

# PERFECT COMPETITION

## STUDY UNIT 9

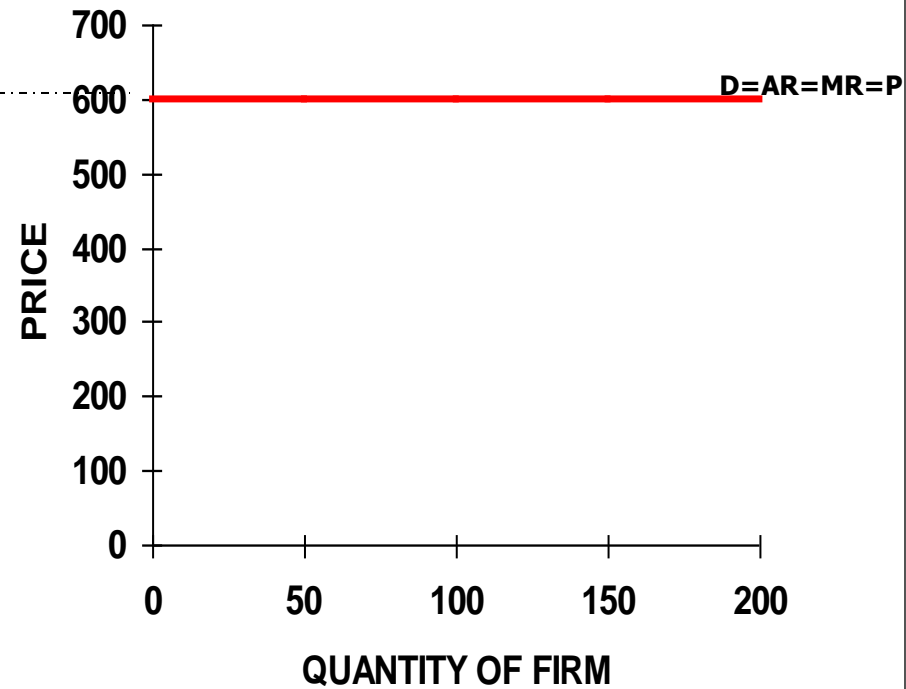
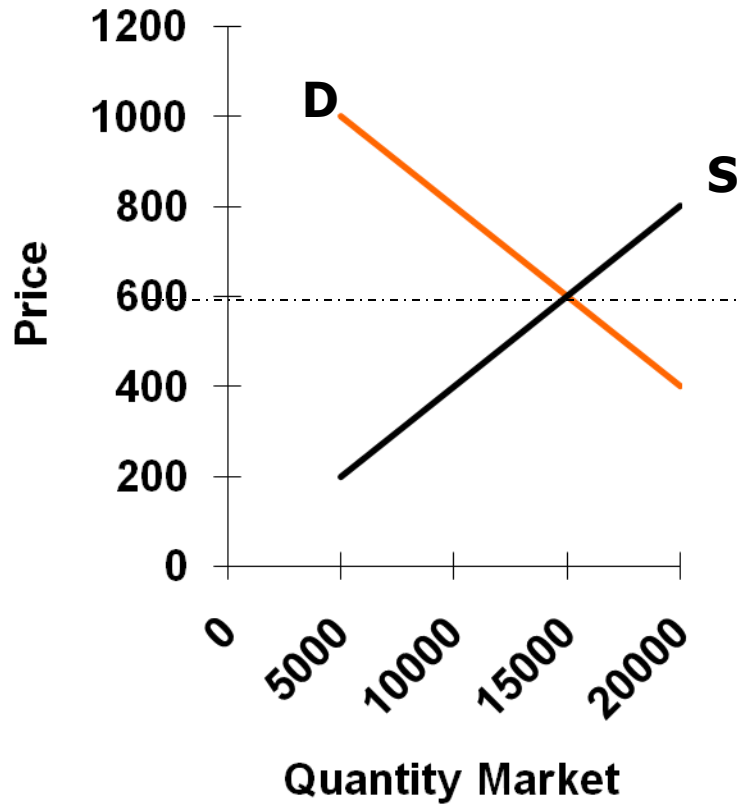
# STUDY OBJECTIVES

- Define and indicate the characteristics of a perfectly competitive market
- Explain the demand curve under perfect competition
- Draw the demand curve for a single firm under perfect competition
- Determine where profit is maximized in the short-term
- Indicate whether a firm records economic profit, normal profit or economic loss graphically
- Determine the shut-down and start-up point.

# CHARACTERISTICS OF A PERFECT COMPETITIVE MARKET

- Large number of buyers and sellers
- Free exit and entry to the market
- No collusion between the sellers
- All products sold are identical (homogeneous)
- Perfect information
- Perfectly mobile factors of production
- No government intervention

# Individual demand curve for the firm



<b>Quantity</b>	<b>Price per unit (R)</b>	<b>TR = P x Q</b>	<b>MR</b>	<b>AR</b>
0	<b>600</b>	0	0	<b>0</b>
50	<b>600</b>	30 000	30 000 50 <b>600</b>	<b>600</b>
100	<b>600</b>	60 000	30 000 50 <b>600</b>	<b>600</b>
150	<b>600</b>	90 000	30 000 50 <b>600</b>	<b>600</b>
200	<b>600</b>	120 000	30 000 50 <b>600</b>	<b>600</b>
250	<b>600</b>	150 000	30 000 50 <b>600</b>	<b>600</b>

# EQUILIBRIUM OF THE FIRM: RULES FOR PROFIT MAXIMIZATION

- The shut down rule:

- Total approach

- $TR - TC$

- Firms produce where TR is greater or equal to TVC

- **\*In principle, firms should produce only if AR is greater or equal to AVC. WHY?**

