# Industrial Economics

## ✦ Chapter 6 ✦

## Market structures

## Part 1

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## Q1:Define the market and list the different types of market structure?

**Definition of Markets**

A market is a set of buyers and sellers whose behaviour affects prices at which a good is sold.

# Types of Market Structure

**Perfect Competition**

(many small firms selling identical products)

High levels of competition

**Monopolistic Competition**

(many small firms producing slightly diff. products)

**Oligopoly**

(few large firms)

Degrees of competition in between

**Pure Monopoly**

(single firm)

Limited competition

# Q2:What are the determinants of market structure?

**Determinants of market structure:**

1. Freedom of entry and exit
2. Nature of the product – homogenous (identical), differentiated?
3. Control over supply/output
4. Control over price
5. Barriers to entry

**Economists describe different types of markets by:**

1. The number of firms

2. Whether the products of different firms are identical or different

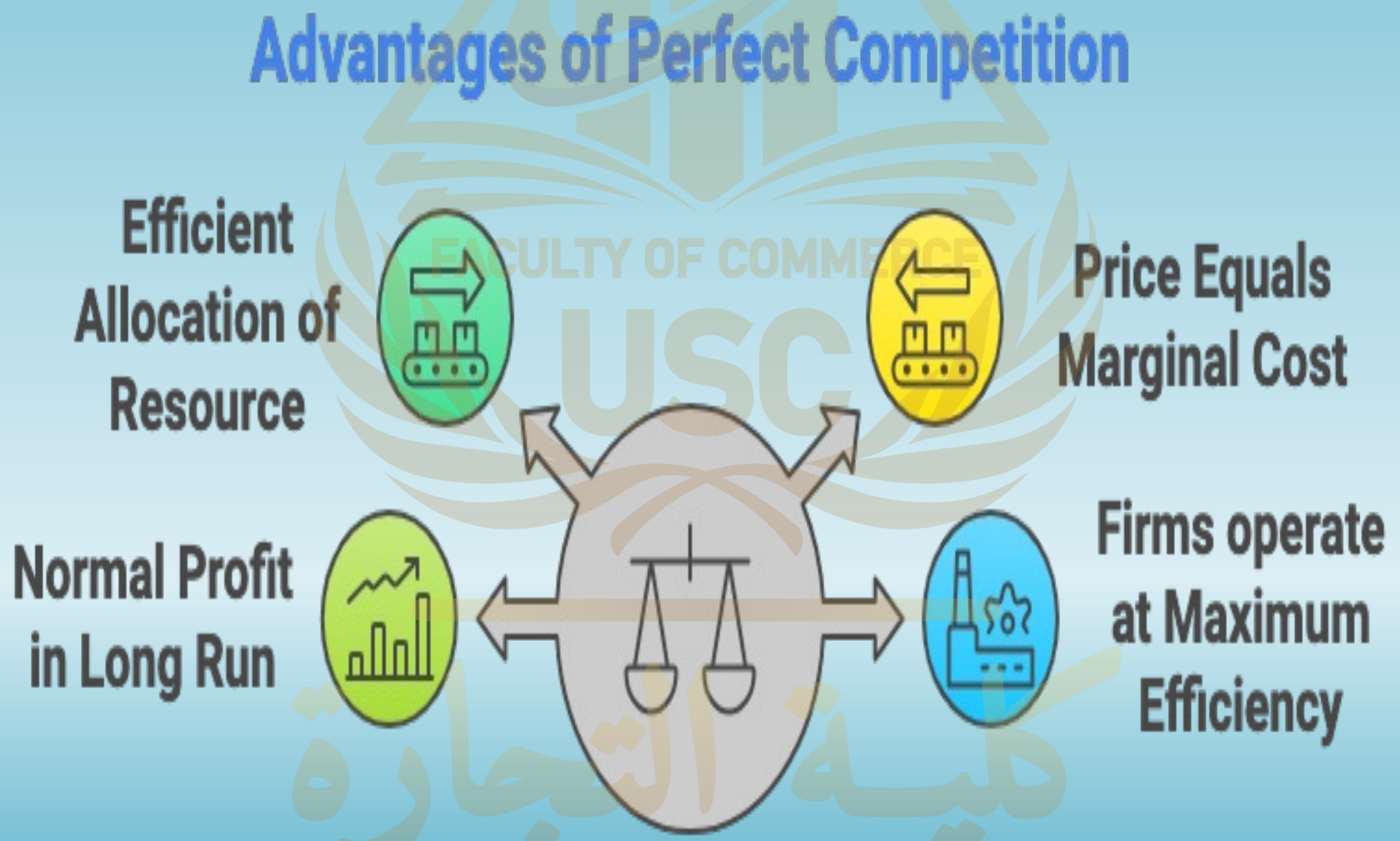
3.How easy it is for new firms to enter the market.

