# National Income and Its Measurement

PART 1

## Objective Questions

### • Multiple Choice Questions

**1.** Which of the following is an example of normal residents of India?
(a) Foreign worker working in WHO located in India
(b) The German working as director in IMD office located in India
(c) Ambassador in India from the rest of the world
(d) Ambassador of India in rest of the world

*Ans.* (d) Ambassador of India in rest of the world

**2.** Which of the given pair is incorrectly matched?

| | Column I | | Column II |
|---|---|---|---|
| A. | Land | (i) | Rent |
| B. | Labour | (ii) | Wages and salaries |
| C. | Capital | (iii) | Interest |
| D. | Entrepreneur | (iv) | Dividend |

**Codes**
(a) A – (i) (b) B – (ii) (c) C – (iii) (d) D – (iv)

*Ans.* (d) Entrepreneur get profit as a compensation for its factor services. Dividend is paid to the shareholders for their contribution in the company's capital as an incentive.

**3.** Factor payment received by the households for rendering their services as employees of the producing unit is called
(a) Compensation of employees
(b) Rent
(c) Interest
(d) Profit

*Ans.* (a) Compensation of employees

**4.** Operating Surplus =
(a) Compensation of Employees + Rent + Interest + Profit
(b) Rent + Interest + Profit
(c) Compensation of Employees + Mixed Income of Self-employed
(d) Compensation of Employees + Rent + Interest + Profit +Mixed Income of Self-employed

*Ans.* (b) Rent + Interest + Profit

**5.** Which of the following is included in the estimation of national income?
(a) Expenses on electricity by a factory
(b) Gifts from abroad
(c) Free services by the government
(d) Financial help to earthquake victims

*Ans.* (c) Free services by the government

**6.** Which of the following statements is/are correct?
(i) Value added and value of output are identical concepts.
(ii) Sum total of value added by all the producing units within the domestic territory of the country is equal to national product.

**Alternatives**
(a) Both are true
(b) Both are false
(c) (i) is true, but (ii) is false
(d) (i) is false, but (ii) is true

*Ans.* (b) Value of output refers to the market value of the goods produced while value added refers to the market value of the goods produced minus the market value of the goods used as inputs/raw material in the process of production.
Sum total of value added by all the producing units within the domestic territory of the country is equal to domestic product.

**7.** Which of the following is not included in the estimation of national income?
(a) Brokerage on sale of bonds
(b) Imputed value of production for self-consumption
(c) Leisure-time activities
(d) Employer's contribution to provident fund

*Ans.* (c) No value is generated by enjoying leisure and hence not included in the estimation of national income.

**8.** Inventory investment is used as a component to calculate national income in which of the following methods?
(a) Product method and income method
(b) Income method and expenditure method
(c) Product method and expenditure method
(d) Product method, income method and expenditure method

*Ans.* (c) Inventory investment or change in stock is used in both value added (Product) method and expenditure method while calculating national income.

**9.** National income is the sum of factor incomes accruing to **(CBSE 2016)**

(a) nationals
(b) economic territory
(c) residents
(d) Both residents and non-residents

***Ans.*** (c) residents

**10.** Combined factor income, which can't be separated into various income components is known as ......... .

(a) Mixed income of self-employed
(b) Compensation of employees
(c) Deferred income
(d) Any of the above

***Ans.*** (a) Mixed income of self-employed

**11.** Other things remaining the same, when foreign currency becomes cheaper, the effect on national income is likely to be **(CBSE 2015)**

(a) positive
(b) negative
(c) Both positive and negative
(d) No effect

***Ans.*** (d) Rise of fall in the prices of foreign currency has no direct impact on national income of a country. Exchange rate changes on a daily basis and several times in a day. It does not mean that national income would change accordingly.

**12.** If gross domestic capital formation is ₹ 3,000, net domestic fixed capital formation is ₹ 2,000 and inventory investment is ₹ 150, what will be the value of consumption of fixed capital?

(a) ₹ 1,000 (b) ₹ 850
(c) ₹ 150 (d) Can't be determined

***Ans.*** (b) Consumption of Fixed Capital = Gross Domestic Capital Formation – (Net Domestic Fixed Capital Formation + Inventory investment)
= 3,000 – (2,000+150)
= ₹ 850

**13.** Which of the following is not a 'factor payment'? **(CBSE 2020)**

(a) Free uniform to defence personnel
(b) Salaries to members of Parliament
(c) Rent paid to the owner of the building
(d) Scholarship given to the students

***Ans.*** (d) Scholarship given to the students

**14.** If Real GDP is ₹ 200 and Price Index (with base = 100) is 110, calculate Nominal GDP. **(CBSE 2015)**

(a) ₹ 33 (b) ₹ 220
(c) ₹ 200 (d) ₹ 100

***Ans.*** (b) $\text{Real GDP} = \dfrac{\text{Nominal GDP}}{\text{Price Index}} \times 100$

$\text{Nominal GDP} = \dfrac{\text{Real GDP} \times \text{Price Index}}{100}$

$= \dfrac{200 \times 110}{100} = ₹\ 220$

**15.** Let us assume that the GDP of some country was ₹ 100 at current prices in 2012-13 and that was ₹ 90 in 2011-12; and that the GDP at constant 2004-05 prices was ₹ 59 in 2012-13 and that was ₹ 56.1 in 2011-12, then in GDP of 2011-12 at 2012-13 (constant) prices would be

(a) ₹ 59.1 (b) ₹ 90 (c) ₹ 95.08 (d) ₹ 100

***Ans.*** (c) GDP of 2011-12 at 2012 ₹13 (constant) prices would be

$= \dfrac{\text{GDP at Constant Prices of } 2011-21}{\text{GDP at Costant Prices of } 2021-13} \times 100$

$= \dfrac{56.1 \times 100}{59} = 95.08$

**16.** Which of the given statement is incorrect? **(CBSE 2020)**

(a) $GDP_{MP} = GDP_{FC} + NIT$
(b) $NNP_{MP} = NNP_{FC}$
(c) $GNP_{MP} = GDP_{MP} + NFIA$
(d) $NNP_{FC}$ = National Income

***Ans.*** (b) Market price includes the impact of indirect taxes and subsidies, i.e. indirect taxes raise the market price, but subsidies tend to lower it while factor cost refers to the cost of factors of production, independent of net indirect taxes (Indirect Taxes – Subsidies).

**17.** If in an economy, all production is undertaken by firms and the recorded sales of all firms in a year are less than their respective recorded costs, then which of the following statements is necessarily true?

(a) At least some firms must have made accounting errors
(b) The economy's GDP of that year was negative
(c) The total purchases of intermediates by firms were more than their total sales
(d) None of the above

***Ans.*** (c) If an economy's production, costs exceed its sales then it implies that the intermediate cost exceed the firm's total sales.

**18.** Given the following data for an economy
Gross domestic product at market prices ₹ 20,000
Gross domestic capital formation ₹ 5,000
Depreciation ₹ 4,000
Net exports (–) ₹ 2,000
Net factor incomes from abroad ₹ 5,000
The economy's net domestic capital formation is

(a) ₹ 1,000 (b) ₹ 5,000
(c) ₹ 3,000 (d) (–) ₹ 1,000

***Ans.*** (a) Net Domestic Capital Formation
= Gross Domestic Capital Formation –Depreciation
= 5,000 – 4,000 = ₹ 1,000

**19.** In which of the following cases would the purchase of rice be included while calculating the GDP of India from the expenditure side?