- The profit-maximising rule

- Marginal Approach

- $MR = MC$

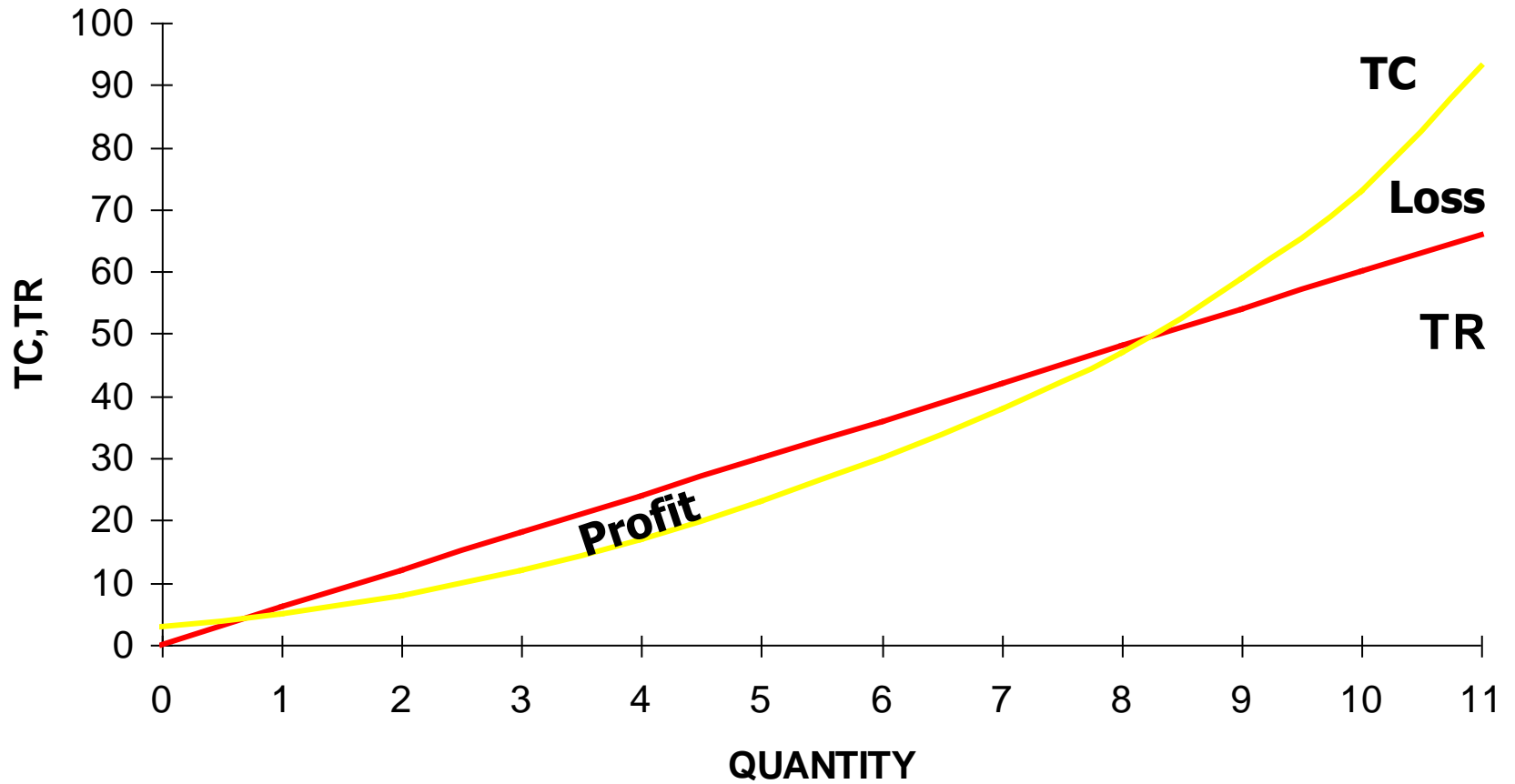
- **\*What output decisions must the firm make if it is producing where**

- **MR > MC and where MC > MR?**

# TOTAL APPROACH

<b>QUANTITY</b>	<b>PRICE</b>	<b>TR</b>	<b>TC</b>	<b>PROFIT</b>
<b>0</b>	<b>6</b>	<b>0</b>	<b>3</b>	<b>-3</b>
<b>1</b>	<b>6</b>	<b>6</b>	<b>5</b>	<b>1</b>
<b>2</b>	<b>6</b>	<b>12</b>	<b>8</b>	<b>4</b>
<b>3</b>	<b>6</b>	<b>18</b>	<b>12</b>	<b>6</b>
<b>4</b>	<b>6</b>	<b>24</b>	<b>17</b>	<b>7</b>
<b>5</b>	<b>6</b>	<b>30</b>	<b>23</b>	<b>7</b>
<b>6</b>	<b>6</b>	<b>36</b>	<b>30</b>	<b>6</b>
<b>7</b>	<b>6</b>	<b>42</b>	<b>38</b>	<b>4</b>
<b>8</b>	<b>6</b>	<b>48</b>	<b>47</b>	<b>1</b>
<b>9</b>	<b>6</b>	<b>54</b>	<b>59</b>	<b>-5</b>

