23k-2001 BCS-3A (3J)

Economics Assignment #02

Date ____ 20__

Answer#01:

a.

i. Ease of entry:

Demand curve becomes flatter because more firms can enter the market and increase competition:

ii. Large Number of Firms:

Demand curve becomes flatter because with more firms, an individual firm's demand becomes more elastic.

iii. Market demand curve is relatively elastic:

Demand curve becomes flatter because if demand is elastic, price changes have larger effects.

iv. Supply curves of other firms are relatively elastic:

Demand curve becomes flatter, as elastic supply curve will make substitution easier than before.

b.

i. AC: ?

Avg. VC curves: ?

$$\Rightarrow AC = \frac{C(q)}{q} = \frac{10 + 10q + q^2}{q} = \frac{10}{q} + 10 + q \quad \text{Ans}$$

$$\Rightarrow AVC = \frac{10q + q^2}{q} = 10 + q \quad \text{Ans.}$$

ii. q: ? (maximum profit)

$$\Rightarrow \frac{d\,VC}{dq} = \frac{d\,(10q + q^2)}{dq}$$

$$P = 10 + 2q \quad \text{Ans.} \Rightarrow q = \frac{P - 10}{2} \quad \text{Ans.}$$

iii. $p = 50$, $q = ?$

$\therefore \quad p = 10 + 2q$

$\Rightarrow \quad 50 = 10 + 2q$

$q = \frac{50 - 10}{2}$

$q = 20$ units Ans.

C.

$R = \$1000$ /week (shutdown firm?)

i. $VC = \$500$

$F = \$600$

No, firm should continue its operation as:

$R > VC$, as variable costs can be covered in the short run.

ii. $VC = \$1001$

$F = \$500$

Yes, firm should shutdown as:

$R < VC$, because firm cannot cover its variable costs in this condition.

Answer # 02:

i. $Q = 15.6 - 0.5p$

$\varepsilon = ?$ for $p = \$7.20$/bushel

$\Rightarrow Q = 15.6 - 0.5(7.20)$

$Q = 12$

$\varepsilon = -b(P/Q)$

$\varepsilon = -0.5(7.2/12)$

$\varepsilon = -0.3$ (inelastic) Ans.

23k-2001

Date ____ 20 ____

ii. $Q = 1,200 - 9.5p + 16.2pp + 0.2Y$

$p = 45¢$, $pp = 31¢$, $Q = 1275$

By demand function: $\frac{\partial Q}{\partial Y} = 0.2$

$$E_y = \frac{\partial Q}{\partial Y} \cdot \frac{Y}{Q}$$

$$E_y = (0.2)\frac{Y}{1275}$$

$$E_y = \frac{0.2Y}{1275} \quad \text{Ans.}$$

Answer #03:

i. • According to economists, 'more-is-better' property holds true because an individual gains more satisfaction from increased quantity of goods due to diminishing marginal utility, where each extra unit adds slightly less utility but still positively contributes to overall satisfaction.

• In line with the application, this concept suggests that an individual desires more goods as long as they increase utility.

ii. An indifference curve cannot bend backward or form a hook because this would imply that the consumer values some combinations more than others within the same utility level. This contradicts the assumption of consistent preferences.

iii. • Indifference curves are convex because consumers prefer a balanced mix of goods rather than extremes, reflecting diminishing marginal rates of substitution.

• This convexity implies that a consumer will gain the most satisfaction by balancing their consumption.

Date _____ 20___

iv. For a giffen good like rice, when its price decreases the income effect might lead the consumer to buy less, as they effectively feel 'richer' and may substitute rice with other goods.
The substitution effect favours cheaper rice, while the income effect reduces its quantity demanded due to increased purchasing power.

v. a.

To maximize total utility:

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

Since, $P_x = P_y = 1$, compare:

MU_x & MU_y

The individual should spend in this order:

Dollar:	Commodity:	Utility:	Reason:	
1st	Y	19	$MU_y > MU_x$	5 units of Y
2nd	Y	17	$MU_y > MU_x$	
3rd	Y	15	$MU_y > MU_x$	
4th	Y	13	$MU_y > MU_x$	
5th	Y	12	$MU_y > MU_x$	
6th	X	11	$MU_x > MU_y$	3 units of X
7th	X	10	$MU_x \geq MU_y$	
8th	X	9	$MU_x > MU_y$	

$Q_x = 3$, $Q_y = 5$ Ans.

b.

Total utility = $TU_y + TU_x$

$TU = (19+17+15+13+12)+(11+10+9)$

$TU = 106$ Ans.

c.

Equilibrium condition: $MU_x = MU_y$, $[\because P_x = P_y = 1]$ Ans.