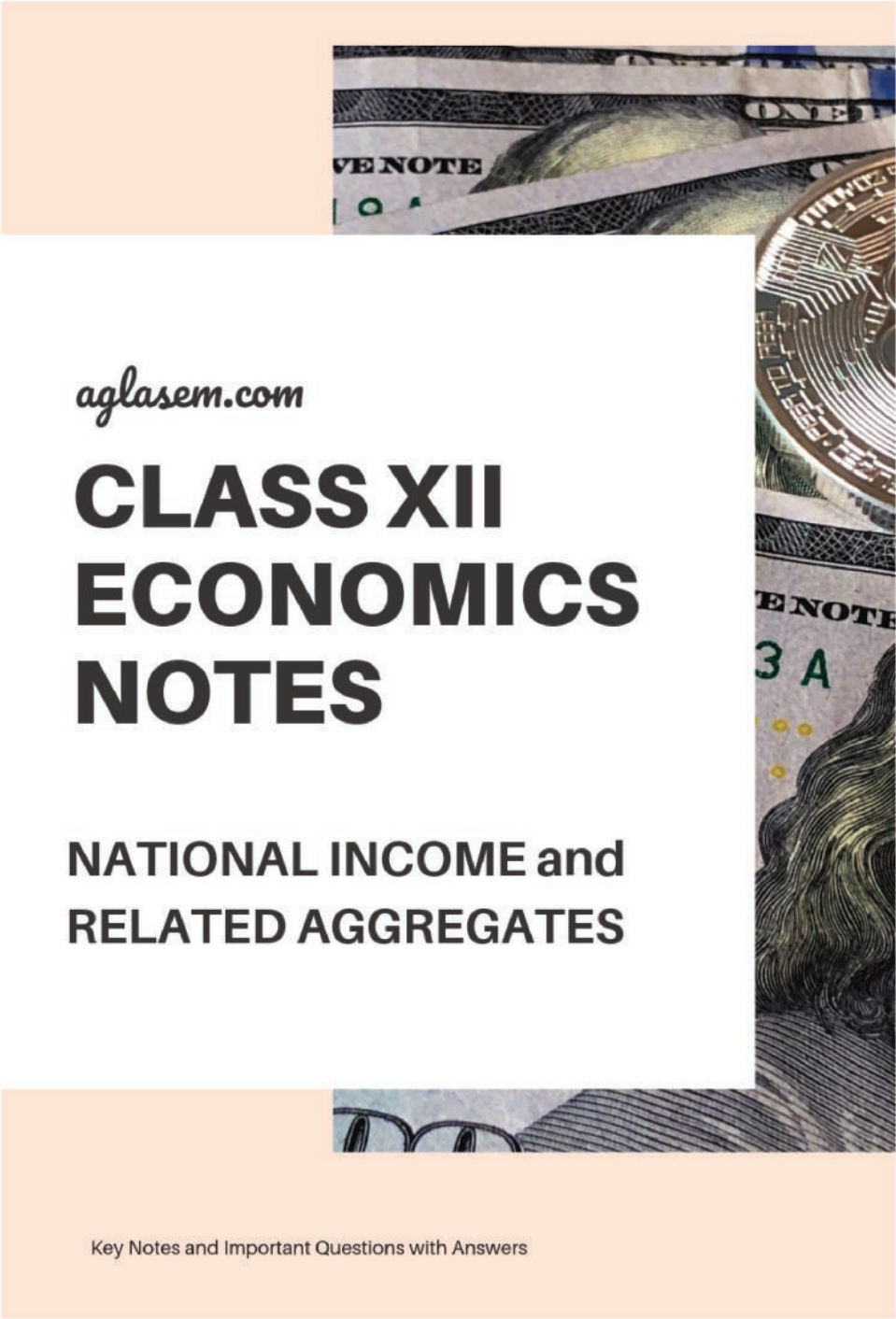


The background of the page features a collage of US currency. On the right side, there is a vertical strip showing a close-up of a dollar bill with the text 'ONE DOLLAR' and 'FEDERAL RESERVE NOTE' visible. Below this, a coin is partially visible. The main text area is white, and the top and bottom of the page are framed by a light orange border.

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CLASS XII ECONOMICS NOTES

NATIONAL INCOME and RELATED AGGREGATES

Key Notes and Important Questions with Answers

UNIT V

NATIONAL INCOME AND RELATED AGGREGATES

Points to Remember

- ❑ **Consumption Goods** : Those final goods which are used by the consumers to satisfy human wants directly. All goods and services purchased by consumers are consumer goods.
- ❑ **Capital Goods** : Those final goods which are used for investment by the producers in production of goods and services. These goods are of durable nature.
- ❑ **Final Goods** : Those goods which are purchased either for final consumption by consumers (consumers goods) or for investment by producers (capital goods). These are not for resale or for further processing.
- ❑ **Intermediate Goods** : Those goods and services which are purchased for as a raw material for further production or for resale in the same year. These goods do not fulfill needs of mankind directly. Services used by the producers are intermediate goods. e.g. Service of Lawyers, Mechanics, Chartered Accountants, Raw Material etc.
- ❑ **Investment** : Value of addition made to the physical stock of capital during a period of time (financial year) is called investment. It is also called capital formation.
- ❑ **Depreciation** : means fall in value of fixed capital goods due to normal wear and tear, expected obsolescence and efflux of time. It is also known as consumption of fixed capital. Depreciation

can be calculated by dividing the value of fixed capital by its expected life in years.

