

Week 04 – Mock Paper

1.

i. **What are the main determinants of supply? And what factors are held constant when moving along the supply curve? (4 marks)**

- Main determinants of supply are, (Any 4 points 3 marks)
 1. Price of the concerned good.
 2. Price of inputs used to produce the concerned good.
 3. Technology
 4. Price of related goods
 5. Producer expectations
 6. Number of producers in the market
 7. Government policies
 8. Other factors
- All of the determinants of supply, except price of the concerned good are held constant when moving along the supply curve. (01 mark)

ii. **Explain the differences between what causes a movement along an aggregate supply curve and a shift in an aggregate supply curve. (4 marks)**

Movement along an AS curve:

This is caused by a change in the price level.

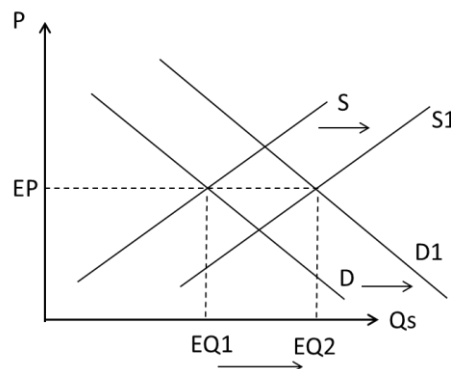
NOTE: It could also be caused by a change in the AD curve and there is a movement along an AS curve to restore the equilibrium in the market.

Shift in an AS curve:

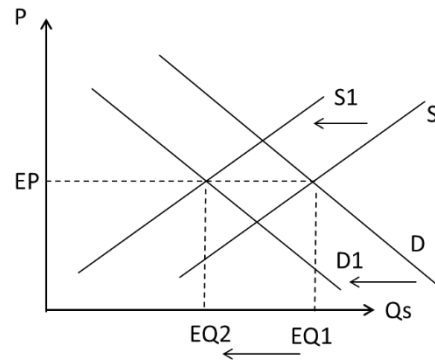
This is caused by any reason other than a change in the price level, e.g. a change in the costs of factors of production, a change in the taxes on firms, a change in the productivity/quality of inputs or a change in the quantity of resources

iii. **Using appropriate diagrams explain following situations.**

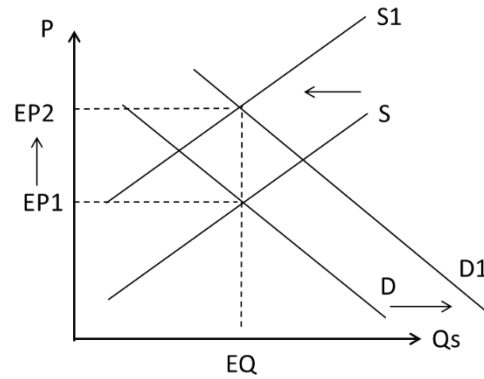
a. **As a result of a change in both demand and supply curves equilibrium quantity has increased but equilibrium price remains unchanged. (01 Mark)**



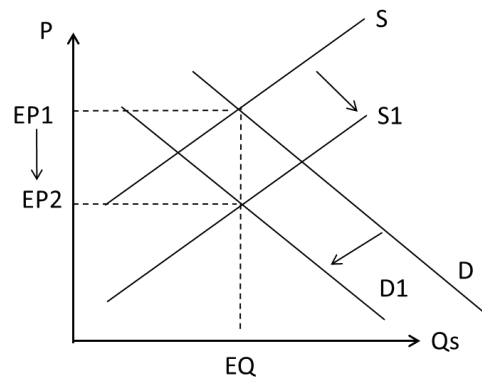
- b. As a result of a change in both demand and supply curves equilibrium quantity has decreased but equilibrium price remains unchanged. (01 Mark)



- c. As a result of a change in both demand and supply curves equilibrium price has increased but equilibrium quantity remains unchanged. (01 Mark)



- d. As a result of a change in both demand and supply curves equilibrium price has decreased but equilibrium quantity remains unchanged. (01 Mark)



- iv. Explain the law of supply and mention why the supply curve slopes upwards. (04 marks)

The law of supply indicates that there is a positive relationship between the price and the quantity supplied when of the concerned good when other factors held constant at a specific situation. (02 marks)

The supply curve slopes upwards due to two reasons,

- **Profit (Marginal profit)** – When price of the concerned good increases new suppliers enter the market due to the increase in marginal profits. Further when the price drops a group of suppliers exit from the market due to the reduction of marginal profits. (1 mark)
- **Increasing opportunity cost** – Marginal opportunity cost (Marginal cost) rises when output is increased under increasing opportunity cost due to heterogeneity of resources (resources are not perfect substitutes for both industries. Thereby at higher quantities a higher price needs to be charged.it creates a positive relationship between price and quantity supplied. (1 mark)

v. **Explain why the prices of primary products such as agricultural crops are often unstable in the market? (04 marks)**

(01 mark each for any four explanations; total marks 04)

