**MODULE 1**

Introduction to the subject: Micro and Macro Economics, Relationship between Science, Engineering, Technology and Economic Development. Production Possibility Curve, Nature of Economic Laws.

**MODULE 2**

Time Value of Money: concepts and application. Capital budgeting; Traditional and modern methods, Payback period method, IRR, ARR, NPV, PI (with the help of case studies)

**MODULE 3**

Meaning of Demand. Law of Demand, Elasticity of Demand; meaning, factors effecting it and its practical application and importance. Demand forecasting (a brief explanation)

**MODULE 4**

Meaning of Production and factors of production, Law of variable proportions and returns to scale. Internal and external economies and diseconomies of scale. Concepts of cost of production, different types of costs; accounting cost, sunk cost, marginal cost, Opportunity cost. Break even analysis, Make or Buy decision (case study). Relevance of Depreciation towards industry.

**MODULE 5**

Meaning of market, types of market, perfect competition, Monopoly, Monopolistic, Oligopoly. (main features). Supply and law of supply, Role of demand and supply in price determination.

**MODULE 6**

Indian Economy, nature and characteristics. Basic concepts; fiscal and monetary policy, LPG, Inflation, Sensex, GATT, WTO and IMF. Difference between Central bank and Commercial banks

**TEXT/ REFERENCES BOOKS**

1. **Jain T.R., "*Economics for Engineers*", VK Publication**
2. **Chopra P. N., "*Principle of Economics*", Kalyani Publishers**
3. **Dewett K. K., "*Modern economic theory*", S. Chand**
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5. **Dutt Rudar & Sundhram K. P. M., "*Indian Economy*"**
6. **Mishra S. K., "*Modern Micro Economics*", Pragati Publications**
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# Indian Economy- Nature and Characteristics

- It is one of the fastest-growing economies globally and is currently the **fifth-largest economy in the world by nominal GDP** and **third-largest by purchasing power parity (PPP)** (as per IMF 2024 data).
- India has continuously been trying to set itself at par with the developing nations in the world. **With its mixed nature of the economy, both the private and public sectors** working together, India has been able to successfully flourish its market economy in the world.
- Since, the independence of the country, India has been developing in many perspectives from the economic point of view. Although the Indian economy is developing in nature, it tends to move towards a developed economy. The major reforms in the Indian economy were done in the year 1991.

# Key Aspects of Its Nature:

1. **Mixed Economy**: India operates under a mixed economic system where both the private sector and the public sector co-exist. While the government actively regulates and intervenes in strategic sectors, private enterprise drives innovation and consumer services.
2. **Developing Economy**: Despite rapid GDP growth, India still faces challenges like poverty, unemployment, and income inequality, common to developing economies.
3. **Agriculture-Dominant but Diversified**: Although agriculture employs nearly **45%** of the workforce, its contribution to GDP has declined to **around 15-18%**, reflecting a shift toward services and industry.
4. **Labor-Intensive**: India's economy is highly labor-intensive, especially in sectors like agriculture, textiles, and informal trade.

# Key Aspects of Its Nature:

5. **Demographic Dividend**: With **more than 65%** of the population below 35 years of age, India has a young and dynamic workforce—an advantage for future growth.
6. **Global Integration**: India is well integrated into the global economy through trade, foreign investment, and participation in international institutions (WTO, BRICS, G20, etc.).
7. **Digital & Service-Oriented**: India is a **global IT hub** and a leader in digital financial inclusion, contributing over **50% of global digital transactions** by volume
8. **Primary sector** includes agriculture, forestry, fisheries, hunting, mining and quarrying etc. Secondary sector includes industry, construction, electricity generation, gas, water supply etc. Tertiary sector includes trade, transport, Banking and insurance communication, social and personal services
9. **Low Per Capita Income:** The per capita income of India is much less than that of the developed countries. According to the estimates of the Central Statistics Office (CSO), the per capita net national income of India