- ❑ **Gross Investment** : Total addition made to physical stock of capital during a period of time. It includes depreciation. It is also known as Gross Capital formation.
- ❑ **Net Investment** : Net addition made to the real stock of capital during a period of time. It excludes depreciation. $\text{Net Investment} = \text{Gross investment} - \text{Depreciation}$.
- ❑ **Stock** : Variables whose magnitude is measured at a particular point of time are called stock variables. e.g., Wealth, assets, money, Inventory etc. A stock variable is nothing but an accumulated sum of flows.
- ❑ **Flow** : Variables whose magnitude is measured over a period of time are called flow variable. Eg. National income, change in stock etc.
- ❑ **Circular flow of income** : It refers to continuous flow of goods and services and money income between firms and households in two sector economy. It is circular in nature. It has neither any end nor any beginning point. Real flow shows the flow of produced goods and services and factor services between firms and households. Money flow shows the flow of consumption/ investment expenditure and factor payments between firms and households.
- ❑ **Leakage** : It is the amount of money which is withdrawn from circular flow of income. For e.g. Taxes, Savings and Imports.
- ❑ **Injection** : It is the amount of money which is added to the circular flow of income. For e.g., Govt. Exp., Investment and Exports.
- ❑ **Economic Territory** : Economic (or domestic) Territory is the geographical territory administrated by a Government within which persons, goods and capital circulate freely.

- ❑ **Scope of Economic Territory :**
 - (a) Political frontiers including territorial waters and airspace.
 - (b) Embassies, consulates, military bases etc. located abroad.
 - (c) Ships and aircraft operated by the residents between two or more countries.
 - (d) Fishing vessels, oil and natural gas rigs operated by residents in the international waters.
- ❑ **Normal Resident of a Country :** is a person or an institution who normally resides in a country and whose centre of economic interest lies in that country.
- ❑ **Factor Income :** Income earned by the factors of production (Labour, Land, Capital and Entrepreneurship) for rendering factor services in the production process. e.g., Rent, Interest, wages and profit.
- ❑ **Transfer payments :** refers to income received without rendering any productive service in return. They are one sided payments made without getting anything in return e.g., old age pension, taxes, scholarships etc.
- ❑ **Capital gain :** An increase in the value of capital assets or financial assets over the time that gives it a higher worth than the purchase price. The gain is not realized until the asset is sold.
- ❑ **Compensation of employees :** Payment to labour factor (employees and workers) in cash or kind for providing factor services during the production of goods and services. It includes salary, wages, bonus, pension, contribution by employer in social security schemes etc.
- ❑ **Operating Surplus :** During the operation of production money left after the payment of compensation of Employees is called operating surplus. It is the sum of Rent, Interest and Profit.
- ❑ **Subsidies :** A subsidy is an amount of money given directly to firms by the government to encourage production and consumption. It reduce the market price.

- ❑ **Value of Output :** Market value of all goods and services produced by an enterprise during an accounting year. Value of Output = Sales + Change in Stock.
- ❑ **Value added :** It is the difference between value of output of a firm and value of intermediate goods bought from the other firms during a particular period of time. Value added = value of output - Intermediate consumption.
- ❑ **Domestic Income (NDP_{FC}) :** It is the factor income accruing to owners of factors of production for supplying factor services with in domestic territory during an accounting year.

$$NDP_{FC} = GDP_{MP} - \text{Depreciation} - \text{NIT}.$$
- ❑ **Gross Domestic Product at Market Price (GDP_{MP}):** is the market value of all the final goods and services produced by all producing units located in the domestic territory of a Country during an Accounting year.
- ❑ **Net Domestic Product at Market Price (NDP_{MP}) :** $NDP_{MP} = GDP_{MP} - \text{Depreciation (Consumption of fixed capital)}$

NATIONAL AGGREGATES

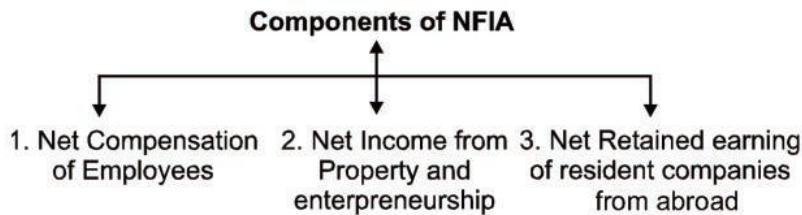
- ❑ **Gross National Product at Market Price (GNP_{MP})** is the market value of all the final goods and services produced by normal residents (in the domestic territory and abroad) of a country during an accounting year. $GDP_{MP} + NFIA = GNP_{MP}$
- ❑ **National Income (NNP_{FC}) :** It is the sum total of all factors incomes earned by normal residents of a country in the form of wages. Rent, Interest and profit during an accounting year in domestic economic territory as well as abroad.

$$NNP_{FC} = NDP_{FC} + NFIA = \text{National Income}.$$

Some Important Relations

- ❑ Gross = Net + Depreciation (consumption of fixed capital)
- ❑ National = Domestic + NFIFA (Net factor income from abroad)
- ❑ Market Price = Factor Cost + NIT (Net Indirect Tax)

- ❑ Net Indirect Tax (NIT) = Indirect Tax – Subsidies
- ❑ Net Factor Income from Abroad (NFIFA) = It is difference between factor income received/earned by normal residents of a country and factor income paid to nonresidents of the country.



