UNIT 6

NATIONAL INCOME

POINTS TO REMEMBER

- **Good :** In economics a good is defined as any physical object, natural or man-made, that could command a price in the market.
- **Consumption Goods :** Those goods which satisfy human wants directly.
- **Capital Goods :** Those final goods which help in production. These goods are used for generating income.
- **Final Goods** are those goods which are used either for final consumption or for investment.
- **Intermediate Goods** refers to those goods and services which are used for further production or for resale. These goods do not fulfil needs of mankind directly.
- **Investment :** Addition made to the stock of capital during a period is called investment. It is also called capital formation.
- **Depreciation :** is expected fall in value of fixed capital goods due to normal wear and tear and obsolescence.
- **Gross Investment :** Total addition of capital goods to the existing stock of capital during a time period at market price.
- **Net Investment :** is a measure of net availability of new capital or new addition to capital stock in an economy.

  Net Investment = Gross investment – Depreciation.
- **Stocks :** Variables whose magnitude is measured at a particular point of time are called stock variables.
- **Flows :** Variables whose magnitude is measured over a period of time are called flow variable.

- **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 ordinarily resides in a country and whose centre of economic interest lies in that country.

NATIONAL INCOME AGGREGATES

Domestic Aggregates

- **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 a financial year.

- **Net Domestic Product at Market Price (NDP_{MP}) :** $NDP_{MP} = GDP_{MP} -$ Depreciation (consumption of Fixed capital)

- **Domestic Income : (NDP_{FC}) :** It is the factor income accruing to owners of factors of production for suppling factor services with in domestic territory during an accounting year.

NATIONAL AGGREGATES

- **Gross National Product at Market Price (GNP_{MP})** is the market value of all the final goods and services produced by all producing units (in the domestic territory and abroad) of a country during a financial year. $GDP_{MP} + NFIA = GNP_{MP}$

- **National Income (NNP_{FC}) :** is a measure of factor earnings of the residents of a country both from economic (Domestic) territory and from abroad during an accounting year.

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

- **National Income at Current Prices (Nominal National Income) :** It is the money value of all final goods and services valued at current prices produced by normal residents of a country over a particular period of time.

- **Real National Income or National Income at Constant Prices :** It is also called as real income. It is the money value of all final goods and services valued at constant prices produced by normal residents of a country.

- **Value of Output :** Market value of all goods and services produced by an enterprise during an accounting year.

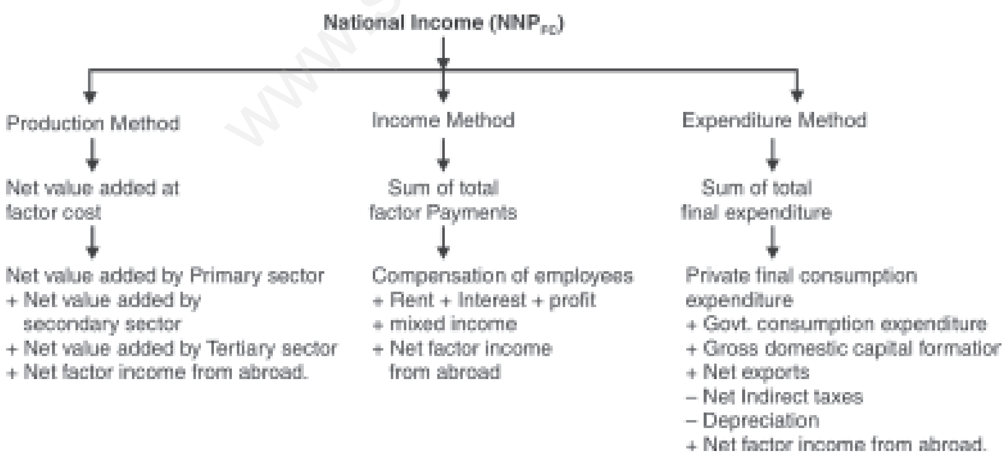
- **Value added :** It is the difference between value of output of a firm and value of inputs bought from the other firms during a particular period of time.