- The agricultural commodity markets experience extreme price fluctuations more and more frequently. Price volatility is a fundamental feature of agricultural markets and probably one of the main sources of risk in agricultural trade. Many production decisions are taken well in advance of product sales, and there generally exists a certain amount of uncertainty about the price that will be received for final products. The main reasons for this were changes in fundamental supply and demand factors. **(01 mark)**
- Inelastic demand: Demand for most primary products are relatively **price inelastic**. If the price of tea falls, there will be a smaller percentage rise in demand. This is because there are few close substitutes to tea. Also, tea accounts for a small percentage of income and therefore a change in price doesn't make much difference to overall demand. Food is a necessity. Therefore demand for food is inelastic. Since demand and supply are inelastic, any change in supply can cause a significant change in price. With inelastic demand, a change in supply causes relatively large change in the price. **(01 mark)**

- Inelastic supply: In the short term, the supply of tea, rubber coconut, cinnamon, coffee etc. is inelastic. If price rises, farmers can't respond by increasing supply overnight. You have to clear the ground and plant more tea/rubber/coffee plants. It will take 3-5 years before new plants start to produce crop. Therefore, there is a big delay in responding to changing prices. **(01 mark)**

- Natural factors: Coffee, tea, coconut, potato are agricultural products, and therefore supply can be variable depending on several factors behind the control of producers (weather, disease). For example, an early frost can harm supply (causing a rise in prices). This is a problem for agricultural products like tea, potato, vegetables. Good weather can lead to an unexpectedly large increase in supply (which can lead to glut on the market and falling prices. Also, disease and pests can affect the supply. If potatoes are affected by blight, it can cause potato prices to rise. **(01 mark)**
- Agricultural production period is usually longer and the most of the crops are in nondurable (perishable) nature and individual farmers may be unable to accumulate stocks. In the short term, the supply of agricultural crops is inelastic. If price rises, farmers can't respond by increasing supply overnight. **(01 mark)**

2.

i. **Explain the reasons for the differences in the coefficients of price elasticity of supply of various product types. (4 marks)**

- Elasticity of supply of several goods can become less than 1 or greater than 1. It can be occurred due to following reasons.
 - The ability of collecting stocks for the particular good.
 - The ability to bilise of factors to the production process for the particular good.
 - The time has been spent after changing the price of particular good.
 - The amount of capacity utilized in the production process for the particular good.

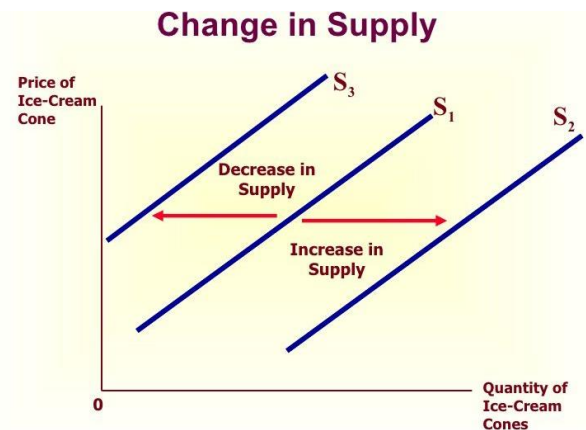
ii. **Name four major non-price determinants of supply for an industrial product. (04 marks)**

- Prices of resources used to produce the product
- Technology
- The prices of related goods produced
- Expectations
- The number of suppliers
- Taxes and subsidies

- iii. What is the difference between change in supply and change in elasticity of supply? (04 marks)

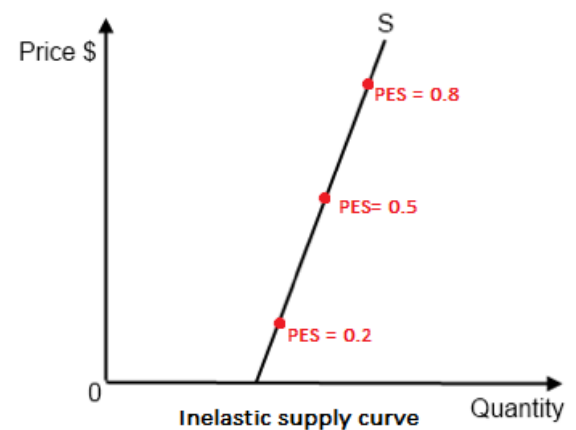
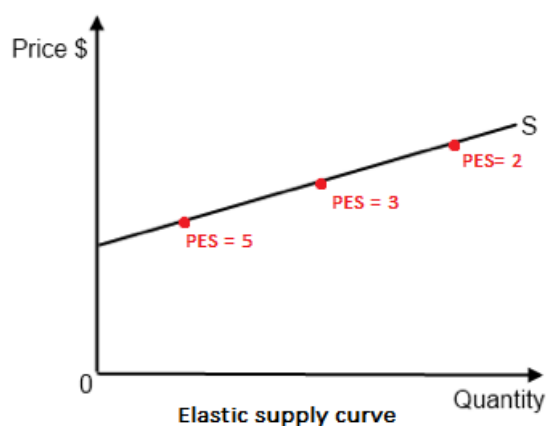
Change in supply:

- Refers to a shift in the whole supply curve that is a change in the amount that will be supplied at every price. (1/2 mark)
- (1 mark for the correct diagram)



Change in price elasticity of supply:

- Price elasticity of supply is the measure of the responsiveness of the quantity supplied of a good to changes in its own price.
- In an upward sloping supply curve which is inelastic, coefficient of PES will be less than 1 but increases when moving along the supply curve from left to right. (1 Mark)
- In an upward sloping supply curve which is elastic, coefficient of PES will be greater than 1 but decreases when moving along the supply curve from left to right. (1/2 Mark)
- At each point coefficient of PES will remain constant in perfectly elastic, unitary elastic and, perfectly inelastic supply curves.