Methods of estimation of National Income

Value Added Method (Product Method) :

Gross Value Added at Market Price (GVA_{MP})

= Sales + change in stock – Intermediate Consumption.

= $GDP_{MP} = \Sigma GVA_{MP}$ of all sectors

OR

= Value of output – Intermediate consumption

$NVA_{FC} = GVA_{MP} - \text{Depreciation} - \text{NIT}$

- ❑ National Income = $NNP_{FC} = GDP_{MP} - \text{Depreciation} + NFIFA - \text{NIT}$

Steps to be followed :

1. Write Sales value (Add sales of all sectors if given sector wise)
2. Add : Change in stock (Closing stock – opening stock if given separately).
3. Subtract : Intermediate consumption

Capital goods are not intermediate good.

You have reached GDP_{MP}

National Income (NNP_{FC}) = $GDP_{MP} - \text{Depreciation} + NFIFA - \text{NIT}$

❑ **Income Method (Factor Income distribution method):**

Domestic Income (NDP_{FC}) = Compensation of Employees + Operating Surplus + Mixed Income

National Income (NNP_{FC}) = NDP_{FC} + NFIFA

Steps to be followed :

1. Write compensation of Employees (if not given add salary, wages, bonus, contribution by employer in social security schemes).
2. Add : Operating Surplus (If not Given add interest, Rent & Royalty and Profit).
3. Add : Mixed Income of self employed. You have reached NDP_{FC}

National Income (NNP_{FC}) = NDP_{FC} + NFIA

❑ **Expenditure Method :**

$GDP_{MP} = C + G + I + (X - M)$

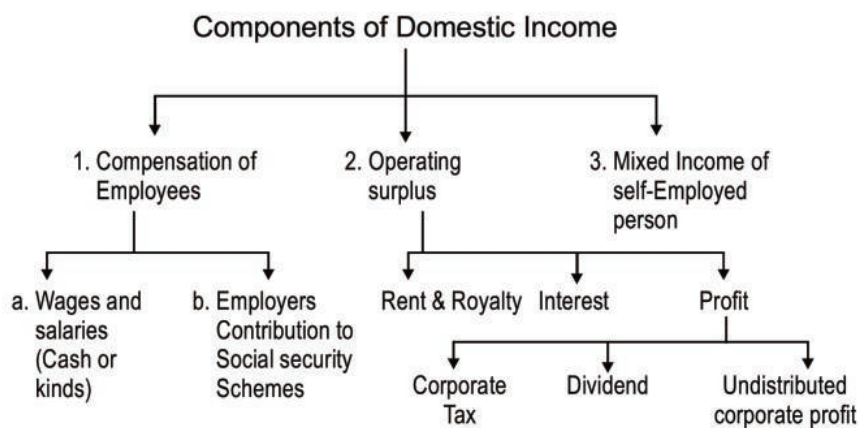
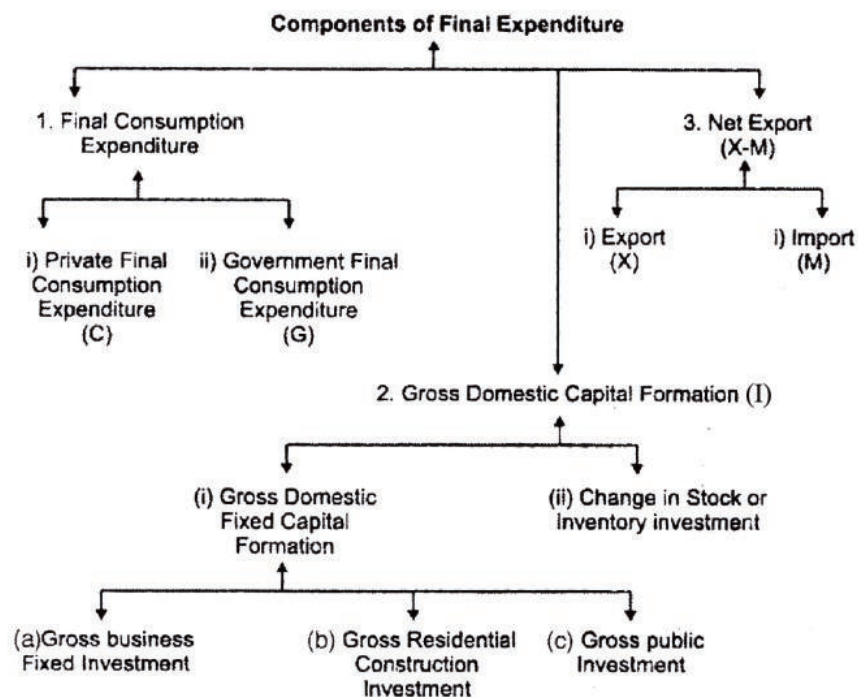
Steps to be followed :

