

Answers to RSPL/3

1. Average Revenue falls but remains positive.
2. (d) ₹ 12
3. (a) Positive
4. Total variable cost
5. (c) Both (a) and (b)
6. Problem of how to produce is the problem of choice of technique of production to be used for production, *i.e.*, whether to use labour intensive technique or capital intensive technique. Labour intensive which uses more labour and less capital generates employment. This increases the share of wages and hence promote equity. Capital intensive which uses more capital and less labour increases efficiency. This increases the pace at which the economy is growing.
7. The factors affecting price elasticity of supply are:
 - (a) **Nature of commodity:** If the commodity is perishable like banana, tomato etc., the supply will be inelastic while if it is durable like furniture etc., it will be elastic.
 - (b) **Nature of inputs:** If inputs used to produce the commodity are commonly available, supply of the commodity will be elastic while if inputs used to produce the commodity are not commonly available, supply of the commodity will be inelastic.
 - (c) **Willingness to undertake risk:** If the entrepreneur is willing to undertake risk, supply will be elastic while if the entrepreneur is not willing to undertake risk, supply will be inelastic.

OR

| Basis | Movement along the supply curve | Shift in supply curve |
|-----------------|---|--|
| (a) Causes | It occurs due to change in own price of the commodity. | It occurs due to change in factors other than own price like price of other good, price of inputs, technology etc. |
| (b) Assumptions | Other factors are assumed to be constant. | Own price is assumed to be constant. |
| (c) Type | There can be upward movement called expansion of supply and downward movement called contraction of supply. | There can be rightward shift called increase in supply and leftward shift called decrease in supply. |

8. (a) Due to seasonal unemployment, the economy will produce less than what it is capable of producing. The PPC would remain unchanged as seasonal unemployment would not affect the productive capacity of the economy. Thus, it will operate somewhere inside the PPC.
- (b) Construction of dams, wells, tubewells to provide proper irrigation facilities to the farmers so that water is available to them throughout the year.
9. The assumptions of Law of Diminishing Marginal Utility are:
 - (a) **Cardinal measurement of utility.** It means that a consumer can express his utility in quantitative terms.
 - (b) **Standard unit of measurement is used.** The law will not hold true, if the unit of measurement is very large or very small such as water in drops.

- (c) **Homogeneous units.** All units of the given commodity consumed are identical. For example, a second cup of ice-cream with nuts may give more satisfaction than the first one if the first cup was plain without nuts.
- (d) **Continuous consumption.** It means that successive units of a commodity are consumed without a time gap. Consumption is assumed to take place within a fixed time period. For example, if first cup of ice-cream is consumed in the morning and the second cup is consumed in the evening, then the second cup may give equal or more satisfaction than the first one.

OR

| Units of a commodity | MU _x | MU _y | $\frac{MU_x}{P_x}$ | $\frac{MU_y}{P_y}$ |
|----------------------|-----------------|-----------------|--------------------|--------------------|
| 0 | – | – | – | – |
| 1 | 50 | 18 | 10 | 9 |
| 2 | 40 | 14 | 8 | 7 |
| 3 | 30 | 12 | 6 | 6 |
| 4 | 20 | 10 | 4 | 5 |
| 5 | 10 | 8 | 2 | 4 |

According to utility analysis (two commodity case), a consumer would attain equilibrium if

$$\frac{MU_x}{P_x} = \frac{MU_y}{P_y}$$

and Total Expenditure = Total Income

Combinations 3x, 3y and 4x, 5y satisfy the first condition

But second condition is met by only at the 4x, 5y

As here Total Expenditure = Total Income = ₹ 30

Thus, the consumer will consume 4 units of good X and 5 units of good Y.