# Q3:Compare between the the different types of markets in details?

| | Number of Firms | Influence on Price | Product Differentiation | Advertising | Barriers to Entry |
|---|---|---|---|---|---|
| Perfect Competition | Many | None | No | No | None |
| Monopolistic Competition | Many | Limited | Some | Yes | Limited |
| Oligopoly | Few | Some | Some | Yes | Significant |
| Pure Monopoly | One | Extensive | No | Yes | Complete |

# Q4: What are the required conditions for Perfect competition?

# Q5: List the advantages of perfect competition?



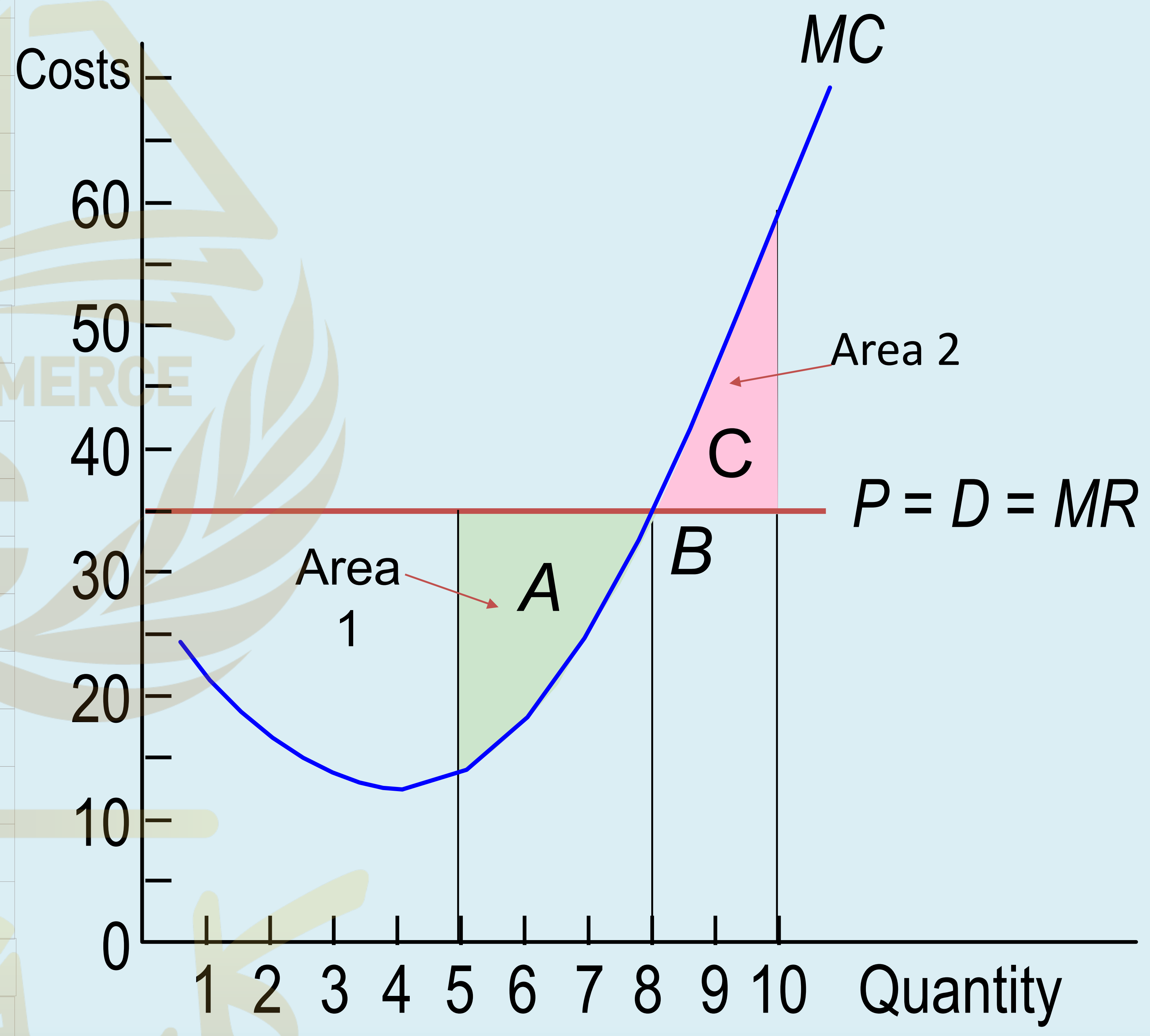
# Q6: How to Maximize Profit by firms?

