

Answers to RSPL/2

Section - A

1. (a)
2. 'Returns to a factor' refers to a change in total output when only one input is changed, keeping other inputs unchanged.
3. (c)
4. Negative
5. While analysing the impact of 'Swachh Bharat Abhiyan', we observe that cleanliness leads to a reduction in the chances of people falling sick. Thus, it can ensure better health. When one is healthy, one will be regular in one's work. This will raise the productive efficiency of the people. Ultimately, the country's production potential will get a boost. This rise in the country's potential to produce will shift the Production Possibility Curve to the right.

Or

Good X (units)	Good Y (units)	MRT = $\frac{\Delta Y}{\Delta X}$
0	20	—
1	18	2Y : 1X
2	14	4Y : 1X
3	8	6Y : 1X
4	0	8Y : 1X

In the given schedule, we observe that MRT is increasing, so production possibility curve will be downward sloping and concave to the origin.

6. Price elasticity of demand (P_{ed}) = $\frac{\% \text{ change in quantity demanded}}{\% \text{ change in its price}}$

$$= \frac{0}{\frac{2}{8} \times 100} = 0$$

In the given case, the given good has perfectly inelastic demand because $P_{ed} = 0$.

7. (a) **Change in quantity demanded or movement along the demand curve:** It is associated with a change in the demand curve by a rise/fall in the price of the commodity, other things remaining the same. It is expressed in the form of an expansion of demand or contraction in demand. When the demand of a good rises due to a fall in the price of the good alone, it is termed as '**expansion of demand**'. When the demand of a good falls due to rise in its price alone, it is called as '**contraction of demand**'. Graphically, it is shown by the '**movement along the demand curve**'.

Change in demand or shift in demand curve: It is associated with the change in demand for a commodity caused by factors other than the price of a commodity such as price of related goods, income of the consumer etc. It is expressed in the form of an '**increase or decrease in demand**'.

When at the given price, the demand of a good increases, it is called **increase in demand**. When at the given price, the demand decreases, it is called **decrease in demand**. Graphically, it is shown by the '**shift of the demand curve**'.

- (b) **Budget set:** It shows various possible combinations of the two goods which cost the consumer exactly his income. It considers all those combinations which the consumer can purchase with his given income assuming that he spends the entire income.

Budget line: It shows the various combinations of the two goods which cost the consumer exactly his income. It considers only those combinations which the consumer can purchase with his given income, assuming that he spends the entire income.

8. A producer is in equilibrium when he is getting maximum profit. If the following two conditions of equilibrium are not met, a producer cannot attain equilibrium.

- (a) **MC = MR**

(i) If $MC > MR$, the cost incurred on the additional unit is greater than the revenue earned from it, *i.e.*, benefit is less than the cost. A producer will reduce the production till MC becomes equal to MR.

(ii) If $MC < MR$, the cost incurred on the additional unit is less than the revenue earned from it. A producer will produce more as it is possible to add to profit by producing more till MC becomes equal to MR.

- (b) **MC > MR after MC = MR level of output**

(i) If $MC > MR$, then producing beyond $MC = MR$ output reduces profits.

(ii) If $MC < MR$ beyond $MC = MR$ output, it is possible to add to profits by producing more.

So, both the conditions must be met for attaining equilibrium.

