   - Valuation techniques for environmental resources.
3. **Future Prospects:**
   - Environmental Policy: Core for designing green regulations.
   - Sustainability Consulting: Valuation skills support ESG strategies.
   - Research: Prepares for environmental economics research.
4. **Career Options:**
   - Environmental Economist (MoEF, UNEP)
   - Sustainability Consultant (KPMG, Accenture)
   - Policy Advisor (Climate Change, Green Energy)
   - Researcher (CSE, TERI)
   - Green Finance Analyst (IFC, ADB)

32.24 Public Economics (I)

1. **Content Overview: Covers market failures, public goods, taxation principles, public expenditure, and fiscal federalism.**
2. **Skills Gained:**
   - Analysis of government intervention and public goods provision.
   - Understanding of tax incidence and public debt dynamics.
   - Insight into fiscal federalism and budget management.
3. **Future Prospects:**
   - Public Policy: Key for roles in government finance and policy design.
   - Economic Consulting: Taxation and expenditure knowledge aids advisory roles.
   - Academia: Prepares for advanced public economics research.
4. **Career Options:**
   - Public Policy Analyst (NITI Aayog, Finance Commission)
   - Economic Consultant (World Bank, ADB)
   - Tax Policy Advisor (CBDT, CBIC)
   - Budget Analyst (Municipal Corporations, PSUs)
   - Academic Researcher (IITs, IIMs)

32.25 Internship

1. **Content Overview: Practical exposure through a summer internship, applying economic concepts in real-world settings.**
2. **Skills Gained:**
   - Practical application of economic theory and data analysis.
   - Professional skills like teamwork, communication, and problem-solving.
   - Industry-specific knowledge based on internship focus.
3. **Future Prospects:**
   - Career Launchpad: Internships provide networking and job placement opportunities.
   - Skill Enhancement: Real-world experience strengthens resumes for competitive roles.
   - Sector Specialization: Exposure to specific industries (finance, policy, NGOs) guides career paths.
4. **Career Options:**
   - Entry-level roles in internship organizations (Banks, NGOs, Government)
   - Analyst Positions (Post-internship placements in consulting, research)
   - Project Coordinator (Development projects, CSR initiatives)
   - Research Assistant (Think Tanks, Universities)
   - Freelance Consultant (Based on internship expertise)

32.26 Rural Development

1. **Content Overview: Examines rural economy, development measures (PQLI, HDI), governance, and government programs (MGNREGA, NRLM).**
2. **Skills Gained:**
   - Understanding of rural economic structures and challenges.
   - Analysis of development indicators and poverty metrics.
   - Knowledge of rural governance and program implementation.
3. **Future Prospects:**
   - Rural Development: Core for roles in rural policy and program management.
   - Microfinance and SHGs: Supports careers in rural finance and empowerment.
   - NGOs and CSR: Prepares for grassroots development work.
4. **Career Options:**
   - Rural Development Officer (State Governments, DRDA)
   - Program Manager (NGOs like BAIF, PRADAN)
   - Microfinance Specialist (NABARD, RRBs)
   - CSR Specialist (Corporates with rural focus)
   - Policy Analyst (Ministry of Rural Development)

Each paper builds specific competencies that align with real-world applications, ensuring graduates are versatile and competitive in economics-related careers. The program prepares students for postgraduate studies (MA/ MSc in Economics, MBA, or specialized fields like Development Studies, Environmental Economics). Complementing the degree in economics, and aquiring skills in data analytics (Excel, Power Query, Power BI, Python, R etc.), in econometrics (STATA, R etc.), or in finance (CFA, FRM etc.) can enhance employability. Courses like Sustainable Development and Rural Development align with global priorities, offering opportunities in emerging fields like ESG and green finance. Most importantly, this Economics syllabus covers topics relevant for UPSC, IES, RBI Grade B, and banking exams, making it ideal for public sector aspirants.