(a) A resident Indian purchases rice to make a dosa which he sells to his neighbour. He then pockets the money received.
(b) A resident Indian purchases rice to make dosa which he sells to his neighbour. He donates the money received to a charity.
(c) A foreign citizen visiting Indian purchases rice to make a dosa which he sells to another foreign citizen visiting India.
(d) A non-resident Indian visiting India purchases rice, goes back to his country of residence, makes a dosa and then sells it to his neighbour.

*Ans.* (d) The expenditure of a non-resident Indian on purchase of rice would be included in the calculation of GDP as a component of net exports.

**20.** With a positive externality

(a) there is under consumption in the free market.
(b) there is over consumption in the free market.
(c) the government may tax to decrease production.
(d) society could be made better-off if less was produced.

*Ans.* (b) Positive externality refers to the benefits enjoyed by a firm from external factors. Due to positive externality, there is over consumption in free market as it might lower the market price.

## • Assertion-Reasoning MCQs

**Direction** (Q. Nos. 1 to 7) *There are two statements marked as Assertion (A) and Reason (R). Read the statements choose the appropriate option from the options given below.*

(a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A)
(b) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of Assertion (A)
(c) Assertion (A) is true, but Reason (R) is false
(d) Assertion (A) is false, but Reason (R) is true

**1.** **Assertion** (A) Money received from the sale of second hand car will be considered while estimating national income.

**Reason** (R) Their value is already included and it does not contribute to the current flow of goods and services.

*Ans.* (d) Money received from the sale of second hand car will not be considered while estimating national income as the value of second hand goods has already been accounted during the year of their production (when these were initially produced and purchased by the final users).

**2.** **Assertion** (A) Payment of uniforms for nurses by a hospital is not included in the estimation of national income.

**Reason** (R) Uniforms are provided by the hospital at the time of work. It is to be treated as an intermediate consumption.

*Ans.* (a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A)

**3.** **Assertion** (A) Financial help received by the flood victims should not be included while estimating national income.

**Reason** (R) Financial help is a transfer payment and should not be included.

*Ans.* (a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).

**4.** **Assertion** (A) Real GDP shows change in the level of economic activity and facilitates inter-regional and international comparison.

**Reason** (R) It is an inflation adjusted index and account for an increase in the level of production in response to the price changes.

*Ans.* (a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A)

**5.** **Assertion** (A) Public goods possess the characteristics of non-rivalry and non-excludability.

**Reason** (R) Non-rival means consumption by one person does not reduces consumption for another person whereas non-excludability implies that no one can be excluded in terms of benefitting from the consumption of public goods.

*Ans.* (a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A)

**6.** **Assertion** (A) Imputed value of owner-occupied lands are a part of both domestic income and national income.

**Reason** (R) Factors of production are bound to give its services regardless of the fact that it is giving its services to the owner or an outsider.

*Ans.* (a) Factor of production always gives its services regardless of its owner. So, while calculating national income we should include its market value to get actual estimation of production in the economy.

**7.** **Assertion** (A) GDP as an index of welfare may underestimate or overestimate the welfare.

**Reason** (R) It does not consider the non-monetary exchanges and does not take into consideration the positive or negative aspects associated with an economic activity.

*Ans.* (a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A)

## • Case Based MCQs

**1.** **Direction** *Read the following text and answer question no. (i) to (vi) on the basis of the same.*

"A multiplicity of manufacturing activities will make a kingdom or city abound in money when they are diverse and produce things necessary or useful or pleasing to people in quantities that exceed the needs of the country. There are four reasons why this is so.

First, there is greater certainty in manufacturing activity, for a manufacturer is more certain to earn from his work than a farmer or other person who tills the soil or deals in his agricultural 'produce', for the earnings of these people depend not just on human labour but on the weather-since the land sometimes needs rain and sometimes sun–as well as other conditions.

And if these conditions are not forthcoming or the weather is bad, their work is wasted and instead of making money they lose it. But a manufacturer's earnings are always certain, provided that he keeps working.

Second, in manufacturing activities it is possible to achieve a multiplication of products and therefore of earnings. The same cannot be done with agricultural produce, which is not subject to multiplication. If a given piece of land is only large enough to sow a hundred (bushels) of wheat, it is impossible to sow a hundred and fifty there. In manufacturing, by contrast production can be multiplied not merely twofold but a hundredfold and at a proportionately lower cost.

Third, the sale of manufactured products is more certain than that of agricultural produce and this certainty of sale means a greater certainty of profit. For it is difficult to preserve agricultural produce, for a long time without its deteriorating, so it is risky to export from country to another one far away and so it is also risky to preserve it for the future, should it not be sold immediately, manufactured products, on the other hand, can easily be preserved even for long periods, so they can easily be exported to far off lands.

And since navigation–the only art in which the moderns surpass the ancients–has been so greatly facilitated that trade is carried on not merely between East and West, North and South, but even between one hemisphere and the other and goods can be easily transported from one to the other who will deny that the sale of manufactured products is more certain and more profitable than that of agricultural produce?

Fourth and last, manufactured goods generally yield much higher earnings than agricultural produce… For all these reasons the accident of a multiplicity of manufacturing activities is more important than that of domestic agricultural surplus."

***Source*** (*From Antonio Serra –A Short Treatise on the Wealth and Poverty of Nations, 1613*)

(i) There is greater certainty in manufacturing activities than in agricultural because
(a) it is subject to increasing returns
(b) it relies only on human labour
(c) the manufacturing worker must always keep working
(d) manufacturing products are diverse

***Ans.*** (b) it relies only on human labour

(ii) Manufacturing offers the possibility of more likely profit than agriculture because
(a) the variety of manufacturing products is greater than the variety of agricultural produce
(b) it used to be risky to export from one country to another country that is far away
(c) both storage and transport are easier for manufactured goods
(d) manufacturing products are diverse

***Ans.*** (a) the variety of manufacturing products is greater than the variety of agricultural produce

(iii) Serra believed that
(a) agriculture and manufacturing are both subject to increasing returns
(b) only manufacturing is subject to increasing returns
(c) neither activity is subject to increasing returns no activity
(d) increasing returns are not relevant in a discussion of economic activity

***Ans.*** (b) only manufacturing is subject to increasing returns

(iv) The significance of advances in navigation for Serra is that
(a) it enables improved transport of agricultural produce to make up for losses when the weather is bad
(b) it proves that the moderns have surpassed the ancients
(c) it gets rid of the difficulty of preserving goods for the future
(d) it makes profits from manufacturing more certain by expanding potential markets

***Ans.*** (d) it makes profits from manufacturing more certain by expanding potential markets

(v) According to Serra, manufacturing
(a) generates higher value added than agriculture
(b) is desirable only when the quantities produced exceed the needs of the country
(c) is always in a multiplicity that exceeds the agricultural surplus
(d) always makes a kingdom or a city abound in money

***Ans.*** (a) generates higher value added than agriculture

(vi) **Assertion** (A) There exists a unidirectional relationship between certainty of sales and certainty of profits.