# TOTAL APPROACH GRAPHICALLY



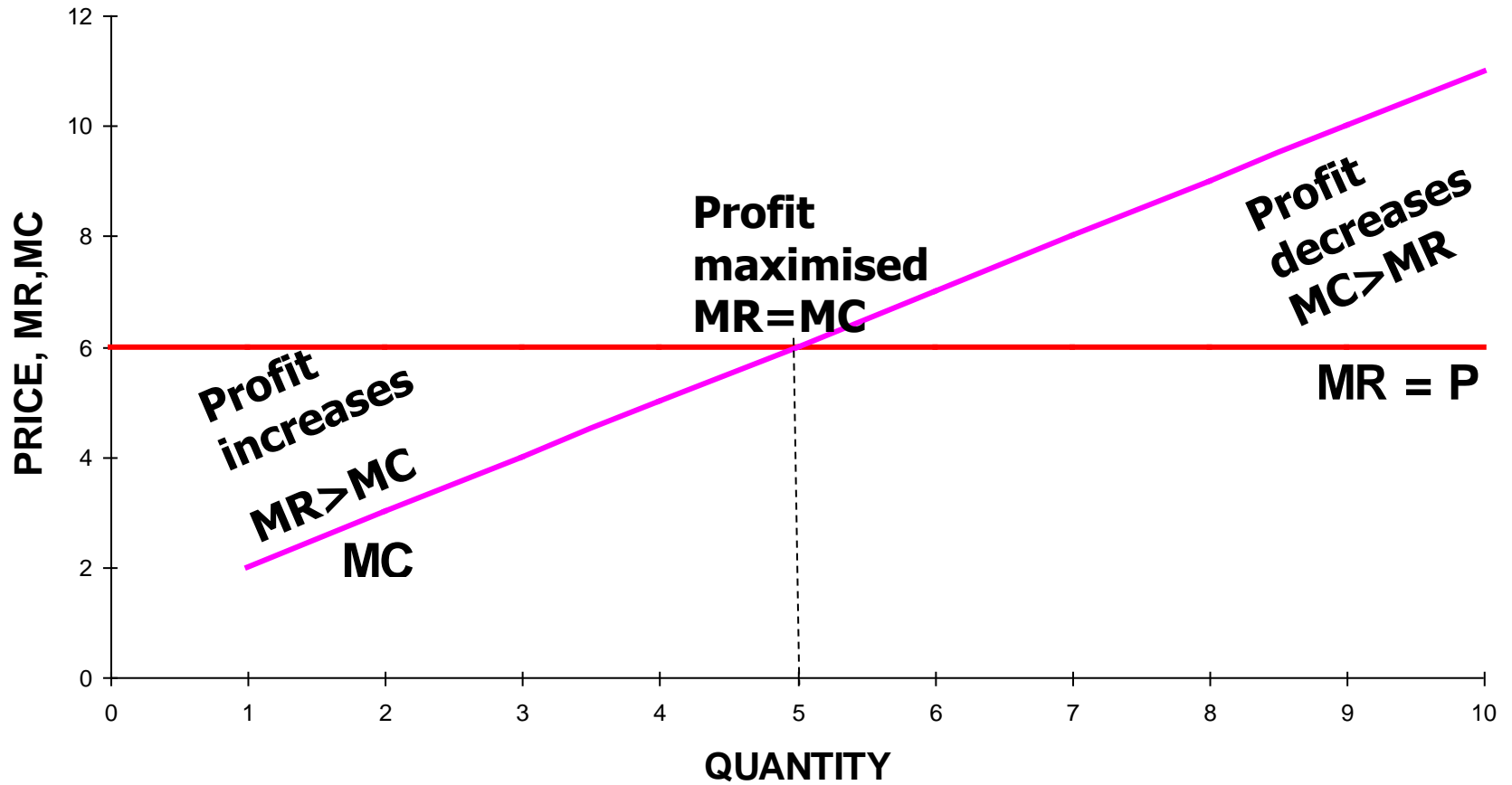
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# MARGINAL APPROACH

Q	P	TR	MR	TC	MC	AC	PROFIT
0	6	0	0	3	0	0	-3
1	6	6	6	5	2	5	1
2	6	12	6	8	3	4	4
3	6	18	6	12	4	4	6
4	6	24	6	17	5	4,25	7
<b>5</b>	<b>6</b>	<b>30</b>	<b>6</b>	<b>23</b>	<b>6</b>	<b>4,60</b>	<b>7</b>
6	6	36	6	30	7	5	6
7	6	42	6	38	8	5,43	4
8	6	48	6	47	9	5,88	1
9	6	54	6	59	12	6,55	-5
10	6	60	6	73	14	7,30	-13

