

**COMMON PRE-BOARD EXAMINATION 2017-2018**  
**ECONOMICS**  
**Marking Scheme**

**CLASS: XII**

**Time Allowed: 3 hours**

**Maximum Marks: 80**

**SECTION:A**

- 1 How is law of demand expressed functionally? 1
- a)  **$D_x = f(P_x)$ , ceteris paribus**
  - b)  $D_x = f(P_z)$ , ceteris paribus
  - c)  $D_x = f(Y)$ , ceteris paribus
  - d)  $D_x = f(T)$ , ceteris paribus
- 2 A firm is operating with a Total Variable Cost of ₹ 2000 when 5 units of the given output are produced and the Total Fixed Costs are ₹ 800, what will be the Average Total Cost of producing 5 units of output? 1
- a) **560**
  - b) 520
  - c) 400
  - d) 500
- 3 Law of variable proportion holds on when: 1
- a) State of technology is same
  - b) All units of variable factor are homogeneous
  - c) There is at least one fixed factor
  - d) **All of the above**
- 4 Elasticity of supply is greater than one when 1
- a) **Proportionate change in quantity supplied is more than the proportionate change in price.**
  - b) Proportionate change in price is greater than the proportionate change in quantity supplied.
  - c) Change in price and quantity supplied are equal.
  - d) None of them
- 5 Explain the law of diminishing marginal utility with the help of a total utility schedule. 3

**OR**

Explain the conditions of consumer's equilibrium with the help of utility analysis.

The law of diminishing marginal utility states that as a consumer consumes more and more units of a good, marginal utility from each successive unit consumed goes on falling. (1 mark)

As is shown in the following schedule.(2 marks)

Units consumed	1	2	3	4
Total utility	10	18	24	28
Marginal utility	10	8	6	4

**OR**

The two conditions are : (2marks)

(i) The ratio of marginal utility to price is same in case of all the goods consumed. Suppose the consumer consumes only two goods X and Y, then

$$\frac{Mux}{Px} = \frac{Muy}{Py}$$

(ii) Marginal utility has a tendency to fall as more and more units are consumed.

(1mark)

- 6 When the Price of a good rises from ₹ 40 per unit to ₹ 60 per unit, the revenue of the firm producing this good rises from ₹ 200 to ₹ 600. Calculate the price elasticity of supply. 3

Price	Total revenue	Quantity supplied (1 mark)
40	200	5
60	600	10

$$Es = \frac{\Delta Q}{\Delta P} \times \frac{P}{Q} \text{ (1/2 mark)}$$

$$= \frac{5}{10} \times \frac{20}{5} \text{ (1/2 mark)}$$

$$= 2$$

(No marks to be awarded if only the final answer is given)

- 7 Giving reason state whether the following statements are true or false. 4
- a) Equilibrium between demand and supply helps in determining prevailing price of the product (False. An equilibrium between demand and supply determines only equilibrium price). ( $\frac{1}{2} \times 1 \frac{1}{2}$  marks)
- b) Equilibrium price will not change if decrease in demand meets with proportionate decrease in supply (True. If the both changes are proportionately equal price will not change). ( $\frac{1}{2} \times 1 \frac{1}{2}$  marks)
- 8 Why is the equality between marginal cost and marginal revenue necessary for a firm to be in equilibrium? Explain with a schedule. 4

**OR**

Explain how the following factors affect the supply of the commodity (any two)

- a) Price of factor inputs b) State of technology c) Government taxation Policy

The conditions are: (i)  $MC = MR$  (ii)  $MC > MR$  after equilibrium. (1 mark)

Schedule **2 marks**

Output (units)	Marginal cost	Marginal revenue
1	12	10
2	10	10
3	9	10
4	10	10 equilibrium
5	12	10

4 units is the equilibrium output at which both the conditions are satisfied. (1 mark)

**OR**

Explain how the following factors affect the supply of the commodity (any two)

b) Price of factor inputs b) State of technology c) Government taxation  
Policy

Supply of a commodity is affected by following factors:

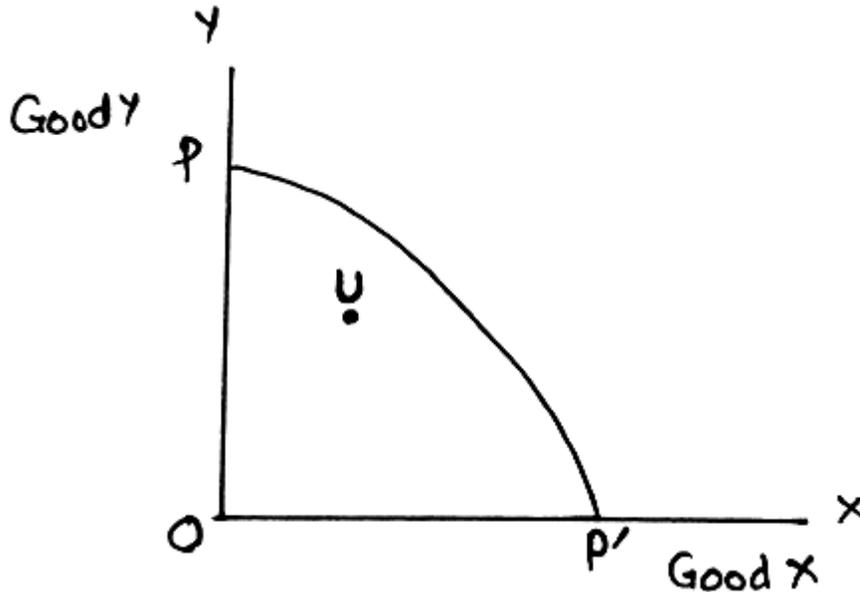
a) Price of factor Inputs: If factor input price increases, cost of production generally rises, accordingly producers are willing to supply less at the existing price as the profit probability decreases. This implies leftward shift in supply curve and vice-versa, keeping other factors constant.

b) State of Technology: Improvement in technique of production raises productivity and generally lowers per unit cost of production, consequently the probability to earn more profit also increases and hence the producer is induced to supply more, as a result supply curve shifts towards right.

c) Government Taxation Policy: If government increases taxes, it will affect the cost of production adversely and hence supply decreases. But if Government decreases the tax the cost of production will fall and the producer will be induced to increase the supply of the commodity, ceteris paribus

- 9      Production in an economy is below its potential due to unemployment. Government starts employment generation schemes. Explain its effect using production possibilities curve.      4

**Graph 1 mark**



Production below the potential means that total production in the economy is somewhere below the production possibility curve  $PP'$ , for example at point  $U$  in the diagram. (1 mark)

When government starts employment generation schemes, and since the below potential production is due to unemployment, the economy moves forward in its attempt to remove unemployment and reach the potential. The movement forward is towards the  $PP'$  curve. (2marks)

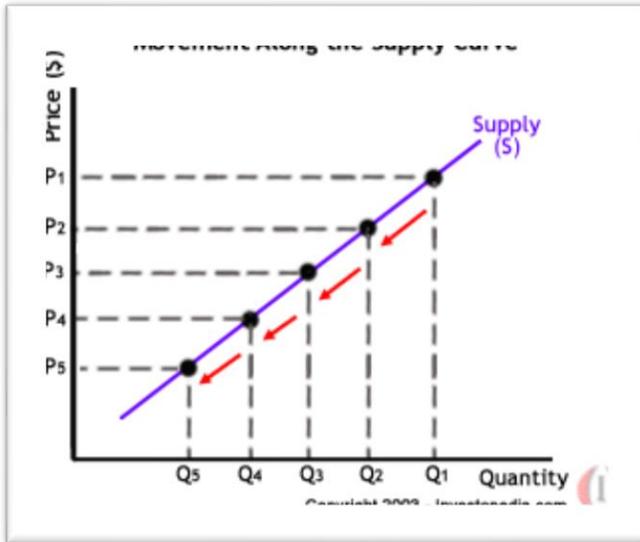
**(Any other individual response with suitable justification should also be accepted even if there is no reference to the text)**

- 10 Explain the distinction between “change in quantity supplied” and “change in supply”. 6