**Reason** (R) Higher revenues are often guaranteed from sale of manufactured goods than agricultural produce.

**Alternatives**

(a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).
(b) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of Assertion (A).
(c) Assertion (A) is false, but Reason (R) is true
(d) Both the statements are false

***Ans.*** (b) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of Assertion (A).

**2. Direction** *Read the following text and answer question no. (i) to (vi) on the basis of the same.*

Consumption, production and investment decisions of individuals, households and firms often affect people not directly involved in the transactions. Sometimes these indirect effects are tiny. But when they are large they can become problematic—what economists call externalities. Externalities are among the main reasons governments intervene in the economic sphere. Most externalities fall into the category of so-called technical externalities; i.e., the indirect effects have an impact on the consumption and production opportunities of others, but the price of the product does not take those externalities into account. As a result, there are differences between private returns or costs and the returns or costs to society as a whole.

Externalities could be either positive or negative. There is no valuation of it in the estimation of GDP. Its impact (positive or negative) is not accounted in the index of social welfare in terms of GDP. To that extent, GDP as an index of welfare is not an appropriate index. It is either underestimated or overestimated the level of welfare.

(i) An externality can be defined as

(a) good or bad impact of an activity for which the other person is fully compensated
(b) production or consumption choices of one entity enters the production or utility function of other entity without that entity's approval
(c) positive or negative impact of an activity, solely on the concerned individual
(d) All of the above

***Ans.*** (b) production or consumption choices of one entity enters the production or utility function of other entity without that entity's approval

(ii) Smoke emitted by a chemical factory and causing air pollution is an example of

(a) positive externalities (b) negative externalities
(c) Either of the two (d) Neither of the two

***Ans.*** (b) negative externalities

(iii) Welfare of the people in an economy is measured in terms of ……… .

(a) availability of national income
(b) availability of goods and services per person
(c) overall price level and degree of profit maximisation
(d) overall price level in an economy

***Ans.*** (b) availability of goods and services per person

(iv) With every increase in the level of GDP, social welfare definitely increases in an economy.
The given statement is

(a) True, if increase in GDP is associated with disparities in the distribution of income
(b) True, if increase in GDP is associated with skewed distribution of income
(c) False, if increase in GDP is associated with disparities in the distribution of income
(d) False, if increase in GDP is associated with normality in distribution of income

***Ans.*** (c) False, if increase in GDP is associated with disparities in the distribution of income

(v) **Assertion** (A) GDP cannot be considered as an appropriate index of welfare.
**Reason** (R) Non-monetary transactions, externalities, composition and distribution of GDP are some of the reasons which makes it an inappropriate index of welfare.
**Alternatives**

(a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A)
(b) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of Assertion (A)
(c) Assertion (A) is true, but Reason (R) is false
(d) Assertion (A) is false, but Reason (R) is true

***Ans.*** (a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A)

(vi) **Assertion** (A) Mass vaccination, awareness about sanitisation and promoting cleanliness entails positive externalities.

**Reason** (R) These often accounts as part of economic development but does not count for economic growth.
**Alternatives**

(a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).
(b) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of Assertion (A).
(c) Assertion (A) is false, but Reason (R) is true
(d) Both the statements are false

***Ans.*** (b) Economic growth considers only an increase in the level of production but development means a sustained increase in GDP along with an improvement in social, economic and institutional sphere.

**3. Direction** *Read the following text and answer question no. (i) to (vi) on the basis of the same.*

It is not that countries which are endowed with a bounty of natural wealth-minerals or forests or the most fertile lands are naturally the countries with high national income. In fact, the resource rich Africa and Latin America have some of the countries with lowest national income in the world, whereas many countries with high national income have scarcely any natural wealth.

There was a time when possession of natural resources was the most important consideration but even then the resources have to be transformed through a production process.

The economic well-being of a country thus does not necessarily depend on the mere possession of resources; the point is how these resources are used in generating a flow of production and how, as a consequence, income and wealth are generated from that process.

(i) GDP cannot be considered as a good indicator of development due to which of the following reasons?

(a) It ignores non-tradable goods
(b) It gives no information regarding the distribution of income
(c) It ignores the side-effects of undertaking production activities
(d) All of the above

***Ans.*** (d) All of the above

(ii) **Assertion** (A) The economic well-being of a country doesn't directly depend upon the possession of natural resources.

**Reason** (R) Distribution of income generated in the growth process is an important indicator of countries level of development.

**Alternatives**

(a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A)
(b) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of Assertion (A)
(c) Assertion (A) is true, but Reason (R) is false
(d) Assertion (A) is false, but Reason (R) is true

***Ans.*** (a) Availability of resources in any country doesn't ensure that the benefit of growth achieved will trickle down to the masses. Ensuring equitable distribution of the available resources is the responsibility of the government.

(iii) Possession of natural resources and growth of national income are ……… related.

(a) directly (b) inversely
(c) constantly (d) Can't comment

***Ans.*** (d) In general, we cannot fix a relationship between natural resources and national income. It majorly depends upon how the resources are being utilised in an economy.

(iv) Countries of ............ are rich in natural resources.

(a) Africa
(b) Latin America
(c) Both (a) and (b)
(d) Asia

***Ans.*** (c) Due the geographical location, these two countries possess resources naturally. However, growth of a nation does not depend upon the possession of resources but the usage of the same.

(v) Growth and development of a country are ……… related.

(a) positively (b) negatively
(c) Not related at all (d) None of these

***Ans.*** (a) In general, growth is the first step towards achieving development. Development is not possible without growth but the vice-versa is possible

(vi) Which of the following statements is/are correct?

(i) Inequitable distribution of resources is the inequality in the social conditions of daily living shaped by deeper social structures and processes.
(ii) The inequality is systematic, produced by social norms, policies and practises that tolerate or promote unfair distribution of power, wealth and other necessary social resources.

**Alternatives**

(a) Both are true
(b) Both are false
(c) Only (i) is true, but (ii) is false
(d) Only (ii) is true, but (i) is false

***Ans.*** (a) Both are true

# PART 2
# Subjective Questions

## • Short Answer (SA) Type Questions

**1.** 'Domestic services (household services) performed by a woman are not considered as an economic activity. Defend or refute the given statement with valid reason. **(CBSE 2020)**

***Ans.*** The given statement is refuted on the basis of the following reasons

(i) Domestic services are performed by woman out of love and affection.
(ii) Such services do not add to the flow of goods and services in the economy.
(iii) These services are for self-consumption, not for economy.

**2.** 'Subsidies to the producers, should be treated as transfer payments'. Defend or refute the given statement with valid reason. **(CBSE 2020)**

**Ans.** This statement is refuted because subsidies given to the producers should not be treated as transfer payments. Subsidies are given to reduce the market price of socially desirable goods such as fertilisers, LPG gas, etc. So, that they can be afforded by the poor section of society.

Transfer payments, on the other hand, are given to fulfill social objectives. Examples of transfer payments are old age pension, unemployment allowance, etc.

Also, transfer payments are not taken into account while computing the GDP of the country, but subsidies are considered in the computation of GDP.

**3.** Suppose the GDP at market price of a country in a particular year was ₹ 1,100 crore. Net factor income from abroad was ₹ 100 crore. The value of Indirect taxes – Subsidies was ₹ 150 crore and national income was ₹ 850 crore. Calculate the aggregate value of depreciation. **(NCERT)**

**Ans.** $NNP_{MP} = NNP_{FC} + NIT$

$= 850 + 150 = ₹\ 1{,}000$ crore

$GNP_{MP} = NFIA + GDP_{MP}$

$= 100 + 1{,}100$

$= ₹\ 1{,}200$ crore

$\text{Depreciation} = GNP_{MP} - NNP_{MP}$

$= 1{,}200 - 1{,}000 = 200$ crore

Therefore, depreciation = ₹ 200 crore

**4.** GNP is the estimated value of the total worth of production and services earned by the normal residents of a country. But to find out NNP, GNP deducts depreciation, why should we deduct depreciation from GNP?

