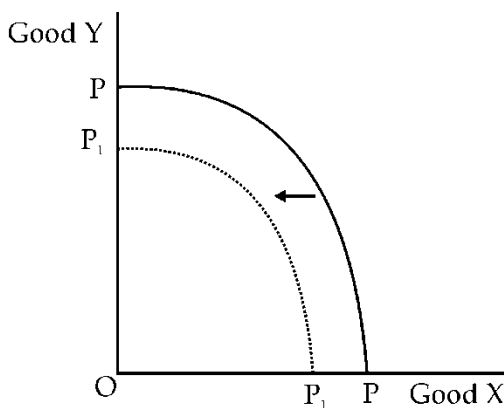


# MARKING SCHEME

## Section A: Microeconomics

1. c) (1)
2. - Give subsidies to reduce price.  
- Undertake health campaigns to promote the positive effects of milk consumption.  
(Any 1) (1)
3. c) (1)
4. If the river Kosi causes widespread floods in Bihar, it will lead to destruction of resources in Bihar. This will shift the PPC leftward. (2)



Initial PPC is PP.

With floods, the PPC will shift to P<sub>1</sub>P<sub>1</sub>

(1)

5. The central problems of an economy are:
  - (i) What to produce and in what quantity? (1)
  - (ii) How to produce? (1)
  - (iii) For whom to produce? (1)
6. (a) False: Average product rises as long as marginal product is greater than average product. Here marginal product could be rising or falling. (1½)
- (b) False: Total cost rises at a diminishing rate when marginal cost falls and total cost rises at an increasing rate when marginal cost increases. (1½)
7. 'Price ceiling' is the maximum price that sellers can legally charge for a product or a service. (1)

Since this price is below equilibrium price, there is excess demand in the market. With shortages, sellers tend to hoard the product. It could also lead to black marketing. (2)

OR

'Price floor' is the minimum price fixed by the government at which sellers can legally sell their product. (1)

Since this price is above equilibrium price, there is excess supply in the market. Since there is surplus, sellers can attempt to sell their product at a price below the floor price. (2)

8. Freedom of entry and exit of firms under perfect competition means that there are no costs or barriers a firm faces to enter or exit the market. The implication of this is that in the long run each firm earns only normal profit.

Suppose in the short run, existing firms are earning super normal profits, new firms enter the industry as they are attracted by profits. This raises the market supply and reduces the market price. As firms accept the lower market price, profits reduce. This process continues till profits reduce to normal levels in the long run.

The opposite occurs if firms are earning losses as firms leave the industry. This reduces market supply and raises market price till losses get wiped out and firms earn only normal profit in the long run. (3)

9. Yes, the same good can be inferior for one person and normal for another. Whether a good is normal or inferior is determined by the income level of the consumer. A good which is a normal good for a consumer with a lower income, may become an inferior good for a consumer with higher income. (2)

For example, coarse cloth may be a normal good for a low income consumer, but for a high income consumer it may be an inferior good as she can afford a better quality cloth.

Thus, when a consumer moves to a higher income level, she may consider coarse cloth as being below their income status, and has the ability to buy more expensive fine cloth, thus considering coarse cloth as being inferior. (2)

10. An indifference curve is convex to the origin due to diminishing marginal rate of substitution (MRS). Diminishing MRS means that the number of units of 'Good Y' that a consumer wants to substitute for one extra unit of 'Good X' goes on decreasing as the consumption of Good X increases. As consumption of Good X increases, the willingness to pay for it diminishes (due to the law of diminishing marginal utility). This payment is

in terms of the units of Good Y sacrificed. Thus, MRS diminishes along an indifference curve, which makes it convex to the origin. (4)

OR

If  $MU_x/P_x$  is greater than  $MU_y/P_y$ , then it means that the satisfaction a consumer derives from spending a rupee on Good x is greater than the satisfaction derived from spending a rupee on Good Y. (1)

The consumer will relocate her income – substitute Good X for Good Y. (1)

As the consumption of Good X increases its marginal utility will fall. As the consumption of Good Y decreases, its marginal utility will increase. This is due to the law of diminishing marginal utility. (1)

This process will continue till  $MU_x/P_x$  becomes equal to  $MU_y/P_y$  and the consumer is in equilibrium. (1)

11. Suppose the firm produces at an output level where  $MC < MR$ .

- This means that the firm's cost incurred on the last unit is less than the revenue earned on the unit.
- Firm earns a profit on the last unit.
- This incentivizes the firm to produce more output.