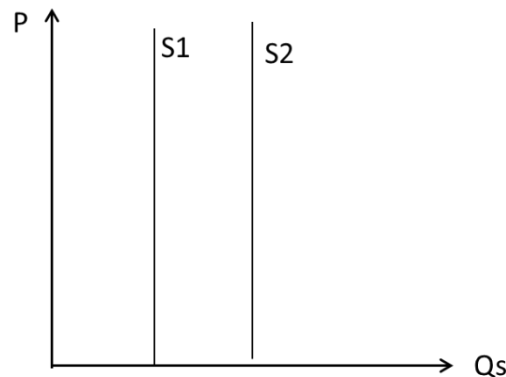
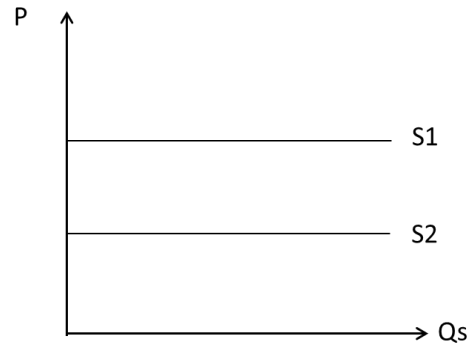
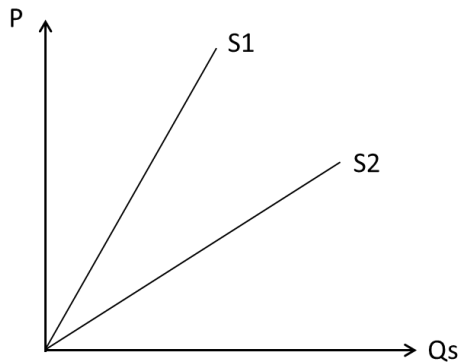


(1 mark for the 2 diagrams)

- iv. 'Not identical two supply curves can have the same point elasticity of supply at every point'. Using appropriate diagrams explain your answer either agreeing or disagreeing to the above statement. (04 marks)

- There are 3 main types of supply curves those have the same point elasticity of supply even if two supply curves are not identical.
 - a. Unitary elastic supply curve
 - b. Perfectly elastic supply curve
 - c. Perfectly inelastic supply curve

(if all answers are correct 1 mark. 3 marks for 3 correct diagrams. Two correct diagrams 02 marks)



v. Briefly describe the factors influencing price elasticity of supply. (4 marks)

- Resource substitution possibilities (factor mobility): The ease with which factors of production can be moved from one use to another will affect price elasticity of supply.
- Time frame for the supply decision: There are three time frames of supply: (a) market period, (b) short run and (c) long run. The market period is so short a time that producers cannot respond to a change in demand and price. In the short run the plant capacity of producers is presumed fixed. But firms do have time to use their plants more or less intensively. The long run is a time period sufficiently long so that firms can make all desired resource adjustments.
- Type of good (storage possibilities): Durable (non-perishable) goods and non-durable (perishable goods); Elasticity of supply is inelastic for perishable goods and elastic for durable goods.

- Availability of stocks: When there are adequate stocks with the producer, supply will be more elastic.
- Flexibility of capacity (spare capacity): When there is spare capacity available supply will be more elastic.
- Type of inputs used in the production process: Some goods and services can be produced only by using unique or rare productive resources. These items have a low, even perhaps zero, elasticity of supply. Other goods and services can be produced by using commonly available resources. Such items have a high elasticity of supply.

(02 marks each with brief description; without description 01 mark each; total marks 04)

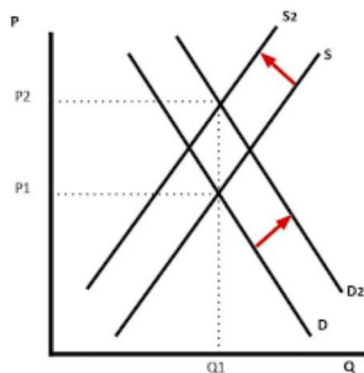
3.

i. **Explain what is meant by equilibrium price and quantity in the market for a good (3 marks)**

- A market is defined as being in equilibrium when there is no tendency for the market price to change. (2 mark)
- At equilibrium occurs in a market where supply is equal to demand. ($Q_d = Q_s$) (1 mark)

ii. **Explain how price and quantity will be affected by both a rise in the wage rate paid to the workers producing the good and a rise in wages paid to all workers in the economy using a diagram. (4 marks)**

- A rise in the wage rate paid to the workers producing the good and a rise in wages paid to all workers in the economy can be depicted as follows in a diagram:



Shift in supply – 1 mark

Shift in demand – 1 mark

- When the wage rate increases the cost of production increases, thereby reducing the supply, (i.e. supply curve shifts to the left). (1 mark)
- When the wages paid to workers increase there will be a rise in the income. Hence, the demand for the good will increase (i.e. demand curve shifts to the right) (1 mark)

