Personal disposable income = Personal income – Direct personal taxes
= 61100 – 1650
= Rs. 59450 crores.

31. *Calculate NNP for 2005 at constant prices:*

Year	*NNP at current prices*	*Price index*
2000	40000	100
2005	72000	150

Solution: NNP at constant prices for 2005:

$$\text{NI at constant prices} = \frac{\text{NI at Current prices}}{\text{Price index}} \times 100$$

$$= \frac{72000}{150} \times 100 = 48000$$

32. *Calculate (i) GNP at market prices; (ii) private income; (iii) personal income.*

Heads	*Amount in Rs. crores*
1. GDP_{fc}	370
2. Income from domestic product accruing to private sector	290
3. Net current transfers from abroad	50
4. Net indirect taxes	60
5. Net other current transfers from abroad	35
6. Net factor income from abroad	–30
7. Saving of the private corporate sector	25
8. Corporation tax	5

Solution: GNP_{mp} = (1) + (4) + (6)
= 370 + 60 + (–30) = Rs. 400 crores.

Private income = (2) + (3) + (5) + (6)
= 290 + 50 + 35 + (–30) = Rs. 345 crores.

Personal income = Private income – (7) – (8)
= 345 – 25 – 5 = Rs. 315 crores.

APPENDICES

33. *Estimate GNP at market price.*

Solution:

$$\text{GNP}_{mp} = (i) + (ii) + (iii) + (iv) + (v) - (vi)$$
$$= 50000 + 15000 + 10000 + 2000 + 5000 - 7000$$
$$= \text{Rs. } 75000 \text{ crores.}$$

34. *Estimate GDP at factor cost by expenditure and income methods from data given below.*

Heads	*Amount in Rs. crores*
1. Compensation of employees	35290
2. Govt. final consumption expenditure	11041
3. Private final consumption expenditure	71366
4. Operating surplus	15794
5. Gross fixed capital formation	21001
6. Change in stocks	5143
7. Mixed income of self employed	37135
8. Consumption of fixed capital	6651
9. Net indirect taxes	12203
10. Net exports	–1478

Solution: Expenditure method

$$\text{GDP}_{fc} = (2) + (3) + (5) + (6) + (10) - (9)$$
$$= 11041 + 71366 + 21001 + 5143 + (-1478) - 12203$$
$$= \text{Rs. } 94870 \text{ crores.}$$

Income method

$$\text{GDP}_{fc} = (1) + (4) + (7) + (8)$$
$$= 35290 + 15794 + 37135 + 6651$$
$$= \text{Rs. } 94870 \text{ crores.}$$

35. *An economy produces two goods: T-shirts and cell phones. The following table summarizes its PPC. Calculate the marginal opportunity costs of T-shirts at various combinations. (NCERT)*

T-shirts (in millions)	*Cell phones (in thousands)*
0	90000
1	80000
2	68000
3	52000
4	34000
5	10000

Solution:

T-shirts (in millions)	*Cell phones (in thousands)*	*Marginal opportunity cost*
0	90000	–
1	80000	10000
2	68000	12000
3	52000	16000
4	34000	18000
5	10000	24000

APPENDICES

36. *A person's total utility schedule is given below. Derive marginal utility schedule.*

Amount Consumed	*Total utility*
0	0
1	10
2	25
3	38
4	48
5	55

Solution:

Amount Consumed	*Total utility*	*Marginal utility*
0	0	0
1	10	10
2	25	15
3	38	13
4	48	10
5	55	7

37. *Originally, a product was selling for Rs. 10 and the quantity demanded was 1000 units. The product price changes to Rs. 14 and as a result the quantity demanded changes to 500 units. Calculate the price elasticity.*

Solution:

$$e_p = \frac{\Delta q}{\Delta p} \times \frac{p}{q}$$

$$= \frac{500}{4} \times \frac{10}{1000}$$

$$= 1.25$$

38. *Calculate the APPs and MPPs of a factor from the following table.*

Level of factor employment	*TPP*
0	0
1	5
2	12
3	20
4	28
5	35
6	40
7	42

Solution:

Level of factor employment	*TPP*	*APP*	*MPP*
0	0	–	–
1	5	5	5
2	12	6	7
3	20	6.6	8
4	28	7	8
5	35	7	7
6	40	6.6	5
7	42	6	2

39. *A firm is producing 20 units. At this level of output, the ATC and AVC are respectively equal to Rs. 40 and Rs. 37. Find out the total fixed cost of this firm.*

Solution: We know that, $AC = AVC + AFC$

Or, $AFC = AC - AVC$

$= 40 - 37 = 3$

$$AFC = \frac{TFC}{Q}$$

$\therefore$ $TFC = AFC \times Q$

$= 3 \times 20 = 60$

Total fixed cost is Rs. 60.

III
NBSE QUESTION PAPERS
[1995–2005]

2005

1. What is gross domestic product?
2. What is consumption?
3. What is derived demand?
4. What is fiscal policy?
5. What is meant by value added?
6. What is meant by supply schedule?
7. What is meant by ex-post saving?
8. What does it mean when there is a shift of the demand curve to the right?
9. Define capital formation.
10. Define capital transfer.
11. Define equilibrium price.
12. Define subsidy.
13. Does the household sector produce goods and services?
14. Can income from smuggling be included in national income accounting?
15. Communication belongs to which producing sector?
16. Give an example of variable cost.
17. Is the expenditure on research and development an example of intermediate consumption?
18. Is windfall profit a part of national income?
19. Under what title does the CSO publish the annual national income statistics?
20. State Say's law of market.
21. Can non-insurable risk be covered by insurance company? Why?
22. Distinguish between stock and flow.
23. Distinguish between personal income and disposable income.
24. Distinguish between microeconomics and macroeconomics.
25. Differentiate between money cost and real cost.
26. Name the two types of expenditure that are included from the expenditure method.
27. How can the scale of production be raised in the long run?
28. What is meant by mixed income of self-employed?
29. What is meant by propensity to consume?
30. What are the main components of aggregate demand?

31. Distinguish between product based division of labour and process based division of labour.
32. Distinguish between gross interest and net interest.
33. Explain briefly the methodology adopted in India for estimating the contribution of unregistered manufacturing.
34. Explain the central problem of an economy.
35. How does excess demand affect price?
36. Name three types of subsidies given by the government.
37. Name the three producing enterprises classified under industrial sector with examples.
38. What is meant by compensation of employees? What are its components?
39. Why the average cost curve is U-shaped in the short run?
40. Why does the demand curve slope downwards?
41. How is income generated in the production process?
42. State five precautions to be taken while estimating national income by income method.
43. Explain the problem of double counting.
44. State five necessary conditions for perfect competition to prevail in a market.
45. From the following cost function of a firm given below find:

    (i) TVC, (*ii*) AFC, (*iii*) AVC, (*iv*) ATC, (*v*) MC

Output	0	1	2	3	4	5	6
TC	60	90	100	105	115	135	180
TFC	60	60	60	60	60	60	60

2004

1. Define the concept of domestic income.
2. What is meant by market in economics?
3. What are transfer payments?
4. What is deflationary gap?
5. Define the concept of producers' goods.
6. What is meant by tax?
7. Is income equal to savings plus consumption?
8. What is meant by opportunity cost?
9. What is meant by shift of the supply curve?
10. Who prepared the first national income of India before independence?
11. What is meant by net exports?
12. What is meant by excess demand?
13. Give an example of close substitute.