1. Write Private Final Consumption Expenditure
2. Add : Government Final Consumption Expenditure
3. Add : Gross Domestic Capital Formation
4. Add : Net Exports (Export – Imports)

You have reached at GDP_{MP}

National Income (NNP_{FC}) = GDP_{MP} – Depreciation + NFIA – NIT

- ❑ **Problem of Double Counting :** Counting the value of a commodity more than once while estimating national income is called double counting. It leads to overestimation of national income. So, it is called problem of double counting.



- ❑ **GDP and Welfare** : In general Real GDP and Welfare are directly related with each other. A higher GDP implies that more production of goods and services. It means more availability of goods and services. But more goods and services may not necessarily indicate that the people were better off during the year. In other words, a higher GDP may not necessarily mean higher welfare of the people.
- ❑ **Real GDP** : When the goods and services are produced by all producing units in the domestic territory of a country during an accounting year and valued at base year's prices or constant price, is called real GDP or GDP at constant prices. It changes only by change in physical output not by change in price level. It is called a true indicator of economic development.
- ❑ **Nominal GDP** : When the goods and services are produced by all producing units in the domestic territory of a country during an accounting year and valued at current year's prices or current prices, is called Nominal GDP or GDP at current prices. It is influenced by change in both physical output and price level. It is not considered a true indicator of economic development.
- ❑ **Conversion of Nominal GDP into Real GDP**

$$\text{Real GDP} = \frac{\text{Nominal GDP}}{\text{Price index}} \times 100$$

Price index plays the role of deflator deflating current price estimates into constant price estimates. In this way it may be called GDP deflator.
- ❑ **Welfare** mean material well being of the people. It depends on many economic factors like national income, consumption level quantity of goods etc and non-economic factor like environmental pollution, law and order etc. the welfare which depends on economic factors is called economic welfare and the welfare which depends on non-economic factor is called non-economic welfare. The sum total of economic and non-economic welfare is called social welfare. The limitations in taking GDP as welfare measure are as follows :
 1. **Externalities** : Externalities refer to benefits or harms of an

activity caused by a firm or an individual, for which they are not paid or penalized. For example, environmental pollution caused by industrial plants is a negative externality and building a flyover is a positive externality.

2. **Composition of GDP :** GDP does not exhibit the structure of the product. If the increase in GDP is mainly due to increased production of war equipment's and ammunitions, then such an increase cannot improve welfare in economy.
3. **Distribution of GDP :** When GDP is unevenly distributed, increase in GDP does not increase welfare.
4. **Non-monetary exchanges :** Many activities in an economy are not evaluated in monetary terms, they are not included in GDP, due to non availability of data. However, such activities influence the economic welfare of people of the economy.

Finally, it can be concluded that GDP may not be taken as a satisfactory measure of economic welfare due to above mentioned limitations, yet it does reflect some index of economic welfare.

PRECAUTIONS IN MAKING ESTIMATES OF NATIONAL INCOME

1. **Value added (Production) method :**
 - (a) Avoid double counting
 - (b) Do not include sale of second hand goods.
 - (c) Self-consumed output must be included.
2. **Income Method**
 - (a) Avoid transfer income
 - (b) Avoid capital gain
 - (c) Include income from self-consumed output
 - (d) Include free services provided by the owners of the production units.
3. **Final expenditure Method**
 - (a) Avoid intermediate expenditure

- (b) Do not include expenditure on second hand goods and financial assets.
- (c) Include expenditure on self use of own produced final products.
- (d) Avoid transfer expenditure.

Exam. Oriented Questions with Answer

VERY SHORT ANSWER QUESTION (1 MARK)
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- Q. 1.** What are the two types of circular flows ?
- Ans.** The two types of circular flows are : (i) Real flow (ii) Money flow
- Q. 2.** Define stock variables.
- Ans.** Stock variables refer to the variables, which are measured at a particular point of time.
- Q. 3.** Define consumption goods?
- Ans.** Consumption goods refer to those goods which satisfy the wants of the consumer directly.
- Q. 4.** Define current transfers.
- Ans.** Current transfer refers to transfers made out of the current income of the payer and added to the current income of the recipient.
- Q. 5.** Define capital formation.
- Ans.** Capital formation refers to addition to the capital stock of an economy.
- Q. 6.** Define mixed income.
- Ans.** Mixed income refers to the income generated by own account worker and unincorporated enterprises.
- Q. 7.** Why do exports form a part of domestic income?

Ans. Exports are produced within the domestic territory, therefore it form a part of domestic income.

Q. 8. What is real gross domestic product.

Ans. When gross domestic product of a given year is estimated on the basis of price of the base year, it is called real GDP.

Q. 9. When is value of output equal to value added?

Ans. Value of output is equal to value added if there are zero intermediate costs.