# Characteristics of the Indian Economy

1. **Low Per Capita Income**: Compared to developed nations, India's per capita income remains relatively low, though improving steadily.
2. **Unequal Income Distribution**: There's a wide disparity between rural and urban areas and among different states.
3. **High Population Growth**: With over 1.4 billion people, population pressure affects employment, housing, and public services.
4. **Dualistic Economy**: India exhibits coexistence of both modern industries and traditional sectors like handicrafts and small-scale farming.
5. **Dominance of Service Sector:** Services contribute over 50% to India's GDP, including IT, finance, and telecom.

# Characteristics of the Indian Economy

6. **Rapid Urbanization**: Increasing migration to urban areas for better opportunities has led to fast-growing cities but also created challenges like slums and pollution.
7. **Informal Sector**: A large portion of the economy (~80–85% of employment) is informal or unorganized, which lacks job security and benefits.
8. **High Savings Rate**: India has traditionally maintained a relatively high household savings rate (~30% of GDP), which helps in capital formation.
9. **FDI Inflows**: India has been consistently attracting FDI, especially in sectors like telecom, retail, and digital infrastructure.
10. **Government Interventions**: Through initiatives like Make in India, Digital India, Startup India, PM Gati Shakti, and PLI schemes, the government is trying to stimulate growth.

GDP by sector-

- Agriculture: 15.4%
- Industry: 23%
- Services: 61.5%

Ease of Doing Business- 63rd

# Fiscal and Monetary Policy

- Monetary policy involves changing the interest rate and influencing the money supply.
- Fiscal policy involves the government changing tax rates and levels of government spending to influence aggregate demand in the economy.

**Objectives of Monetary Policy**

- Central banks have three monetary policy objectives. The most important is to manage inflation. The secondary objective is to reduce unemployment, but only after controlling inflation. The third objective is to promote moderate long-term interest rates.
- The RBI implements the monetary policy through open market operations, bank rate policy, reserve system, credit control policy, moral persuasion and through many other instruments. Using any of these instruments will lead to changes in the interest rate, or the money supply in the economy. Monetary policy can be expansionary and contractionary in nature.
- **1. Quantitative,** general or indirect (CRR, SLR, Open Market Operations, Bank Rate, Repo Rate, Reverse Repo Rate)
- **2. Qualitative,** selective or direct (change in the margin money, direct action, moral suasion)

# Monetary policy

**Monetary policy**

- Monetary policy is the macroeconomic policy laid down by the central bank. It involves management of money supply and interest rate and is the demand side economic policy used by the government of a country to achieve macroeconomic objectives like inflation, consumption, growth and liquidity.
- Setting base interest rates (e.g. RBI, Bank of England in UK and Federal Reserve in the US)
- Influencing the supply of money. E.g. Policy of quantitative easing to increase the supply of money.

**How monetary policy works**

- The Central Bank may have an inflation target of 4%. If they feel inflation is going to go above the inflation target, due to economic growth being too quick, then they will increase interest rates.
- Higher interest rates increase borrowing costs and reduce consumer spending and investment, leading to lower aggregate demand and lower inflation.
- If the economy went into recession, the Central Bank would cut interest rates.

# Fiscal policy

- Fiscal policy is carried out by the government and involves changing:
- Level of government spending
- Levels of taxation

There are two types of fiscal policy.