- **Double Counting :** Counting the value of a commodity more than once while estimating national income is called double counting.

- Ways to solve the problem of double counting.

  (a) By taking the value of only final goods.

  (b) By taking value added.



- **National Disposable Income (NDI) :** It is defined as net national product at Market price (NNP_{MP}) plus net current transfer from rest of the world. NDI = NNP_{MP} + Net current transfers from rest of the world.

OR

= National income + net indirect tax + net current transfers from the rest of the world.

- Gross National Disposable Income (Gross NDI)

  = GNP_{MP} + Net current Transfers from rest of the world.

- Net National Disposable Income (Net NDI)

  = NNP_{MP} + Net current Transfers from rest of the world.

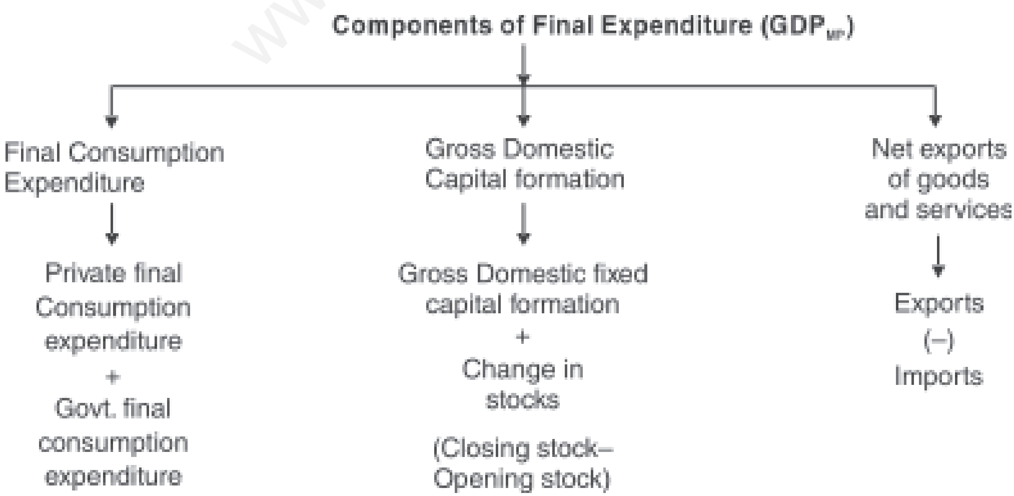
OR

= Gross NDI – Depreciation.

- **Concept of Value Added of One Sector or One Firm**

  1. Value output = Sales + Net Stock.
  2. Gross Value added at market prices (GVA_{MP}) = Value of output – Intermediate consumption
  3. Net value added at market price (NVA_{MP}) = GVA_{MP} – Depreciation.
  4. Net value added at factor cost (NVA_{FC}) = NVA_{MP} – Net indirect tax.

Note: By adding up NVA_{FC} of all the sectors, we get NDP_{FC} or Domestic Income.



Components of NDP_{FC}
(Income Method)

- Compensation of Employees
- Rent + Interest + Profit
- Mixed Income of Self employed

- **Private Income :** Private income is estimated income of factor and transfer incomes from all sources to private sector within and outside the country.
- **Personal Income :** Personal Income is actual received income and transfer income received by persons (house holds) from all sources within and outside the country.
- **Personal Disposable Income :** It is that part of Personal income which is available to the households for disposal as they like.

Personal Consumption + Personal saving
or
Personal Disposable Income (PDI)

↓ + Direct personal tax
+ Misc fees and fines paid by households / Misc Receipts of the Govt.

Personal Income

↓ + Corporate profit tax
+ Undistributed profit

Private Income

↓ – NFIA
– Interest on National debt
– Current transfers from Govt.
– Current transfers from R.O.W.