A firm maximizes profit when $MC = MR = P$

- ✓ Marginal revenue (MR) is the change in total revenue associated with a change in quantity.
- ✓ Marginal cost (MC) is the change in total cost associated with a one-unit change in quantity.
- ✓ The supplier will continue to produce as long as marginal cost is less than marginal revenue.
- ✓ The supplier will cut back on production if marginal cost is greater than marginal revenue.

# Example for Marginal Cost, Marginal Revenue, and Price

| Price = MR | Quantity | Total Cost | Marginal Cost |
|---|---|---|---|
| 35 | 0 | 40 | |
| 35 | 1 | 68 | 28 |
| 35 | 2 | 88 | 20 |
| 35 | 3 | 104 | 16 |
| 35 | 4 | 118 | 14 |
| 35 | 5 | 130 | 12 |
| 35 | 6 | 147 | 17 |
| 35 | 7 | 169 | 22 |
| 35 | 8 | 199 | 30 |
| 35 | 9 | 239 | 40 |
| 35 | 10 | 293 | 54 |



# Q7: What is the role of profits as market signals?

| Profit Calculation | Type of Profit | Market Signal |
|---|---|---|
| $\pi > 0$ | Positive economic profit, or<br>Economic profit | Entry. Resources are drawn into the industry. |
| $\pi = 0$ | Zero economic profit,<br>Zero profit, or<br>Normal profit | Static. The industry is in long run equilibrium. |
| $\pi < 0$ | Economic loss | Exit. Resources leave the industry. |

# Q8: When should the firm shut-down?

- The firm will shut down if it cannot cover variable costs.
- A firm should continue to produce as long as ( price > average variable cost).
- Once price falls below that point it will be cheaper to shut down temporarily and save the variable costs.



- **The shutdown point is the point at which the firm will be better off by shutting down than it will if it stays in business.**

## Example1:

**Suppose the wheat market is perfectly competitive, The market price for wheat is $10 per unit, and the farmer produces 500 units at a total cost of $4,000.**

**A. What is the farmer's total revenue?**

- Total Revenue (TR) = Price × Quantity
- TR = $10 × 500 = $5,000



**B. What is the farmer's profit or loss?**

- Profit/Loss = Total Revenue - Total Cost
- Profit = $5,000 - $4,000 = $1,000 **(Profit)**

## Example2:

- The AAA Aquarium Co. sells aquariums for $20 each.
- Fixed costs of production are $20.
- The total variable costs are $20 for one aquarium, $25 for two units, $35 for the three units, $50 for four units, and $80 for five units.