10. (a) Yes, I agree that continuous fall in fixed cost per unit of output with the rise in the level of output does not necessarily imply rise in profits of the firm.
- (b) This is because total cost is the sum of fixed cost and variable cost.
- (c) As the level of output rises, fixed cost per unit of output, i.e. AFC continuously falls but the variable cost per unit of output, i.e. AVC initially falls and then starts rising.
- (d) Total profit which is the difference between the total revenue and the total cost depends not only on fixed cost but also on variable cost.
11. No, because according to total expenditure method, the effect of rise in price of the commodity on the total expenditure depends on price elasticity of demand.

Case I : If demand is inelastic, i.e., $E_d < 1$

Rise in price would result in rise in total expenditure.

| | Price | Quantity demanded | TE |
|----------|-------|-------------------|----|
| Original | 4 | 10 | 40 |
| New | 5 | 9 | 45 |

Case II : If demand is unit elastic, *i.e.*, $E_d = 1$

Rise in price would result in no change in total expenditure.

| | Price | Quantity demanded | TE |
|----------|-------|-------------------|----|
| Original | 4 | 10 | 40 |
| New | 5 | 8 | 40 |

Case III : If demand is elastic, *i.e.*, $E_d > 1$

Rise in price would result in fall in total expenditure.

| | Price | Quantity demanded | TE |
|----------|-------|-------------------|----|
| Original | 4 | 10 | 40 |
| New | 5 | 5 | 25 |

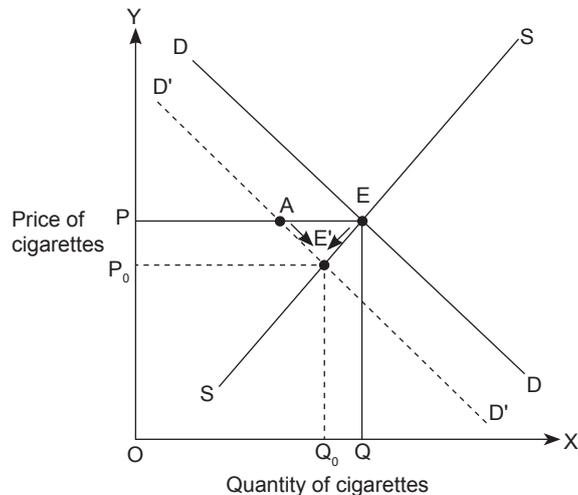
12. Monopoly can be defined as the market situation in which there is a single seller selling a commodity that does not have close substitutes.

The causes of monopoly are:

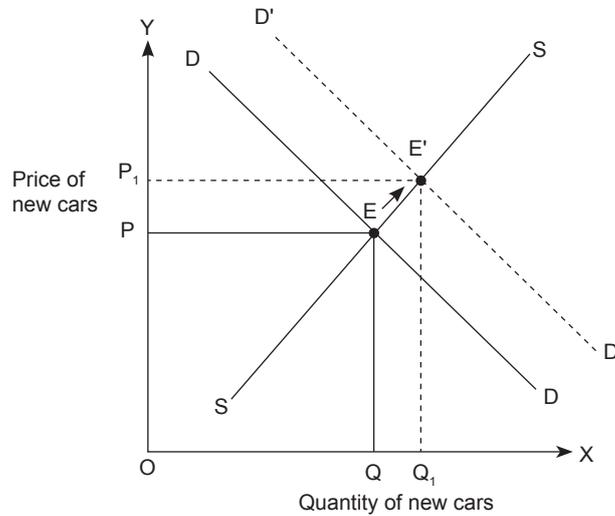
- Government licensing.** A monopoly may emerge when government gives the exclusive right or license to a particular firm to produce a given product or provide a particular service in a particular area.
- Patent rights.** When a firm introduces a new product or a new technology, it may apply to the government for patent rights. These patent rights give the exclusive right to the firm to produce that product or use that technology. These rights prevent others to produce that product or use that technology without obtaining license from the concerned firm.
- Cartel.** When the individual firms while retaining their identities unite into a group and coordinate their output and pricing policy in order to avoid competition and reap the benefits of monopoly, it is called cartel.