Q. 10. Define national income.

Ans. National income refers to net money value of all the final goods and services produced by the normal residents of a country during a period of one year. It is the factor income earned by normal residents of a Country during financial year.

SHORT ANSWER TYPE QUESTION (3-4 MARKS)

Q. 1. Calculate gross value added of factor cost :

(i) Units of output sold (units)	1000
(ii) Price per unit of output (Rs.)	30
(iii) Depreciation (Rs.)	1000
(iv) Intermediate cost (Rs.)	12000
(v) Closing Stock (Rs.)	3000
(vi) Opening Stock (Rs.)	2000
(vii) Excise duty (Rs.)	2500
(viii) Sales Tax (Rs.)	3500

Ans. $GVA_{FC} = (i \times ii) + (v - vi) - (iv) - (vii + viii)$
 $= (1000 \times 30) + [3000 - 2000] - 12000 - [2500 + 3500]$
 $= \text{Rs. } 13000$

Q. 2. Calculate Net Value added at factor cost :

(i) Consumption of Fixed Capital (Rs.)	600
(ii) Import Duty (Rs.)	400
(iii) Output sold (units)	2000
(iv) Price per unit of output (Rs.)	10
(v) Net change in stock (Rs.)	(-50)
(vi) Intermediate cost (Rs.)	10000
(vii) Subsidy (Rs.)	500

Ans. $NVA_{FC} = (iii \times iv) + v - vi - ii + vii - i$
 $= (2000 \times 10) + (-50) - 10000 - 400 + 500 - 600$
 $= \text{Rs. } 9450.$

Q. 3. Find Net Value added at market price :

(i) Output sold (units)	800
(ii) Price per unit of output (Rs.)	20
(iii) Excise duty (Rs.)	1600
(iv) Import duty (Rs.)	400
(v) Net Change in Stock (Rs.)	(-500)
(vi) Depreciation (Rs.)	1000
(vii) Intermediate Cost (Rs.)	8000

Ans. $NVA_{mp} = (i \times ii) + v - vii - vi$
 $= (800 \times 20) + (-500) - 8000 - 1000 = \text{Rs. } 6500.$

Q. 4. Assuming real income to be Rs. 200 Crore and price index to be 135, Calculate nominal income.

Ans. $\text{Real Income} = \frac{\text{Nominal Income}}{\text{Price Index}} \times 100$
 $\text{Nominal Income} = \frac{200 \times 135}{100} = \text{Rs. } 270 \text{ Cr.}$

Q. 5. Given nominal income to be Rs. 375 Crore and price index 125 calculate real income.

Ans.
$$\text{Real Income} = \frac{\text{Nominal Income}}{\text{Price Index}} \times 100$$
$$= \frac{375 \times 100}{125}$$

Real Income = Rs. 300 Crore.

Q. 6. If the real gross product is Rs. 200 and the nominal gross product is Rs. 210, calculate the price index (base = 100)

Ans.
$$\text{Real GDP} = \frac{\text{Nominal GDP}}{\text{Price Index}} \times 100$$
$$\text{Price Index} = \frac{\text{Nominal GDP}}{\text{Real GDP}} \times 100 = \frac{210}{200} \times 100$$
$$\text{Price Index} = 105$$

Q. 7. Giving reasons classify the following into intermediate products and final products :

- (i) Computer purchased by a school.
- (ii) Cold drinks purchased by a school canteen.

Ans. (i) It is final product because it is purchased for final investment.
(ii) These are intermediate products because these are taken for resale in the same year.

Q. 8. Giving reasons, explain the treatment assigned to the following while estimating national income.

- (i) Family members working free on the farm owned by the family.
- (ii) Payment of interest on borrowings by general government.

Ans. (i) Imputed salaries of these members will be included in national income.
(ii) It will not be included in national income because it is non-factor payment as it is considered that general government borrows only for consumption purpose.

Q. 9. Giving reasons, explain the treatment assigned to the following while estimating national income.

- (i) Payment of pocket money by parents.
- (ii) Interest free loan given by employer to employee.

Ans. (i) Not included, as it is transfer payment from parents to children.

- (ii) Included, as it is treated in national income because it is part of compensation of employees in kinds.

Q. 10. Explain the basis of classifying goods into intermediate and final goods. Give suitable examples.

Ans. Goods which are purchased by a production unit from other production units and meant for resale or for using up completely during the same year are called intermediate goods. For example: raw material.

Goods which are purchased for consumption and investment are called final goods.

For Example : Purchase of machinery for installation in factory.

Q. 11. Giving reason classify the following into intermediate and final goods. (i) Machine Purchased by a dealer of machine. (ii) A car purchased by a household.

Ans. (i) It is an intermediate good because it is meant for resale in the market.

- (ii) It is a final good because it is meant for final consumption.

Q. 12. How will you treat the following in estimating national income of India? Give reasons for your answer.

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

- (ii) Interest received on loan given to a foreign company in India.

Ans. (i) It is not included in national income because it is the return of financial capital and not of the goods and services.

- (ii) It is included in the national income as interest is a factor income and a part of domestic income.

Q. 13. Government spends on child immunization programme. Analyse its impact on gross domestic product and welfare of the people.

