



# MPSC

## State Civil Services

**Maharashtra Public Service Commission  
(Preliminary & Main)**

### **General Studies**

**Paper 4**

**Indian Economy, Agriculture,  
Science & Technology**



# MPSC

## INDIAN ECONOMY, AGRICULTURE, SCIENCE & TECHNOLOGY

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## **ECONOMIC CONCEPTS**

### **What is Economy?**

Any region with defined set of ruler and established institutions to implement those rules is called Economy. For example, any terrorised state won't call Economy because there are no certain rules which are being laid down to implement.

### **What is an Economic activity?**

All those activities which create value by using the resources are called Economic activities, which includes production, consumption, exchange and distribution.

### **What is Non-economic activity?**

An illegal activity i.e., lawfully in correct, those activities are considered to be Non-economic activities.

### **Note**

Any activity which may not be ethical in a sense like Gambling are speculation market can be tenured as Economic activities.

### **Opportunity Cost**

This is the cost of sacrificing the next best alternative or in other words it is the alternative resource cost which is available to you at the best possible time.

- (a) Opportunity cost is zero
- (b) Opportunity cost is ignored
- (c) Opportunity cost is transferred from the consumers of the product to the paying public.
- (d) Opportunity cost is transferred from the consumers of the product to the Govt.

**Answer (d)**

### **Command Economy**

A command economic system in which the Govt. determines what goods should be produce, how much should be produce and the price at which the goods are offered for sale.

### **Market Economy**

A market economy is that economic system in which decisions regarding investment, production and the distribution are guided by the price signals created by the forces of supply and demand

**Ex.**

- Mexico, United States, UK, Germany and Canada are the market economy.
- Traditional Economy.
- Traditional economy is that economic system in which the tradition and customs and beliefs help to shape the goods and services and they are the economy produced and that economic system is based on rural and farm bases.

**Ex.**

They are often produced in Africa, Latin America and the Middle East.

**Mixed Economy**

A mixed economy is that economy in which public and private sector go side by side and Govt. directs economic activity in relation with the production of goods and services.

**MACROSCOPIC APPROACH**

- In the Macro economics we usually simplify the analysis of the how much the country's total population and the level of employment are related to their variable (prices, rate of interest, wage rate and profits) and so on by focusing on the production of those commodities as a whole.
- Macroeconomics has a deep root in micro economics. Because it has to study the aggregate effects of the forces of demand and supply in the markets.

**MICROSCOPIC APPROACH**

It is a study of individual markets of demand and supply and the players or the decision makers who are individuals like buyers, sellers and even the companies and they were trying to maximise their profits as the producers or the sellers and their personal satisfaction or welfare levels as consumers.

**ADAM SMITH CONTRIBUTION UNDER THE FIELD OF ECONOMY**

Adam Smith is a Scottish economist (1723-1790) and he did one most influential work under the wealth of Nation under which he gave the concept of free trade economy where there are no interference by the Govt. and it is basically conceptualised as capitalist economy.

1. What generates the economic wealth?
2. What makes country rich or poor?
3. What is growth and the development of Nation?

## **Laissez Faire**

- It is a concept in which the framing of the policies for the buyers and the sellers are being constituted according to their requirement and there is no interference of the Govt. in making or framing the policies.
- It act as a free trade economy.

### **Ex.**

India was on a Laissez Faire technique or a free trade economy before independence.

## **FACTORS OF PRODUCTION**

Factors of production has 4 modules, under which

1. Land is one of the Factors of production, model i.e., the natural resources.
2. Labour which is carrying out the production.
3. Capital i.e., the wealth in the Form of money or assets, taken as financial strength to run the business.
4. Entrepreneurs where the land, labour and capital are being synthesized by the entrepreneur and produce goods and services and after production and selling it in the market, the revenues are earned i.e. the money and the part of the revenue is paid out rent for the services rendered by the land, a part of it is paid to capital as interest, a part of it goes to the labour as wage rates and the rest of the revenue is the earning of the entrepreneurs which is called profits.

## **Expenditure**

The profits are often used by the producers in the next period to buy a new machinery or to build new factories so that production can be expanded and these expenses which raise productive capacity are the examples of investment expenditure.

### **Note**

- The firm are called the production units, entrepreneurs are called risk taking body.
- Govt. is the state who operates the economy.
- Household sector – It is single individual who take decisions relating to her own consumption or a group of individuals.