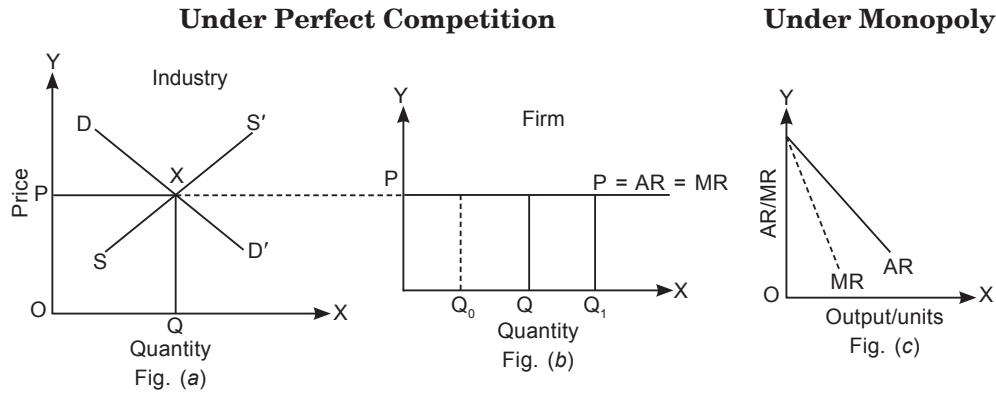
Or

Under Perfect Competition, the forces of market supply and market demand determine the market price. The firm, which is a price-taker adopts this price and can sell any amount at this given price, *i.e.*, the price is given by the perfectly competitive industry, which is a price-maker. Now, Explaining this with the help of a diagram.

Figure (a) shows the intersection of demand and supply curves of the perfectly competitive industry at point X (point of equilibrium) determining the equilibrium price OP. Figure (b) shows the adoption of price by the price taker firm, which is free to sell any quantity at this given price (OP). This makes the AR curve perfectly elastic and thus parallel to the OX axis. Now as per average-marginal relationship, when AR is constant, MR must be equal to AR. Thus, AR curve is also the MR curve of the firm, *i.e.*, $P = AR = MR$.

Under monopoly, more output of a commodity can be sold at a lower price. Thus, the AR curve under monopoly will be a downward sloping steeper curve. So, when AR falls, MR also falls and is less than AR as per average-marginal relationship as shown in Fig. (c).

On the basis of the given diagram, we infer that both AR and MR curves are downward sloping and steeper curves showing inelastic demand for monopolist's product (which has no close substitutes available). So, when AR falls, MR also falls and is less than AR.



9. If market for a good is in equilibrium and there is simultaneous 'decrease' both in demand and supply but there is no change in market price, this can be explained with the help of given schedule.

Price (₹)	Original Demand (Units)	Original Supply (Units)	New Demand (Units)	New Supply (Units)
5	10	50	5	25
4	20	40	10	20
3	30	30	15	15
2	40	20	20	10
1	50	10	25	5

On the basis of the given schedule, we infer that the initial equilibrium price is ₹ 3 and the equilibrium quantity is 30 units. But now suppose both demand and supply fall by 50%, i.e., at the equilibrium price of ₹ 3, demand decreases from 30 units to 15 units and supply also decreases from 30 units to 15 units respectively. Thus, at the price of ₹ 3 once again Demand = Supply, i.e., 15 = 15 units. Thus, the equilibrium price remains the same at ₹ 3, despite of simultaneous 'decrease' both in demand and supply.

10. According to the indifference curve approach, for the given consumer to reach equilibrium or for consumer's equilibrium, following two conditions are to be fulfilled:

(a) $MRS_{XY} = \frac{P_X}{P_Y}$

- (b) MRS falls as more is consumed of one good in place of another. Diagrammatically, the consumer's equilibrium is attained when the budget line is tangential to an indifference curve.

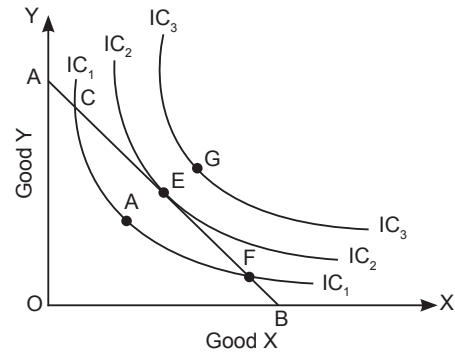
Now, if the above conditions of consumer's equilibrium are not fulfilled, i.e.,

• If $MRS > MRE / \frac{P_X}{P_Y}$

{ **Note :** $MRE = \frac{P_X}{P_Y}$ }

It means to obtain one more unit of good X, the consumer is willing to sacrifice more units of good Y, than the market requires. This implies that the consumer values good X more

than what the market values. This will induce the consumer to buy more of good X and less of good Y. This pulls down MRS and the given consumer continues to consume more of good X and less of good Y. This brings down MRS. The consumer will continue to consume more of good X till MRS becomes equal to $\frac{P_X}{P_Y}$ and the equilibrium is restored.