As a monopolist, the firm can practice price discrimination, *i.e.*, can charge different price for the same commodity from different consumers in different parts of the market. He charges high price in the market where elasticity of demand is inelastic and charges low price in the market where elasticity of demand is elastic.

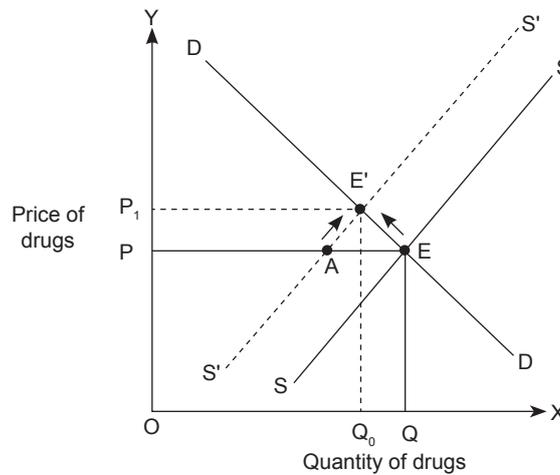
13. (a) There will be leftward shift in market demand curve for cigarettes due to unfavourable change in taste and preferences of the consumers. Consequently, there will be fall in equilibrium price and quantity of cigarettes.



- (b) There will be rightward shift in demand curve for new cars due to fall in price of petrol and diesel as petrol and petrol cars, diesel and diesel cars are complementary goods. Consequently there will be rise in equilibrium price and quantity of new cars.



- (c) There will be leftward shift in supply curve of the drug as new technology would increase the cost which would reduce the profitability and hence supply. Consequently, equilibrium price of drug would rise and quantity would fall.



14. The Law of Demand states that there exists inverse relation between price of a commodity and its demand. This inverse relationship can be explained with the help of utility approach (single commodity case).

According to utility approach, consumer attains equilibrium when $MU = Price$.

If Price of a commodity falls, MU becomes more than Price. This makes the consumer increase his consumption of the commodity as benefits (MU) is more than the cost (price).

If Price of a commodity rises, $MU < Price$. This makes the consumer decrease his consumption of the commodity.

Suppose, $MU = 1$ util, $P_x = ₹ 10$

| Units of commodity X | MU (in utils) | MU in terms of money (₹) | Price of good (₹) |
|----------------------|---------------|--------------------------|-------------------|
| 0 | – | – | – |
| 1 | 20 | 20 | 10 |
| 2 | 16 | 16 | 10 |
| 3 | 10 | 10 | 10 |
| 4 | 4 | 4 | 10 |
| 5 | 0 | 0 | 10 |
| 6 | –6 | –6 | 10 |

Consumer purchases 3 units of a commodity to maximize satisfaction, when price rises from ₹ 10 to 16.

Suppose, $MU = 1$ util, $P_x = ₹ 16$.

| Units of commodity X | MU (in utils) | MU in terms of money (₹) | New Price (₹) |
|----------------------|---------------|--------------------------|---------------|
| 0 | – | – | – |
| 1 | 20 | 20 | 16 |
| 2 | 16 | 16 | 16 |
| 3 | 10 | 10 | 16 |
| 4 | 4 | 4 | 16 |
| 5 | 0 | 0 | 16 |
| 6 | –6 | –6 | 16 |

Consumer purchases 2 units of a commodity to maximize satisfaction.

Hence, his consumption reduces from 3 units to 2 units due to rise in price from ₹ 10 to ₹ 16.

