FRANKLIN'S LECTURES

INDUSTRIAL ECONOMICS & FOREIGN TRADE

Module 1

Part-1

HUT 300

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SYLLABUS

Module 1 (Basic Concepts and Demand and Supply Analysis)

Scarcity and choice - Basic economic problems- PPC - Firms and its objectives - types of firms - Utility - Law of diminishing marginal utility - Demand and its determinants - law of demand - elasticity of demand - measurement of elasticity and its applications - Supply, law of supply and determinants of supply - Equilibrium - Changes in demand and supply and its effects - Consumer surplus and producer surplus (Concepts) - Taxation and deadweight loss.

WHAT IS ECONOMICS?

- Economics is the science of choice under scarcity.
- Economics is the study of how people manage scarce resources to fulfill their needs and wants.
- Studies how individuals, firms, and governments allocate limited resources.
- Emphasizes decision-making, opportunity cost, and resource utilization.
- Quote: "Economics is the study of man in the ordinary business of life" – Alfred Marshall
- Economics originated from the Greek word 'IOKONOMIA' which means Household Management. It is Adam Smith who is considered as Father of Economics 1776'Wealth of Nations'.

1) Land
2) Labour
3) Capital
4) Income

₹100 → Resource

BUSINESS ECONOMICS

Business Economics is the branch of economics that applies **economic theories and tools** to solve **real-world business problems.**

It helps businesses make better **decisions** about production, pricing, cost, profit, and investment.

NATURE OF ECONOMICS

- **Science and Art:** Economics is a science because it uses systematic methods to study human behavior. It is also an art as it helps in applying knowledge to practical problems.
- **Positive and Normative:**
  - Positive Economics: Describes "what is" — facts and cause-effect relationships.
  - Normative Economics: Describes "what ought to be" — value-based judgments.
- **Theoretical and Applied:** Economics includes both abstract models and practical applications.
- **Social Science:** Deals with human behavior and decision-making within the society.

1) India's inflation is 6%.

2) the govt must reduce inflation

SCOPE OF ECONOMICS

1. **Consumption:** Study of how individuals decide what to consume and how to maximize satisfaction.
2. **Production:** Examines how goods and services are created using limited resources.
3. **Exchange:** Concerned with how goods and services are traded, price mechanisms, and markets.
4. **Distribution:** Deals with how income and wealth are distributed among factors of production (land, labor, capital, entrepreneurship).
5. **Public Finance:** Involves government income (taxation) and expenditure, budgeting, and fiscal policies.

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RELEVANCE TO ENGINEERS:

- Helps in project budgeting and resource planning.
- Aids in cost-benefit analysis for technical decisions.
- Encourages efficient use of resources and economic feasibility assessment.
- Supports market understanding and policy evaluation.
- Assists in analyzing the economic viability of engineering solutions.
- Promotes sustainable decision-making by integrating environmental and social costs.
- Enables engineers to communicate better with management, finance teams, and policymakers..

MICRO VS MACRO ECONOMICS

Aspect	Microeconomics	Macroeconomics
Focus	Individual units (consumers, firms)	Entire economy
Deals with	Demand, supply, pricing, output	National income, inflation, fiscal policies
Tools	Partial equilibrium, individual analysis	General equilibrium, aggregate analysis

HUMAN WANTS

- Wants are unlimited, but resources are limited
- Types of wants:
  - Necessities: Essential for survival (food, water)
  - Comforts: Improve efficiency (fan, scooter)
  - Luxuries: Non-essential (car, AC)

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FEATURES:

- **Recurrent:** Human wants arise again and again. Once a want is satisfied, another may take its place. For example, the want for food is recurrent because it occurs multiple times a day.
- **Gradable:** Wants can be ranked based on their urgency or importance. Some wants are more essential (like food) than others (like a gaming console).
- **Competitive:** Due to limited resources, satisfying one want means foregoing another. For instance, using money to buy a phone may mean postponing the purchase of a new bag.

Opportunity Cost

₹100000 + limited

Phone X
₹100000

Bike
₹100000

Basic Economic Problems / Central Problems in an Economy

Basic concern: Scarcity of Resources (Limited Resources and Unlimited Wants)

The Problem of Allocation of Resources

The Problem of Fuller Utilization of Resources

The Problem of Growth of Resources

The Problem of Efficiency

(i) Developed
(ii) Developing
(iii) Third world countries

THE PROBLEM OF ALLOCATION OF RESOURCES

What to Produce?

