

4. NATIONAL INCOME ACCOUNTING**ASSIGNMENT SOLUTIONS****PROBLEM NO: 1**

$$\begin{aligned} \text{Value of output} &= \text{Sales} + \Delta \text{ in stock} \\ &= 200 \text{ Crores} + (\text{Closing Stock} - \text{Opening stock}) \\ &= 200 \text{ Crores} + (10 \text{ Crores} - 15 \text{ Crores}) = 200 \text{ Crores} - 5 \text{ Crores} = 195 \text{ Crores} \end{aligned}$$

$$\begin{aligned} \text{Value added at MP} &= \text{Value of output} - \text{Intermediate consumption} \\ &= 195 \text{ Crores} - 48 \text{ Crores} = 147 \text{ Crores} \end{aligned}$$

$$\begin{aligned} \text{Value Added at FC} &= \text{Value Added at MP} - \text{Net Indirect Taxes} \\ &= 147 \text{ Crores} - 20 \text{ Crores} = 127 \text{ crores} \end{aligned}$$

Note: In product and Expenditure method if neither GROSS nor NET is given consider GROSS.
In Income method if neither GROSS nor NET is given consider NET.

PROBLEM NO: 2

$$\begin{aligned} \text{GDP}_{\text{MP}} \text{ (Production method):} &= \text{Value of Final Output} - \text{Value of Intermediate Sector.} \\ &= (1,000 + 900 + 700) - (500 + 400 + 400) \\ &= 2,600 - 1,300 = 1,300 \text{ crores} \end{aligned}$$

$$\begin{aligned} \text{GDP}_{\text{MP}} \text{ (Income method):} &= \text{Compensation of employees} + \text{operating surplus} + \text{mixed income} + \text{consumption} \\ &= \text{of fixed capital} + \text{Net Indirect Taxes} \\ &= 400 + 300 + 550 + 40 + 10 = 1,300 \text{ Crores} \end{aligned}$$

PROBLEM NO: 3

Computation of Gross National Product at Market Price (GNP_{MP}):

$$\begin{aligned} \text{GNP}_{\text{MP}} &= (\text{Value of output in primary sector} - \text{Intermediate consumption of primary sector}) + (\text{Value of} \\ &= \text{output in secondary sector} - \text{Intermediate consumption of secondary sector}) + (\text{Value of output in} \\ &= \text{tertiary sector} - \text{Intermediate consumption of tertiary sector}) + \text{Net Factor Income from Abroad} \\ \text{GNP}_{\text{MP}} &= [(800 - 300) + (1,000 - 400) + (3,000 - 900)] + (100) \\ &= 500 + 600 + 2,100 - 100 = 3,200 - 100 = \text{Rs. } 3,100 \text{ Crores} \end{aligned}$$

PROBLEM NO: 4

$$\begin{aligned} \text{Value of output} &= \text{Sale} + \text{Change in stock} = 700 + 40 = 740 \\ \text{Net Value added at MP} &= \text{Value of output} - \text{Purchase of intermediate product} - \text{depreciation} \\ &= 740 - 400 - 80 = 260 \text{ thousands} \end{aligned}$$

PROBLEM NO: 5

$$\begin{aligned} \text{Net value added at MP} &= \text{Value of Output} - \text{Intermediate Cost} - \text{Depreciation} \\ &= 400 - 200 - 20 = 180 \text{ lakhs} \end{aligned}$$

PROBLEM NO: 6

Gross National Disposable Income (GNDI) = GNP_{MP} + Net current transfer received from rest of the world.

$$\begin{aligned} \text{Calculation: } \text{GNP}_{\text{MP}} &= \text{NDP}_{\text{FC}} + \text{Consumption of fixed capital} + \text{NFIA} + (\text{Indirect Taxes} - \text{Subsidies}) \\ &= 6,000 + 400 + (300) + (700 - 600) = 6,200 \end{aligned}$$

$$\begin{aligned} \text{Gross National Disposable Income (GNDI)} &= \text{GNP}_{\text{MP}} + \text{Net current transfers from rest of the world} \\ &= 6,200 + 500 = 6,700 \text{ Crores} \end{aligned}$$