**Ans.** The productive power of physical capital stock of a country diminishes gradually because of the wear and tear in the process of production. When the machine becomes totally unproductive, it has to be replaced by new machine. So, a sum of money is set aside every year into depreciation account and new machine can be purchased by utilising this accumulated sum.

So, depreciation is deducted from GNP in order to get more accurate measure of the sustainable production of goods and services in a country in a given year.

**5.** Compute the values of $x_a$ and $x_b$ on the basis of given data pertaining to an economy.

| Year/Item | Year 1 (₹) | Year 2 (₹) |
|---|---|---|
| Final consumption expenditure | 33,53,748 | 38,64,617 |
| Gross fixed capital formation | $x_a$ | 18,21,099 |
| Change in stocks | 2,55,126 | 1,79,004 |
| Exports of goods and services | 10,18,907 | 13,28,765 |
| Imports of goods and services | 12,19,109 | 16,14,040 |
| Gross domestic product at market prices | 50,50,345 | $x_b$ |

**Ans.** Computing the value of $x_a$

Gross Fixed Capital Formation

$= GDP_{MP} - $ (Final Consumption Expenditure + Change in Stocks + Net Exports)

$= 50{,}50{,}345 - 33{,}53{,}748 - 2{,}55{,}126 - (10{,}18{,}907 - 12{,}19{,}109)$

$= 16{,}41{,}673$

Computing the value of $x_b$

Gross Domestic Product at Market Price

= Final Consumption Expenditure + Gross Fixed Capital Formation + Change in Stock + Net Exports (Exports – Imports)

$= 38{,}46{,}417 + 18{,}21{,}099 + 1{,}79{,}004 + (13{,}28{,}765 - 16{,}14{,}040)$

$= 55{,}61{,}245$

**6.** Calculate net domestic product at factor cost.

| S.No. | Contents | ₹ (in lakh) |
|---|---|---|
| (i) | Interest | 700 |
| (ii) | Compensation of Employees | 3,000 |
| (iii) | Net Indirect Taxes | 500 |
| (iv) | Rent and Profit | 700 |
| (v) | Transfer Payments by Government | 10 |

**(CBSE 2020)**

**Ans.** **Net Domestic Product at Factor Cost**

$(NDP_{FC})$ = Compensation of Employees + Interest + Rent and Profit

$= 3{,}000 + 700 + 700$

$= ₹\ 4{,}400$ crore

**7.** In a single day Raju, the barber collects ₹ 500 from haircuts; over this day, his equipment depreciates in value by ₹ 50. Of the remaining ₹ 450, Raju pays sales tax worth ₹ 30, takes home ₹ 200 and retains ₹ 220 for improvement and buying of new equipment. He further pays ₹ 20 as income tax from his income. Based on this information, complete Raju's contribution to the following measures of income
(i) Gross domestic product, (ii) NNP at market price and (iii) NNP at factor cost.

**Ans.** Assuming intermediate consumption = 0 and Change in stock = 0

(i) $GVA_{MP} = ₹\ 500$ (Raju's contribution to GDP)

(ii) $NVA_{MP} = GVA_{MP} - \text{Depreciation}$

$= 500 - 50$

$= ₹\ 450$ (Raju's contribution to $NNP_{MP}$)

(iii) $NVA_{FC} = NVA_{MP} - \text{Net Indirect Taxes}$

$= 450 - 30$

$= ₹\ 420$ (Raju's contribution to $NNP_{FC}$)

**8.** Calculate Net Value Added at Factor Cost ($NVA_{FC}$) from the following data.

| S.No. | Contents | ₹ (in crores) |
|---|---|---|
| (i) | Value of Output | 800 |
| (ii) | Intermediate Consumption | 200 |
| (iii) | Indirect Taxes | 30 |
| (iv) | Depreciation | 20 |
| (v) | Subsidies | 50 |
| (vi) | Purchase of Machinery | 50 |

**(CBSE 2020)**

***Ans.*** $GVA_{MP}$ = Value of Output – Intermediate Consumption

= 800 – 200 = ₹ 600 crores

$NVA_{FC}$ = $GVA_{MP}$ – Depreciation – Indirect Tax + Subsidies

$NVA_{FC}$ = 600 – 20 – 30 + 50 = ₹ 600 crores

**9.** How will the following be treated while estimating national income of India? Give reasons.

(i) Value of bonus shares received by shareholders of a company.

(ii) Capital gains to Indian residents from sale of shares of a foreign company.

(iii) Fees received from students.

***Ans.*** (i) Value of bonus shares received by shareholders of a company is not included in the estimation of national income of India because these are just financial transactions (leading to change of ownership of financial assets), not contributing to the flow of goods and services in the economy.

(ii) Capital gains to Indian residents from sale of shares of a foreign company is not included in the national income of India because it is a part of financial transactions corresponding to which there is no flow of goods and services in the economy.

(iii) From the students' point of view, expenditure on fees is to be treated as part of private final consumption expenditure. Accordingly, it is to be included in the estimation of national income of India when expenditure method is used to estimate it. However, from the schools' point of view, fee received is just a revenue from the sale of services.

**10.** Which of the following factor incomes be included in domestic factor income of India? Give reasons for your answer.

(i) Compensation of employees to the residents of Japan working in Indian embassy in Japan.

(ii) Rent received by an Indian resident from Russian embassy in India.

(iii) Profits earned by a branch of State Bank of India in England.

***Ans.*** (i) Compensation of employees to the residents of Japan working in Indian embassy in Japan is a part of factor income of India because Indian embassy in Japan is a part of domestic territory of India.

(ii) Rent received by an Indian resident from Russian embassy in India is not a part of domestic factor income of India because Russian embassy in India is not a part of domestic territory of India.

(iii) Profits earned by a branch of State Bank of India in England is not a part of domestic factor income of India because the branch of SBI in England is not a part of domestic territory of India.

**11.** Calculate Gross Value Added at Market Price ($GVA_{MP}$) from the following data.

| S.No. | Contents | (in ₹ lakhs) |
|---|---|---|
| (i) | Depreciation | 20 |
| (ii) | Domestic Sales | 200 |
| (iii) | Change in Stock | (–) 10 |
| (iv) | Exports | 10 |
| (v) | Single use Producer Goods | 120 |
| (vi) | Net Indirect Taxes | 20 |

**(CBSE 2020)**

***Ans.*** Gross Value Added at Market Price ($GVA_{MP}$)

= Value of Output – Intermediate Consumption

Value of Output = Sales + Change in Stock

Value of Output = (200 + 10) + (–) 10

= 210 – 10 = ₹ 200

$GVA_{MP}$ = 200 – 120

$GVA_{MP}$ = ₹ 80 lakhs

**12.** Calculate intermediate consumption from the following data. **(CBSE 2019)**

| S.No. | Contents | (₹ in crores) |
|---|---|---|
| (i) | Gross Value of Output | 300 |
| (ii) | Net Value Added at Factor Cost ($NVA_{FC}$) | 100 |
| (iii) | Subsidies | 15 |
| (iv) | Depreciation | 30 |

***Ans.*** $NVA_{FC}$ = ₹ 100 crores (given)

$GVA_{MP}$ = $NVA_{FC}$ + Depreciation – Subsidy

$GVA_{MP}$ = (100 + 30 – 15) = ₹ 115 crores

$GVA_{MP}$ = Value of Output – Intermediate Consumption

115 = 300 – Intermediate Consumption

Intermediate Consumption = 300 – 115 crores

= ₹ 185 crores

**13.** Giving reason state how the following are treated in estimation of national income.

(i) Payment of interest by banks to its depositors.