15.

| Units of labour | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|-----------------|---|----|----|----|----|----|----|-----|
| TP | 0 | 10 | 25 | 45 | 60 | 70 | 70 | 60 |
| MP | – | 10 | 15 | 20 | 15 | 10 | 0 | –10 |

Stage I – 0 to 3 units of labour

Stage II – 4 to 6 units of labour

Stage III – 7 units of labour

(a) **Reasons for stage I: (increasing returns)**

- (i) **Better utilization of fixed factors.** When we apply more and more units of labor on a given quantity of fixed inputs, there is a better utilization of fixed inputs which gives increasing returns.
- (ii) **Division of labor.** It is possible to have division of labour when the number of labours are increased on the fixed inputs. Division of labour increases the efficiency of labour which gives increasing returns.
- (iii) **Optimum combination of inputs.** The ratio between inputs which is ideal for production is known as optimum combination of inputs. As long as the fixed factor remains underutilized, the additional employment of the variable input helps the producer to acquire this combination.

(b) **Reasons for stage II: (diminishing returns)**

- (i) **Beyond optimum point.** After reaching the optimum combination of variable and fixed factors, efficiency starts falling when more and more units of variable factors are employed. Due to this, MP of every additional variable input reduces.
- (ii) **Lack of perfect substitution between factors.** Variable and fixed factor can be substituted only upto a certain limit, beyond that point they can't be substituted. This causes diminishing returns.
- (iii) When we keep on adding variable inputs on the fixed factor, the fixed factor becomes too small, this causes diminishing returns.

(c) **Reasons for stage III: (negative returns).**

- (i) **Overutilization of fixed factor.** In this stage, there are too many variable factors working on the fixed factor. This results in negative returns. It is rightly said 'too many cooks spoil the broth'.
- (ii) Poor coordination between fixed and variable factors.

OR

Diminishing returns to a factor is a phase of Law of Variable Proportions in which every additional unit of variable factor such as labour contributes less to the total production which implies that total product increases at decreasing rate and marginal product falls but remains positive.

Yes, mechanization in agriculture, which would imply the use of machinery like tractors, harvesters, threshers etc. in place of labour for farming would increase productivity and efficiency of labour. They would contribute more and more towards the total production. This would reverse the diminishing returns as MP would start rising and TP would increase at increasing rate.

Mechanization would lead to emergence of surplus labour in agriculture. Hence, there would be unemployment.

16. (d) All of these

17. The borrowing requirement of the country.

18. (c) Supply of money in a country

19. (b) Revenue expenditure

20.
$$\text{Total deposit} = \frac{1}{\text{LRR}} \times \text{Initial deposit}$$

$$8,900 = 100/15 \times \text{Initial deposit}$$

$$\text{Initial deposit} = ₹ 1,335 \text{ crores}$$

21. Balance of Trade = Value of export of goods – Value of import of goods

$$= 100 - 350 = ₹ (-) 250 \text{ crores}$$

Balance of Invisibles = Value of export of services – Value of import of services

$$= 190 - 200 = ₹ (-) 10 \text{ crores}$$

Current account balance = Value of export of goods + Value of export of services + Unrequited receipts – (Value of import of goods + Value of import of services + Unrequited payments)

$$\begin{aligned}
&= 100 + 190 + 50 - (350 + 200 + 80) \\
&= 340 - 630 \\
&= ₹ (-) 290 \text{ crores}
\end{aligned}$$

22. (a) 'Jan Dhan Yojana' will encourage people to deposit their money with the commercial banks. This will increase the primary deposits of the commercial banks
- (b) With the increase in the primary deposit, banks will create more secondary deposits. Their lending capacity will increase.
- (c) This will increase the availability of credit in the economy which will further increase the investment in the economy. This will further increase the national income of the country.

OR

- (a) Due to this, the black money will go out of the system and consequently the money supply in the Indian economy will reduce.
- (b) Fall in money supply would reduce aggregate demand in the economy.
- (c) Fall in aggregate demand would reduce the general price level and hence would control inflation.