PROBLEM NO: 7

GNDI = $GNP_{MP} + \text{Net current transfer received from rest of the world}$

$GNP_{MP} = \text{National Income (NNP}_{FC}) + \text{Consumption of Fixed Capital} + \text{Net Indirect Taxes}$
 $= 2,000 + 100 + 250 = 2,350 \text{ crores}$

GNDI = $GNP_{MP} + \text{Net current transfer received from rest of the world} = 2,350 + 200 = 2,550 \text{ crores}$

PROBLEM NO: 8

National Income (NNP_{FC}) = Govt. Final Consumption Expenditure + Private Final Consumption Expenditure + Net domestic fixed capital formation + Change in Stock + Net Exports + NFIA - Net Indirect Taxes

$= 200 + 600 + 100 + 10 + (20) + 5 + (5) = 890 \text{ Crores}$

Depreciation = Gross domestic fixed capital formation - Net domestic fixed capital formation
 $= 125 - 100 = 25 \text{ crores}$

GNDI = $NNP + \text{Net Indirect Tax} + \text{Net Current transfers from abroad} + \text{depreciation}$
 $= 890 + 05 + 15 + 25 = 935 \text{ crores}$

PROBLEM NO: 9

$NNP_{MP} = \text{Private final Consumption expenditure} + \text{Govt. final consumption expenditure} + \text{Net domestic capital formation} - \text{Net imports} + \text{NFIA}$

$NNP_{MP} = 200 + 50 + 30 - 10 + 5 = 275 \text{ Crores}$

GNDI = $NNP_{MP} + \text{Net Current transfers from abroad} + \text{Depreciation (consumption of fixed capital)}$
 $= 275 + (10) + 15 = 280 \text{ Crores}$

PROBLEM NO: 10

National Income (NNP_{FC}) = Compensation of employers + Interest + Mixed income of self-employed + Profit + Rent + Net Factor Income from Abroad
 $= 1,000 + 250 + 800 + 500 + 200 + (50) = 2,700 \text{ Crores}$

Personal Disposable Income = Private income - Net retained earnings of private employees - Co-operation - Direct taxes paid by houses hold's
 $= 2,000 - 150 - 100 - 120 = 1,630 \text{ Crores}$

PROBLEM NO: 11

$NDP_{FC} = \text{Compensation of employers} + \text{Operating surplus} + \text{Mixed income of self-employed}$
 $= 400 + 200 + 500 = 1,100 \text{ Crores}$

$NNDI = NDP_{FC} + \text{Net factor income from abroad} + \text{Net indirect taxes} + \text{Net current transfer from Rest of the world}$
 $= 1,100 + (50) + 90 + 20 = 1,160 \text{ Crores}$

Personal Income = Private Income - Corporation Profit Tax - Savings of Private Corporate Sectors

Private Income = $NDP_{FC} - \text{Saving of non-departmental enterprises} - \text{Income from property \& entrepreneurship to govt. administrative Department} + \text{National debt interest} + \text{Current transfer from govt.} + \text{Net current transfer from Rest of the world} + \text{Net factor income from abroad}$
 $= 1,100 - 40 - 30 + 70 + 60 + 20 + (50) = 1,130 \text{ Crores}$

Personal Income = $1,130 - 80 - 20 = 1,030 \text{ Crores}$

PROBLEM NO: 12

Private Income = $\text{Income from domestic product accruing to private sector} + \text{Net current transfer from rest of the world} + \text{Net current transfer from govt. administrative dept.} + \text{National debt interest} + \text{Net factor income from abroad}$

