

is cut in investment, and in employment. There is fall in incomes, purchasing power and hence demand. Prices may begin to fall.

*147. What do blue collar and white-collar workers mean?*

**Ans:** A class of workers who are engaged in manual labour is called blue-collar workers and the workers who are engaged in mental labour are called white-collar workers.

*148. What is the relationship between the rate of interest and price of bonds?*

**Ans:** Interest rates and bond prices are inversely related. Suppose a person owns a bond of the value of Rs.1000 carrying 8% interest. His yearly income is Rs.80. Now further suppose that the rate of interest rises to 10%. The interest income of the bondholder will still be Rs.80, but the value of the bond will fall to Rs.800. It is because that Rs.800 will give an income of Rs.80 at the 10% rate of interest. Reverse will happen, if the rate of interest falls.

*149. What are the functions of primary, secondary and tertiary sectors in the economy?*

**Ans:** Primary, secondary and tertiary sectors are the three important sectors of an economy. Primary sector produces mainly agricultural products, whereas secondary sector produces manufactured goods and tertiary sector provides various services to the economy.

*150. State the opinion of Karl Marx on profits.*

**Ans:** Karl Marx in his famous book 'capital' published in 1867 gave an explanation of profit in terms of 'the theory of surplus value'. According to him, value is created only by labour. But the labour gets less than the value it creates. In other words, the entrepreneur who hires labour pays less to labour in form of wages as compared to value created by it. The difference is termed as surplus value, which is actually created by labour but goes to entrepreneur's pocket. Karl Marx says the ownership of the means of production by the entrepreneurs makes it possible for them to exploit labour.

*151. Mention six different methods of creating utility.*

**Ans:** Utility in a good can be created by a number of ways. These are:

1. Form utility; 2. Place utility; 3. Time utility; 4. Knowledge utility; 5. Possession utility;
6. Service utility.

*152. What do you mean by the term economic efficiency?*

**Ans:** Economic efficiency refers to the process of operation of free market economy efficiently. As resources are scarce; they are to be utilized in such a way that there is no wastage of resources. It is therefore important to decide whether decisions regarding—what to produce, how to produce and for whom to produce—are economically efficient.

*153. What is productive efficiency?*

**Ans:** Productive efficiency means producing maximum level of output from given amount of resources.

## II SOLVED NUMERICAL PROBLEMS

1. From the table below, calculate price elasticity of demand if price falls from Rs. 5 to Rs. 3 per unit.

Price	Demand
6	3000
5	4500
4	5500
3	6000

**Solution:**

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

$$\Delta q = 6000 - 4500 = 1500$$

$$\Delta p = 3 - 5 = 2$$

$$\therefore e_p = \frac{1500}{2} \times \frac{5}{4500} = 0.82$$

2. Given that the quantity previously demanded was 100 units, decrease in quantity demand is 5 units, increase in price is Rs. 5 and price elasticity of demand is 1.2; calculate the price before the change.

**Solution:**

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

$$\text{Original quantity } q = 100$$

$$\text{Change in price} = 5$$

$$\text{Change in quantity} = 5$$

$$\text{Elasticity} = 1.2$$

$$\therefore 1.2 = \frac{5}{5} \times \frac{p}{100}$$

$$\therefore p = 100 \times 1.2 = 120$$

The price before change was Rs. 120.

3. Calculate elasticity of demand (i) by using total outlay method, (ii) percentage method.

Price	Total expenditure
10	1000
8	1200

**Solution:** (i) According to total outlay method,  $e > 1$ , because total expenditure is more after fall in price. Thus demand is elastic.

(ii) We have to calculate quantities at two prices as shown under:

Price	Quantity	Total expenditure
10	100	1000
8	150	1200

Applying the formula,

$$\therefore e_p = \frac{50}{2} \times \frac{10}{100} = 2.5$$

Therefore,  $e > 1$ .

4. Draw a demand schedule for a commodity whose price elasticity of demand is unity.

**Solution:**

Price	Total expenditure
10	10
15	10

5. There are three firms in the market. The supply schedule for the market and that for firms A, B and C are given below. Prepare the supply schedule of firm C.