This means:

Which goods and services should be produced using the limited resources available?

How to Produce?

This means:

What method should be used for production – more workers or more machines?

1) labour intensive
2) capital intensive

For Whom to Produce?

This means:

Who will receive the goods and services that are produced?

PROBLEM OF FULLER UTILIZATION OF RESOURCES

All resources (land, labour, capital) must be **fully used**

Underutilization leads to **waste** and **lower production**

Causes: **Unemployment, idle machines, poor planning**

Goal: **Maximize use** of all available resources

Benefits: **More output, more income, less poverty**

PROBLEM OF GROWTH OF RESOURCES

Economy must **increase resources** over time

Goal: **Produce more goods and services** in future

Ways to grow:

- **Improve technology**
- **Invest in capital (machines, tools)**
- **Educate and train labour**
- **Discover new natural resources**

Result: **PPC shifts outward** ⟶ showing **economic growth**

Helps in **better standard of living** and **development**

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THE PROBLEM OF EFFICIENCY

Efficiency = **Maximum output** from **available resources**
No **waste** of land, labour, or capital
All production should be done at **minimum cost**

Two types:
Productive efficiency – Using resources to their full capacity
Allocative efficiency – Producing what people **actually need**
If not efficient → economy works **below its potential**
Goal: **Better decisions, higher productivity, less wastage**

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Q. What are the central problems of an economy? (2024,3 marks)

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SCARCITY, CHOICE & PPC

- **Scarcity:** Resources are limited but human wants are unlimited. This creates the need for economic decision-making.
- **Choice:** Due to scarcity, individuals and societies must make choices on how to allocate resources.

Lionel Robbins' Definition of Economics (Scarcity and Choice)

"Economics is the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses."

↳ wants

↳ resources are limited

Q. Why does the problem of choice arise in an economy? (2022,3 marks)

1) Resources are scarce / limited

2) Human wants are unlimited

Since we cannot satisfy all wants with the available resources, individuals & society must make decisions about which wants to satisfy hence arises problem of choice

Production Possibility Curve (PPC)

- A curve that shows different combinations of two goods that can be produced using all available resources efficiently.
- Represents the concept of opportunity cost: to produce more of one good, less of the other must be produced.

production possibility frontier
production possibility boundary
Transformation curve

Assumptions of PPC

1) Only 2 goods are produced
2) technology is constant
3) All resources of the economy are utilised.

Features of PPC (Production Possibility Curve)

Downward Sloping
Concave to the Origin
Shows Efficient Use of Resources
Points Inside the Curve = Inefficiency
Points Outside the Curve = Unattainable (Now)
Depicts Scarcity
Can Shift Outward

1) weapon → X
2) food → Y

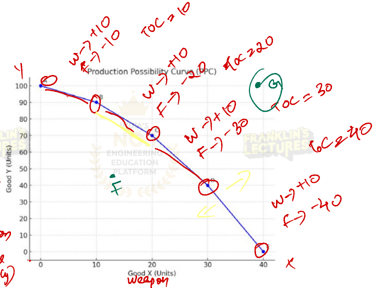
Combination	Good X (Units) weapon	Good Y (Units) food	Marginal Opportunity Cost (MOC)
A	0	100	
B	10	90	10Y → 10X → 1Y per 1X
C	20	70	20Y → 10X → 2Y per 1X
D	30	40	30Y → 10X → 3Y per 1X
E	40	0	40Y → 10X → 4Y per 1X

$MOC = \frac{10}{10} = 1$

$MOC = \frac{20}{10} = 2$

$MOC = \frac{30}{10} = 3$

$MOC = \frac{40}{10} = 4$



F -> Underutilization

G -> Unattainable (currently)

Marginal Opportunity Cost (MOC)

x ↑ y ↓

Marginal Opportunity Cost is the **amount of one good** that must be **given up** to **produce one more unit of another good.**

It shows the **cost of the next best alternative** when you make a small (marginal) change in production.