23.
$$k = \frac{\Delta Y}{\Delta I}$$

$$= \frac{3000}{3000} = 1$$

$$k = \frac{1}{1 - C}$$

$$\text{MPC} = 0$$

$$\text{MPS} = 1 - \text{MPC}$$

$$= 1 - 0 = 1$$

24. $\text{GVA}_{\text{MP}} = \text{Sales} + \text{Exports} + \text{Closing stock} - \text{Opening stock} - (\text{Expenditure on power} + \text{Import of raw materials})$

$$\text{NVA}_{\text{MP}} + \text{Depreciation} = 100 + 150 + \text{Closing stock} - 35 - (25 + 20)$$

$$200 + 5 = 250 + \text{Closing stock} - 80$$

$$205 - 250 + 80 = \text{Closing stock}$$

$$\text{Closing stock} = ₹ 35 \text{ crores}$$

25. No, because effect of rise in foreign exchange rate and subsequent fall in price of domestic currency, on our export earnings depend on the elasticity of demand for our exports.

Case I : If elasticity of demand for our exports is less than 1

Rise in foreign exchange rate will result in fall in price of domestic goods in foreign market. If E_d is less than one, then total expenditure on our exports will fall which implies that our export earnings will fall.

Case II : If elasticity of demand for our exports is more than 1

Rise in foreign exchange rate will result in fall in price of domestic goods in foreign market. If E_d is more than one, then total expenditure on our exports will rise which implies that our export earnings will rise.

Case III : If elasticity of demand for our exports = 1

Rise in foreign exchange rate will result in fall in price of domestic goods in foreign market.

If $E_d = 1$, then total expenditure on our exports will remain constant which implies that our export earnings will remain unchanged.

26.
$$\text{GDP deflator} = \frac{\text{Nominal GDP}}{\text{Real GDP}} \times 100$$

$$230 = \frac{\text{Nominal GDP}}{80} \times 100$$

$$\text{Nominal GDP} = 184$$

Out of nominal GDP and real GDP, real GDP is better index of the growth of the country.

Reason:

- (a) When we compare the country's real national income of two different years, the change in the value can only be due to the change in the physical quantity of goods.
- (b) It eliminates the effect of change in price on national income and shows us the effect of change in quantity produced on national income.

OR

- (a) Factor payment: It is an employer's contribution towards social security.
- (b) Transfer payment: It is received by the old people without any productive service in return.
- (c) Factor payment: It is a payment made to the families for the services provided to the government by the soldiers when they were alive.
- (d) Factor payment: He has earned it by providing his productive service.

27.
$$\begin{aligned} \text{Revenue deficit} &= \text{Revenue Expenditure} - \text{Revenue Receipts} \\ &= 240 - 180 = ₹ 60 \text{ crores} \end{aligned}$$

$$\begin{aligned} \text{Fiscal deficit} &= \text{Revenue Expenditure} + \text{Capital Expenditure} - (\text{Revenue Receipts} + \text{Non-debt capital receipts}) \\ &= 240 + 300 - (180 + 140) \\ &= ₹ 220 \text{ Crores} \end{aligned}$$

$$\begin{aligned} \text{Primary deficit} &= \text{Fiscal deficit} - \text{Interest payments} \\ &= 220 - 40 \\ &= ₹ 180 \text{ crores} \end{aligned}$$

28. (a) There exists inverse relationship between Average propensity to consume and average propensity to save because

$$Y = C + S$$

Dividing both sides by Y

$$1 = C/Y + S/Y$$

$$\text{APC} + \text{APS} = 1$$

- (b) There exists direct relationship between Marginal propensity to consume and investment multiplier, because

$$k = 1/1 - c$$

- (c) There exists inverse relationship between Marginal propensity to consume and marginal propensity to save, because