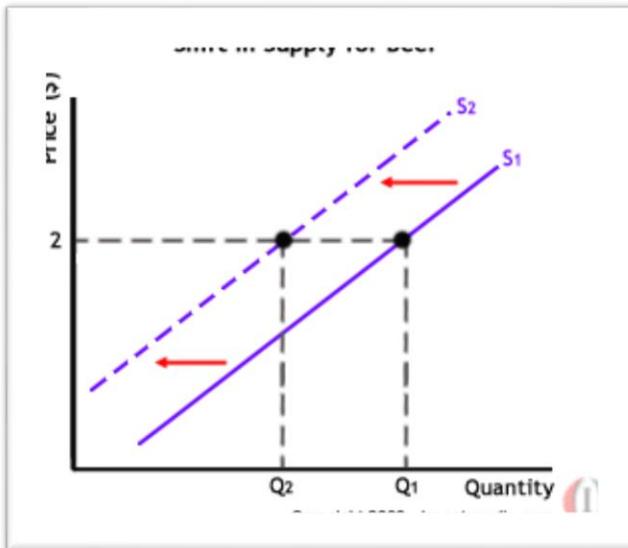
Use diagram

A movement occurs when a change in quantity supplied is caused only by a change in price, and vice versa. A shift in a demand or supply curve occurs when a good's quantity demanded or supplied changes even though price remains the same (2 marks)

A movement occurs when a change in quantity supplied is caused only by a change in price, and vice versa.(1 mark graph)



A shift in the supply curve implies that the original supply curve has changed, meaning that the quantity supplied is effected by a factor other than price. A shift in the supply curve would occur. ( 2 marks)  
 (1 mark graph)



11 Suppose the demand and supply curves of salt are given by:

6

$$q_d = 1000 - p$$

$$q_s = 700 + 2p$$

- Find the equilibrium price and quantity
- Now suppose that price of an input used to produce has increase so that the new supply curve is  $q_s = 400 + 2p$ . How does the equilibrium price and quantity change?

- c) Suppose the government is imposed a tax of ₹ 3 per unit on sale of salt. How does it affects the equilibrium price and quantity?

**OR**

Suppose the value of demand and supply curves of a Commodity-X is given by the following two equations simultaneously:

$$Q_d = 200 - 10p, \quad Q_s = 50 + 15p$$

- i) Find the equilibrium price and equilibrium quantity of commodity X.
- ii) Suppose that the price of a factor inputs used in producing the commodity has changed, resulting in the new supply curve given by the equation  $Q_s' = 100 + 15p$

Analyse the new equilibrium price and new equilibrium quantity as against the original equilibrium price and equilibrium quantity.

Solution:

- a. At Equilibrium,  $q_d = q_s$   
 It means  $1000 - p = 700 + 2p$  ( ½ mark)  
 $1000 - 700 = 2p - p$  ( ½ mark)  
 $P = ₹ 100$  ( ½ mark)  
 $Q_d = 1000 - 100 = 900$  units ( ½ mark)  
 Equilibrium price = ₹ 100 and quantity = 900 units
- b. New supply curve  $q_s' = 400 + 2p$   
 $1000 - p = 400 + 2p$  ( ½ mark)  
 $1000 - 400 = 2p + p$  ( ½ mark)  
 $600 = 3p$  ( ½ mark)  
 $P = ₹ 200$   
 New quantity =  $1000 - 200 = 800$  units ( ½ mark)
- c.  $Q_s = 700 + 2(p - 3)$  ( ½ mark)  
 $= 700 + 2p - 6$  ( ½ mark)  
 $= 694 + 2p$   
 $= q_d = q_s, 1000 - p = 694 + 2p, 1000 - 694 = 2p + p$  ( ½ mark)  
 $= 306/3$   
 $P = ₹ 102$   
 Eui price = ₹ 102 and quantity falls 898 units ( ½ mark)

**OR**

Suppose the value of demand and supply curves of a Commodity-X is given by the following two equations simultaneously:

$$Q_d = 200 - 10p, \quad Q_s = 50 + 15p$$

- i) Find the equilibrium price and equilibrium quantity of commodity X.
- ii) Suppose that the price of a factor inputs used in producing the commodity has changed, resulting in the new supply curve given by the equation  $Q_s' = 100 + 15p$

Analyse the new equilibrium price and new equilibrium quantity as against the original equilibrium price and equilibrium quantity.