(ii) Expenditure on old age pensions by government.

(iii) Expenditure on engine oil by car service station.

**(CBSE (C) 2017)**

***Ans.*** (i) Payment of interests by bank to its depositors should be included in estimation of national income as it will be treated as factor income.

(ii) Expenditure on old age pensions by government is not a part of national income as it is a transfer payment.

(iii) Expenditure on engine oil by car service station is not a part of national income as it is an intermediate cost.

**14.** Find net value added at factor cost.

| S.No. | Contents | ₹ (in lakhs) |
|---|---|---|
| (i) | Durable use Producer Goods with a Life Span of 10 Years | 10 |
| (ii) | Single use Producer Goods | 5 |
| (iii) | Sales | 20 |
| (iv) | Unsold Output Produced During the Year | 2 |
| (v) | Taxes on Production | 1 |

**(CBSE 2016)**

***Ans.*** Net Value Added at Factor Cost ($NVA_{FC}$)

= Sales + Unsold Output Produced during the Year – Single use Producer Goods – Depreciation on Durable use Producer Goods – Taxes on Production

$= 20 + 2 - 5 - 1 - 1$

= ₹ 15 lakhs

***Note*** Depreciation $= \dfrac{\text{Value of Durable Goods}}{\text{Life Span}} = \dfrac{10}{10}$

= ₹ 1 lakh

**15.** (i) Calculate the value of 'Change in Stock' from the following data.

| S.No. | Contents | ₹ (in crores) |
|---|---|---|
| (a) | Sales | 400 |
| (b) | Net Value Added at Factor Cost ($NVA_{FC}$) | 200 |
| (c) | Subsidies | 100 |
| (d) | Change in Stock | ? |
| (e) | Depreciation | 40 |
| (f) | Intermediate Consumption | 100 |

(ii) Define real gross domestic product. **(CBSE 2020)**

***Ans.*** (i) Net Value Added at Factor Cost ($NVA_{FC}$)

= Sales + Change in Stock – Intermediate Consumption – Depreciation – Net Indirect Taxes

$200 = 400 + (\text{Change in Stock}) - 100 - 40 - (0 - 100)$

$200 = 360 + \text{Change in Stock} - \text{Change in Stock}$

$= 360 - 200$

$\text{Change in Stock} = -160$ crores

$\therefore$ Decrease in Stock = ₹ 160 crores

(ii) Real gross domestic product is the sum total of the money value of all final goods and services produced in an economy during the year estimated at same given base year prices.

**16.** Social welfare may not increase even when real GDP increases. Explain.

***Ans.*** Increase in GDP may not cause increase in welfare in a situation when distribution of income becomes skewed (unequal). If, along with an increase in GDP, the percentage of population below poverty line happens to increase, it implies a situation of deprivation on one hand and concentration of economic power on the other. It is a situation when a rising percentage of GDP is being pocketed by a smaller percentage of population. The bulk of population suffers poverty, while only a small segment of the society enjoys prosperity owing to a rise in GDP. The rise in GDP is achieved at the cost of social welfare.

**17.** "Management of a water polluting oil refinery says that it (oil refinery) ensures welfare through its contribution to gross domestic product." Defend or refute the argument of management with respect to GDP as a welfare measure of the economy. **(CBSE 2020)**

***Ans.*** The above argument is refuted with respect to GDP as a welfare measure of the economy. It is because GDP is not a good measure of welfare as it fails to take in to the effect of externalities. Externality means good or bad impact of an activity without paying the price or penalty for that impact of externalities is not accounted in the index of social welfare in terms of GDP.

For example, oil refinery may pollute the nearby source of water. Such harmful effects to people and marine life is not be penalised. Thus it is not ensuring the welfare of the economy through GDP.

**18.** Sale of petrol and diesel cars is rising particularly in big cities. Analyse its impact on gross domestic product and welfare. **(CBSE 2016)**

***Ans.*** As the sale of petrol and diesel cars rises, it implies that the private consumption expenditure is also rising.

A rise in private consumption expenditure leads to a rise in the gross domestic product.

So, an increase in the sale of petrol and diesel cars will lead to an increase in the gross domestic product of the country.

However, it will not lead to an increase in the welfare of the people because of the below mentioned reasons

(i) As the sale of petrol and diesel cars rises, then the level of pollution will also rise in the big cities.

(ii) With a rise in the number of cars, the traffic congestion on the roads will worsen.

(iii) A rise in the number of cars will increase the demand for petrol and diesel. This will lead to a rise in the prices of petrol and diesel.

(iv) The already depleted reserves of petrol and diesel will be subjected to further depletion.

**19.** Explain how 'non-monetary exchanges' act as a limitation in taking GDP as an index of welfare. **(CBSE 2017)**

***Ans.*** It can be understood with the help of following points

(i) GDP measures only economic value of the current productive activity of a country.

(ii) There are many activities which are not evaluated in monetary terms. In India, non-monetary transactions are present in rural areas where payments for farm labourers are made in kind rather than cash. But such transactions are not recorded.

(iii) Even while producing goods and services, lot of human cost is also involved. For example, sacrificing leisure hours by working but this is never included in total cost.

Therefore, GDP remains underestimated and hence loses its appropriateness as an index of welfare.

**20.** "Gross Domestic Product (GDP) is not the best indicator of the economic welfare of a country." Defend or refute the given statement with valid reasons. **(CBSE 2020)**

***Ans.*** "Gross Domestic Product (GDP) is not the best indicator of the economic welfare of a country." This statement is defended because of the following reasons

(i) **Distribution of GDP** If the GDP of the country is rising, it is not necessary that the welfare will also rise. This is because with every increase in the level of GDP, it is not necessary that distribution of income is also equalable.

(ii) **Non-Monetary Exchanges** In rural economy, barter system of exchange still prevails to some extent. Payments for farm labour are often made in kind rather than in cash. All such transactions remain unrecorded which causes underestimation of GDP.

(iii) **Externalities** It refers to good and bad impact of an activity without paying the price or penalty for that activity. Impact of external entities are not accounted in the index of social welfare in terms of GDP.

**21.** Government incurs expenditure to popularise yoga among the masses. Analyse its impact on Gross Domestic Product and welfare of the people. **(Delhi 2016)**

***Ans.*** The expenditure incurred by the government to popularise yoga among the masses will increase the government final consumption expenditure. With a rise in this component, the domestic income of the country will also rise. So, the expenditure incurred by the government to popularise yoga will lead to an increase in the Gross Domestic Product of the country.

This expenditure will also increase the welfare of the people, as is enumerated below

(i) As more and more people practise yoga, their health and immunity will improve. This will help in increasing their working capacity.

(ii) As people's health improve, so government's expenditure on the curative aspect of health issues will decrease.

(iii) People will develop a positive outlook and their well-being will increase in general.