## **SECTORS OF INDIAN ECONOMY**

### **Introduction**

- India is the fastest growing economy with an enormous growing population of about 1.3 billion, favourable demographics and high catch up potential due to initial GDP per head.

- As per the World Bank data India is the 7<sup>th</sup> largest economy with a GDP of around 2.63 trillion dollar after France.
- India is likely to pan United Kingdom in the next 5 years on the considerable initial GDP growth of around 7-8%.
- According to the World Economic Outlook report of IMF, India's economy is expected to grow by around 7.5 at the end of 2019.

## **Economic Sectors**

Economic activity result in the production of goods and services and all economic activities was in the primary sector during early civilisation and the growth of secondary sector spread its influence during the industrial revolution in the 19<sup>th</sup> century and a support system was needed to facilitate the industrial activity and those support system were financial and transport system. They played as important role in supporting the industrial activity.

## **Primary Sector**

In primary sector the activities are undertaken by the direct wage of the natural resources and agriculture mining, fishing, forestry, dairy are some of the example of primary sector.

## **Why it is called Primary Sector?**

- They are called primary sector because it forms the basis for all the other products and since most of the natural products we get from agriculture, dairy, fishing, forestry. Therefore, it is also called Agriculture and its allied sectors.
- People engaged in the primary activities are called Red collar workers due to the outdoor nature of the work.

## **Secondary Sector**

Secondary sector includes the industries where the finished products are made from the natural materials produced in the primary sector.

## **Ex**

- It includes industrial production, sugarcane production
- Therefore it's the part of country's economy that manufactures goods rather than producing the raw materials.
- Since this sector is associated with different kinds of industries it is also called as industrial sector.
- The people engaged in secondary activates are called Blue collar workers (the term was coined in 1924).

## **Note**

### **Blue Collar Worker**

It is the member of the working class who performs manual labour and either earns an hourly wage or is a paid person for the amount of work he has done.

### **Red Collar Worker**

There are the govt. workers of all types derived from the compensation (salary) received from the red ink budget of the govt. and also in China it refers to communist party officials in private companies.

### **Example of Secondary Sector**

Small workshops, mills producing textiles, factories producing steel, chemicals, plastics, car and the oil refinery production units etc.

## **Note**

Core Industries

There are 8 core industries which are

1. Electricity
2. Steel
3. Refinery products
4. Crude oil
5. Coal
6. Cement
7. Natural Gas
8. Fertilizers

- The index of 8 core industries is a monthly production index which is also considered as indicator of monthly industrial performance.
- The index of 8 core industries are compiled based on the monthly production information received from the various source agencies of these core industries.

### **Tertiary Sector/Service Sector**

- These sector's activities help in the development of the primary and the secondary sectors.
- Goods transported by trucks or trains, banking, insurance, finance comes under this sector and it provides the value addition to a product which is same as secondary sector.
- These sector jobs are being carried out by the white collar workers.

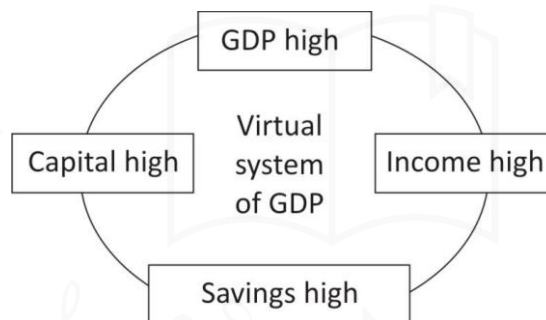
## Note

### White Collar Worker

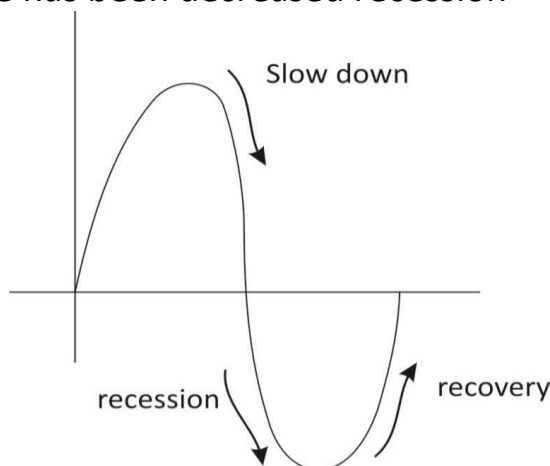
This was a term coined in 1930 which is called salaried professional worker and managing the workers and managing the management.