Domestic Factor Income Accruing to Private Sector

↓ + Income from property enterprenureship
accruing of govt. administrative department
+ Savings of non departmental enterprises

Domestic Income (NDP_{FC})

↓ + NFIA

National Income (NNP_{FC})

- Personal Disposable Income (PDI) from Domestic Income (NDP_{FC})

Domestic Income (NDP_{FC})

↓ + NFIA

National Income (NNP_{FC})

↓
– Income from property and enterprenureship accruing of govt. administrative department
– Savings of non departmental enterprises
– NFIA

Domestic Factor Income Accruing to Private Sector

↓
+ NFIA
+ Interest on National debt
+ Current transfers from Govt.
+ Current transfers from R.O.W.

Private Income

↓
– Corporate profit tax
– Undistributed profit

Personal Income

↓
– Direct personal tax
– Misc fees and fines paid by households

Personal Disposable Income (PDI)
or
Personal Consumption + Personal Saving

VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)

1. What do you mean by net export?
2. Define current transfers.
3. Who is considered as normal resident of a country.
4. What do you mean by economic territory?

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5. When will be NDP_{MP} be less than NDP_{FC}?

6. State the meaning of consumption of fixed capital?

7. State the meaning of injection in income flow, with the help of an example.

8. What do you mean by leakage in income flow?

9. State whether the following are stock or flow :

   (i) Losses (ii) Capital

   (iii) Production (iv) Wealth

10. Define 'Nominal GNP'

11. What do you mean by 'Real GNP'?

12. Define stock variable.

13. Define capital goods.

H.O.T.S.

1. Which of the two NVA_{FC} and NVA_{MP} is equal to sum of factor income.

2. Why is money received from sale of shares is not included in domestic factor income.

3. What aggregate do we get, when we add up the net value added of all producing sectors of an economy?

4. How value added method solve the problem of double counting?

5. What is per capita real GDP.

6. Complete the following aggregates.

   (i) National Income = Domestic income ....

   (ii) Personal Income = Private income ....

   (iii) Net value added at FC = Gross output ....

SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. Distinguish between real and nominal gross domestic product.

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

3. Distinguish between consumer goods and capital goods. Which of these are final goods?
4. Explain how distribution of G.D.P. is its limitation as a measure of economic welfare.
5. Explain the meaning of "Domestic Territory of a country".
6. Distinguish between 'factor income' and 'transfer income'.
7. Classify the following into stock and flow :

   (i) Population of India
   (ii) Exports
   (iii) Investment
   (iv) Expenditure on food by household.
   (v) National Capital
   (vi) Deposits in saving account of bank.
8. Explain how distribution of Gross domestic product is a limitation in taking domestic product as an Index of welfare.
9. How can externalities be a limitation of using gross domestic product as an index of welfare.
10. Giving reasons, classify the following into intermediate and final goods :

    (i) Machines purchased by a dealer of machines.
    (ii) A car purchased by a house hold.
11. Distinguish between stock and flows. Give an example of each.
12. What is meant by a normal resident? State which of the followings are treated as normal resident of India.

    (i) An American working in the office of WHO located in India.
    (ii) Indian working in U.S.A. embassy located in India.
13. Which of the following is factor income from abroad for an Indian resident and why?

    (a) Interest income received by Indian resident on the bonds of companies operating in USA.
    (b) Remittances by Indians settled abroad to their families in India.

❑ Giving reason explain how should the following be treated in estimating national income:

(i) Expenditure on fertilizers by a farmer

(ii) Purchase of tractor by a farmer.

H.O.T.S.

14. Explain why subsidies are added to and indirect taxes deducted from domestic product at market price to arrive at domestic product at factor cost.

15. Giving reasons, explain how are the following treated in estimating national Income by the income method.

    (a) Interest on a car loan paid by an individual

    (b) Interest on a car loan paid by a Govt. owned company.