Suppose the firm produces at an output level where  $MC > MR$  (2)

- This means that the firm's cost incurred on the last unit is more than the revenue earned on it.
- Firm makes a loss on the last unit.
- This incentivizes the firm to produce less output. (2)

Thus, a firm earns maximum profit where  $MC = MR$ . Should  $MC = MR$  occur at more than one output level, then the firm maximizes profit if  $MC > MR$  after the output where  $MC = MR$ . If not, then  $MC < MR$  and it is in the firm's interest to produce more to maximize profit. (1)

Thus, profit for a firm is maximized at an output where: (1)

(a)  $MC = MR$

(b)  $MC > MR$  after the output where  $MC = MR$ .

12. **Change in quantity supplied** means when more is supplied at a higher price (expansion) or when less is supplied at a lower price (contraction). It leads to an upward or downward movement along the supply curve.

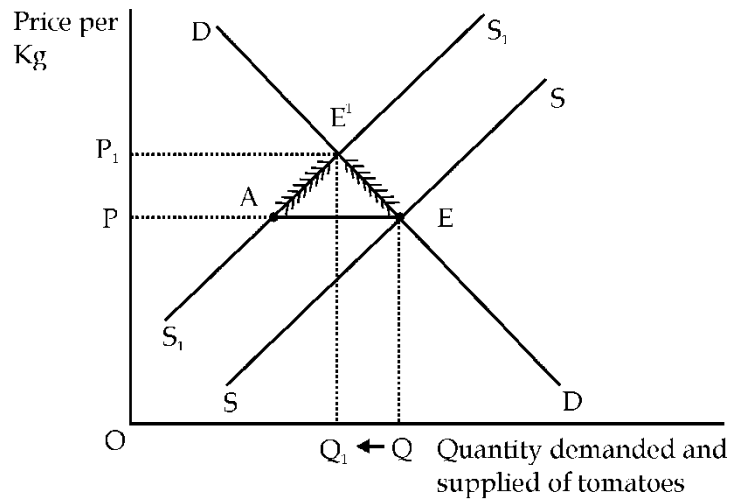
It is caused due to a change in the own price of the commodity, other factor affecting supply are held constant. (3)

**Change in supply** means more is supplied at the same price (increase) or less is supplied at the same price (decrease).

It leads to a rightward or leftward shift of the supply curve.

It is caused due to a change in other factors affecting supply and not a change in the own price of the commodity. (3)

13.



(1)

When the tomato crop was damaged in Himachal the supply of tomatoes decreases. This means that the supply curve shifts leftward to  $S'S'$ . (1)

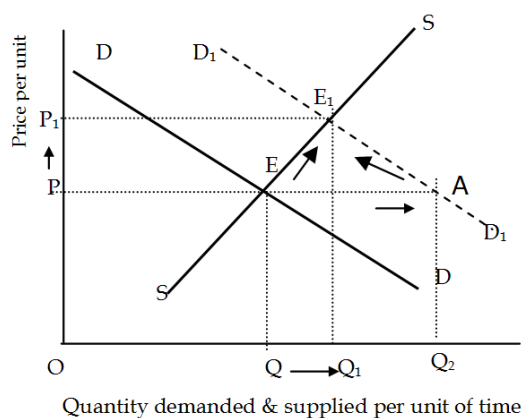
At the prevailing market price ( $OP$ ), there was an excess demand of  $AE$ . In this situation, buyers would have competed to raise the market price. As market price would have risen, quantity demanded of tomatoes would have contracted and the quantity supplied would have expanded. This process would have continued till a new equilibrium price was reached at  $OP_1$ , where market demand is equal to market supply.  $OP_1$  is higher than the old price of tomatoes. (3)