1. **Expansionary Fiscal Policy:** The most widely-used is expansionary, which stimulates economic growth. The government either spends more, cuts taxes, or both. The idea is to put more money into consumers' hands, so they spend more. The increased demand forces businesses to add jobs to increase supply (this leads to a higher budget deficit)
2. **Contractionary Fiscal Policy**: Its goal is to slow economic growth and stamp out inflation. The long-term impact of inflation can damage the standard of living as much as a recession. The tools of contractionary fiscal policy are used in reverse. To reduce demand and reduce inflation, the government can increase tax rates and cut spending (leading to a smaller budget deficit)

# Difference between Fiscal and Monetary policy

They are both used to pursue policies of higher economic growth or controlling inflation.

| Fiscal Policy | Monetary Policy |
|---|---|
| Change in government spending and tax rates | Change in interest rates / money supply. |
| Set by the Government | Set by a Central bank |
| No specific target | Target inflation |
| Side effect on government budget / borrowing | Side effect on exchange rate and housing market |
| Strong political dimension to changing tax rates | Mostly independent from the political process |

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# LPG- Liberalization, Privatization, Globalization

- LPG reforms of 1991 is a strategic shift in Indian economy which changed the very Nature of Indian reality today. This topic forms the foundation for Indian Economy today. Having a fair idea about the change it brought in Indian economy and international events which lead to it is important for the Mains across disciplines.
- Indian economic policy after independence was influenced by the colonial experience, which emphasised on **industrialization under state monitoring, state intervention** in labour and financial markets, a large public sector, **business regulation, and central planning.**
- **Indian economy was a closed one. Licence Raj** was prevalent to set up business in India. The **Indian rupee was inconvertibl**e and high tariffs and import licensing prevented foreign goods reaching the market.
- The central pillar of the policy was **import substitution**, the **belief that India needed to rely on internal markets for development, not international trade**. There was **restriction of foreign investment and technology** and government controlled finance and capital markets.
- There were high duties and taxes with multiple rates and large dispersion. **PSUs were considered as the engine of growth.** There were **restrictions on Foreign Direct Investment (FDI)** and Multinational corporations (MNCs).

# LPG- Liberalization, Privatization, Globalization

- India’s New Economic Policy was **announced on July 24, 1991 known as the LPG** or Liberalisation, Privatisation and Globalisation model.
  - **Liberalization-** It refers to the process of making policies less constraining of economic activity and also reduction of tariff or removal of non-tariff barriers.
  - **Privatization-** It refers to the transfer of ownership of property or business from a government to a privately owned entity.
  - **Globalization-** It refers to the expansion of economic activities across political boundaries of nation states.
- The **main objective** was to plunge Indian economy into the arena of “Globalization” and to give it a new thrust on market orientation. The policy was intended to move **towards higher economic growth rate** and to build sufficient foreign exchange reserves.
- It wanted to achieve **economic stabilization** and to convert the economy into a **market economy** by removing all kinds of unnecessary restrictions. The policy aimed at increasing the **participation of private players in all sectors** of the economy.

# Salient features of LPG Policy:

- Abolition of Industrial licensing/ Permit Raj
- Public sector role diluted
- Beginning of privatization
- Free entry to foreign investment and technology
- Industrial location policy liberalized
- Abolition of phased manufacturing programmes for new projects
- Reduction in import tariffs
- Deregulation of markets
- Reduction of taxes

# Outcome of the LPG reforms

**Positive outcomes:**

- **India's GDP growth rate increased.** During 1990-91 India's GDP growth rate was only 1.1% but after 1991 reforms GDP growth rate increased year by year
- Since 1991, India has firmly established itself as a lucrative foreign investment destination and **FDI equity inflows in India** in 2019-20 (till August) stood at US$ 19.33 billion.
- In 1991 the unemployment rate was high but after India adopted new LPG policy **more employment got generated** as new foreign companies came to India and due to liberalisation many new entrepreneurs started companies.
- **Per Capita income increased** due to an increase in employment.
- **Exports** have increased and stood at USD 26.38 billion as of October, 2019.