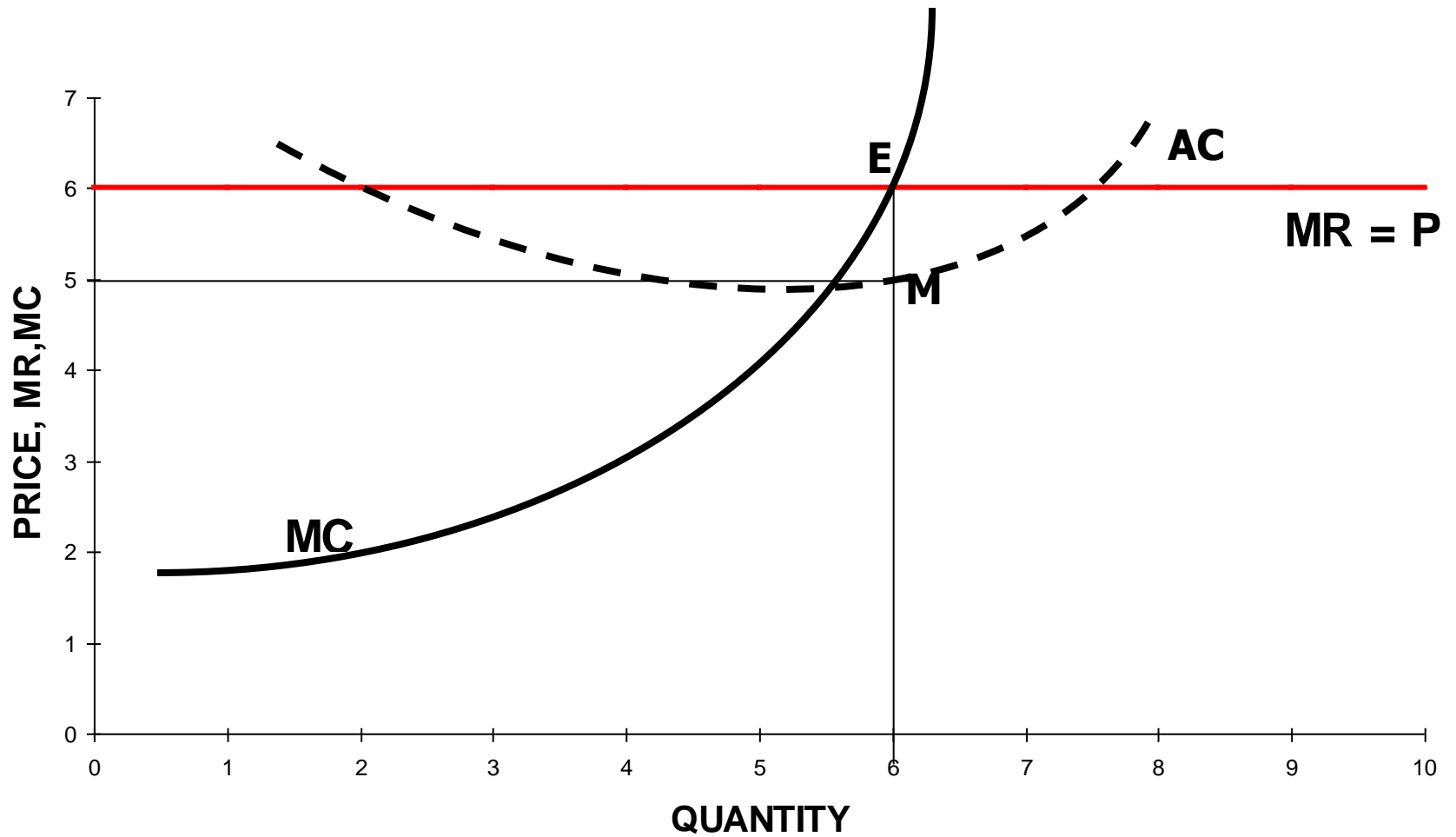
# MARGINAL APPROACH GRAPHICALLY



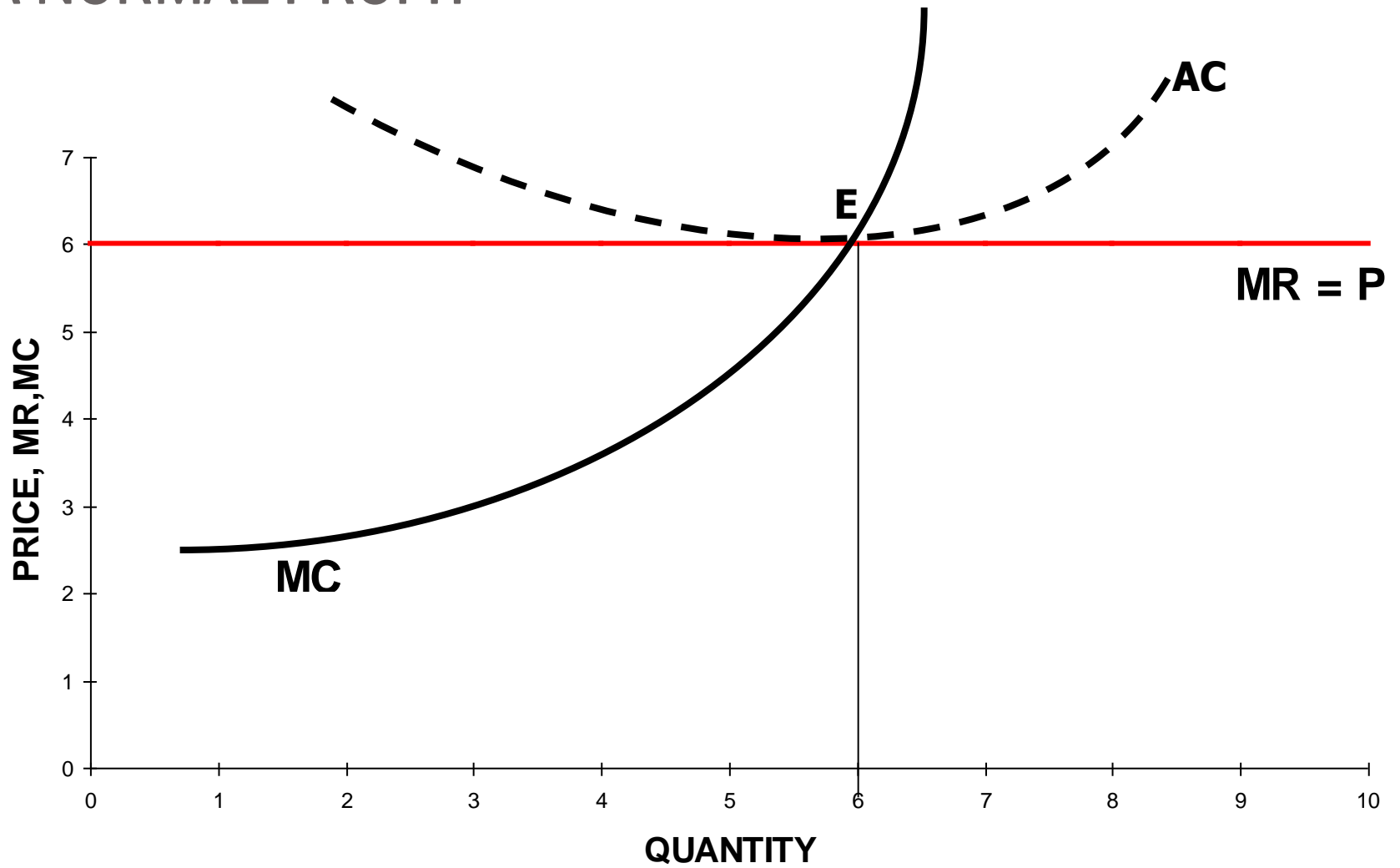
# PROFIT AND LOSS POSITIONS IN THE SHORT RUN

- **Economic profit:**
  - $P > \text{minimum of AC.}$
  
- **Normal Profit**
  - $P = \text{minimum of AC}$
  
- **Economic loss**
  - $P < \text{minimum of AC}$

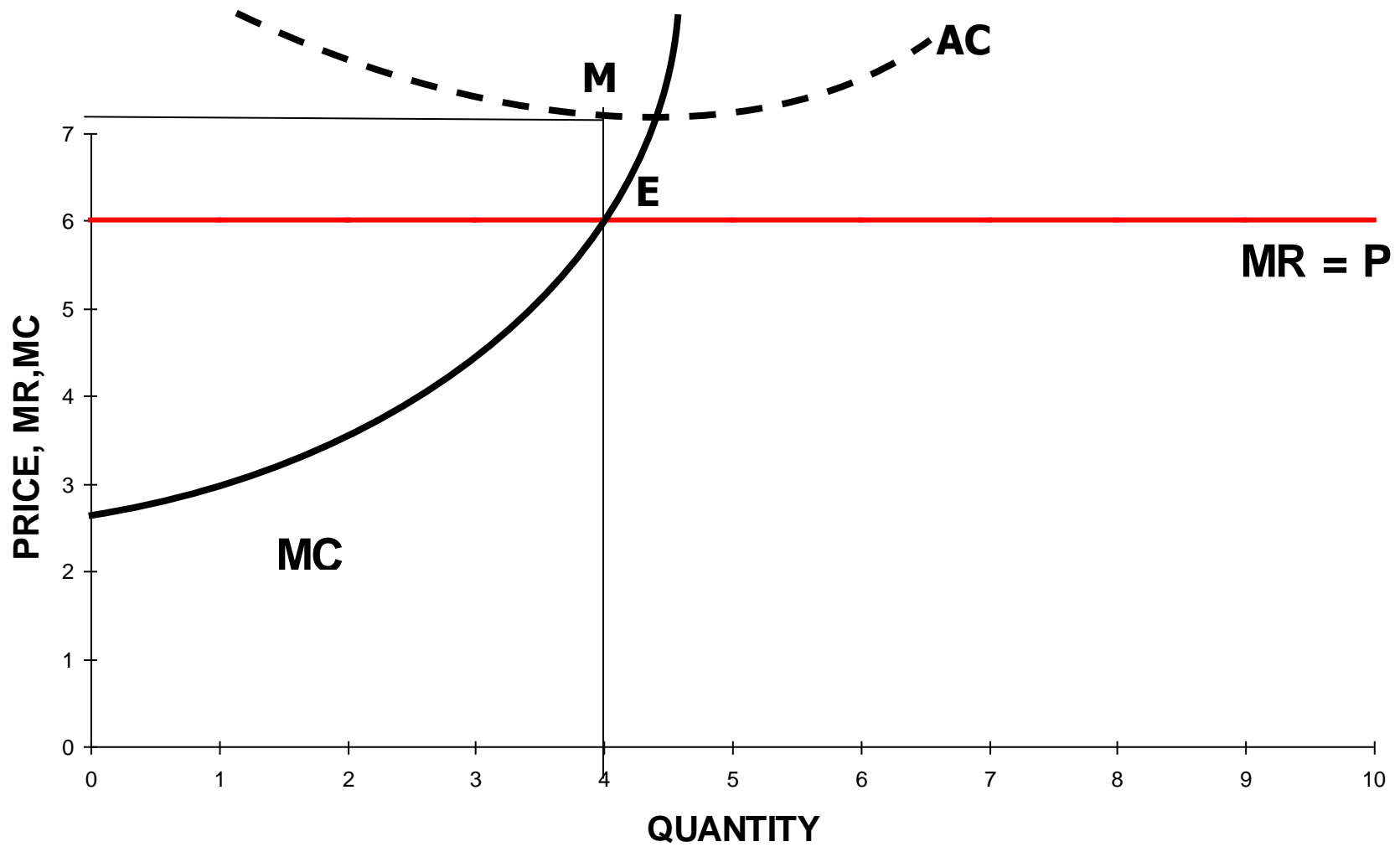
# AN ECONOMIC PROFIT



# A NORMAL PROFIT

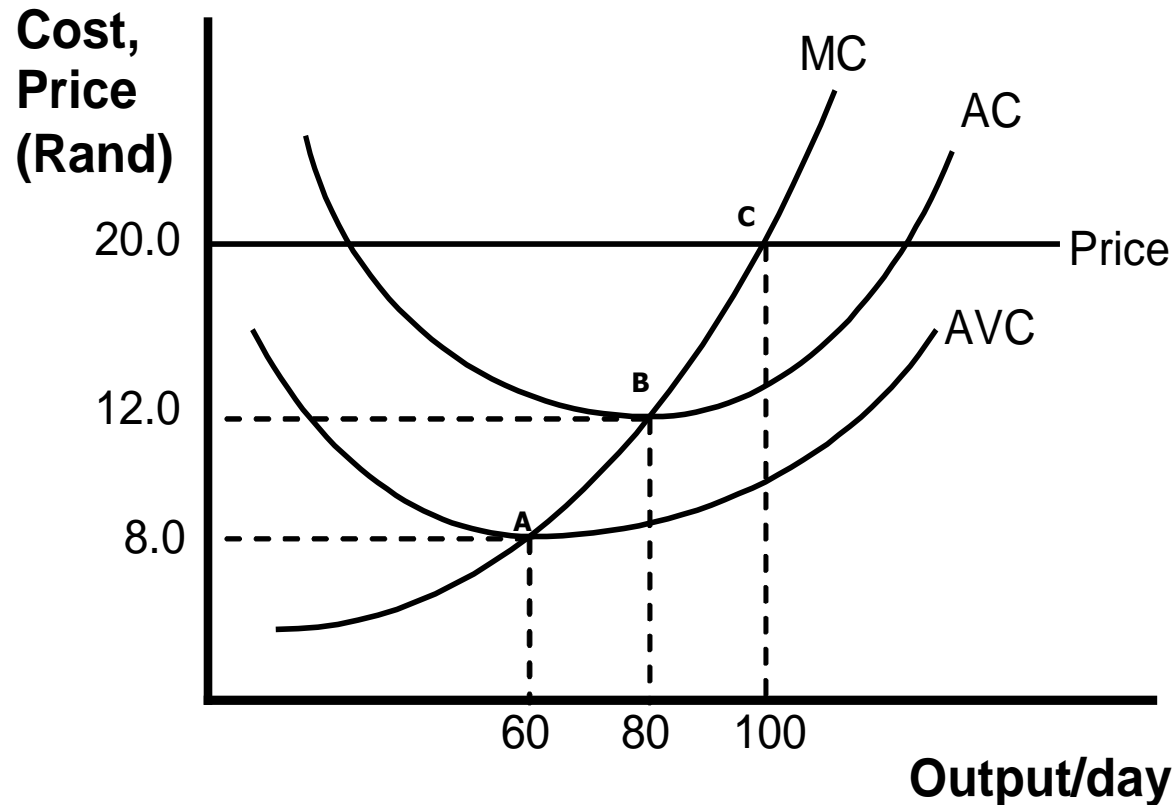