### Pink Collar Worker

- It is the one who is employed in a job that is traditional considered to be women's work and a pink collar worker doesn't require any professional training like the white collar professionals and they also do not get equal pay or prestige and the works of pink collared workers can be included as day care workers, nurses.
- Financial slow down/stagnation between consumer and procedure middle income trap



- Domestic Consumption
- Exports
- Sudden decline in the growth of GDP- Slow down
- Growth of the income has been decreased recession



- To increase the exports to increase the domestic production
- Consumption driven economy to export driven economy FDI physical investment.
- Investment, employment
- Infrastructure



- Manufacturing sector
- Tax receipt expenditure revenue that are earned by the Govt.
- Real GDP is the calculator of the inflation.
- Real GDP = price × quantity
- Nominal GDP is always higher than the Real GDP.
- GDP at Factor cost and market price
- $GDP/FC = GST + \text{subsidy}$
- $GDP/MP = \text{Factor cost} + \text{indirect tax} - \text{subsidy}$

### **Measuring of GDP**

Uniform reference period – consumption/1 year

Modified mixed reference period –

1. Consumption/ 7 days
2. Consumption/ 30 days
3. Major investment on consumption/ 1 year
  1. Income method
  2. Expenditure method
    - $C + I + G + X - M$
    - C – Consumption i.e., private household consumption
    - I – Investment done by the companies
    - G – Govt. spending i.e., services, defence inputs buying the weapons
    - X – Export
    - M – Import

### **Income method**

It is because income declaration is not done properly by the residents of India and therefore we are shifting to the next method which is expenditure method.

### **GVA**

- Measurement of sectoral sector's production
- GDP – Consumer side
- GVA – Procedure side

### **GVA vs GDP**

1. GVA always gives the input from the procedure side and GDP is always from the consumer's side.
2. Productivity measurement is easy in GVA and it gives the sector specific measurement and it can also signify that which sector is performing well in the

country whereas your GDP is an overall view of the production of goods and services and it doesn't tell the productivity rate of individual sectors.

### **Factor Cost**

- It is the input cost the producer has to insure in the process of producing something (such as cost of capital i.e., interest on loans, raw materials, labour, rent, power etc.)
- Price of the commodity from the producer's side.

### **DIFFERENT COMPONENT OF INDIA'S GDP**

Components of India's GDP are being calculated by Central statistics office (CSO) and they are being categorised into 5 components.

1. Primary sector includes agriculture, fishing, mining, forestry.
2. Manufacturing sector which is secondary sector
3. Tertiary sector which includes trades, hotels, transports.

F – Finance

I – Insurance

RF – Real Estate

5- Public administration

### **Note**

#### **Virtuous Cycle vs Vicious Cycle**

Virtuous cycle defines you that the feedback from the inputs and that feedback can be your defined output without any loss whereas when we talk about vicious cycle, here the inputs which are being provided, here the loss can be attained from the inputs and the considerable output might not be achieved.

#### **Slow down vs Recession**

Slowdown means the pace of the GDP growth has decreased and when this decline in the GDP growth is consecutive for some quarters i.e., 3 or 6 months then it is to be termed as Recession.

### **HUMAN DEVELOPMENT INDEX**

As we know that GDP is a quantitative tool and Human Development Index is a qualitative tool. Therefore, this Human Development Index was given under the United Nations and our top economist Amartya Sen and the economist from Pakistan Mehboob ul-haq gave the presentation of HDI in UHO and it gives the value from zero to one and it gives the classification of health index, education index and per capita income index.

## **Health Index**

Health Index is being calculated on life expectancy at birth where India is having life expectancy of 68.56 years. USA is having 78.09 year, China is having 76 years. Most improved life expectancy in Japan is 83.70 years (2018 report).

$$\text{Health Index} = \frac{\text{Life expectancy of given country} - 20 \text{ years}}{\text{Best life expectancy} - 20 \text{ years}}$$

Health Index is defined as the ratio of life expectancy of given country – 20 years to the ratio of life expectancy of the best country – 20 years where 20 years signifies the minimum survival of a person on the basis of life expectancy.

## **Education Index**

The Education Index is being categorised on two terms.

1. The mean year of schooling of the
2. total current population
3. on the expected years of schooling

## **Per Capita Income**

Per Capita Income defined an income generated by an individual out of the total population. That means it can define the Gross National Income or the Gross National product of an individual.

## **Note**

The depreciation of NNP can be the devaluation of goods and services and it can also be the losses which individual faces in his/her investment or expenditure.