**22.** Find net value added at market price. **(Delhi 2016)**

| S.No. | Contents | ₹ (in lakhs) |
|---|---|---|
| (i) | Fixed Capital Good with a Life Span of 5 Years | 15 |
| (ii) | Raw Materials | 6 |
| (iii) | Sales | 25 |
| (iv) | Net Change in Stock | (–) 2 |
| (v) | Taxes on Production | 1 |

***Ans*** Net Value Added at Market Price ($NVA_{MP}$)

= Sales + Net Change in Stock – Raw Materials – Depreciation on Fixed Capital Good

= 25 + (–2) – 6 – 3 = ₹ 14 lakh

***Note*** Depreciation on Fixed Capital Good

$$= \frac{\text{Value of Fixed Capital Good}}{\text{Life Span}}$$

$$= \frac{15}{3} = ₹\ 3 \text{ lakh}$$

**23.** Calculate net national product at market price from the following data

| S.No. | Contents | ₹ (in crore) |
|---|---|---|
| (i) | Net Factor Income from Abroad | (–) 5 |
| (ii) | Private Final Consumption Expenditure | 100 |
| (iii) | Personal Tax | 20 |
| (iv) | Gross National Disposable Income | 170 |
| (v) | Government Final Consumption Expenditure | 20 |
| (vi) | Corporation Tax | 15 |
| (vii) | Gross Domestic Capital Formation | 30 |
| (viii) | Personal Disposable Income | 70 |
| (ix) | Net Exports | (–) 10 |
| (x) | Savings of Private Corporate Sector | 5 |
| (xi) | Net National Disposable Income | 145 |

***Ans.*** Here,

$NNP_{MP}$ = Private Final Consumption Expenditure + Government Final Consumption Expenditure + Gross Domestic Capital Formation + Net Export – Depreciation + NFIA

= 100 + 20 + 30 + (– 10) – 25 + (–5)

= ₹ 110 crore

Depreciation = Gross National Disposable Income – Net National Disposable Income

= 170 – 145 = ₹ 25 crore

**24.** Find net value added at market price. **(Delhi 2012)**

| S.No. | Contents | ₹ (in crore) |
|---|---|---|
| (i) | Output Sold (units) | 800 |
| (ii) | Price Per Unit of Output | 20 |
| (iii) | Excise | 1,600 |
| (iv) | Import Duty | 400 |
| (v) | Net Change in Stock | (–) 500 |
| (vi) | Depreciation | 1,000 |
| (vii) | Intermediate Cost | 8,000 |

*Ans.* Sales = Output Sold × Price Per Unit

$= 800 \times 20 =$ ₹ 16,000 crore

Now, Value of Output = Sales + Change in Stock

$= [16,000+(-500)] =$ ₹ 15,500 crore

Now, $GVA_{MP}$ = Value of Output – Intermediate Cost

$= (15,500 - 8,000) =$ ₹ 7,500 crore

Hence, $NVA_{MP} = GVA_{MP} -$ Depreciation

$= (7,500 - 1,000)$

$= 6,500$ crore

**25.** From the following data, calculate net value added at factor cost **(All India 2011)**

| S.No. | Contents | ₹ (in crore) |
|---|---|---|
| (i) | Sales | 500 |
| (ii) | Purchase of Intermediate Goods | 350 |
| (iii) | Opening Stock | 60 |
| (iv) | Indirect Taxes | 50 |
| (v) | Consumption of Fixed Capital | 90 |
| (vi) | Import of Raw Materials | 85 |
| (vii) | Closing Stock | 80 |

*Ans.* Here,

Net Value Added at Factor Cost ( $NVA_{FC}$ )

= Sales + Change in Stock (Closing Stock – Opening Stock) – Purchase of Intermediate Goods – Consumption of Fixed Capital – Indirect Taxes

$= 500 + (80 - 60) - 350 - 90 - 50$

$= 520 - 490 =$ ₹ 30 crore

## • Long Answer (LA) Type Questions

**1.** Explain the treatment assigned to the following while estimating national income. Give reasons.

(i) Family members working free on the farm owned by the family.

(ii) Rent free house from an employer.

(iii) Expenditure on free services provided by the government.

*Ans.* (i) Family members working free on the farm owned by the family are engaged in the value addition process. Imputed value of their farm output is included in the estimation of national income. Accordingly, income generated by the farming family would be treated as mixed income of self-employed, which includes compensation of labour.

(ii) Rent free house from an employer is included in the estimation of national income because it is a kind of wages in kind and therefore, a part of compensation of employees.

(iii) Expenditure on free services provided by the government should be included in the estimation of national income because expenditure on these services is a part of government final consumption expenditure.

**2.** Define the problem of double counting in the estimation of national income. Discuss two approaches to correct the problem of double counting. **(CBSE 2020)**

*Ans.* The counting of the value of commodity more than once is called double counting. This leads to overestimation of the value of goods and services produced. Thus, the importance of avoiding double counting lies in avoiding overestimating the value of domestic product.

For example, a farmer produces one ton of wheat and sells it for ₹ 400 in the market to a flour mill. The flour mill sells it for ₹ 600 to the baker. The baker sells the bread to a shopkeeper for ₹ 800. The shopkeeper sells the entire bread to the final consumers for ₹ 900. Thus,

Value of Output = 400 + 600 + 800 + 900 = ₹ 2,700

Infact, the value of the wheat is counted four times, the value of services of the miller thrice and the value of services by the baker twice. In other words, the value of wheat and value of services of the miller and of the baker have been counted more than once. The counting of the value of the commodity more than once is called double counting.

To avoid the problem of double counting, two methods are used

(i) **Final Output Method** According to this method, the value of intermediate goods is not considered. Only the value of final goods and services are considered. In the above example, the value of final goods i.e., bread is ₹900.

(ii) **Value Added Method** Another method to avoid the problem of double counting is to estimate the total value added at each stage of production. In the above example, the value added at each stage of production is 400 + 200 + 200 + 100 = ₹ 900

**3.** How will the following be treated while estimating national income of India? Give reasons.

(i) Dividend received by a foreigner from investment in shares of an Indian company.

(ii) Expenditure on education of children by a family in Uttar Pradesh.

(iii) Remittances from non-resident Indians to their families in India. **(CBSE 2018)**

***Ans.*** (i) Dividend received by a foreigner from investment in shares of an Indian company is included in national income of India as a negative component because it is a part of net factor income to the rest of the world.

(ii) Expenditure on education of children by a family in Uttar Pradesh is included in the estimation of national income of India since it is a part of private final consumption expenditure.

(iii) Remittances from non-resident Indians to their families in India are to be treated as transfer payments. Accordingly, these are not to be included in the estimation of national income of India.