# Outcome of the LPG reforms

**Negative outcomes:**

- In 1991, agriculture provided employment to 72 percent of the population and contributed 29.02 percent of the GDP. Now the **share of agriculture in the GDP has gone down drastically to 16 percent.** This has resulted in a lowering the per capita income of the farmers and increasing the rural indebtedness.
- Due to opening up of the Indian economy to foreign competition, **more MNCs are competing local businesses and companies** which are facing problems due to financial constraints, lack of advanced technology and production inefficiencies.
- Globalization has also contributed to the **destruction of the environment** through pollution by emissions from manufacturing plants and clearing of vegetation cover. It further affects the health of people.
- LPG policies have lead to **widening income gaps within the country**. The higher growth rate is achieved by an economy at the expense of declining incomes of people who may be rendered redundant.

# Inflation

- Inflation refers to the rise in the prices of most goods and services of daily or common use, such as food, clothing, housing, recreation, transport, consumer staples, etc. Inflation measures the average price change in a basket of commodities and services over time.
- The opposite and rare fall in the price index of this basket of items is called ‘deflation**’. Inflation is indicative of the decrease in the purchasing power of a unit of a country’s currency. This is measured in percentage.**
- The inflation rate is the percentage increase or decrease in prices during a specified period, usually a month , quarter or a year. The percentage tells you how quickly prices rose during the period. For example, if the inflation rate for a laptops is 5% per year, then laptop prices will be 5% higher next year.

# Inflation

**What are the effects of Inflation?**

- The purchasing power of a currency unit decreases as the commodities and services get costlier. This also impacts the cost of living in a country.
- When inflation is high, the cost of living gets higher as well, which ultimately leads to a deceleration in economic growth.
- A certain level of inflation is required in the economy to ensure that expenditure is promoted and hoarding money through savings is demotivated.
- As money generally loses its value over time, it is important for people to invest the money. Investing ensures the economic growth of a country.

**How is Inflation measured?**

- In India, inflation is primarily measured by two main indices — WPI (Wholesale Price Index) and CPI (Consumer Price Index), which measure wholesale and retail-level price changes, respectively. The CPI calculates the difference in the price of commodities and services such as food, medical care, education, electronics etc, which Indian consumers buy for use.
- On the other hand, the goods or services sold by businesses to smaller businesses for selling further is captured by the WPI. In India, both WPI (Wholesale Price Index) and CPI (Consumer Price Index) are used to measure inflation.

# Inflation

**What are the main causes of Inflation?**

- High demand and low production or supply of multiple commodities create a demand-supply gap, which leads to a hike in prices.
- There are two causes of inflation. The most common is demand-pull inflation. That's when demand outpaces supply for goods or services. Buyers want the product so much that they're willing to pay higher prices.
- Cost-push inflation is the second, less common, cause. That's when supply is restricted but demand is not.
- Excess circulation of money leads to inflation as money loses its purchasing power.
- With people having more money, they also tend to spend more, which causes increased demand.

**Is Inflation bad for everyone?**

Inflation is perceived differently by everyone depending upon the kind of assets they possess. For someone with investments in real estate or stocked commodity, inflation means that the prices of their assets is set for a hike. For those who possess cash, they may be adversely affected by inflation as the value of their cash erodes.

- **The Reserve Bank of India uses monetary policy to manage inflation.**
- **You can protect yourself from inflation through wise investments.**

# Difference b/w Central Bank and Commercial Bank

- A central bank is a banker's bank. It is normally part of or connected to the government of a country and manages the country's financial system. A commercial bank provides banking services to businesses, institutions and some individuals. The money it takes in from its customers is deposited at its local central bank.
- Nearly all the country's banks have accounts at the central bank to keep their money and for borrowing to offset any temporary shortages of cash.
- Central bank is the supreme organization of the banking system of any country, the commercial banks function under the rules, regulations, policies and guidelines of the central bank.