# AN ECONOMIC LOSS



# THE FIRM'S SUPPLY CURVE

- Example – also see figure 12.7



# LONG RUN EQUILIBRIUM OF THE FIRM AND INDUSTRY

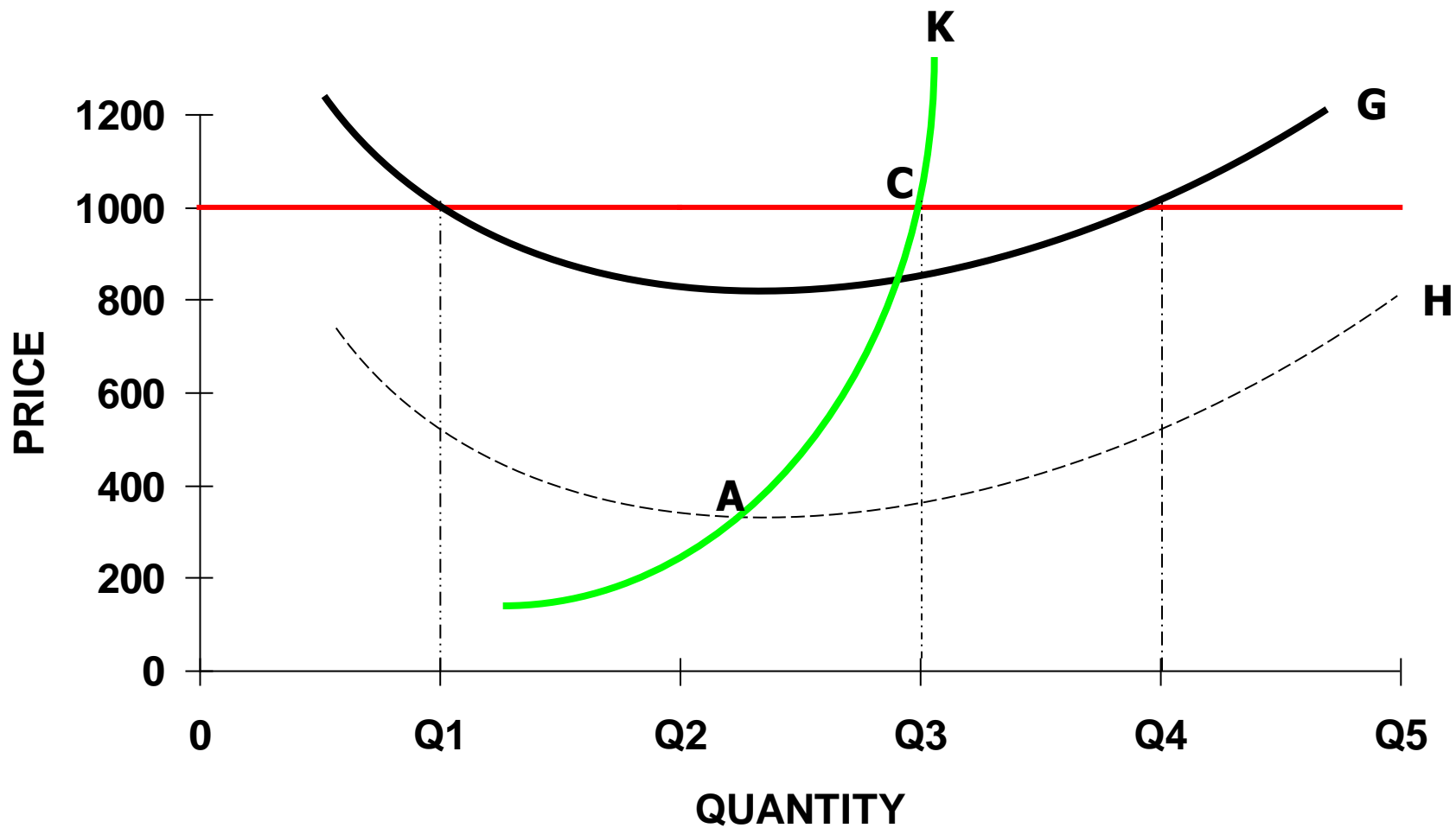
- Definition of long run equilibrium.
- Implications of freedom of entry and exit:
  - If profits are made in the short run
  - If losses are made in the short run



# ACTIVITY: perfect competition

1. A perfectly competitive firm maximises profits where .....
2. A perfectly competitive firm will make an economic loss in the short run if .....
3. If firms make economic profit in the short-run, then firms will ..... the industry, causing supply to .....  
[Hint: leave, enter, OR decrease , increase]
4. When does the industry reach the long-run equilibrium?
5. In the long run, new firms can enter the industry, but existing firms can not leave the industry. TRUE/FALSE?
6. In the long-run, at least one factor of production is fixed. T/F?