Price	Firm A	Firm B	Firm C	Market supply
10	0	25		35
20	10	30		60
30	20	35		85
40	30	40		110
50	40	45		135
60	50	50		160

**Solution:**

Price	Firm A	Firm B	Firm C = MS - (A + B)	Market supply (MS)
10	0	25	$35 - (25 + 0) = 10$	35
20	10	30	$60 - (30 + 10) = 20$	60
30	20	35	$85 - (35 + 20) = 30$	85
40	30	40	$110 - (40 + 30) = 40$	110
50	40	45	$135 - (45 + 40) = 50$	135
60	50	50	$160 - (50 + 50) = 60$	160

6. Complete the following table:

<i>Units of labour</i>	<i>Total product</i>	<i>Average product</i>	<i>Marginal product</i>
1	50		
2	90		
3	120		
4	140		
5	150		
6	150		
7	140		
8	120		

**Solution:**

<i>Units of labour</i>	<i>Total product</i>	<i>Average product</i>	<i>Marginal product</i>
1	50	50	50
2	90	45	40
3	120	40	30
4	140	35	20
5	150	30	10
6	150	25	0
7	140	20	-10
8	120	15	-20

7. From the following data calculate, marginal cost.

<i>Output</i>	1	2	3	4	5	6
<i>Total cost</i>	30	48	60	80	90	96

**Solution:**

$$MC = TC_n - TC_{n-1}$$

For example, MC for 2<sup>nd</sup> unit = 48 - 30 = 18

<i>Output</i>	<i>Total cost</i>	<i>Marginal cost</i>
1	30	30
2	48	18
3	60	12
4	80	20
5	90	10
6	96	6

8. From the following table, calculate marginal revenue and average revenue.

Output:	1	2	3	4	5
Total revenue:	10	18	24	28	30

**Solution:**

Output	Total revenue	Marginal revenue	Average revenue
1	10	10	10
2	18	8	9
3	24	6	8
4	28	4	7
5	30	2	6

9. From the table below calculate (i) AFC, and (ii) AVC

Output:	0	1	2	3	4	5	6
Total cost:	60	78	90	102	112	120	126

**Solution:**

Output	TC	TFC	TVC	AFC	AVC
1	2	3	$4 = 3 - 2$	$5 = 3/1$	$6 = 4/1$
0	60	60	0	–	–
1	78	60	18	60	18
2	90	60	30	30	15
3	102	60	42	20	14
4	112	60	52	15	13
5	120	60	60	12	12
6	126	60	66	10	11

10. Calculate TR, AR, and MR from the table.

Price:	1	2	3	4	5	6	7
Demand:	100	90	80	70	60	50	40

**Solution:**

Price	Demand	TR	AR	MR
1	2	$3 = 2 \times 1$	$4 = 3/2$	5
1	100	100	1	–
2	90	180	2	80
3	80	240	3	60
4	70	280	4	40

Contd....

5	60	300	5	200
6	50	300	6	0
7	40	280	7	-20

11. From the table below income-consumption schedule, calculate — (i) savings (ii) apc and (iii) mpc.

Income:	0	100	200	300	400
Consumption:	60	110	150	180	200

**Solution:**

Income (Y)	Consumption (C)	Savings (S)	$Apc = \frac{C}{Y}$	$Mpc = \frac{\Delta C}{\Delta Y}$
1	2	$3 = 1 - 2$	$4 = 2/1$	5
0	60	-60	-	-
100	110	-10	1.10	0.5
200	150	50	0.75	0.4
300	180	120	0.60	0.3
400	200	200	.050	0.2

12. What will be the value of the multiplier if mps is 0.4?

**Solution:** 
$$K = \frac{1}{mps} = \frac{1}{0.4} = 2.5$$

13. If an economy's investment increases by Rs. 10 crores. As a result income increases by Rs. 50 crores. What is the value of the multiplier?

**Solution:** 
$$K = \frac{\Delta Y}{\Delta I} = \frac{50}{10} = 5$$

14. Calculate mps from the following data:

Y	C	S
1	2	$3 = 1 - 2$
1500	1000	500
2000	2000	0

**Solution:** 
$$\therefore mps = \frac{\Delta S}{\Delta Y} = \frac{500}{500} = 1$$

15. If size of multiplier is 2.5, what amount of new investment is required to be made in the economy to generate additional income of Rs. 500 crores?

**Solution:** 
$$K = \frac{\Delta Y}{\Delta I}$$