| Basis | Central Bank | Commercial Banks |
| --- | --- | --- |
| 1. Number | There is only one Central Bank in a country. | The number of Commercial Banks in a country |
| 2. Status | Central Bank is an apex institution of the money market. | Commercial Banks are units in the banking system which work under the control of Central Bank. |
| 3. Aim | The aim of Central Bank is to control and supervise monetary and banking systems. | The primary objective of commercial banks is to earn profit. |
| 4. Ownership | Central Bank is owned by the government. | Commercial Banks may be owned by government or by private parties. |
| 5. Dealing | Central Bank does not deal directly with the public. | Commercial Banks deal with the public. |
| 6. Issuing of Currency | Central Bank has the monopoly to issue currency. | Commercial Banks are not authorised to issue currency. |
| 7. Credit | Central Bank controls availability of credit in the economy. | Commercial Banks create credit in the economy. |

# Sensex- Sensitivity Index

- The Sensex is primarily an index which reflects the Bombay Stock Exchange (BSE) which got established in 1875. Till Jan1, 1986 the stock exchange did not have any official index. This was the time when Sensex was opted for gauging the performance of the Indian market.
- The Sensex comprises of 30 prominent stocks which are derived from sectors and are traded actively in the exchange market. Sensex truly reflects the Indian stock market movement.
- If the Sensex value increases it means that there is a general increase in the prices of shares whereas, if the Sensex decreases it means there is a general decrease in the price of shares.
- Sensex is used to observe the overall growth, development of particular industries, ups and downs of the Indian economy by the investors.
- Some of the companies under this index include Axis Bank, Asian Paints, Bajaj Finance, Bharti Airtel, Coal India, HCL Technologies, Hindustan Unilever, ICICI Bank, IndusInd Bank, Tata Consultancy Services, Larsen &Toubro, etc.
- Nifty is the other index calculated in India for the National Stock Exchange.

# General Agreement on Tariffs and Trade (GATT)

- The General Agreement on Tariffs and Trade (GATT), signed on Oct. 30, 1947, by 23 countries, was a legal agreement minimizing barriers to international trade by eliminating or reducing quotas, tariffs, and subsidies while preserving significant regulations. The GATT was intended to boost economic recovery after World War II through reconstructing and liberalizing global trade. The GATT went into effect on Jan. 1, 1948.
- The purpose of the GATT was to eliminate harmful trade protectionism. Trade protectionism likely contributed to the 66% reduction of global trade during the Great Depression. The GATT helped restored economic health to the world after the devastation of the Depression and World War II.
- The agreement also provided a system to arbitrate commercial disputes among nations, and the framework enabled a number of multilateral negotiations for the reduction of tariff barriers. The GATT was regarded as a significant success in the postwar years.
- The GATT's purpose was to make international trade easier.

# Advantage of GATT

- **Encourages international trade**: The GATT reduced tariffs, which boosted trade between countries. As countries traded more freely with each other, more countries saw the benefits of free trade and wanted to join the agreement.
- **Reduces the likelihood of war**: By increasing trade, the GATT promoted world peace. It set the stage for the European Union. Despite the EU's problems, it has helped to prevent wars between its members. The general idea is that, if your economy depends on trade with a country, then you're less likely to go to war with that county. The more countries trade with each other, the less likely war becomes.
- **Improves communication**: In addition to reducing the chances of war, the GATT provided incentives for countries to better communicate with one another. Even average citizens are more likely to learn a foreign language these days since it allows them to access larger consumer markets than they have domestically. For instance, many people learn English, the language of the world's largest consumer market, which allows them to work for call centers or companies based in English-language countries.

# General Agreement on Tariffs and Trade (GATT) and WTO

- The GATT went into effect on Jan. 1, 1948. Since that beginning it has been refined, eventually leading to the creation of the World Trade Organization (WTO) on January 1, 1995, which absorbed and it was replaced by the World Trade Organization. By this time 125 nations were signatories to its agreements, which covered about 90% of global trade.
- Whilst GATT was a set of rules agreed upon by nations, the WTO is an intergovernmental organization with its own headquarters and staff, and its scope includes both traded goods and trade within the service sector and intellectual property rights.
- One of the key achievements of the GATT was that of trade without discrimination. Every signatory member of the GATT was to be treated as equal to any other. This is known as the most-favored-nation principle, and it has been carried through into the WTO
- The Council for Trade in Goods (Goods Council) is responsible for the GATT and consists of representatives from all WTO member countries. The council has 10 committees that address subjects including market access, agriculture, subsidies, and anti-dumping measures.