16. Why do we include the imputed value of goods but not services while estimating production for self consumption?

17. Define operating surplus, write its components.

18. Distinguish between domestic product and national product. When can domestic product be more than National Product.

LONG ANSWER QUESTIONS (6 MARKS)

1. How will you treat the following while estimating national income of India.

   (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 loan given to a friend for purchasing a car.

2. How will you treat the following while estimating national income of India? Give reason for your answer?

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

   (b) Money received by a family in India from relatives working abroad.

   (c) Interest received on loan given to a Friend for purchasing a car.

3. Explain the problem of double counting in estimating national income, with the help of an example. Also explain two alternative ways of avoiding the problem.

4. Distinguish between real gross domestic product and nominal gross domestic product. Can gross domestic product be used as an index of welfare of the people? Give two reasons.

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

   (a) Value of bonus shares received by share holders of a company.

   (b) Fees received from students.

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

6. Explain the steps of measuring national income by income method.

7. Giving reasons, categories following into transfer payment or factor payments.

   (a) Financial help gives to flood victims

   (b) Old age pension.

   (c) Imputed rent.

8. **Calculate private income :**

		Rs. (Crore)
(i)	National interest	10
(ii)	Personal disposable income	150
(iii)	Corporate Profit Tax	25
(iv)	Personal Taxes	50
(v)	Retained earnings of private corporations	05

[Ans. : Rs. 230 crores]

10. Giving reasons explain whether the following are included in domestic product of India.

   (i) Profit earned by a branch of foreign bank in India.

   (ii) Payment of salaries to its staff by an embassy located in New Delhi.

   (iii) Interest received by an Indian resident from firms abroad.

11. How will you treat the following while estimating national income. Give reasons for your answer.

    (i) Capital gain on sale of house.

    (ii) Prize won is lottery.

    (iii) Interest on public debt.

12. While estimating national income. How will you treat the following. Give reason for your answer.

    (i) Imputed rent of occupied house.

    (ii) Interest received on debentures.

    (iii) Financial help received by Flood victims.

NUMERICALS FOR PRACTICE

1. Calculate (i) gross domestic product at factor cost and (ii) net national disposable income : 6

		Rs. (in Crores)
(i)	Net indirect tax	130
(ii)	Government final consumption expenditure	100
(iii)	Profit	90
(iv)	Net domestic capital formation	120
(v)	Change in stocks (–)	10
(vi)	Private final consumption expenditure	500
(vii)	Net imports	20
(viii)	Net current transfers to abroad	10
(ix)	Net factor income to abroad	30
(x)	Gross domestic capital formation	160

2. From the following data calculate GNP at FC by (a) Income method

(b) Expenditure method.

		Rs. (Crore)
(i)	Net domestic capital formation	500
(ii)	Compensation of employees	1850
(iii)	Consumption of fixed capital	100
(iv)	Govt. final consumption expenditure	1100
(v)	PVT. final consumption expenditure	2600
(vi)	Rent400	
(vii)	Dividend	200
(viii)	Interest	500
(ix)	Net Exports	(—) 100
(x)	Profits	1100
(xi)	NFIA	(—) 50
(xi)	Net Indirect taxes	250

[Ans. : Rs. 3900 Crore]

3. There are only two producing sectors A and B in an economy. Calculate:
   (a) Gross value added at market price by each sector
   (b) National income.

		Rs. (Crore)
(i)	Net factor income from Abroad.	20
(ii)	Sales by A	1000
(iii)	Sales by B	2000
(iv)	Change in stock of B	(–) 200
(v)	Closing stock of A	50
(vi)	Opening stock of A	100
(vii)	Consumption of fixed capital by A and B	180
(viii)	Indirect taxes paid by A and B	120
(ix)	Purchase of raw material by A	500
(x)	Purchase of raw material by B	600
(xi)	Exports by B	70

[Ans. : Rs. 1370 Crore]

4. From the following data, calculate
   (a) Gross Domestic Product at Factor Cost (GDP_{FC}) and
   (b) Factor income to abroad.