This explains how prices in Delhi rose when the tomato crop got damaged in Himachal. (1)

OR

(1)

When the price of apples and grapes rises, consumers will substitute with these fruits with the relatively cheaper oranges. Thus, demand for oranges will increase and the demand curve shifts rightwards to  $D'D'$ . (1)



At the prevailing market price ( $OP$ ), there was an excess demand of  $AE$ . In this situation, buyers would react by competing with each other and raise the market price. As market price rises, quantity demanded of oranges contracts and the quantity supplied expands. This process will continued till a new equilibrium price is reached at  $OP_1$ , where market demand is equal to market supply.  $OP_1$  is higher than the old price of oranges. (3)

Therefore, the equilibrium price of oranges increases and the equilibrium quantity also increases when the price of apples and grapes rises in Southern India. (1)

14. Let a consumer consume Good X and Good Y. A consumer attains equilibrium when:

1)  $MRS_{XY} = \frac{P_X}{P_Y}$

2)  $MRS_{XY}$  must be decreasing due to the law of diminishing marginal utility. (1)

$MRS_{XY}$  is the number of units of Good Y a consumer is willing to sacrifice for an extra unit of Good X.

$\frac{P_X}{P_Y}$  is the ratio of prices that prevail in the market and gives the actual units of Good Y that need to be sacrificed to obtain an extra unit of Good X in the market. (1)

Suppose  $MRS_{XY} > \frac{P_X}{P_Y}$

- It means that the consumer is willing to sacrifice more of Good Y than she needs to give up actually in the market for an extra unit of Good X.
- The consumer gains and increases consumption of Good X.
- As consumption of Good X increase, its marginal utility declines.
- Thus, the willingness to pay for additional units of Good X (in terms of Good Y) falls.
- Process continues till  $MRS_{XY} = \frac{P_X}{P_Y}$  (2)

Suppose  $MRS_{XY} < \frac{P_X}{P_Y}$

- It means that the consumer is willing to sacrifice less of Good Y than is actually required in the market for as extra unit of Good X.
- The consumer loses and reduces the consumption of Good X.
- As consumption of Good X decreases, its marginal utility increases.
- Thus,  $MRS_{XY}$  increases.
- The process continues till  $MRS_{XY} = \frac{P_X}{P_Y}$  (2)

## Section B: Macroeconomics

15. a) (1)
16. Repo rate or repurchase rate is the rate at which commercial banks borrow money from the Central Bank for a short period by selling their financial securities to the Central Bank. (1)
17. b) (1)
18. c) (1)
19. b) (1)
20. The role of the Central Bank in maintaining the foreign exchange rates under different regimes is:

- a) Fixed exchange rate system: A Central Bank actively uses its foreign currency reserves to maintain the officially determined exchange rate. (1)
- b) Floating exchange rate system: A Central Bank does not maintain any reserves of foreign currency as the market automatically adjusts to determine the market driven exchange rate. (1)
- c) Managed Floating: A Central Bank enters the foreign exchange market to buy/sell foreign currency in order to control fluctuations and volatility in the market.(1)

21. At equilibrium  $AD = Y$

$$AD = C+I = Y \quad (1)$$

$$80+0.4Y+100 = Y$$

$$0.6Y = 180$$

$$Y = \frac{180}{0.6} = 300 \quad (1)$$

Since the given income of 400 is greater than equilibrium level of income, the economy is not at equilibrium. It is at a situation where aggregate demand is greater than the aggregate output produced in the economy. (1)

**OR**

At equilibrium  $AD = C + I = Y \quad (1)$

$$I = 60$$

$$C = C_0 + bY = C_0 + 0.8Y$$

If equilibrium level of income is 400, then  $C = C_0 + 0.8 \times 400 = C_0 + 320$

$$\text{Thus, } 60 + C_0 + 320 = 400$$

$$C_0 = 20 \quad (1)$$

The given value of autonomous consumption is incorrect. The correct value is 20.(1)

22. Suppose planned saving is higher than planned investment. It means that households are not consuming as much as the firms had anticipated. In other words, planned output is greater than planned demand.