# World Trade Organization ( WTO)

- Created in 1995, the World Trade Organization (WTO) is an international institution that oversees the global trade rules among nations.
- The WTO is based on agreements signed by the majority of the world's trading nations. The main function of the organization is to help producers of goods and services, exporters, and importers protect and manage their businesses. As of 2019 the WTO has 164 member countries, with Liberia and Afghanistan the most recent members, having joined in July 2016, and 23 "observer" countries.
- The WTO has fueled globalization with both positive and negative effects. The organization's efforts have increased global trade expansion, but a side effect has been a negative impact on local communities and human rights.
- The organization provides a platform that allows member governments to negotiate and resolve trade issues with other members. The WTO's main focus is to provide open lines of communication concerning trade between its members.

# Objectives of WTO

- The WTO has six key objectives:
- (1) to set and enforce rules for international trade,
- (2) to provide a forum for negotiating and monitoring further trade liberalization,
- (3) to resolve trade disputes,
- (4) to increase the transparency of decision-making processes,
- (5) to cooperate with other major international economic institutions involved in global economic management, and
- (6) to help developing countries benefit fully from the global trading system.

# World Trade Organization ( WTO)

- No negotiation, mediation, or resolution would be possible without the foundational WTO agreements. These agreements set the legal ground rules for international commerce that the WTO oversees. They bind a country’s government to a set of constraints that must be observed when setting future trade policies. These agreements protect producers, importers, and exporters while encouraging world governments to meet specific social and environmental standards.
- The WTO reviews the trade policies of the world’s four largest traders (the European Union, the United States, Japan, and China) once every two years, the policies of the 16 next largest traders once every four years, and the policies of all other traders once every six or more years. After extensive consultations with the member country under review, the WTO Secretariat publishes its review together with a companion report by the country’s government.
- President Trump has threatened to withdraw from the WTO, an act that could disrupt trillions of dollars in global trade

# The International Monetary Fund (IMF)

- The International Monetary Fund (IMF) is an organization of 190 countries, working to foster global monetary cooperation, secure financial stability, facilitate international trade, promote high employment and sustainable economic growth, and reduce poverty around the world.
- Created in 1945, the IMF is governed by and accountable to the 190 countries that make up its near-global membership.
- The IMF's primary purpose is to ensure the stability of the international monetary system—the system of exchange rates and international payments that enables countries (and their citizens) to transact with each other. The Fund's mandate was updated in 2012 to include all macroeconomic and financial sector issues that bear on global stability.
- Provide Technical Assistance and Short-term Loans: The IMF provides loans to help its members tackle their balance of payments problems, stabilize their economies, and restore sustainable growth.
- Traditionally, most IMF borrowers were developing countries. They had limited access to international capital markets due to their economic difficulties. An IMF loan signals that a country's economic policies are on the right track.

# Objectives of IMF

The IMF meets its goal by targeting three objectives:

1. It monitors global conditions and identifies risks among its member countries.
2. It advises its members on how to improve their economies.
3. It provides technical assistance and short-term loans to prevent financial crises. The IMF's goal is to prevent these disasters by guiding its members.

- The IMF produces a wealth of analytical reports. It provides the World Economic Outlook, the Global Financial Stability Report, and the Fiscal Monitor each year. It also delves into regional and country-specific assessments. It uses this information to determine which countries need to improve their policies. Hence, the IMF can identify which countries threaten global stability. The member countries have agreed to listen to the IMF's recommendations because they want to improve their economies and remove these threats.