The opposite will hold true if $MRS < MRE / \frac{P_X}{P_Y}$.

Or

We know that related goods may be either substitutes or complements.

- (a) If the price of a substitute good changes, the demand for the given good changes in the same direction. If price of the substitute good say Y rises, it lowers the relative price of the given good X and thus, raises its demand and vice-versa.

$$\begin{array}{l} P_Y \uparrow \{D_Y \downarrow\} D_X \uparrow \\ P_Y \downarrow \{D_Y \uparrow\} D_X \downarrow \end{array}$$

(where X is Tea and Y is coffee).

- (b) If the price of a complementary good (say pen) rises, the demand for the given good (ink) falls and vice-versa. This is so, as both the goods are used jointly.

$$\begin{array}{l} P_Y \uparrow \{D_Y \downarrow\} D_X \downarrow \\ P_Y \downarrow \{D_Y \uparrow\} D_X \uparrow \end{array}$$

(where Y is pen and X is ink).

Thus, if the price of a complementary good changes, the demand for the given good changes in the opposite direction.

11. (a)

Output (units)	ATC (₹)	TC (₹)	TFC (₹)	TVC (₹)	AFC (₹)	AVC (₹)	MC (₹)
1	80	80	60	20	60	20	20
2	48	96	60	36	30	18	16
3	40	120	60	60	20	20	24

Formulae used:

$$MC_n = TVC_n - TVC_{n-1}$$

$$AVC = ATC - AFC \text{ or } \frac{TVC}{Q}$$

Note: It is given that AFC at 2 units of output is ₹ 30, therefore, $30 \times 2 = ₹ 60$ is the TFC, which is constant at all levels of output.

(b) Average Fixed Cost (AFC) is fixed cost per unit of output.

As output increases, AFC falls because TFC is constant, while output is continuously rising. So, AFC continuously falls.

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

AFC curve is a 'rectangular hyperbola'.

12. If market for a good is in equilibrium and the price is higher than the equilibrium price and the price is lower than the equilibrium price, the following chain of reactions in the market will take place, which can further be clearly explained with the help of a relevant diagram.

In the given diagram, the market is in equilibrium at point X because DD' and SS' intersect each other at this point and OP is the equilibrium price and OQ is the equilibrium quantity.

(a) Now, when market price is higher than the equilibrium price, say OP_1 in the diagram. At this price, the producers are willing to sell more than what the buyers are willing to buy. It will lead to a situation of "Excess Supply" to the tune of 'AB' in the diagram.

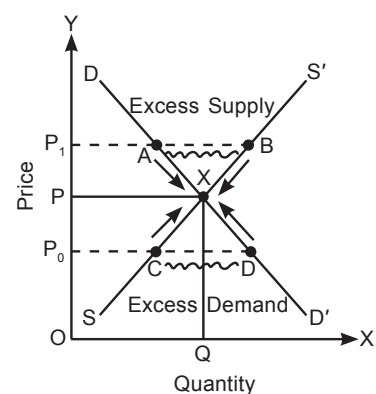
Pressure of excess supply leads to a reduction in market price which will gravitate towards OP equilibrium price. In response to it, quantity supplied tends to fall and quantity demanded tends to rise. Fall in quantity supplied is indicated by a movement along the supply curve from point B towards point X.

Rise in quantity demanded is indicated by a movement along the demand curve from point A towards point X. It is at this point X, that the excess supply is finally eliminated as quantity demanded and quantity supplied are equal and equilibrium price is OP.

(b) Similarly, when market price (OP_0) is lower than the equilibrium price as shown in the diagram, then a situation of "Excess Demand" to the tune of 'CD' is created.

Pressure of excess demand will lead to a rise in market price. In response to it, quantity demanded tends to fall and quantity supplied tends to rise. Fall in quantity demanded is indicated by a movement along the demand curve from point D towards point X.