As a result, producers see a rise in their inventory level, beyond the planned level. To bring back inventory to the planned level, producers cut down production. This reduces aggregate output. The process continues till aggregate demand equals the output produced in the economy i.e. planned investment becomes equal to planned saving.

(3)

23.

Year	Physical Output (Units)	Market Price Per Unit (Rs.)	Real GDP (Rs) Using base Year Prices	Nominal GDP (Rs.) Using Current Year Price
2012	100	50	5000	5000
2013	110	55	5500	6050

(1)

(1)

Percentage change in:

$$\text{Real GDP} = \frac{\Delta \text{ in real GDP}}{\text{Base year real GDP}} \times 100 = \frac{500}{5000} \times 100 = 10\% \quad (1)$$

$$\text{Normal GDP} = \frac{\Delta \text{ in nominal GDP}}{\text{Base year nominal GDP}} \times 100 = \frac{1050}{5000} \times 100 = 21\% \quad (1)$$

24. Balance of payment account records the inflows and outflows of foreign exchange of a country during a period of time. (1)

'Balance of Trade' is the difference between exports of goods and imports of goods i.e. between visible inflows and visible outflows of foreign exchange. 'Balance on current account' is the difference between the sum of both visible and invisible (Service, income and transfers) inflows and outflows of foreign currency. (2)

Remittances from family members from abroad is accounted for under unilateral transfers of the current account. (1)

25. The various components that are used under the income method to calculate national income are:

i) Compensation of employees which includes - wages and salaries in cash and kind and employers' contribution to social security benefits. (1)

ii) Operating surplus - which includes rent and royalties, interest and profit earned by a firm. (1)

iii) Mixed income of self employed which includes any income that has 2 or more factor income, which cannot be accounted for separately. (1)

iv) Net factor income from aboard, which in the difference between factor income from aboard and factor income to abroad. (1)



**OR**

The precautions that need to be kept in mind when using the value added method of calculating national income are:

- i) Avoid double counting of goods and services as these tend to inflate national income estimates.
- ii) Do not include the value of second hand goods being sold as their value was accounted for at the time of first production.
- iii) Include imputed value of own account production in total output as output has been produced.
- iv) Include the imputed value of owner occupied dwellings as houses provide housing services. (1×4=4)

26. Excise duty - Indirect tax

Indirect tax is a tax where the payer and the bearer of the tax are different people.(1)

Income tax - Direct tax

Direct tax is a tax where the payer and bearer of the tax is the same person. (1)

Besides the objective of raising more revenue, the proposals also serve some welfare objectives. Firstly, raising excise duty on cigarettes will make them more expensive. The price rise is expected to discourage cigarette smoking, which will positively impact the health of people and raise their welfare.

Secondly, raising income tax on income above Rs. one core will reduce the gap between the rich and poor people. In other words, income inequalities will reduce.

Thirdly, the extra revenue raised from these proposals could be spent on health education and other welfare enhancing schemes to improve the welfare of the poor.

(4)

27.