Solution:

- (i) We know that the equilibrium price and quantity are achieved at;

$$Q_d = Q_s$$

$$200 - 10p = 50 + 15p \quad (1 \text{ mark})$$

$$150 = 25p \quad (\frac{1}{2} \text{ mark})$$

Therefore, Equilibrium Price  $p = 6$  ( $\frac{1}{2}$  mark)

And, Equilibrium Quantity  $q = 200 - (10)(6) = 140$  units ( $1 \text{ mark}$ )

ii) If the price of factor of production has changed, then under the new conditions;

$$Q_d = Q_s$$

$$200 - 10p = 100 + 15p \quad (1 \text{ mark})$$

$$25p = 100 \quad (\frac{1}{2} \text{ mark})$$

Therefore, Equilibrium Price  $p = 4$  ( $\frac{1}{2}$  mark)

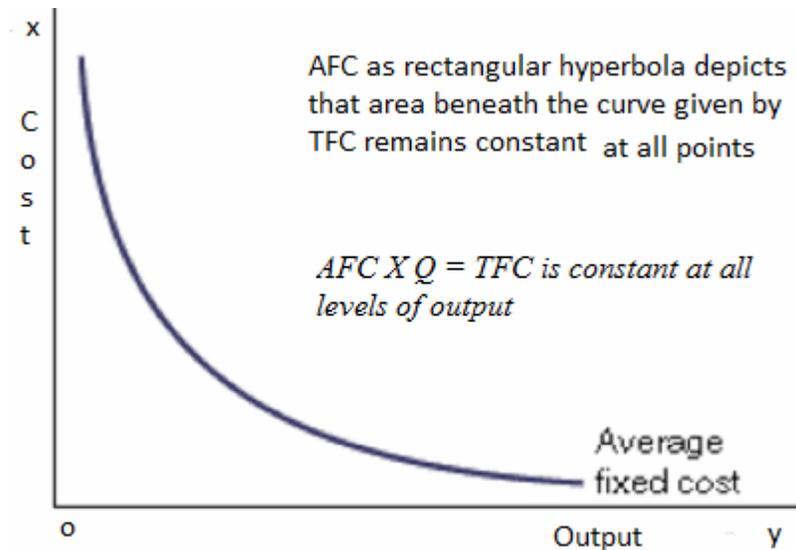
And, Equilibrium Quantity  $q = 200 - (10)(4) = 160$  units ( $\frac{1}{2}$  mark)

Thus as the equilibrium price is decreasing the equilibrium quantity is increased. ( $\frac{1}{2}$  mark)

- 12      a) Why is Total Variable Cost curve inverse S- shaped? 2 & 4  
 b) What is Average Fixed Cost of a firm? Why is an Average Fixed Cost Curve a rectangular Hyperbola? Explain with help of a diagram.

a) Total Variable Cost is zero at zero level of output. It initially increases at decreasing rate and later it increases at increasing rate. TVC is an inversely S-shaped curve due to the Law of Variable Proportion. (2 marks)

b) Per unit fixed cost is known as Average Fixed Cost. As the value of Total Fixed Cost doesn't vary at any level of output in short run and if it is divided by an incremental number the result would be diminishing with the same proportion as that of the proportion of increase of the number of units and the product will be same. (4marks)



Since TFC remains same at different levels of output, AFC falls as the level of output is increased.

The AFC keeps on falling as the level of output increases. AFC can never become zero.