		Rs. (Crore)
(i)	Gross Domestic Capital formation	600
(ii)	Interest	200
(iii)	Gross national product at market price	2800
(iv)	Rent300	
(v)	Compensation of employees	1600
(vi)	Profit	400
(vii)	Dividends	150
(viii)	Factor income from abroad.	50
(ix)	Change in stock	100
(x)	Net indirect taxes	240
(xi)	Net fixed capital formation	400
(xii)	Net Export	(–) 30

[Ans. : (a) GDP_{FC} = 2600 Crores (b) FIPA = 90 Crores]

5. Calculate net national product at factor cost and gross national disposable income from the following :

		Rs. (Crore)
(i)	Net current transfers to Row	10
(ii)	Savings of non-departmental enterprises	60
(iii)	Net indirect tax.	90
(iv)	Income from property and entrepreneurship to the Govt. administrative departments	80
(v)	Consumption of fixed capital	70
(vi)	Personal Tax	100
(vii)	Corporation tax	40
(viii)	National debt interest	30
(ix)	Current transfer payments by Govt.	50
(x)	Retained Earnings of PVT. Corporate	10
(xi)	Personal disposable income.	1100

[Ans. : (a) NNP_{FC} = Rs. 1320 Crores (b) GNDI = 1470 Crores]

6. Calculate (a) Gross domestic product at market price (GDP_{MP}) (b) Factor income from abroad.

		Rs. (Crore)
(i)	Profit	500
(ii)	Export	40
(iii)	Compensation of Employees	1500
(iv)	Net current transfer from Row	2800
(v)	Rent90	
(vi)	Interest	300
(vii)	Factor income to abroad	400
(viii)	Net indirect tax	120
(ix)	Gross fixed capital formation	250
(x)	Net domestic capital formation	650
(xi)	Gross fixed capital formation	700
(xii)	Change in stock	50

[Ans. : GDP_{MP} = 3050 Crores (b) FIRA = 120 Crores]

7. From the following data calculate (a) GDP_{MP} and (b) Factor income from abroad.

		Rs. (Crore)
(i)	Gross national product at factor cost	6150
(ii)	Net export	(–) 50
(iii)	Compensation of Employees	3000
(iv)	Rent800	
(v)	Interest	900
(vi)	Profit	1300
(vii)	Net Indirect tax	300
(viii)	Net domestic capital formation	800
(ix)	Gross fixed capital formation	850
(x)	Change in stock	50
(xi)	Dividend	300
(xi)	Factor income to abroad.	80

[Ans. : GDPMP = 6400 Crores; FIFA = 130 Crores]

8. Calculate 'Net National Disposable Income' and 'Personal Income' from the following data.

		Rs. (Crore)
(i)	Personal tax	212
(ii)	Net national product at factor cost	2500
(iii)	Net indirect tax	180
(iv)	Domestic product accruing to Govt.	500
(v)	Retained earnings of PVT. Corporations	80
(vi)	NFIA23	
(vii)	National debt interest	100
(viii)	Net current transfer from abroad	20
(ix)	Corporation tax	70
(x)	Current transfer from Government	30

[Ans. : NNDI = 2700 Crore; P.I. = 2000 Crore]

9. Find out (a) national income and (b) net national disposable income :

		Rs. (Crore)
(i)	Factor income from abroad	15
(ii)	Private final consumption expenditure	600
(iii)	Consumption of Fixed capital	50
(iv)	Government final consumption expenditure	200
(v)	Net current transfers to abroad	(–) 5
(vi)	Net domestic fixed capital formation	110
(vii)	Net factor income to abroad	10
(viii)	Net imports	(–) 20
(ix)	Net indirect tax	70
(x)	Change in stocks	(–) 10

[Ans. : N.I. - 840 Crore NNDI - 915 Crore]