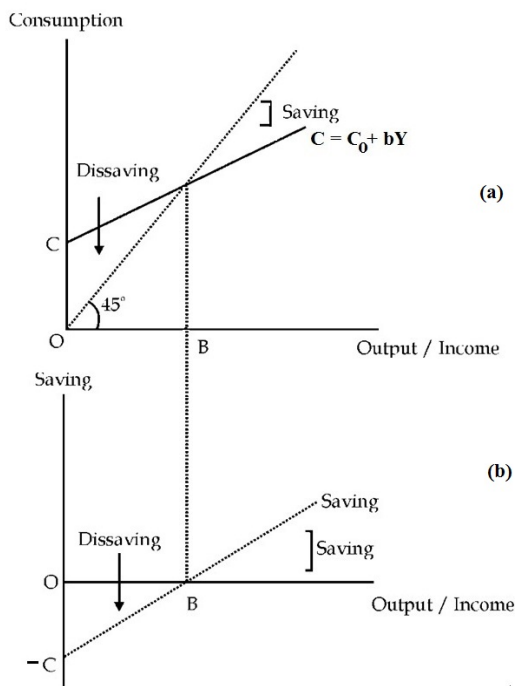


Diagram (a) gives a straight line consumption curve.

$$\text{Consumption (c) + saving (s) = income (Y)} \quad (1)$$

At zero level of income, there is an autonomous consumption of OC. The corresponding saving at this income level is (-)OC. The saving curve starts at (-)C. (1)

At the income level OB, where the 45° reference line intersects the consumption curve, C=Y. At this income level, saving is equal to zero. Thus, we get point B on the x-axis of the saving curve. (1)

By connecting (-)C and B, we get the saving curve.

- At income level OB,  $APC = 1$  as  $APC = \frac{c}{Y}$  and at the income level  $C = Y$ . (1)
- A level of income at which APS is negative is any level of income less than OB.  $APS = \frac{s}{Y}$  and here saving is negative. (1)

28. Cash reserve ratio is the ratio of bank deposits that commercial banks must keep as reserves with the Central Bank. (1)

When CRR falls, commercial banks keep lower reserves with the Central Bank. This releases funds that were earlier held with the Central Bank for commercial banks to lend. As lending increases, the money creation in the economy expands and money supply in the economy increases. (2)

Open market operations refers to the sale and purchase of government securities by the Central Bank in the open market. (1)

When there is a need to reduce the money supply in the economy, the Central Bank starts selling government securities. Those who buy make payments by cheques to to the central bank. The money flows from commercial banks to the Central Bank. This reduces the deposits held by commercial banks. This reduces money supply as well as the money creation power of the commercial banks. (2)

29. (a) National income using expenditure method:

$$\begin{aligned}
 & \text{(ii) + (vi) + (iv) + (vii) - (viii) - (x) + (iii) - (v)} && (1\frac{1}{2}) \\
 & 200 + 50 + 40 - 10 + 20 - 60 + 20 - 10 && (1) \\
 & = \text{Rs 250 crores} && (\frac{1}{2})
 \end{aligned}$$

(b) Gross National disposable income

$$\begin{aligned}
 & \text{National income + (ix) + (x) - (iii) + (i)} && (1\frac{1}{2}) \\
 & = 250 + 30 + 60 - 20 + 5 && (1) \\
 & = \text{Rs 315 crores} && (\frac{1}{2})
 \end{aligned}$$

**OR**

(a) Private Income

$$\begin{aligned}
 & \text{(i) + (iv) + (viii) + (ix)} && (1\frac{1}{2}) \\
 & = 350 + 10 + 15 + 25 && (1) \\
 & = \text{Rs 400 crores} && (\frac{1}{2})
 \end{aligned}$$

(b) National Income

$$\begin{aligned}
 & \text{Private income + (vii) - (x) + (ii) + (iii)} && (1\frac{1}{2}) \\
 & = 400 + 20 - 30 + 25 + 50 && (1) \\
 & = \text{Rs 465 crores} && (\frac{1}{2})
 \end{aligned}$$

**For Blind Candidates**

3. b) (1)

4. Assumptions of PPC:

- Resource available are fixed.

- Technology remains unchanged
- Resource are fully employed
- No resource is equally efficient in production of all goods.

(Any 2)

(1)

Rest of the answer same as answer 4 but without the diagram.

13. No diagram required. Explanation is the same.  
(Adjust the 1 mark for diagram in the explanation)

**OR**

No diagram required. (Adjust 1 mark for diagram in the explanation)

27. Meaning of multiplier (2)

Working of multiplier (4)