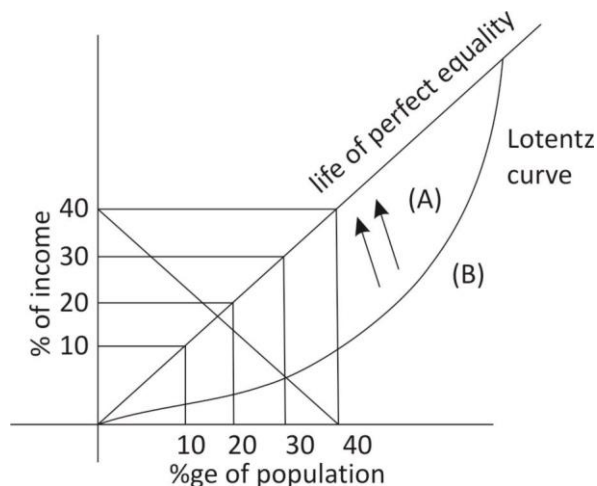
$$\text{Per capita income} = \frac{\text{NNP}}{\text{total population}}$$

$$\text{Human Development Index} = \sqrt[3]{HI \times EI \times II}$$

HDI can be calculated by the geometric mean of Health Index, education Index and income Index and it is being calculated by UNDP and the current HDI ranking on the basis of human development index is 130 out of 189 countries.

## Lorenz Curve

Max O Lorenz (1905)



## Gini Coefficient Curve

If Ginni coefficient = 0 – perfect equality

= 1 – perfect inequality

$$GC = \frac{A}{A+B}$$

## Lorenz Curve

- It is a curve which is being defined by Max O Lorenz in 1905 and it is a graphical representation of income inequality with respect to percentage of income and the percentage of population.
- Lorenz curve is the exponential curve which defines the income inequality in terms of total number of population and the income earned by the population.

## Ginni coefficient Curve

Ginni coefficient was given by Corado Ginni in 1912 which is the mathematical representation of income inequality which is being given as ratio of  $\frac{A}{A+B}$

### Condition 1

- When Ginni coefficient = 0
- This defines the situation where perfect equality is there and the current Ginni coefficient according to 2013 in India has G.C. value of 0.37

### Condition 2

When GC is 1, it defines the perfect inequality and is rarely exists on a nominal value.

### **Condition 3**

If GC is 0.5, the economy cannot face any serious problem and Brazil has GC more than 0.5 and the East Asian countries under the Asian belt are having GC less than 0.5.

### **Inference 1**

If GC is 1 which is perfect inequality that means only the one person is earning all the income of the country.

### **Inference 2**

Higher the GC more is the inequality in the income and lower the G.C. lesser the inequality in the income

## **SUSTAINABLE DEVELOPMENT GOALS**

- The Sustainable Development Goals means if the target is defined by United Nations on achieving the 17 sustainable development goals starting from poverty or hunger.
- Under the SENDAI FRAMEWORK also they are targeting achieving all the 17 development goals.
- Under this 17 sustainable goals they have 169 sub-targets which has to be achieved by 2030 and under the target of 2030 SDG they are primarily targeting for top 20 SDGs out of the 17 SDGs in association with the collaborative effect of all the 195 countries.

### **Note**

#### **17 SDGS**

1. No poverty
2. Zero hunger
3. Good health and well being
4. Quality education
5. Gender equality
6. Clear water and sanitation
7. Affordable and clean energy
8. Decent work and economic growth
9. Industry, innovation and Infrastructure
10. Reduce inequality
11. Sustainable cities and communities
12. Responsible consumption and production
13. Climate action

14. Life below water
15. Life on land
16. peace and justice strong institutions
17. Partnerships to achieve the goal

## **Note**

### **Green GDP**

Whereas we are calculating the GDP on the basis of loss of biodiversity, here we categorise Green GDP where we will be evaluating the Gross GDP when we subtract the loss of biodiversity values then we comes up with the value of Green GDP.

### **Ex.**

If total GDP is 2000 bn Rs and the loss of biodiversity value is 200 bn Rs. then the net green GDP would be 1800 bn Rs.

### **GDP at Factor Cost**

It is the calculation of GDP at the factory gate here the consumption of goods and services will not include the taxes and subsidies.

### **GDP at Market Cost**

GDP at market price is defined as the consumption of goods and services including the taxes and if govt. has provided some subsidies on that item then it will be subtracted.

### **Purchasing Power Parity**

PPP is being defined as when we are able to buy the same basket of goods at INR value and that same basket of goods can be bought in another country of different currency level then it is known as purchasing power parity.