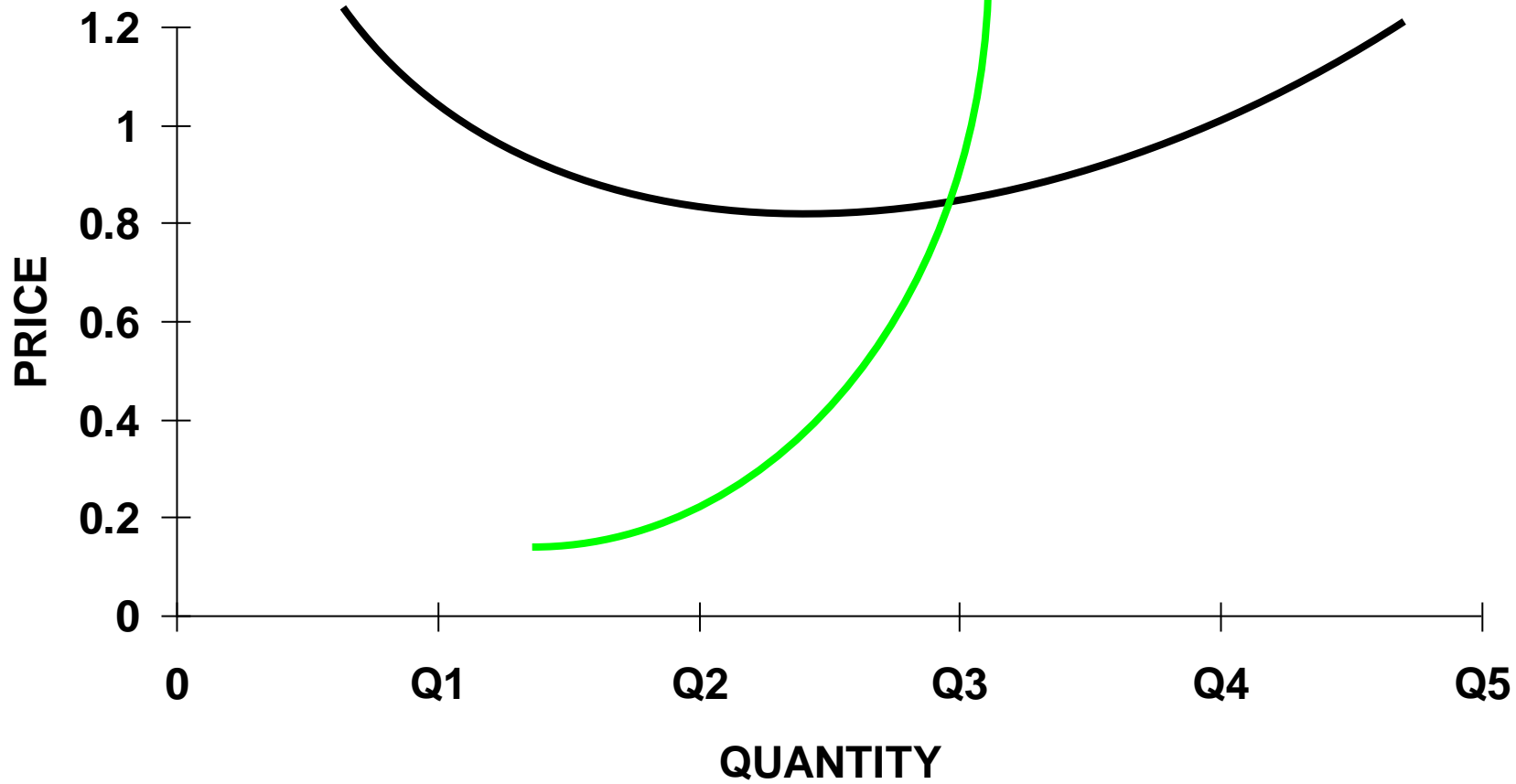
# EXAM-TYPE QUESTIONS: SHORT-RUN EQUILIBRIUM



## QUESTION RELATING TO SLIDE 18

- Curve H represents which curve?
- Name curve K.
- At which quantity is profit maximised?
- What does the price line represent?
- The short-run supply curve of the firm is from?
- Is this firm earning an economic profit, normal profit or economic loss?
- What does the vertical distance between curve H and G represent?