Ans. Government expenditure on child immunization programme raises GDP because it is government's final consumption expenditure. It also raises welfare of the people because child immunization programme improves health and thus raises efficiency of the people.

Q. 14. Sale of petrol and diesel cars is rising particularly in big cities. Analyse its impact on Gross Domestic Product and Welfare.

Ans. Final sales of cars raises GDP, because final sales are final products. Cars provide convenience in transportation but at the same time it causes traffic jams, air pollution and noise pollution reducing the welfare of the people. Pollution reducing the welfare of the people. Pollution thus, has bad effects on the health of the people.

LONG ANSWER TYPE QUESTIONS (6 MARKS)

Q. 1. How will you treat the following while estimating national income of India? Give reasons.

- (a) Dividend received by an Indian from his investment in shares of a foreign company.
- (b) Money received by a family in India from relatives working abroad.
- (c) Interest received on loans given to a friend for purchasing a car.
- (d) Dividend received by a foreigner from investment in shares of an Indian company.
- (e) Profit earned by a branch of an Indian Bank in Canada.
- (f) Scholarship given to Indian students studying in India by a foreign company.
- (g) Fees paid by students to school.
- (h) Profits earned by branch of a Foreign Bank in India.
- (i) Interest paid by an individual on a loan taken to buy a car.
- (j) Expenditure on machines for installation in a factory.

- (k) Government expenditure on street lighting.
- (l) Increase in prices of the shares of a company.
- (m) Interest received by an Indian resident from firms abroad.
- (n) Expenditure incurred by a foreign tourist in the country.
- (o) Construction of a new house.
- (p) Rent paid by embassy of Japan in India to an Indian resident.
- (q) Imputed rent of self occupied house
- (r) Interest received on debentures.
- (s) Financial help received by flood victims.
- (t) Furniture purchased by household.

- Ans.**
- (a) It is factor income from abroad so will be included in national income.
 - (b) It is transfer receipts, so it is not included in national income.
 - (c) Not included in National Income, because it is a non-factor receipt as it is used for consumption.
 - (d) Not included as NF to abroad.
 - (e) It is a part of NFIA and will be included in national income.
 - (f) It is transfer receipts, so it is not included in national income.
 - (g) It is included in national income because it is a part of the private/final consumption expenditure of the house hold.
 - (h) included in national income because it is part of factor income to abroad.
 - (i) Not included because it is a non-factor income as loan is not used for production but for consumption.
 - (j) Included because it results in flow of income through productive activities.
 - (k) Includes, because it is final consumption expenditure by government.
 - (l) Not included, because it is capital gain and nothing to do with production.

- (m) Included, as it is the part of NFIA.
- (n) Included, as it is earned within the domestic territory of India.
- (o) Included, because it is currently produced output.
- (p) included as it is paid to an Indian resident out side the domestic territory of a country. It will be included in NFIA.
- (q) Included, as a part of rent as it is payment to self for housing services.
- (r) Included, because it is a factor earning.
- (s) Not included as it is a transfer payment.
- (t) Included, because it is a private final consumption expenditure.

Q. 2. How will you treat the following while estimating domestic factor income of India? Give reasons.

- (i) Remittances from non-resident Indian to their families in India.
- (ii) Rent paid by the embassy of France in India to a resident Indian.
- (iii) Profit earned by branches of Foreign Bank in India.
- (iv) Payment of salaries to its staff by embassy located in India.
- (v) Interest received by an Indian resident from firms abroad.
- (vi) Scholarships given by the Government of India.

- Ans.**
- (i) Not included as it is a transfer payment
 - (ii) Not included because French embassy in India does not fall within the domestic territory of India.
 - (iii) Included because it falls with in the domestic territory of India.
 - (iv) Not included as an embassy located in India is not fall with in the domestic territory of India.
 - (v) Not included in domestic income as it is does not fall with in the domestic territory of India.

(vi) Not included, as it is transfer payment.

Q. 3. Giving reasons explain how should the following be treated in estimating gross domestic product at market price?

(i) Fees to a mechanic paid by a firm.

(ii) Interest paid by an individual on a car loan taken from a bank.

(iii) Expenditure on purchasing a car for use by a firm.

Ans. (i) Fees paid to mechanic by a firm is not included because it is an intermediate cost of the firm and to avoid double earning.

(ii) Interest paid by an individual is not included because the loan is taken to meet consumption expenditure and therefore interest paid on such a loan is not a factor payment.

(iii) Expenditure on purchase a car by a firm is included because it is an investment expenditure, a final expenditure.