### **Note**

GDP PPP is always higher than the GDP in real terms because GDP in real terms is the exchange value of your native currency with respect to any other currency and that comparison would be lesser than the total value of the production of goods and services at PPP.

### **GDP**

- It is the value of final goods and services produced inside the boundary of a nation during one fiscal year.
- It is the value both produced both by the foreigner and as well as Indians.
- GDP always focuses on where the output is produced.

## **NDP**

- It is the net form of GDP which is defined as when we subtract the depreciation from the GDP that will eventually give you NDP.
- Depreciation would be the decrease in the value of assets and that depreciation would vary depending in the different assets which are having different depreciation rates.
- Ministry of commerce and industries calculates and published the NDP
- Note
- GDP is always greater than the NDP.

## **GNP**

- It is Gross National product where the calculation of GDP is being considered and the net factor income from Abroad is being considered.
- Therefore this GNP will signify that how much income has been generated by the Indian nationals within one financial year, where
- NFIA = the income generated by the Indian nationals on Indian soil + the income which are coming from Abroad from the residences from India also known as remittances.

## **NNP**

- It is the net form of GNP which is also considered as purest form of income of the nation.
- NNP will be equals to the subtraction of depreciation from the GNP.

## **Note**

When a country produces machines or machinery over the period of time they require repairing and the money spent in those repairing is deducted in the form of depreciation.

## **Normal GDP**

It is the production of goods and services at the current market prices where the current price and current quantity are taken into consideration and the product of current price and current quantity will give you the nominal GDP.

## **Real GDP**

The Real GDP is the adjustment of the prices of an item according to the inflation where the base price is considered from the base year of that item and the current quantity would be considered in the calculation of Real GDP.

## **Note**

Nominal GDP is always greater than the Real GDP in terms of price and quantity.

## **IHDI**

### **Inequality Human Development Index**

- It is the inequality adjustment to the Human Development Index where the Human development Index is calculated on the basis of achievements done in education, health and income with respect to these achievements done by the other countries in one financial year.
- Therefore, in IHDI India is at 101 rank in the recent report of 2018 out of 189 countries.

## **Inclusive Growth**

- It's a concept that advances equitable opportunities for economic participants during the economic growth with benefits increased by various sections of the society.
- The definition of inclusive growth implies direct link between macroeconomic and microeconomic approach of the economy where microeconomy deals with structural transformation for economic diversification and competition.
- Whereas macroeconomic approach refers to changes in the economy such as GDP or GNP. Therefore a sustainable economic growth requires inclusive growth.
- In the developing countries corruption is one of the big problems which is hampering the inclusive growth and in the inclusive market, there should be an equality of opportunity in generating the income as personal disposable income and in turn it will lead to higher standard of living.
- Therefore, inclusive growth determines the different elements which are eradicating poverty, attaining quality education and achieving zero hunger which is our Sustainable Development Goal No. II.
- Also if we improve our manufacturing sector then this will lead to higher or descent inclusive growth.

## **Personal Disposable Income**

Personal Disposable Income is the income which is being attained by subtracting the taxes from the income generated in a month or a year.

## **Human Capital**

Human capital has the various elements which are

1. Talent generation



2. Innovative skills to run your business
3. leadership qualities
4. productive work
5. The development in that sector in which that person was working.

One of the good examples of Human capital is MGNREGA explained in Administrative Reform commission report no 2.

## **INFLATION**

Inflation is an economic situation in which there is sudden rise in the price of goods of services and that price rise can be continuous and can also lead to fall in purchasing power.

### **Inflation is being categories into 2 types.**

1. Cause based Inflation
2. Rate based inflation

#### **Cause Based Inflation**

1. Demand pull inflation
2. Cost push Inflation

#### **Demand Pool**

- It occurs when the excessive demand for commodity increase and supply is constant or fixed then that leads to increase in the price of the goods. Therefore, this situation can be termed as Demand pull inflation.
- Too much money is chasing too few goods.

#### **Cost Push Inflation**

It occurs when wages at the labour and the other cost of the manufacture rises then the cost of production of that manufactures also rises which leads to rise in the prices of the goods and the caves of cost push inflation are as follow.

1. Increase in the prices of the raw materials.
2. Hoarding by the traders and consumers.
3. 3. Hike in the oil prices and the increases in the taxation are one of the reasons which leads to cost push inflation.

#### **Causes of inflation**

1. Growth in the black money.
2. Rapid growth of the population