Rise in quantity supplied is indicated by a movement along the supply curve from point C towards point X. It is at point 'X' that the excess demand is finally eliminated and quantity demanded is equal to quantity supplied at OQ and the equilibrium price is OP and the market is cleared.



Section - B

13. Deposit multiplier = $\frac{1}{LRR} = \frac{1}{0.1} = 10$

14. 'Lender of last resort' means that when the commercial banks are in difficulty, the Central Bank can make advances to them, when temporarily in need of funds.

15. (b)

16. Voluntary unemployment refers to that part of the population which prefers not to work, even though suitable work is available for them.
17. Balance of trade is the difference between export of goods and import of goods, whereas Balance of Current Account is the difference between the sum of credits and the sum of debits on current accounts.

BoT = $X_g - M_g$, where X_g = Export of goods and M_g = Import of goods

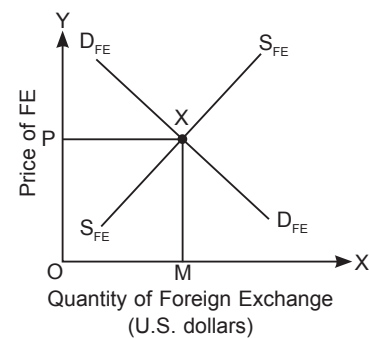
Balance of Current Account = Sum of credits on Current Account – Sum of debit on Current

Or

It is the flexible exchange rate which is determined by the free play of the forces of demand and supply of foreign exchange. In the foreign exchange market, the foreign exchange rate is treated as a price. So, the exchange rate at which the demand for foreign exchange and supply for foreign exchange are equal, *i.e.*, demand curve and supply curve intersect each other. Graphically, the market exchange rate is determined.

Explaining its determination with the help of a suitable diagram.

The rate of foreign exchange is determined at point X as shown in the diagram, where the D_{FE} and S_{FE} curves intersect each other, *i.e.*, $D_{FE} = S_{FE}$. OP denotes the market determined exchange rate and OM denotes demand and supply of foreign exchange at this rate, *i.e.*, the equilibrium quantity of foreign exchange.



18. Overall balance is reflected in the 'official reserve transactions' of the RBI, as it is the custodian of foreign exchange reserves of the country. All foreign exchange transactions in the country take place through RBI. If the overall balance is positive, it causes an increase in official reserves, if overall balance is negative, it causes a decrease in official reserves. Hence,
- Current Account Surplus + Capital Account Surplus = Increase in Official Reserves
- Current Account Deficit + Capital Account Deficit = Decrease in Official Reserves
19. (a) Payment of interest by a firm to a bank is included in the estimation of national income because it is treated as a factor payment by the firm.
- (b) Gifts received from abroad is not included in the estimation of national income, because it is treated as a transfer payment and no good or service is provided in return.

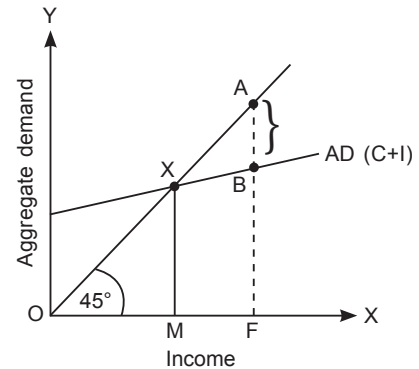
Or

Problem of 'double counting' refers to the counting of the value of output of a good more than once. It leads to overestimation of national income, which will then not be a true indicator of economic growth.

Explaining the above problem with the help of an example. Suppose a farmer produces wheat worth ₹ 2,000. He sells this wheat to the baker who converts it into bread and sells it to the grocer for ₹ 4,000. The grocer sells the bread to the consumer for ₹ 4,400. The total output of the 3 producers is ₹ 10,400 but this is not the value of actual output, because it includes the value of wheat three times and the value of bread two times. This definitely will lead to overestimation of national income.