NUMERICAL EXERCISE

1. Calculate "Sales" from the following data : (Rs. in Lakh)

(i) Net value added at factor cost 560

(ii) Depreciation 60

(ii) Change in Stock (-)30

(iv) Intermediate cost 1000

(v) Exports 200

(vi) Indirect taxes 60

2. Calculate NVA_{FC} from the following data (Rs. Crore)

(i) Subsidy 40

(ii) Sales 800

(iii) Depreciation 30

(iv) Exports 100

(v) Closing stock 20

- | | | |
|--------|------------------------------------|-----|
| (vi) | Opening stock | 50 |
| (vii) | Intermediate purchases | 500 |
| (viii) | Purchases of machinery for own use | 200 |
| (ix) | Import of raw material | 60 |
3. From the following information about a firm in an economy, calculate GVA_{MP} of the firm. (Rs. Crore)
- | | | |
|-------|---------------------------------|-----|
| (i) | Domestic Sales | 300 |
| (ii) | Exports | 100 |
| (iii) | Production for self-consumption | 50 |
| (iv) | Purchases from firm X | 110 |
| (v) | Purchases from firm Y | 70 |
| (vi) | Imports of raw materials | 30 |
| (vii) | Change in stock | 60 |
4. Calculate (a) NNP_{FC} by expenditure method and (b) NNP_{FC} by value added method : (Rs. Crore)
- | | | |
|-------|---------------------------------------|-----|
| (i) | Net Domestic capital formation | 250 |
| (ii) | Net Export | 50 |
| (iii) | Private final consumption expenditure | 900 |
| (iv) | Value of output | |
| | (a) Primary sector | 900 |
| | (b) Secondary sector | 800 |
| | (c) Territory sector | 400 |
| (v) | Value of inrermediate consumption | |
| | (a) Primary sector | 400 |
| | (b) Secondary sector | 300 |
| | (c) Teritory sector | 100 |
| (vi) | Consumption of fixed capital | 80 |

- | | | |
|--------|--|-------|
| (vii) | Indirect Tax | 100 |
| (viii) | Government final consumption expenditure | 100 |
| (ix) | Subsidy | 10 |
| (x) | Net factor income from abroad | (-)20 |
5. From the following data calculate National Income by income and expenditure method : (Rs. Crore)
- | | | |
|--------|---|-----|
| (i) | Government final consumption expenditure | 100 |
| (ii) | Subsidies | 10 |
| (iii) | Rent | 200 |
| (iv) | Wages and salaries | 600 |
| (v) | Indirect Taxes | 60 |
| (vi) | Private final consumption expenditure | 800 |
| (vii) | Gross domestic capital formation | 120 |
| (viii) | Social security contribution by employers | 55 |
| (ix) | Royalty | 25 |
| (x) | Net factor income paid to abroad | 30 |
| (xi) | Interest | 20 |
| (xii) | Net domestic capital formation | 110 |
| (xiii) | Profit | 130 |
| (xiv) | Net Export | 70 |
6. Calculate 'Intermediate consumption' from the following data : (Rs. Lakh)
- | | | |
|-------|--------------------------------|-----|
| (i) | Value of output | 200 |
| (ii) | Net value added at factor cost | 80 |
| (iii) | Sales tax | 15 |
| (iv) | Subsidy | 5 |
| (v) | Depreciation | 20 |

7. Calculate (a) GDP_{MP} (b) Factor income earned from Abroad :
(Rs. Crore)

(i) GNP_{FC}	2800
(ii) Profit	500
(iii) Export	40
(iv) Compensation of Employees	1500
(v) Change in Stock	50
(vi) Net Indirect Tax	250
(vii) Net domestic capital formation	650
(viii) Gross domestic fixed capital formation	700
(ix) Net current transfers from rest of the world	90
(x) Factor income paid to abroad	120
(xi) Interest	400
(xii) Rent	300

8. Calculate (a) Domestic Income (b) Compensation of employers.
(Rs. Crore)

(i) Net factor income from abroad	-20
(ii) Net exports	10
(iii) Net indirect taxes	50
(iv) Rent and royalty	20
(v) Consumption of fixed capital	10
(vi) Private final consumption expenditure	400
(vii) Corporate tax	10
(viii) Interest	10
(ix) Net domestic capital formation	50
(x) Dividends	22
(xi) Government final consumption expenditure	100
(xii) Undistributed profits	5
(xiii) Mixed income	23

9. Calculate Net National Product at Market Price Income

(Rs. Crore)

(i) Net current transfers to abroad	10
(ii) Private final consumption expenditure	500
(iii) Current transfers from government	30
(iv) Net factor income to abroad	20
(v) Net exports	(-)20
(vi) Net indirect tax	120
(vii) National debt interest	70
(viii) Net domestic capital formation	80
(ix) Income accruing to government	60
(x) Government final consumption expenditure	100

10. Calculate value of output from the following data : (Rs. Crore)

(i) NVA_{FC}	100
(ii) Intermediate consumption	75
(iii) Excise duty	20
(iv) Subsidy	5
(v) Depreciation	10

11. Calculate GDP_{FC} and factor income to abroad from following data : (Rs. Crore)

(i) Compensation of employees	800
(ii) Profit	200
(iii) Dividends	50
(iv) Gross National Product at Market price	1400
(v) Rent	150
(vi) Interest	100
(vii) Gross Domestic fixed capital formation	200

(viii) Net domestic capital formation	200
(ix) Change in stock	50
(x) Factor income from abroad	60
(xi) Net indirect taxes	120