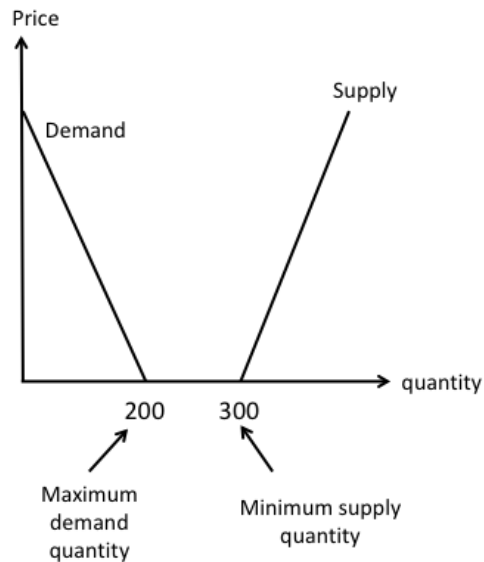
iii. **In a particular market demand and supply equations have been given as follows:**

$$Q_d = 200 - 10p$$

$$Q_s = 300 + 10p$$

Can this market arrive at market equilibrium? Explain. (04 marks)

- This market is unable to arrive to market equilibrium due to the fact that minimum supply quantity (300) is higher than maximum demand quantity (200). (1 mark)
- Thereby there can have no positive intersection point between these two demand and supply curves. (1/2 Marks)
- As it shown in the diagram below starting point of the upward sloping supply curve on the quantity axis stay away from the ending point of the downward sloping demand curve at the quantity axis. Thus, there can have no intersection point between these two curves. (01 Mark)



(Diagram 01 mark)

iv. Comment on the equilibrium price and quantity in following incidences. (5 marks)

a) Fish demand rises due to Sinhala New Year while file supply falls due to bad weather conditions.

- Equilibrium price rises (definitely) (½ Marks)
- Equilibrium quantity may increase, decrease or remain unchanged (½ Marks)

Special note:-

- Require no graphs for the answer.
- Supply curve shifts to left while demand curve shifts to right, Thereby Equilibrium price will rise definitely but equilibrium quantity change would be determined by the magnitude of the relative change in demand and supply.

b) Pumpkin supply rises due to good harvest while demand for pumpkins remains unchanged.

- Equilibrium price falls (½ Marks)
- Equilibrium quantity increases. (½ Marks)

Special note:-

- Even if answer is shown using a graph, still full marks are awarded.
- Supply curve shifts to right while demand curve remains constant.

c) Demand for sugar falls due to health concerns of the consumers

- Equilibrium price falls (½ Marks)
- Equilibrium quantity decreases. (½ Marks)

Special note:-

- Even if answer is shown using a graph, still full marks are awarded.
- Demand curve shifts to left while supply curve remains constant

d) Considering increasing demand of Christmas season government imports rice from Pakistan to maintain market prices.

- Equilibrium price remain unchanged (½ Marks)
- Equilibrium quantity increases. (½ Marks)

Special note:-

- Even if answer is shown using a graph, still full marks are awarded.
- Demand curve shifts to right while there will be a new foreign supply at the same equilibrium price. (foreign supply curve is perfectly elastic)

e) Government imposes an indirect tax on cigarettes considering growing addiction of smoking among females.

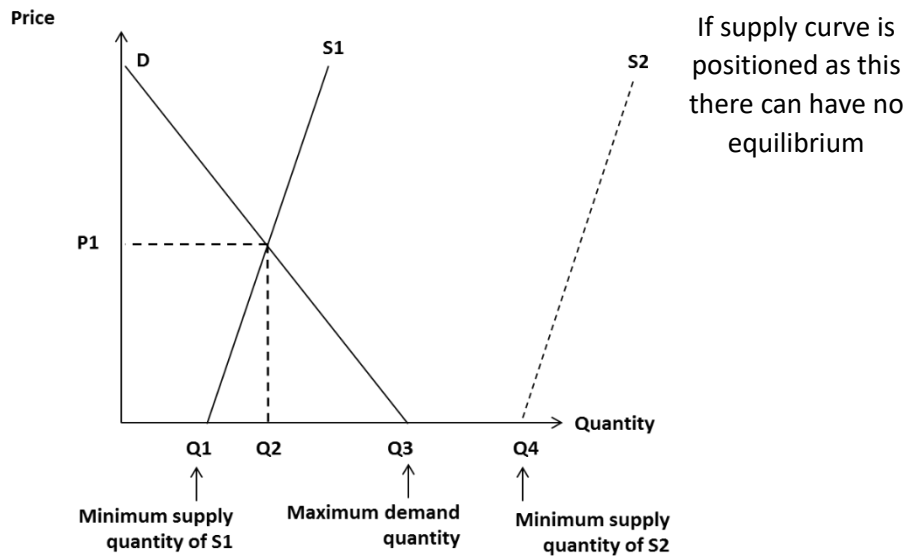
- Equilibrium price rises (definitely) (½ Marks)
- Equilibrium quantity may increase, decrease or remain unchanged (½ Marks)

Special note:-

- Require no graphs for the answer.

Supply curve shifts to left while demand curve shifts to right, Thereby Equilibrium price will rise definitely but equilibrium quantity change would be determined by the magnitude of the relative change in demand and supply.

v. For equilibrium in a free market, the minimum quantity supplied should be less than the maximum quantity demanded.” Explain this statement using a diagram. (04 marks)



(Correct Graph 2 marks)

- As it is shown in the diagram if minimum supply quantity is less than the maximum demand quantity market can arrive at an equilibrium (S1 supply curve) (1 mark)
- However, if minimum supply quantity is higher than the maximum demand quantity there can have no market equilibrium (S2 supply curve) (1 mark)

4.

i. Below demand schedule is related to pens market.