### SECTION: B

- 13 The exchange rate determined by the free play of the forces of demand and supply of foreign exchange is: 1  
 a) **Flexible exchange rate**  
 b) Fixed exchange rate  
 c) Managed floating  
 d) None
- 14 State one fiscal measure that can be used to reduce the gap between rich and poor. 1  
 Increasing the investment expenditure which will directly benefit the poor.  
 b. Increasing the taxes on rich and using the same amount to benefit the poor.  
 (any one or any other relevant measures)
- 15 Current transactions are of \_\_\_\_\_ nature. 1  
 a) Stock  
 b) Flow  
 c) Both flow and stock  
 d) None of the above
- 16 If disposable income is ₹ 1000 and saving is ₹ 250 find Average Propensity to consume. 1  
 a) **75%**  
 b) 20%  
 c) 50%  
 d) 10%
- 17 Calculate Gross Value Added at Market Price from the following: 3

ITEMS	Rs. in lakhs
a. Intermediate cost	16
b. Closing stock	10
c. Sales	60
d. Net Indirect Taxes	12
e. Subsidy	2
f. Depreciation	6
g. Opening stock	8

**GVAMP = Sales+ closing stock-opening stock- intermediate cost=Rs. 46 lakhs**

- 18 Explain the effects of appreciation of domestic currency on exports. 3

**OR**

Explain the effects of appreciation of domestic currency on imports.

Appreciation of domestic currency takes place when the price of foreign currency in terms of domestic currency falls. This makes exports costlier. It is because the foreign buyers now get less quantity of goods from the domestic economy by paying the same amount of foreign exchange.

This reduces demand for exports.

**OR**

Appreciation of domestic currency takes place when the price of foreign currency in terms of domestic currency falls. This makes imports cheaper. It is because the importers now get more imports by paying the same amount of domestic currency. This raises demand for imports.

- 19 How will 'Reverse Repo Rate' and 'Open Market Operations' control excess money supply in an economy? 4

**OR**

Illustrate with the help of a hypothetical numerical example the process of credit

Reverse Repo rate is the rate at which Central Bank borrows money funds commercial banks.

Increase in Reverse Repo Rate induces banks to transfer more funds to Central Bank and reduces banks' ability to create credit.

Open Market Operations refers to buying and selling of government securities by Central Bank from/to public and commercial banks. Sale of such securities reduces the reserve of commercial banks and adversely affects bank's ability to create credit and hence decreases the money supply in the economy.

**OR**

The credit creation by commercial banks is determined by amount of initial deposit and the legal reserve ratio.

Suppose customer deposits 1000 in bank. Bank has to pay interest on this amount for which bank should lend this money to someone. A part of the amount is to be retained with bank to meet its customer's obligations. Say, if LRR is 20%, the banks will keep 20% of deposits as reserves and will lend remaining 80% i.e. 800. Those who borrow will spend this money and same 800 will come back to banks in form of deposits. This raises the total deposits to 1,800 now. Banks again keep 20% of 800 as reserve and lend 640 to those who needs. This will further raise the deposits with banks. In this way deposits will go on increasing @ 80% of the last deposit. The number of times the total deposit will become, is determined by money multiplier i.e.  $1/LRR = 1/0.2 = 5$  times.

Total deposits will be Initial Deposits X Money Multiplier =  $1000 \times 5 = 5,000$

- 20 Find (a) fiscal deficit and (b) primary deficit from the following: (₹Crore) 4  
Revenue expenditure = ₹ 70,000

Borrowings = ₹15,000  
Revenue receipts = ₹ 50,000  
Interest payments = 25% of revenue deficit.

- (a) Fiscal deficit = Borrowings = Rs.15000 crore. (1mark)  
(b) Primary deficit = Fiscal deficit – Interest payments (1 mark)  
=15000 – 25% of (70000 – 50000)  
=15000 – 25% of 20000 (1mark)  
= 15000 – 5000 = Rs.10000 crore. (1mark)

- 21 What does the Balance of Payments Account record? Distinguish between the “balance on current account” and the “balance of trade” in this account. 4

Balance of Payment Account records inflows and outflows of foreign exchange during a period of time. (1mark)

“Balance of trade” is the difference between exports of goods and imports of good i.e. between visible inflows and visible outflows of foreign exchange. On the other hand “Balance on Current Account” is the difference between the sum of both visible and invisible (Services, incomes and transfers) inflows and outflows of foreign exchange. (3marks)

- 22 State whether the following statements are true or false. Give valid reasons for your answers. 6