Marginal Opportunity Cost = What you give up / What you gain

Slope of the Production Possibility Curve (PPC)

The **slope of the PPC** shows the **Marginal Opportunity Cost (MOC)** — how much of one good must be **given up** to produce **one more unit** of the other good.

The PPC is usually **downward sloping** from left to right

Slope of PPC = MOC

The slope = **Loss in Good Y / Gain in Good X**
Slope = ΔY / ΔX

Combination	Good X	Good Y
A	0	100
B	10	90

MOC

$= \frac{10}{10}$

$= 1$

To go from A to B:

- X increases by 10
- Y decreases by 10

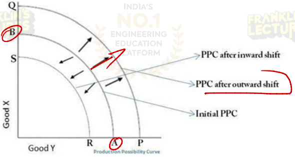
Slope = -10/10 = -1

So, for every **1 unit of X**, we give up **1 unit of Y**

Shift in PPC

Rightward shift of PPC → Technological Advancement.

Leftward shift → Underutilisation of resources



Q. Explain with a diagram the concept of opportunity cost and its linkage with PPC. (2024,7 marks)

1) Every movement along PPC from one point to another represents trade off

2) Decline of the PPC curve shows increase of OC

3) When resources are shifted from producing one good to another, the alternative sacrificed becomes the cost of the decision

FIRMS AND THEIR OBJECTIVES – TYPES OF FIRMS:

Why it matters:

Firms are key players in deciding **what to produce**, **how to produce, and for whom to produce** – the core economic problems.
Engineers often work in or with firms, so understanding their **economic behavior and goals** is essential.

Objectives of Firms:

- **Profit Maximization –** Earn the highest possible profit.
- **Sales Maximization –** Increase market presence even if profit is less.
- **Market Share Growth –** Expand influence over competitors.
- **Innovation –** Bring new ideas/products to market.
- **Social Responsibility –** Some firms focus on public welfare.

TYPES OF FIRMS:

1. **Sole Proprietorship –** Owned by one person (e.g., small shops).
2. **Partnership –** Two or more owners (e.g., audit firms, clinics).
3. **Joint-stock Company –** Large organizations owned by shareholders (e.g., Infosys, Tata).
4. **Cooperative Society –** Owned and operated by a group for mutual benefit (e.g., milk cooperatives).
5. **Public Sector Undertakings (PSUs) –** Government-owned firms focusing on national interest (e.g., BHEL, Indian Railways).

1. SOLE PROPRIETORSHIP

Meaning: A business owned and run by one person.

Advantages:
- Easy to start and close
- Full control and quick decisions
- All profits belong to the owner

Disadvantages:
- Limited capital
- Unlimited personal liability
- Business ends if owner dies

2. PARTNERSHIP FIRM

Meaning: A business owned by 2 to 100 people who share profits and responsibilities.

Advantages:

- More capital than sole proprietorship
- Shared responsibilities and skills
- Easy to form

Disadvantages:

- Conflicts between partners
- Unlimited liability
- One partner's mistake affects all

2013 Companies act

Non Banking → Min → 2
Max → 100

Banking → Min → 2
Max → 10

3. JOINT STOCK COMPANY (PRIVATE OR PUBLIC LIMITED)

Meaning: A large business owned by **shareholders** and managed by directors. A joint stock company is established under companies Act 1956.

Advantages:

- Large capital can be raised
- Limited liability of shareholders
- Continuous existence (not affected by owner's death)
- Transferability of shares

Disadvantages:

- Legal formalities and registration required
- Expensive to start
- Slow decision-making
- Lack of secrecy

4. CO-OPERATIVE SOCIETY

Meaning: A business owned and run by a group of people for their mutual benefit (e.g., farmers, consumers).

Advantages:
- Equal say for all members
- Focus on welfare, not just profit
- Limited liability

Disadvantages:
- Limited capital
- Less motivation to work efficiently
- Mismanagement possible

5. PUBLIC SECTOR UNDERTAKING (PSU)

Meaning: A business owned and operated by the government.

Advantages:

- Provides public welfare services (e.g., railways, power)
- Large-scale employment
- Government support

Disadvantages:

- Low efficiency
- Political interference
- Profit is not the main goal

Q. What are the advantages and disadvantages of Joint Stock Company? (2021,7 marks)

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THANK YOU