Price of a pen (Rs.)	Quantity demand ('000)
200	50
250	45
300	40

a. Calculate the price elasticity when price is Rs.400/- (02 Mark)

Working I

$$b = \Delta Q_d / \Delta P = 5 / -50 = -0.1$$

Working II

Price of a pen (Rs.)	Quantity demand ('000)

300	40
400	?

$$b = \Delta Q_d / \Delta P = -0.1$$

$$-0.1 = \Delta Q_d / 100$$

$$-0.1 \times 100 = \Delta Q_d$$

$$-10 = \Delta Q_d$$

Therefore, $Q_d = 30$ (when $p = 400$)

Working III

PED at Rs. 400,

$$PED = b \times (P / Q_d)$$

$$PED = -0.1 \times (400 / 30)$$

$$PED = -1.33 \text{ (02 Marks)}$$

- b. What would happen to consumer outlay when price falls from Rs.400/- to Rs.350/- and explain the reason for the increase or the decrease of the consumer outlay when price falls from Rs.400/- to Rs.350/- (02 Marks)

Price of a pen (Rs.)	Quantity demand ('000)	Consumer Outlay ('000)
400	30	12,000
350	35	12,250

- When price change from Rs.400/- to Rs.350/-, consumer outlay rises from Rs. 12 million to 12.25 million. (01 Mark)

(if the answer is given as 12,000 to 12,250 its wrong)

- It is because during this price range (Rs. 400/- to Rs. 350) , demand curve is elastic. Thereby, when price falls, total consumer outlay (producer revenue) rises. Thus, it can be concluded that this price range (Rs. 400/- to Rs. 350) should be below than the mid-price point of this market. (01 Mark)

- c. Calculate price and quantity that maximizes producer revenue of this market (02 Marks)

$$Q_d = A - Bp$$

$$Q_d = A - 0.1p$$

$$\text{If } p = 200, \text{ then } Q_d = 50$$

$$50 = A - 0.1 (200)$$

$$50 = A - 20$$

$$50 + 20 = A$$

$$70 = A$$

$$\text{Mid-point Quantity ('000)} = 70/2 = 35$$

$$\text{Mid-point price} = 350 \text{ (based on part 'b' answer)}$$

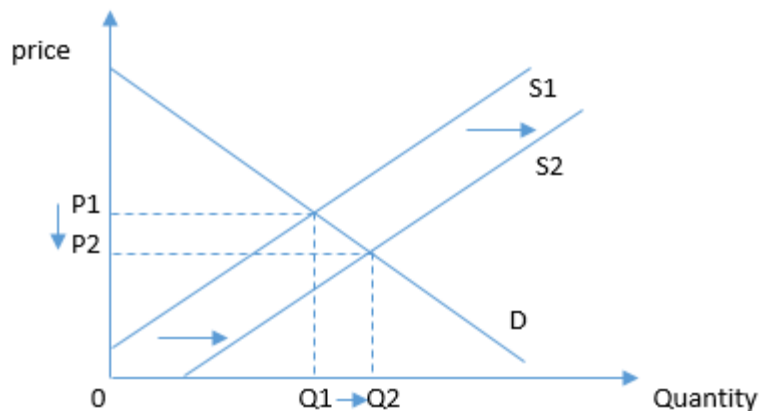
$$\text{Price that maximize producer revenue} = 35,000 \text{ (01 mark)}$$

$$\text{Quantity that maximize producer revenue} = \text{Rs. } 350/- \text{ (01 Mark)}$$

ii. **"Increase in the quantity supplied for a good, causes an increase the quantity demanded also**

"Explain this statement using a diagram. (4 marks)

- Yes, agree with the statement. (1/2 mark)
- When the quantity supplies for the good under consideration rises, it increases the equilibrium quantity in the market and decreases the equilibrium price of that good. (1/2 mark)
- The decrease in price will lead to an expansion of demand, increasing quantity demanded. (01 mark)
- This can be shown by the diagram below, (01 mark)



iii. **The following equations describe the market demand and supply functions of a commodity.**

$$Q_d = 200 - 8P \text{ (Demand)}$$

$$Q_s = -60 + 12P \text{ (Supply)}$$

a) **Calculate the equilibrium price and quantity using the equations and show this equilibrium accurately on a graph. (2 marks)**

$$\begin{aligned} Q_d &= Q_s \\ 200 - 8P &= -60 + 12P \\ 200 + 60 &= 8P + 12P \\ 260 &= 20P \\ P &= 13 \text{ (1/2 Mark)} \end{aligned}$$

OR

Qd	=	200 – 8P	Qs	=	-60 + 12P
Qd	=	200 – (8X13)	Qs	=	-60 + (12x13)
Qd	=	200 – 104	Qs	=	-60 + 156
Qd	=	96 (1/2 Mark)	Qs	=	96

(Correct diagram 01 mark)

- b) Calculate producer surplus and consumer surplus at market equilibrium and show. (4 marks)**