$$\Delta I = \frac{\Delta C}{\Delta S}$$

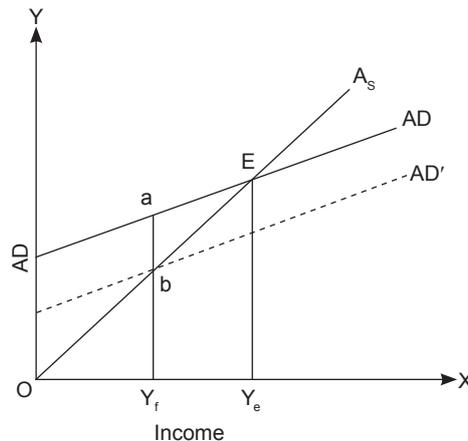
Dividing both sides by change in income

$$1 = \frac{\Delta C}{\Delta I} + \frac{\Delta S}{\Delta I}$$

$$\text{MPC} + \text{MPS} = 1$$

OR

The situation when aggregate demand exceeds aggregate supply at full employment level, it is known as Excess demand as AD is more than the output that can be supplied at the full employment level.



Effect of Excess demand

- (a) **On Output.** There is no effect on output as economy has employed all its resources. There is no further scope to increase the output.
- (b) **On general price level.** It increases. That's why the gap between aggregate demand and aggregate supply at full employment level is called inflationary gap.

In the situation of Excess demand, the Central Bank sells securities in the open market. This decreases the cash stock of commercial banks and hence their lending capacity. This reduces the availability of credit in the economy which further results in fall in Investment and hence aggregate demand. This further corrects the situation of Excess demand.

29. (a) **Bank of issue.** The Central Bank is the sole authority for the issue of currency in the country. Notes issued by it are circulated as legal tender money. It has its issue department which issues notes and coins. Coins are manufactured in the government mint but they are put into circulation through the Central Bank. While issuing currency notes, a minimum fixed amount of gold and foreign currencies is kept by the Central Bank. The monopoly of issuing notes vested in the Central bank ensures uniformity in the notes issued which helps in facilitating exchange and trade within the country. By having a monopoly of note issue, the Central Bank can restrict or expand the supply of cash according to the requirements of the economy.
- (b) **Lender of the last resort.** The Central Bank acts as a lender of the last resort for commercial banks. When commercial banks fail to meet obligations of their depositors, the Central Bank comes to their rescue. The Central Bank advances necessary credit against

eligible securities subject to certain terms and conditions. This saves banks from a possible breakdown. The Central Bank supervises, regulates and controls the commercial banks. The regulation of banks may be related to their licensing, branch expansion, liquidity of assets, management, amalgamation and liquidation. The control is exercised by periodic inspection of banks and the returns filed by them.

30. Income Method:

$$\begin{aligned} \text{NDP}_{\text{FC}} &= \text{Compensation of employees} + \text{Operating surplus} + \text{Mixed income of self employed} \\ &= 1500 + 400 + 100 + 300 + 400 \\ &= ₹ 2700 \text{ crores} \end{aligned}$$

$$\begin{aligned} \text{Depreciation} &= \text{Gross fixed capital formation} + \text{Change in stock} - \text{Net domestic capital formation} \\ &= 700 - (-) 50 - 650 \\ &= ₹ 100 \text{ Crores} \end{aligned}$$

$$\begin{aligned} \text{GDP}_{\text{MP}} &= \text{NDP}_{\text{FC}} + \text{Depreciation} + \text{Net indirect tax} \\ &= 2700 + 100 + 250 \\ &= ₹ 3,050 \text{ Crores} \end{aligned}$$

Expenditure Method:

$$\begin{aligned} \text{NDP}_{\text{MP}} &= \text{Private final consumption expenditure} + \text{Government final consumption expenditure} \\ &\quad + \text{Net domestic capital formation} + \text{Net exports} \\ &= 1200 + 1060 + 650 + 40 \\ &= ₹ 2,950 \text{ Crores} \end{aligned}$$

$$\begin{aligned} \text{GDP}_{\text{MP}} &= \text{GNP}_{\text{FC}} - \text{NFIA} + \text{Net indirect taxes} \\ 3050 &= 3500 - (\text{Factor income from abroad} - 120) + 250 \\ \text{Factor income from abroad} &= ₹ 820 \text{ crores} \end{aligned}$$