## Requirement:

**1- In the form of a table, calculate total revenue, marginal revenue, total cost, and marginal cost for each output level (one to five units).**

**2- What is the profit-maximizing quantity of output?**

**Solution:**

- **Price** = $20
- **FC** = $20
- **VC** = $20, $25, $35, $50, $80

| Output (Units) | Total Revenue (P*Q) ($) | Marginal Revenue ($\Delta$ TR) ($) | Total Cost ($) (FC+VC) | Marginal Cost ($) ($\Delta$TC) | Profit ($) (TR-TC) |
|---|---|---|---|---|---|
| 1 | 20 | 20 | 40 | 40 | -20 |
| 2 | 40 | 20 | 45 | 5 | -5 |
| 3 | 60 | 20 | 55 | 10 | 5 |
| 4 | 80 | 20 | 70 | 15 | 10 |
| 5 | 100 | 20 | 100 | 30 | 0 |

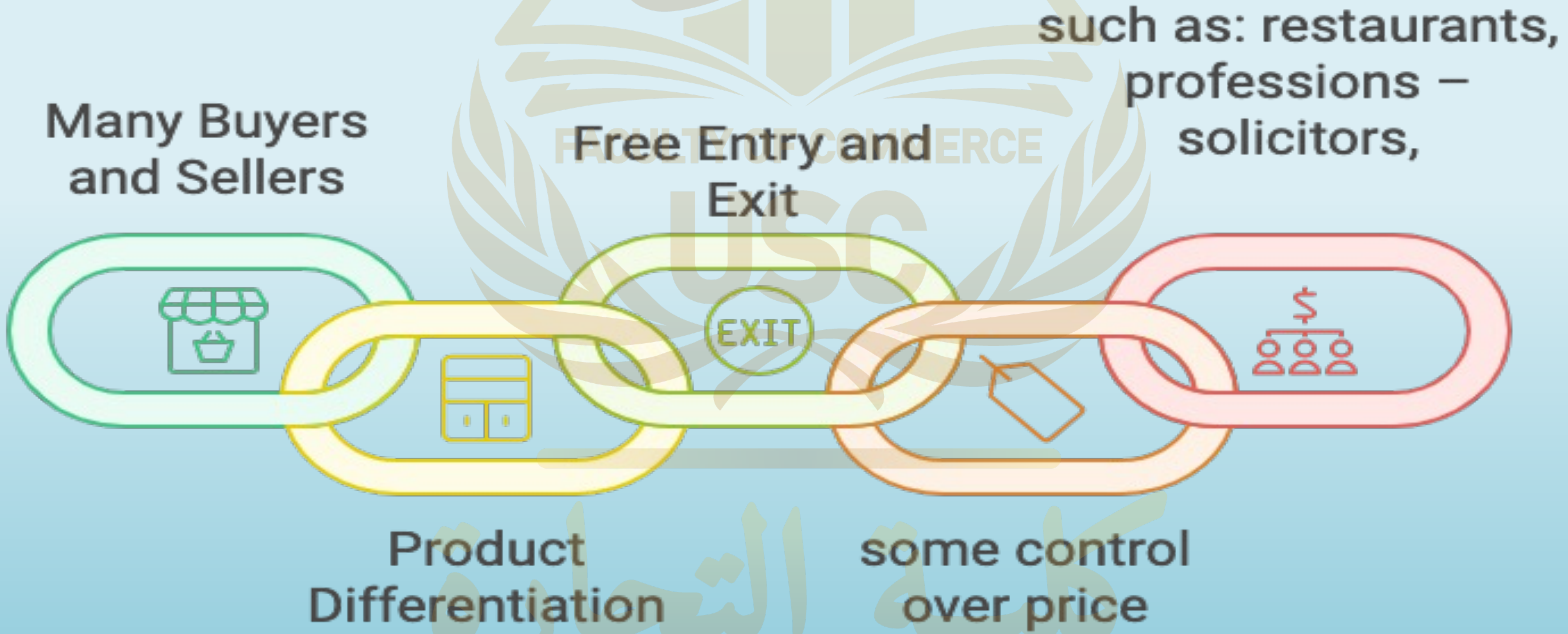
✓ **We can maximize profits at 4 units of output.**

# Q9: Define imperfect or monopolistic competition and list its characteristics?

**Definition of monopolistic competition**

- ✓ Refers to those market structures that fall between perfect competition and pure monopoly.
- ✓ Many firms selling products that are similar but not identical.
- ✓ Markets that have some features of competition and some features of monopoly.