**4.** Given the following data, find the missing value of 'government final consumption expenditure' and 'mixed income of self-employed'.

| S. No. | Contents | ₹ (in crores) |
|---|---|---|
| (i) | National Income | 71,000 |
| (ii) | Gross Domestic Capital Formation | 10,000 |
| (iii) | Government Final Consumption Expenditure | ? |
| (iv) | Mixed Income of Self-employed | ? |
| (v) | Net Factor Income from Abroad | 1,000 |
| (vi) | Net Indirect Taxes | 2,000 |
| (vii) | Profits | 1,200 |
| (viii) | Wages and Salaries | 15,000 |
| (ix) | Net Exports | 5,000 |
| (x) | Private Final Consumption Expenditure | 40,000 |
| (xi) | Consumption of Fixed Capital | 3,000 |
| (xii) | Operating Surplus | 30,000 |

**(CBSE 2019)**

***Ans.*** $NNP_{FC}$ = ₹ 71,000 (given) crores

$GDP_{FC} = NNP_{FC}$ – Net Factor Income from Abroad + Depreciation + Net Indirect Taxes

= 71,000 – 1,000 + 3,000 + 2,000

= ₹ 75,000 crores

Now,

Let government final consumption expenditure = $x$

$GDP_{MP}$ = Private Final Consumption Expenditure + Government Final Consumption Expenditure + Gross Domestic Capital Formation + Net Exports

75,000 = (40,000 + $x$ + 10,000 + 5,000)

$\therefore$ $x$ = ₹ 20,000 crores

Also,

Let mixed income = $y$

$NDP_{FC}$ = Wages and Salaries + Operating Surplus + Mixed Income

70,000 = (15,000 + 30,000 + $y$)

So, $y$ = 25,000

***Note*** $NDP_{FC} = NNP_{MP}$ – NFIA = 71,000 – 1,000

= ₹ 70,000 crores

So, Government final consumption expenditure

= ₹ 20,000 crores

Mixed income = ₹ 25,000 crores

**5.** Given the following data, find the missing values of 'private final consumption expenditure' and 'operating surplus'.

| S. No. | Contents | ₹ (in crores) |
|---|---|---|
| (i) | National Income | 50,000 |
| (ii) | Net Indirect Taxes (NIT) | 1,000 |
| (iii) | Private Final Consumption Expenditure | ? |
| (iv) | Gross Domestic Capital Formation | 17,000 |
| (v) | Profits | 1,000 |
| (vi) | Government Final Consumption Expenditure | 12,500 |
| (vii) | Wages and Salaries | 20,000 |
| (viii) | Consumption of Fixed Capital | 700 |
| (ix) | Mixed Income of Self-employed | 13,000 |
| (x) | Operating Surplus | ? |
| (xi) | Net Factor Income from Abroad | 500 |
| (xii) | Net Exports | 2,000 |

**(CBSE 2019)**

***Ans.*** Private final consumption expenditure = $y$,

Operating surplus = $x$

We know,

$NDP_{FC}$ = CoE + Operating Surplus + Mixed Income

Also, $NDP_{FC} = NNP_{FC}$ – NFIA

= 50,000 – 500 = ₹ 49,500 crores

$\therefore$ 49,500 = Wages and Salaries + $x$ + 13,000

49,500 = 20,000 + 13,000 + $x$

49,500 = 33,000 + $x$

$x$ = 49,500 – 33,000 = ₹ 16,500 crores

Also, $GDP_{MP}$ = PFCE + GFCE + Gross Domestic Capital Formation + Net Exports

$GDP_{MP} = NPP_{FC}$ + Depreciation + NIT

= 49,500 + 700 + 1,000

= ₹ 51,200 crores

$\therefore$ 51,200 = $y$ + 12,500 + 17,000 + 2,000

$\therefore$ $y$ = ₹ 19,700 crores

So, private final consumption expenditure

= ₹ 16,500 crores

Operating surplus = ₹ 19,700 crores

**6.** Given the following data, find the values of 'operating surplus' and 'gross domestic capital formation'.

| S. No. | Contents | ₹ (in crores) |
|---|---|---|
| (i) | Government Final Consumption Expenditure | 2,000 |
| (ii) | Mixed Income of Self-employed | 1,500 |
| (iii) | National Income | 12,000 |
| (iv) | Net Factor Income from Abroad | 200 |
| (v) | Operating Surplus | ? |
| (vi) | Profits | 500 |
| (vii) | Private Final Consumption Expenditure | 6,000 |
| (viii) | Net Indirect Taxes | 700 |
| (ix) | Net Exports | 1,800 |
| (x) | Consumption of Fixed Capital | 600 |
| (xi) | Gross Domestic Capital Formation | ? |
| (xii) | Wages and Salaries | 6,000 |

**(CBSE 2019)**

***Ans.*** $NNP_{FC}$ = ₹ 12,000 (Given)

Let Gross domestic capital formation = $x$

And Operating surplus = $y$

$GDP_{MP} = NNP_{FC}$ + Depreciation − NFIA + NIT

$GDP_{MP}$ = 12,000 + 600 − 200 + 700 = ₹13,100 crores

$GDP_{MP}$ = Private Final Consumption Expenditure + Government Final Consumption Expenditure + Gross Domestic Capital Formation + Net Exports

13,100 = 6,000 + 2,000 + $x$ + 1,800

$x$ = 13,100 − 9,800 = ₹ 3,300 crores

Gross domestic capital formation = ₹ 3,300 crores

$NDP_{FC} = NNP_{FC}$ − NFIA

$NDP_{FC}$ = 12,000 − 200 = ₹ 11,800 crores

$NDP_{FC}$ = Compensation of Employees + Operating Surplus + Mixed Income

11,800 = 6,000 + $y$ + 1,500

$y$ = 11,800 − 7,500 = ₹ 4,300 crores

Operating surplus = ₹ 4,300 crores

**7.** Calculate

(i) Net National Product at Market Price

(ii) Gross Domestic Product at Factor Cost

| S.No. | Contents | ₹ (in crores) |
|---|---|---|
| (a) | Rent and Interest | 6,000 |
| (b) | Wages and Salaries | 1,800 |
| (c) | Undistributed Profit | 400 |
| (d) | Net Indirect Taxes | 100 |
| (e) | Subsidies | 20 |
| (f) | Corporation Tax | 120 |
| (g) | Net Factor Income to Abroad | 70 |
| (h) | Dividends | 80 |
| (i) | Consumption of Fixed Capital | 50 |
| (j) | Social Security Contribution by Employers | 200 |
| (k) | Mixed Income | 1,000 |

**(CBSE 2018)**

***Ans.*** (i) $NDP_{FC}$ = Compensation of Employees + Operating Surplus + Mixed Income

$NDP_{FC}$ = Wages and Salaries + Social Security Contribution by Employers + Rent and Interest + Undistributed Profit + Corporation Tax + Dividends + Mixed Income

$NDP_{FC}$ = 1,800 + 200 + 6,000 + 400 + 120 + 80 + 1,000

$NDP_{FC}$ = 2,000 + 6,600 + 1,000 = ₹ 9,600 crores

$NNP_{MP} = NDP_{FC}$ + Net Factor Income from Abroad + Net Indirect Taxes

$NNP_{MP}$ = 9,600 + (−) 70 + 100

$NNP_{MP}$ = 9,600 − 70 + 100 = ₹ 9,630 crores

(ii) $GDP_{FC} = NDP_{FC}$ + Depreciation

$GDP_{FC}$ = 9,600 + 50 = ₹ 9,650 crores

**8.** (i) Define 'net factor income from abroad'. How is it different from 'net exports'?

(ii) Calculate the value of "Rent" from the following data. **(CBSE 2019)**

| S.No. | Contents | (₹ in crores) |
|---|---|---|
| (a) | Gross Domestic Product at Market Price | 18,000 |
| (b) | Mixed Income of Self-employed | 7,000 |
| (c) | Subsidies | 250 |
| (d) | Interest | 800 |
| (e) | Rent | ? |
| (f) | Profit | 975 |
| (g) | Compensation of Employees | 6,000 |
| (h) | Consumption of Fixed Capital | 1,000 |
| (i) | Indirect Tax | 2,000 |