Producer surplus and consumer surplus:

$$\text{Producer surplus} = \frac{(13 - 5)}{2} \times 96$$

$$= 384 \text{ (1/2 Marks)}$$

$$\text{Consumer surplus} = \frac{(25 - 13)}{2} \times 96$$

$$= 576 \text{ (1/2 Marks)}$$

- iv. The equations relevant to market demand and supply curves for a particular good are given below.**

$$Q_d = 100 - 2P \quad Q_s = -30 + 3P$$

- a. Equilibrium price and quantity (2 marks)**

$$\begin{aligned} Q_d &= Q_s \\ 100 - 2P &= -30 + 3P \\ 130 &= 5P \\ 26 &= P \end{aligned}$$

If $p = 26$,

$$\begin{aligned} Q_d &= 100 - 2(26) \\ &= 48 \end{aligned}$$

Equilibrium price = Rs. 26

Equilibrium quantity = 48 units

- b. Equilibrium price and quantity after the imposition of a Rs. 5 unit tax (2 marks)**

New supply equaton:

$$Q_s = -30 + 3(P-5)$$

$$= -30 + 3P - 15$$

$$= -45 + 3P$$

$$Q_d = Q_s$$

$$100 - 2P = -45 + 3P$$

$$145 = 5P$$

$$29 = P$$

If $P = 29$,

$$Q_d = 100 - 2(29)$$

$$= 42$$

Equilibrium price = Rs.26

Equilibrium quantity = 42 units

5.

- i. Answer the following questions based on the information given below that shows the effect of a unit tax on producers, in a market where both demand and supply curves are linear.

	Rs.
Consumer Surplus (Before Tax)	250
Economic Surplus (Before Tax)	500
Consumer Expenditure (Before Tax)	1500
Equilibrium Price (Before Tax)	15
Unit Tax	4
Consumer Expenditure (After Tax)	1020
Dead Weight Loss due to Tax	80

a) Calculate Producer Surplus after imposing the unit tax? (4 marks)

Working I (1 mark)

Consumer expenditure (before tax) = Before tax equilibrium price X Before Tax equilibrium quantity

$$1500 = 15 \times \text{Before Tax equilibrium quantity}$$

Before Tax equilibrium quantity = 1500/15

Before Tax equilibrium quantity = 100

Working II (1 mark)

Dead Weight Loss = $\frac{1}{2} \times \text{Unit Tax} \times (\text{EQ before tax} - \text{EQ after tax})$

$$80 = \frac{1}{2} \times 4 (100 - \text{EQ after tax})$$

$$80 = 2 (100 - \text{EQ after tax})$$

$$80/2 = 100 - \text{EQ after tax}$$

$$40 = 100 - \text{EQ after tax}$$

$$\text{EQ after tax} = 100 - 40$$

$$\text{EQ after tax} = 60$$

Working III (1 mark)

Consumer Expenditure (After Tax) = EQ after tax \times EP after tax

$$1020 = 60 \times \text{EP after tax}$$

$$1020/60 = \text{EP after tax}$$

$$17 = \text{EP after tax}$$

Working IV (1/2 mark)

Price received by the producer = EP after tax - Unit Tax

$$= 17 - 4$$

$$= 13$$

Working V (1/2 mark)

Price received by the producer = EP after tax - Unit Tax

$$= 17 - 4$$

$$= 13$$

Working VI (1/2 mark)

Producer Surplus = Economic surplus – Consumer Surplus

$$= 500 - 250$$

$$= 250$$

Working VII (1 mark)

Producer Surplus before tax = $\frac{1}{2} \times \text{EQ before tax} \times (\text{Ep before tax} - \text{Min PS})$

$$250 = \frac{1}{2} \times 100 \times (15 - \text{Min PS})$$

$$250 = 50 \times (15 - \text{Min PS})$$

$$(15 - \text{Min PS}) = 250 / 50$$

$$(15 - \text{Min PS}) = 5$$

$$15 - 5 = \text{Min PS}$$

$$10 = \text{Min PS}$$

Working VIII (1/2 mark)

$$\text{Producer surplus after tax} = \frac{1}{2} \times \text{EQ after Tax} \times (\text{Ps after Tax} - \text{Min PS})$$

$$= \frac{1}{2} \times 60 \times (13 - 10)$$

$$= 30 \times 3$$

$$= \underline{\underline{\text{Rs. 90/-}}}$$

b) Calculate consumer Surplus after imposing the unit tax? (4 marks)

Working I (2 mark)

$$\text{Consumer Surplus before tax} = \frac{1}{2} \times \text{EQ before tax} \times (\text{Max Pb} - \text{Ep before tax})$$

$$250 = \frac{1}{2} \times 100 \times (\text{Max Pb} - 15)$$

$$250 = 50 \times (\text{Max Pb} - 15)$$

$$250/50 = (\text{Max Pb} - 15)$$

$$5 = (\text{Max Pb} - 15)$$

$$5 + 15 = \text{Max Pb}$$

$$\text{Max Pb} = 20$$

Working II (2 mark)

$$\text{Consumer Surplus after tax} = \frac{1}{2} \times \text{EQ after tax} \times (\text{Max Pb} - \text{Ep after tax})$$