# Characteristics of Monopolistic Competition



**1.Which of the following best defines a market?**

a. A physical location where goods are traded

b. A set of buyers and sellers whose behavior affects prices

c. A group of competing businesses

d. A regulated trading environment

**2. In perfect competition, which condition is NOT required?**

a. Product differentiation

b. Complete information about prices and products

c. Free entry and exit

d. Large number of firms

**3- What occurs at the profit maximization point for a Competetive firm?**

a. Total revenue equals total cost

b. Price equals average cost

c. Marginal cost equals marginal revenue equals price

d. Average revenue exceeds marginal cost

**4. When should a firm shut down in the short run?**

a. When total costs exceed total revenue

b. When price falls below average variable cost

c. When fixed costs are too high

d. When marginal cost is less than price

**5. What characterizes monopolistic competition?**

a. Single firm dominates the market

b. Products are completely identical

c. Many firms selling differentiated products

d. No control over pricing

**6. Which market structure typically has the highest barriers to entry?**

a. Perfect competition

b. Monopolistic competition

c. Oligopoly

d. Pure monopoly

**7. What represents a positive economic profit as a market signal?**

a. $\pi = 0$

b. Resources leaving the industry

c. $\pi < 0$

d. $\pi > 0$

**8. How many firms typically operate in an oligopoly?**

a. One

b. Few

c. Hundreds

d. Unlimited

**9. What happens in perfect competition when economic profits exist?**

a. Firms immediately exit the market

b. Prices rise significantly

c. New firms enter the market

d. Production decreases

**10. When calculating profit, which formula is correct?**

a. Revenue minus variable costs

b. Total revenue minus total cost

c. Price times quantity

d. Fixed costs plus variable costs

## 11. What determines a firm's marginal revenue?

a. Change in total cost with one unit change

b. Change in total revenue with quantity change

c. Average of all revenues

d. Fixed costs divided by quantity

## 12. What happens when price is less than average variable cost?

a. Firm reaches shutdown point

b. Firm maximizes profit

c. Firm enters market

d. Firm expands production

**13. What characteristic is shared between perfect and monopolistic competition?**

a. Identical products

b. Few sellers

c. Free entry and exit

d. Price control

**14- Which of the following factors is not a characteristic of perfect competition?**

A. large number of buyers and sellers

B. Well-informed buyers and sellers about product prices

C. Individual firms spend a considerable amount on advertising

D. No restrictions on entry into or exit from the industry

**15. Which of the following markets have the fewest number of firms?**

A. Monopoly

B. Perfect competition

C. Oligopoly

D. Monopolistic competition

**16. If many sellers are selling an identical product, what is the implication of this scenario?**

A. Significant losses for all the sellers

B. The market supply curve is horizontal

C. Chaos in the market

D. The sellers do not have the power to change the price of a product

**17. Which of the following is true about a price-taking firm?**

A. It is in contact with rival firms to fix the best price that all of them can charge

B. It is unable to influence the price of the product that it sells

C. It is asking the government to set a fixed price for its product

D. It can set the price of a product at any level that it wants

**18. Which one is the characteristic of perfect competition?**

A. It has a large number of buyers and sellers selling homogeneous products at a uniform price.

B. There is no free entry and exit for all the firms.

C. It has a large number of buyers and sellers where the government decides the price of the product.

D. It has a large number of buyers and sellers selling heterogeneous products at a uniform price.

**19. In perfect competition how the prices of goods and services are decided?**

A. Demand and supply forces decide the prices of goods and services.

B. The seller decides the prices of goods.

C. Government influences the prices of goods.

D. Buyers control the price level by influencing demand for the products.

**20. Sellers in perfect competition are:**

A. Price maker

B. Price taker

C. Wealthy

D. Poor

**21. Sellers in the perfect competition are price takers because:**

A. Sellers get a lot of pressure from other competing firms to accept the prevailing equilibrium price in the market.

B. Buyers influence the prices of products.

C. Government forces the sellers to sell a product at a particular price.

D. None of the above.

**22. How is the demand curve in a perfectly competitive market?**

A. The demand curve is a vertical line at the market price.

B. The demand curve is flat.

C. The demand curve cannot be calculated

D. The demand curve is a horizontal line at the market price.

# Thank you!