***Ans.*** (i) Difference between Net Export and Net Factor Income from Abroad (NFIA).

Net Factor Income From Abroad (NFIA) refers to the difference between factor income received from and paid to abroad.

| Basis | Net Exports | NFIA |
|---|---|---|
| Concept | It is the income from buying and selling goods abroad. | It is the income from factor sources. |
| Formula | Export of Goods – Import of Goods | Factor Income Received from Abroad– Factor Income paid to Abroad. |

(ii) By Income method

$NDP_{FC}$ = COE + Operating Surplus* + Mixed Income ...(i)

*Operating Surplus = Rent + Interest + Profits

and $NDP_{FC} = GDP_{MP}$ – Depreciation – NIT

$= 18,000 - 1,000 - (2,000 - 250)$

$=$ ₹ 15,250 crores

Now, putting values in eq. (i)

$15,250 = 6,000 + \text{Rent} + 800 + 975 + 7,000$

$15,250 = 14,775 + \text{Rent}$

$\therefore$ Rent = ₹ 475 crores

**9.** Explain the precautions that are taken while estimating national income by value added method. **(CBSE 2017)**

***Ans.*** While using value added method for computing national income, the following precautions should be taken

(i) The value of intermediate goods should not be included.

(ii) Purchase and sale of second hand goods should be excluded.

(iii) Imputed value of self-consumed goods should be included.

(iv) Own account production of goods should be included.

(v) Value of self-consumed services should not be included in the estimation of national income.

(vi) Imputed rent on the owner occupied house is also taken into the account.

**10.** (i) Giving valid reasons, state how the services of a 'school teacher' will be undertaken in estimation of national income.

(ii) Distinguish between 'Real Gross Domestic Product' and 'Nominal Gross Domestic Product'. **(CBSE 2020)**

***Ans.*** (i) The services of a school teacher will be taken in the estimation of national income of the country as they provide services in consideration of some payment and adds to the current flow of services.

(ii) Difference between Real GDP and Nominal GDP

| Basis | Real GDP | Nominal GDP |
|---|---|---|
| Price | It is the value of current output at base year prices. | It is the value of current output at current year prices. |
| Other Name | It is also known as GDP at constant price. | It is also known as GDP. |
| Rise | It can increase only when output of goods and services rise in the current year. | It can rise either when output of goods and services rise or when current prices rise. |
| Reliability | It is a reliable index of economic growth. | It is not a reliable index of economic growth. |

**11.** Calculate (i) Gross Domestic Product at Market Price and (ii) Factor income from abroad from the following data.

| S.No. | Contents | ₹ (in crore) |
|---|---|---|
| (a) | Gross National Product at Factor Cost | 6,150 |
| (b) | Net Exports | (–) 50 |
| (c) | Compensation of Employees | 3,000 |
| (d) | Rent | 800 |
| (e) | Interest | 900 |
| (f) | Profit | 1,300 |
| (g) | Net Indirect Taxes | 300 |
| (h) | Net Domestic Capital Formation | 800 |
| (i) | Gross Fixed Capital Formation | 850 |
| (j) | Change in Stock | 50 |
| (k) | Dividend | 300 |
| (l) | Factor Income to Abroad | 80 |

***Ans*** (i) $GDP_{MP}$ = Compensation of Employees + Rent + Interest + Profit + Net Indirect Taxes + Consumption of Fixed Capital

$= 3,000 + (800 + 900 + 1,300) + 300 + (850 + 50 - 800)$

$=$ ₹ 6,400 crore

***Note*** Depreciation = Gross Domestic Fixed Capital Formation + Change in Stock – Net Domestic Capital Formation

(ii) $GNP_{FC} = GDP_{MP}$ – Net Indirect Taxes + Factor Income from Abroad – Factor Income to Abroad

$6,150 = 6,400 - 300 +$ Factor Income from Abroad $- 80$

$6,150 = 6,020 +$ Factor Income from Abroad

Factor Income from Abroad

$= 6,150 - 6,020 =$ ₹ 130 crore

# Chapter Test

## Multiple Choice Questions

**1.** GDP does not include
(a) government spending to clean up pollution caused by factories
(b) payments to technical consultants abroad
(c) additions to inventory stocks of intermediate goods
(d) None of the above

**2.** GDP equals GNP, when
(a) the value of exports of goods equals the value of imports of goods
(b) the value of exports of goods and services equals the value of imports of goods and services
(c) there are no net factor income from abroad
(d) None of the above

**3.** Income from buying and selling of financial assets is not included in the estimation of domestic income by income method. Choose the correct reason for the same.
(a) These are paper claims and no actual production has happened
(b) It's a transfer of ownership from one person to other
(c) These are not related to the current year's production.
(d) Both (a) and (b)

**4.** Net factor income abroad is zero when
(a) factor income from abroad is equal to factor income to abroad
(b) factor income from abroad is more than factor income to abroad
(c) it can never be zero
(d) None of the above

**5.** If a country's nominal GDP is constant, then which of the following statements about it would be correct?
(a) It is impossible for the real per capita GDP to rise in such circumstances
(b) The real per capita GDP can rise if and only if the country's population is shrinking and prices are falling
(c) It is possible for the real per capita GDP to rise even if the country's population is increasing
(d) None of the above

## Short Answer (SA) Type Questions

**1.** "Gross investment is always greater than net investment." Defend or refute the given statement with valid argument.

**2.** Giving reason explain how the following should be treated in the estimation of national income?
(i) Payment of interest by a firm to a bank
(ii) Payment of interest by a bank to an individual
(iii) Payment of interest by an individual to a bank

**3.** Explain the precautions that should be taken while estimating national income by expenditure method.

**4.** If Real GDP is ₹ 300 and Nominal GDP is ₹ 330, calculate Price Index (base = 100).

**5.** The value of the Nominal Gross National Product (GNP) of an economy was ₹ 2,500 crores in a particular year. The value of GNP of that country during the same year, evaluated at the price of base year was ₹ 3,000 crores.

Calculate the value of GNP deflator of the year in percentage terms. Has the price level risen between the base year and the year under consideration?

## Long Answer (LA) Type Questions

**1.** (i) Discuss briefly the three components of 'Income from property and entrepreneurship'.
(ii) What are 'externalities' ? State its types with suitable examples.

**2.** Given the following data, find the missing values of 'gross domestic capital formation' and 'Wages and salaries'.

| S. No. | Contents | ₹ (in crores) |
|---|---|---|
| (i) | Mixed Income of Self-employed | 3,500 |
| (ii) | Net Indirect Taxes | 300 |
| (iii) | Wages and Salaries | ? |
| (iv) | Government Final Consumption Expenditure | 14,000 |
| (v) | Net Exports | 3,000 |
| (vi) | Consumption of Fixed Capital | 300 |
| (vii) | Net Factor Income from Abroad | 700 |
| (viii) | Operating Surplus | 12,000 |
| (ix) | National Income | 30,000 |
| (x) | Profits | 500 |
| (xi) | Gross Domestic Capital Formation | ? |
| (xii) | Private Final Consumption Expenditure | 11,000 |

## Answers

### Multiple Choice Questions

*1. (b)  2. (c)  3. (d)  4. (a)  5. (c)*