20. Full employment refers to a situation when the entire labour force in an economy is employed.

Yes, the economy can be in equilibrium, at less than full employment level. It is a situation of deficient demand (deflationary gap). In the given diagram, we observe that the economy is in equilibrium at point X and OM is the equilibrium income or output which is less than the full employment income or output denoted by OF, i.e., $OM < OF$. At full employment level, AS is greater than AD, as shown by $AF > BF$, by the distance 'AB' which denotes a situation of deflationary gap or deficient demand.



21. The two methods of credit control used by the Central Bank are:

- (a) **Raising the bank rate:** Bank rate is the rate of interest at which the commercial banks can borrow from the Central Bank. By raising the bank rate, borrowing becomes costly for the commercial banks, who in turn will be forced to raise the interest rate on their lendings to the general public. This will make borrowings from them costly. As a result, the spending capacity of the people will fall and there will be a fall in the demand for goods and services.
- (b) **Raising the cash reserve ratio:** CRR is the percentage of deposits with the commercial banks which they are legally required to keep as a reserve with the Central Bank. Raising the CRR will leave less funds for credit creation with the banks.
- (c) **By selling the securities (open market operations):** The Central Bank will reduce the credit creation capacity of the commercial banks, as the buyers of these securities make payments by cheque. As a result, the deposits with the commercial banks will decrease and thus, their credit creation capacity will get reduced, leading to a fall in demand in the economy. (any two)

22. (a) A 'negative externality' refers to the activity which harms others like waste being driven into the river and polluting it.

- (b) (i) NI/NNP_{FC} by Expenditure Method = $(ii) + (x) + (vi) + (vii) - (ix) + (xi) - (iv)$
 $= 750 + 150 + 220 + (-20) - 50 + 20 - 120$
 $= ₹ 950 \text{ crores}$
- (ii) NI/NNP_{FC} by Production Method = $(i) + (v) + (viii) - (iii) - (iv) + (xi)$
 $= 300 + 200 + 700 - 150 - 120 + 20$
 $= ₹ 950 \text{ crores}$

Or

The three limitations of using GDP as a measure/index of welfare of a country are:

- (a) Non-monetary exchanges like the services rendered by housewives and other family members etc. are left out on account of non-availability of data and problem of valuation. Certainly these items have contributed to economic welfare. If we depend only on GDP, then we would be underestimating the economic welfare.
- (b) GDP does not take into account externalities, positive and negative, which affect the welfare. Positive externalities increase welfare and negative externalities decrease welfare. But by ignoring them, we overstate/understate welfare.

- (c) All products do not contribute equally to economic welfare. For example, police services, food items, houses etc. may contribute more to the welfare of the people than products like pan masala, cigarettes etc. Welfare would thus depend upon the type of goods and services produced and not simply how much is being produced.
- (d) Change in the income distribution may also affect welfare, as there is unequal distribution of income which may be increase or decrease. If it increases, it may lead to a decline in welfare or if it decreases, it may lead to a rise in welfare. *(any three)*
- 23. (a) Government expenditure.** An increase in spending by the government, *i.e.*, an increase in government's expenditure on administrative and welfare activities will directly increase aggregate demand (AD) and thereby help in correcting the deficient demand in an economy.
- (b) Legal Reserve Ratio.** Legal reserves, *i.e.*, both CRR and SLR, the Central Bank by decreasing LRR increases the funds available for credit creation with the commercial banks. This brings about a rise in their credit creation capacity, so that they can now give more loans. As a result, AD increases and deficient demand gets corrected.
- 24.** The government budget is helpful in altering distribution of income in an economy in many ways.
- Taxes should be made progressive and strict measures should be adopted to check tax evasion by the rich people.
 - Tax base should be broadened and more services should be brought in the tax net of indirect taxes.
 - Expenditure on social sector such as education, healthcare and housing for the poor should be raised.
 - Expenditure on antipoverty and employment schemes be increased so as to raise more people above the poverty line.
 - Subsidies to small scale industries, which adopt labour intensive techniques should be provided so that a large number of employment opportunities are generated.