SOLUTIONS OF NUMERICAL EXERCISE

1. Sales = (i) – (iii) + (iv) + (ii) + (vi)
 = 560 – (–30) + 1000 + 60 + 60
 = Rs. 1710 Lakh
2. NVA_{FC} = Sales + ΔS – IC – NIT – Depr.
 = (ii) + (v – vi) – (vii) + (i) – (iii)
 = 800 + (–30) – 500 + 40 – 30
 = Rs. 280 lakh.
3. GVA_{MP} = Sales + Change in stock – IC
 = [(i) + (ii) + (iii)] + (vii) – [(iv) + (v) + (vi)]
 = (300 + 100 + 50) + 60 – [110 + 70 + 30]
 = Rs. 300 crore.
4. NNP_{FC} (Expenditure Method)
 = (i) + (ii) + (iii) + (viii) – (vii) + (ix) – (vi) + (x)
 = 250 + 50 + 900 + 100 – 100 + 10 – 80 + (–20)
 = Rs. 1110 Cr.

 NNP_{FC} (Value added method)
 = (iv) – (v) – (vi) – (vii) + (ix) + (x)
 = (900 + 800 + 400) – (400 + 300 + 100) – 80 – 100
 + 10 + (–20)
 = Rs. 1110 Cr.

5. National Income NNP_{FC} (Income Method)

$$\begin{aligned} &= (iv) + (viii) + (iii) + (ix) + (xi) + (xii) - (x) \\ &= 600 + 55 + 200 + 25 + 20 + 130 + (-30) \\ &= \text{Rs. 1000 Cr.} \end{aligned}$$

National Income (Exp. Method)

$$\begin{aligned} &= (vi) + (i) + (vii) + (xv) - (vii - xiii) - (v - ii) - (x) \\ &= 800 + 100 + 120 + 70 - 10 - 50 - 30 \\ &= \text{Rs. 1000 Cr.} \end{aligned}$$

6. Intermediate consumption

$$\begin{aligned} &= \text{Value of output} - NVA_{FC} - \text{NIT} - \text{Depreciation} \\ &= 200 - 80 - (15 - 5) - 20 \\ &= 200 - 80 - 10 - 20 \\ &= \text{Rs. 90 Lakh.} \end{aligned}$$

7. (a) $NDP_{FC} = (iv) + (ii) + (xi) + (xii)$

$$\begin{aligned} &= 1500 + 500 + 400 + 300 \\ &= 2700 \end{aligned}$$

$$GDP_{MP} = NDP_{FC} + \text{depreciation} + \text{NIT}$$

$$\begin{aligned} &= 2700 + [(viii + v) - vii] + (vi) (\because \text{dep.} = GDCF - NDCF) \\ &= 2700 + [(700 + 500) - 650] + 250 \end{aligned}$$

$$GDP_{MP} = \text{Rs. 3050 Cr.}$$

(b) Factor Income from abroad (FIFA)

$$GNP_{FC} = GDP_{MP} - \text{NIT} + \text{NFIA}$$

$$2800 = 3050 + 250 + \text{NFIA}$$

$$2800 = 2800 + (\text{FIFA} - \text{FITA})$$

$$0 = \text{FIFA} - 120.$$

$$\text{FIFA} = \text{Rs. 120 Cr.}$$

$$8. \quad (a) \text{ Domestic Income} = (ii) + (vi) + (ix) + (xi) - (iii)$$

$$= 10 + 400 + 50 + 100 - 50$$

$$= \text{Rs. 510 Cr.}$$

(b) Compensation of employees

$$= \text{Domestic Income} - (iv) - (viii) - (vii) - (x) - (xii) - (xiii)$$

$$= 510 - 20 - 30 - 10 - 22 - 5 - 23$$

$$= \text{Rs. 400 Cr.}$$

$$9. \quad \text{NNP}_{\text{MP}} = (ii) + (viii) + (vii) + (v) - (iv)$$

$$= 500 + 100 + 80 + (-20) - (20)$$

$$= \text{Rs. 640 Cr.}$$

10. Value of output

$$\text{NVA}_{\text{FC}} = \text{VO} - \text{IC} - \text{NIT} - \text{Depreciation}$$

$$\text{VO} = \text{NVA}_{\text{FC}} + \text{IC} + \text{NIT} + \text{Depreciation}$$

$$= 100 + 75 + (20 - 5) + 10$$

$$\text{VO} = \text{Rs. 200 Cr.}$$

$$11. \quad (a) \text{GDP}_{\text{FC}} = (i) + (ii) + (v) + (vi) + [(vii + ix) - viii]$$

$$= 800 + 200 + 150 + 100 + [(200 + 50) - 200]$$

$$\text{GDP}_{\text{FC}} = \text{Rs. 1300 Cr.} \quad [\because \text{Dep} = \text{GDCF} - \text{NDCF}]$$

(b) Factor income to abroad

$$\text{GNP}_{\text{MP}} = \text{GDP}_{\text{FC}} + \text{NIT} + \text{NFIA}$$

$$1400 = 1300 + 120 + \text{FIFA} - \text{FITA}$$

$$1400 = 1300 + 120 + 60 - \text{FITA}$$

$$1400 - 1480 = - \text{FITA}$$

$$\text{Rs. 80 Cr.} = \text{FITA}$$