10. From the following data show that net value added at factor cost (NVA_{FC}) is equal to the sum of factor incomes.

		Rs. (Crore)
(i)	Purchase of raw material and other input from the domestic market	600
(ii)	Increase in stock	200
(iii)	Domestic sales	1800
(iv)	Import of raw material	100
(v)	Exports	200
(vi)	Depreciation of fixed capital	75
(vii)	Salaries and wages	600
(viii)	Interest payments	450
(ix)	Rent75	
(x)	Dividends	150
(xi)	Undistributed profits.	80
(xi)	Corporate profit tax	20
(xii)	Indirect tax	50

[Ans. : 1375 Crores]

11. From the following data calculate (a) Private income (b) Personal income (c) Personal disposable income.

		Rs. (Crore)
(i)	Income from property and entrepreneurship accruing to the Govt. administrative Dept.	100
(ii)	Saving of non-departmental enterprises	80
(iii)	Factor income from NDP occurring to Private sector	500
(iv)	Corporation tax	30
(v)	Saving of Pvt. corporate sector	65
(vi)	Direct taxes paid by house hold	20
(vii)	Current transfers from Govt. Administrative departments	10
(viii)	Current transfer from Row	20
(ix)	Factor income from abroad	5
(x)	Operating surplus	150
(xi)	Factor income to abroad	15

[Ans. : (a) 520 Crore (b) 425 Crore (c) 405 Crore]

ANSWERS

1 Mark Questions

1. Net Export means the difference between export and imports.

   Net export = Export – Imports

2. Current transfers are those transfers which are paid from current income and are added in current income of recipient.

3. Normal resident of a country is that person or institution whose centre of economic interest lies in that country.

4. Economic territory means that geographical territory administrated by a Govt. within which persons, goods and capital circulates freely.

5. When subsidies are more than indirect taxes.

6. It decreases in the value of fixed capital due to normal wear and tear and foreseen obsolescence.

7. 'Injection' is that economic concept, which add to flow of income and goods e.g., investment, Exports.

8. "Leakage" is that economic concept, which has negative impact on flow of income.

9. (i) Flow (ii) Stock (iii) Flow (iv) Stock

10. It is the gross money value of National Product of current year valued at current prices.

11. It is the gross money value of National product of current year valued at base year price.

12. A variable whose value is measured at a point of time.

13. Goods used is producing other goods are called capital goods.

H.O.T.S.

1. NVA_{FC}

2. It is the financial transactions and does not have any impact on production.

3. NDP.

4. By deducting intermediate consumption from value of output, the problem of double counting can be solved.

5. When per capita income is measured from real GDP (measured at constant price) is called per capita real GDP.

6. (i) National income = Domestic Income + Net factor income from abroad.

   (ii) Personal income = Private income – Corporate tax – Undistributed profit.

   (iii) Net value added at FC = Gross Output – Intermediate Consumption – Depreciation – Net Indirect Tax

HINTS

3-4 Marks Questions

7. (a) Stock (b) Flow

   (c) Flow (d) Stock

   (e) Stock (f) Stock

10. (a) Intermediate good because it is for resale

    (b) final good because purchased by ultimate consumer.

15. (a) Not include as paid for consumption expd.

    (b) Included as paid for production expd.

NUMERICAL QUESTIONS (6 MARKS)

1. (i) GDP_{FC} :

   VI + II – VII + X – I

   500 + 100 – 20 + 160 – 130

   760 – 150 = 610

   (ii) NNDI

   610 – (160 – 120) – 30 + 130 – 10

   740 – 80 = 660

2. GNP_{FC}

(a) Income Method :

$= (ii) + (vi) + (viii) + (x) + (xi)$

$NNP_{FC} = 1850 + 400 + 500 + 1100 + (-50)$

$= 3800$

$GNP_{FC} = 3800 + 100 = 3900$ Crores

(b) Expd. Method = (i) + (iii) + (iv) + (v) + (ix) + (xi) – (xii)