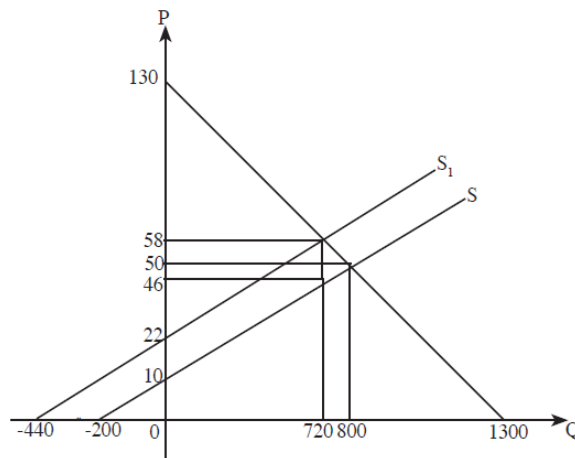
$$= \frac{1}{2} \times 60 \times (20 - 15)$$

$$= 30 \times 5$$

$$= \underline{\underline{\text{Rs. 150/- (04 Marks)}}}$$

ii. The equilibrium price of a certain product was Rs.50 and the equilibrium quantity was 800 units. At the equilibrium, the value of consumer surplus was Rs.32000 and the value of producer surplus was Rs.16000.

a) Outline the market demand and supply curves for this product. (02 marks)



$$\begin{aligned}
 \text{Consumer surplus} &= \frac{(P_1 - 50) 800}{2} \\
 32\,000 &= \frac{(P_1 - 50) 400}{2} \\
 32\,000 &= 400 P_1 - 20\,000 \\
 \frac{52\,000}{400} &= \frac{400 P_1}{400} \\
 P_1 &= 130 \\
 \text{Producer surplus} &= \frac{(50 - P_2) 800}{2} \\
 16\,000 &= \frac{(50 - P_2) 400}{2} \\
 16\,000 &= 20\,000 - 400 P_2 \\
 \frac{400 P_2}{400} &= \frac{4\,000}{400} \\
 P_2 &= 10
 \end{aligned}$$

- b) The government imposed a unit tax of Rs.12 on this product. Enumerate the following. Enumerate the values of consumer surplus and producer surplus after the tax. (02 marks)

$$\begin{aligned}
 \text{Consumer surplus} &= (130 - 58) \times 720/2 \\
 &= 72 \times 360 \\
 &= \text{Rs. } 25\,920
 \end{aligned}$$

$$\begin{aligned}
 \text{Producer surplus} &= (46 - 10) \times 720/2 \\
 &= 36 \times 360 \\
 &= \text{Rs. } 12\,960
 \end{aligned}$$

- c) Calculate the government tax revenue (02 marks)

$$\begin{aligned}
 \text{Government tax revenue} &= \text{tax} \times \text{sales quantity} \\
 &= 12 \times 720 \\
 &= \text{Rs. } 8\,640
 \end{aligned}$$

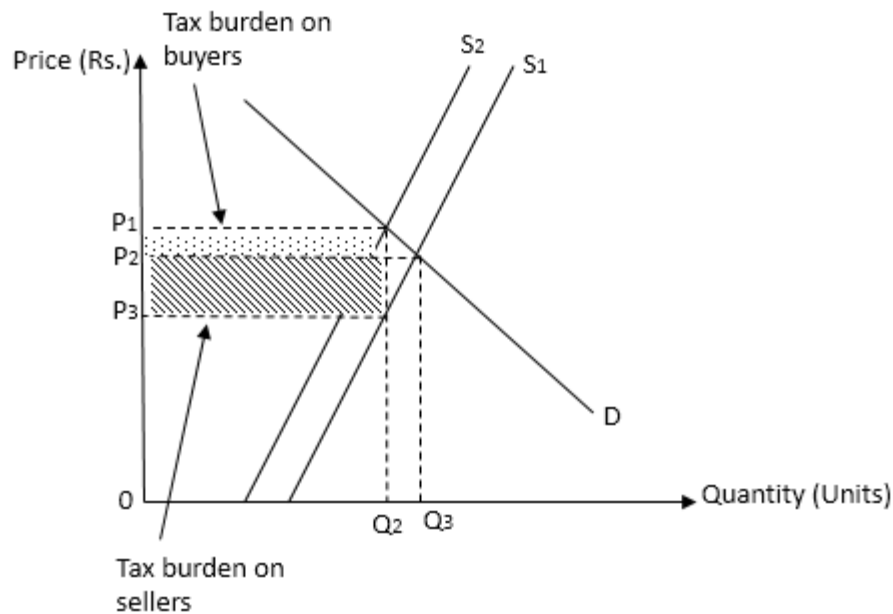
- d) Measure the excess tax burden. (02 marks)

$$\begin{aligned}
 \text{Excess tax burden} &= \text{tax} \times \text{change in the equilibrium quantity} / 2 \\
 &= 12 \times (800 - 720) / 2 \\
 &= (12 \times 80) / 2 \\
 &= \text{Rs. } 480
 \end{aligned}$$

- iii. Who pays most of the burden of a specific (unit) tax on producers when supply is inelastic?

Explain your answer using an appropriate diagram. (4 marks)

As a rule, the side of the market that is less elastic bears a higher burden of the tax. In the diagram given below, since supply is more inelastic, producers bear a much higher share of the tax burden.



6.

- i. The equations relevant to market demand and supply curves for a particular good are given below.