- (i) Unplanned inventories accumulate when planned investment is less than planned saving.  
(ii) Deflationary gap exists when aggregate demand is greater than aggregate supply at full employment level.  
(iii) Average propensity to save can never be negative.

i) True, as planned savings are more causing the Marginal Propensity to Consume to reduce thus Aggregate Demand will fall and producers will have accumulation of inventory.(2marks)

ii) False, Inflationary Gap exists when actual Aggregate Demand is more than Aggregate Supply corresponding to full employment level of output in the economy.(2marks)

iii) False, at income levels which are lower than break-even point, Average propensity to save can be negative as there will be dissaving in the economy.(2marks)

- 23  $C=100 + 0.4Y$  is the Consumption Function of an economy where C is Consumption Expenditure and Y is the National Income. Investment Expenditure is ₹1100. Calculate: 6

- i. Equilibrium level of National Income

ii. Consumption Expenditure at equilibrium level of National Income.

**OR**

In an economy saving function is  $S = -200 + 0.25Y$ . The economy is in equilibrium when income is equal to Rs. 2000. Calculate

(a) Investment expenditure at equilibrium level of income.

(b) Autonomous consumption

(c) Multiplier

(i)  $Y = C + I$  (1/2 mark)

$$Y = 100 + 0.4Y + 1100 \text{ (1 mark)}$$

$$0.6Y = 1200 \text{ (1/2 mark)}$$

$$Y = ₹ 2000 \text{ (1/2 mark)}$$

(ii)  $C = 100 + 0.4Y$  (Given) (1/2 mark)

$$100 + (0.4 \times 2000) \text{ (1}\frac{1}{2}\text{ mark)}$$

$$100 + 800 \text{ (1/2 mark)}$$

$$= ₹ 900 \text{ (1/2 mark)}$$

(No marks if only the final answers are given)

**OR**

**Solution:** a) Investment expenditure at equilibrium level of income.

Given,

$$Y = \text{Rs. } 2000, S = -200 + 0.25Y \text{ (1/2 mark)}$$

$$S = I \text{ (1/2 mark)}$$

$$\text{Saving function} = -200 + 0.25(2000) \text{ (1 mark)}$$

$$= -200 + 500 \text{ (1/2 mark)}$$

$$S = \text{Rs. } 300 \quad I = \text{Rs. } 300 \text{ (1/2 mark)}$$

(b) Autonomous consumption means the level of consumption expenditure when income is zero.

When  $Y = 0$ , Savings = -200 (negative). So autonomous consumption (positive) = Rs. 200. (1 mark)

(c) Multiplier: 0.25 is MPS. (1/2 mark)

$$k = \frac{1}{MPS} \quad k = \frac{1}{0.25} \text{ (1 mark)}$$

$$k = 4 \text{ (1/2 mark)}$$

- 24 From the following data relating to a firm (a) estimate the net value added at market prices (b) show that net value added at factor cost is equal to the sum of factor incomes:

6

Items	₹crore
Purchase of Raw materials and other inputs	1200
Increase in Stocks	400
Domestic Sales	3600
Imports of raw material	200
Exports	400
Depreciation of fixed capital	150
Salaries and wages	1200
Interest payments	900
Rent	150
Dividends	300
Undistributed Profit	160
Corporate profit tax	40
Indirect Taxes	100

**Net Value added at market price=**

Domestic Sales+ Increase in stocks+ Exports- Purchase of raw materials and other inputs – Imports of Raw materials-Depreciation of fixed capital

$$= 3600 + 400 + 400 - 1200 - 200 - 150$$

$$= ₹ 2850 \text{ crore}$$

**Net Value Added At Factor Cost**

= Net Value added at market prices- Indirect Taxes

$$= 2850 - 100$$

$$= ₹ 2750 \text{ crore}$$

**Factor Income**

= Salaries and wages+Interest +Rent+Dividends+UndistributedProfits+Corporate Profit Tax

$$= 1200 + 900 + 150 + 300 + 160 + 40$$

$$= ₹ 2750 \text{ crore}$$

**BEST OF LUCK**