$500 + 100 + 1100 + 2600 + (-100) + (-50) - 250$

= 3900 Crore

3. GVA_{MP} of Sector A

$1000 - 50 - 500 = 450$

GVA_{MP} of Sector B

$2000 - 200 - 600 = 1200$

Total $450 + 1200 = 1650$

$NNP_{FC} = 1650 - 150 - 120 + 20 = 1370$ Crores

4. GDP_{FC} :

$NDP_{FC} = (v) + (ii) + (iv) + (vi)$

$= 1600 + 200 + 300 + 400$

$= 2500$

$GDP_{FC} = NDP_{FC} + CFC$

$CFC = GDCF - NDCF\ (NFCF + \Delta S)$

$= 600 - (400 + 100) = 100$

$GDP_{FC} = 2500 + 100 = 2600$ Crore.

FIPA

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

$2800 = 2600 + NFIA + 240$

NFIA = – 40

NFIA = FIFA – FIPA

– 40 = 50 – FIPA

FIPA = 50 + 40 = 90 Crores

5. NNP_{FC} = (xi) + (vi) + (vii) + (x) – (viii) – (ix) + (i) + (ii) + (iv)

= 1100 +100 + 40 + 10 – 30 – 50 + 10 + 60 + 80

= 1320 Crores

GNDI = NNP_{FC} + (iii) + (v) – (i)

= 1320 + 90 +70 – 10

= 1470 Crores

6. (a) GDP_{MP} :

NDP_{FC} = (iii) + (v) + (vi) + (vii)

= 1500 + 500 + 300 + 400

= 2700 Crores

GDP_{MP} = NDP_{FC} + CFC + NIT

CFC = (GFCF + S) – 650

= (700 + 50) – 650

= 100

NIT = 250

GDP_{MP} = 2700 + 100 + 250

= 3050

(b) FIFA

GNP_{FC} = GDP_{MP} + NFIA – NIT

2800 = 3050 + NFIA – 250

NFIA = 0

NFIA = FIFA – FIPA

$0 = FIFA - 120$

$FIFA = 120$ Crores

7. GDP_{MP} :

$NDP_{FC} = (iii) + (iv) + (v) + (vi)$

$= 3000 + 800 + 900 + 1300 = 6000$

$GDP_{MP} = NDP_{FC} + CFC + NIT$

$CFC = GDCF - NDCF$

$= (GFCF + s) - NDCF$

$= (850 + 50) - 800$

$= 100$

$NIT = 300$

$GDP_{MP} = 6000 + 100 + 300 = 6400$ Crores

FIFA :

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

$6150 = 6400 + NFIA - 300$

$NFIA = 50$

$NFIA = FIFA - FIPA$

$50 = FIFA - 80$

$FIFA = 130$

8. $NNDI = (ii) + (iii) + (viii)$

$= 2500 + 180 + 20$

$= 2700$

$Pr. I = (ii) - (iv) + (vii) + (viii) + (x) - (ix) - (v)$

$= 2500 - 500 + 100 + 20 + 30 - 70 - 80$

$= 2000$ Crores

9. N.I. = (ii) + (iv) + (vi + x) – (viii) – (ix) – (vii)

= 600 + 200 + 110 + (– 10) – (–20) – 70 – 10

= 930 – 90

= 840 Crores

NNDI = N.I + ix – v

= 840 + 70 – (–5)

= 915 Crore

10. NVA_{FC} = (ii) + (iii) + (v) – (i) – (iv) – (vi) – (xiii)

= 200 +1800 + 200 – 600 – 100 – 75 – 50

= 1375 Crores

Sum of factor income = (vii) + (viii) + (ix) + (x) + (xi) + (xii)

= 600 + 450 + 75 + 150 + 80 + 20

= 1375

11. (a) PVT Income – Rs. 520 Crore

(b) P.I. – Rs. 425 Crore

(c) P.D.I. = Rs. 405 Crore