$= 250 + 40 + 10 + 20 + 05 = 325 \text{ Crores}$

PROBLEM NO: 13

$$\begin{aligned} \text{Private Income} &= \text{National Income} - \text{Income from property and entrepreneurship to Govt. administrative dept.} \\ &\quad - \text{Saving of non-department public enterprises} + \text{Current transfer from Govt. administrative dept.} \\ &\quad + \text{Current transfer from rest of the world} \\ &= 5,050 - 500 - 100 + 200 + 80 = 4,730 \text{ Crores} \end{aligned}$$

$$\begin{aligned} \text{Personal Disposable Income} &= \text{Private Income} - \text{Corporation tax} - \text{Saving of private corporate sector} \\ &\quad - \text{Direct personal tax} \\ &= 4,730 - 80 - 500 - 150 = 4,000 \text{ Crores} \end{aligned}$$

PROBLEM NO: 14

$$\begin{aligned} \text{Net Domestic product at Factor cost} &= \text{Compensation of employees (wages and salaries)} + \text{Operating Surplus (rent, interest and profit)} + \text{Mixed Income} \\ &= 7,142 + 8,912 + 541 + 1,013 + 714 + 450 = 18,772 \text{ crores} \end{aligned}$$

PROBLEM NO: 15

$$\begin{aligned} \text{Personal Income} &= \text{Net Domestic Product accruing to private sector} + \text{Net Factor Income from abroad} + \text{Net Current transfers from government} \\ &\quad + \text{Net current transfers from rest of the world} + \text{Interest on National Debt} - \text{Corporation Tax} - \text{Undistributed Profits of corporations} \\ &= 700 + 10 + 25 + 20 + 40 - 65 - 50 = 680 \text{ crores} \end{aligned}$$

PROBLEM NO: 16

$$\text{National Income by Value Added} = \text{GDP}_{\text{MP}} - \text{Depreciation} + \text{NFIA} - \text{Net Indirect tax.}$$

$$\text{Where } \text{GDP}_{\text{MP}} = \text{Value of Output} - \text{Intermediate consumption}$$

$$\text{Value of Output} = \text{Sales} + \text{Change in stock} = 700 + [400 - 500] = 600$$

$$\text{GDP}_{\text{MP}} = 600 - 350 = 250$$

$$\begin{aligned} \text{National Income (NNP}_{\text{FC}}) &= \text{GDP}_{\text{MP}} - \text{Depreciation} + \text{NFIA} - \text{Indirect Taxes} + \text{Subsidies} \\ &= 250 - 150 + 30 - 110 + 50 = 70 \text{ Crores} \end{aligned}$$

PROBLEM NO: 17

Method: Expenditure method

$$\text{GDP}_{\text{MP}} = \text{Final Consumption Expenditure} + \text{Gross Domestic Capital Formation} + \text{Net Exports}$$

Particulars	Rs. in crores	Rs. in crores
Personal Consumption Expenditure	2,900	
Government Purchases of Goods & Services	1,100	
Final Consumption Expenditure		4,000
Gross Public Investment	500	
Inventory Investment	170	
Gross Residential Construction Investment	450	
Gross Business Fixed Investment	410	
Gross Domestic Capital formation		1,530
Exports	200	
(Imports)	(300)	
Net Exports		(100)
Gross Domestic Product at Market Price (GDP_{MP})		5,430

To find:

$$\begin{aligned} \text{GNP}_{\text{FC}} &= \text{GDP}_{\text{MP}} + \text{NFIA} - \text{Indirect taxes} + \text{Subsidies} \\ &= 5,430 + (30) - 0 + 80 = 5,480 \text{ crores} \end{aligned}$$

$$\begin{aligned} \text{NDP}_{\text{MP}} &= \text{GDP}_{\text{MP}} - \text{Consumption of fixed capital (depreciation)} \\ &= 5,430 - 60 = 5,370 \text{ crores} \end{aligned}$$

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THE END