Demand equation: $Q_d = 100 - P$

Supply equation: $Q_s = -50 + 2P$

- a) Assume that the government has imposed a unit tax of Rs.6 per unit on the production of the good. What price do buyers pay for the good after the tax? (4 marks)

Buyer's price after tax:

$$Q_d = 100 - P_b$$

$$\text{Buyer's price } (P_b) = P_s + t$$

$$100 - P_b = -50 + 2(P_b - 6)$$

$$100 - P_b = -50 + 2P_b - 12$$

$$150 = 3P_b$$

$$50 = P_b$$

- b) How much revenue will the government collect from this tax? (4 marks)

Government revenue from tax:

Tax revenue = Tax per unit x Equilibrium quantity demanded

$$\text{Quantity demanded after tax} = 100 - 2(50)$$

$$= 200 - 100$$

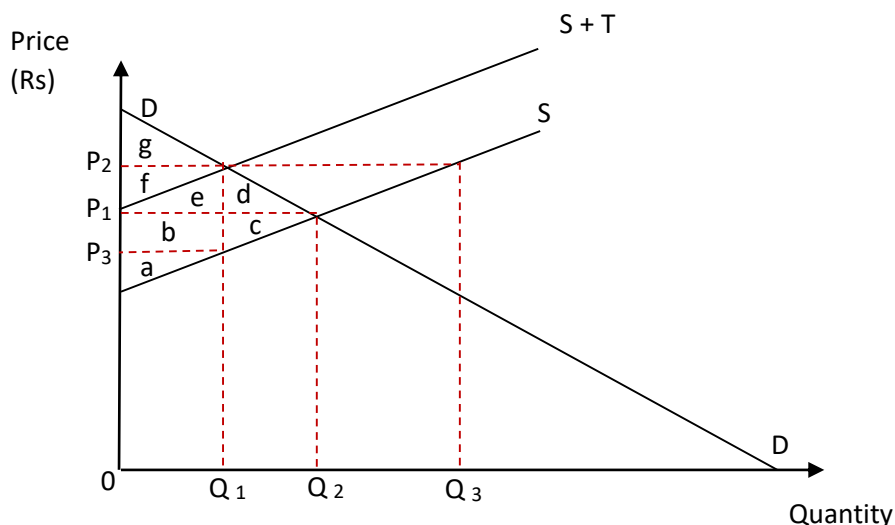
$$= 100$$

$$\text{Tax per unit} = \text{Rs. } 6$$

$$\text{Tax revenue} = 100 \times 6$$

$$= \underline{\text{Rs. } 600}$$

- ii. In this diagram, DD represents demand curve, S and S + T represent respectively supply curve before and after specific production tax imposed by the government.



- a) At the equilibrium price before the tax is imposed, what area represents consumer surplus? What area represents producer surplus? (02 marks)

Consumer surplus before the tax is imposed : d + e + f + g
 Producer surplus before the tax is imposed : a + b + c

- b) After the tax is imposed on the producers, what area represents the consumer surplus? What area represents producer surplus? (02 marks)

Consumer surplus after the tax is imposed : g
 Producer surplus after the tax is imposed : a

- c) What area represents the dead-weight loss of the tax? (02 marks)

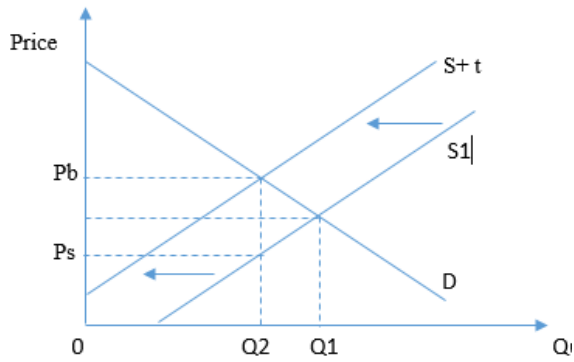
Dead – weight loss of the tax : c + d

- d) What area represents the revenue raised by the government? (02 marks)

The revenue raised by the government : b + e + f

- iii. What is the difference between imposing a specific tax on producer vs. imposing a specific tax on consumers? Explain your answer using an appropriate diagram. (4 marks)

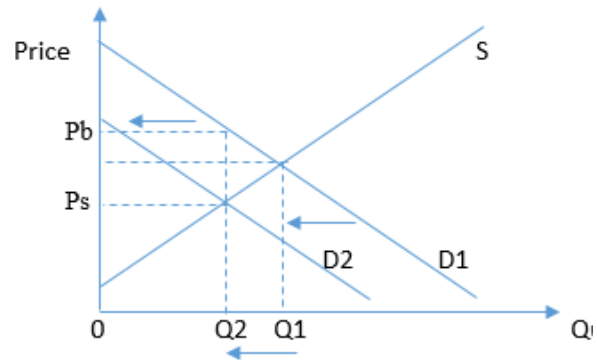
Specific Tax on Producer	Specific Tax on Consumers
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(correct diagram: 1 mark)

- Due to a specific tax imposed on producer the supply curve will shift to the left.
- The price paid by the consumer will increase to P_b and the price received by the producer will be P_s , where equilibrium quantity will decrease.
- The difference between the price paid by the consumer and the price received by the consumer will be equal to the amount of unit tax.

(02 mark for the correct explanation)



(correct diagram: 1 mark)

- Due to a specific tax imposed on consumer the demand curve will shift to the left.
- The price paid by the consumer will increase to P_b and the price received by the producer will be P_s , where equilibrium quantity will decrease.
- The difference between the price paid by the consumer and the price received by the consumer will be equal to the amount of unit tax.

(02 mark for the correct explanation)

- It is important to note that both a specific tax on a consumer and a producer will have the same impact on the market.