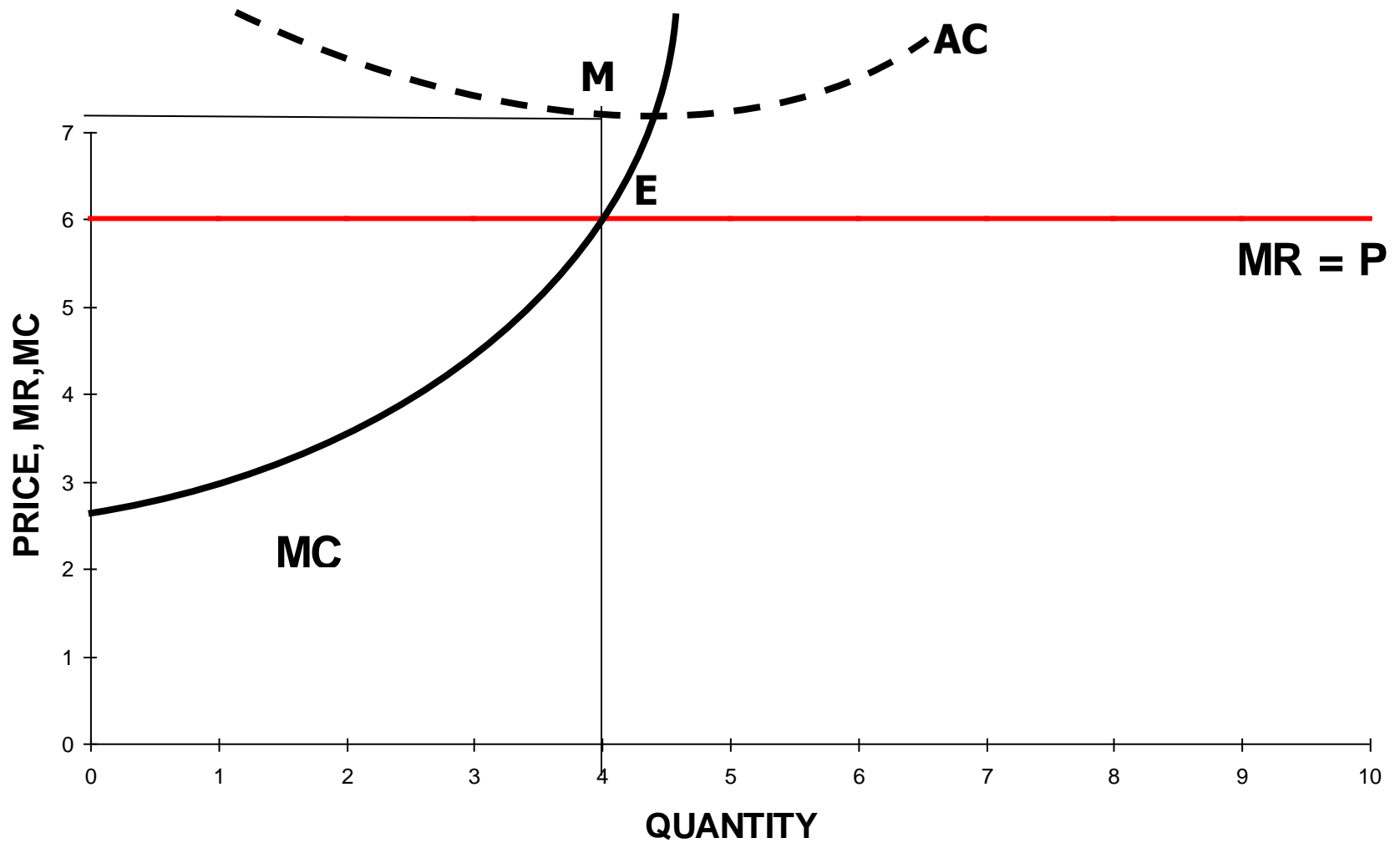
# SHORT-RUN EQUILIBRIUM



## QUESTION RELATING TO SLIDE 20

- Name the 2 curves.
- Illustrate an economic loss on the graph with the aid of a shaded area.

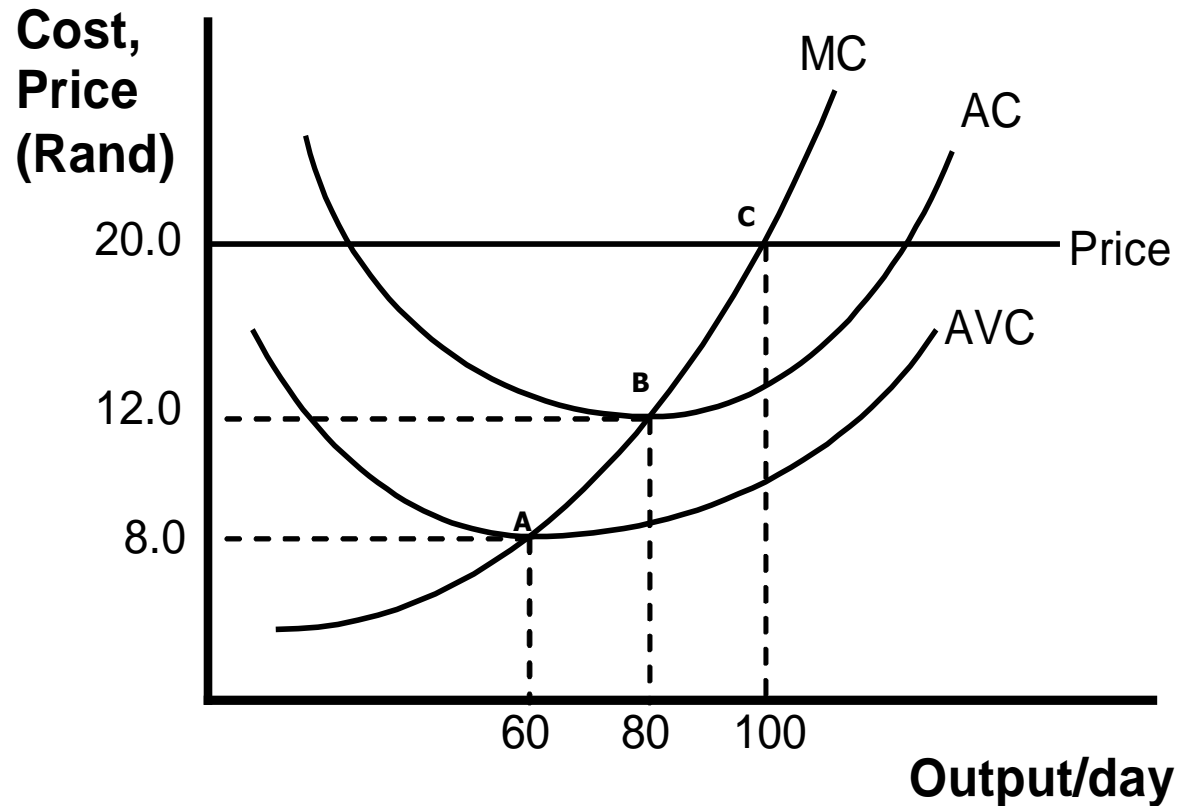
# SHORT TERM EQUILIBRIUM POSITIONS OF THE FIRM - AN ECONOMIC LOSS



## Examination-type questions

- What is the profit maximising rule for the firm in a perfectly competitive market which applies the marginal approach?
- When will a firm increase production according to the marginal approach?
- When will a firm reduce its production according to the marginal approach?

# ACTIVITY: profit maximisation





## Questions Relating to slide 26

- What is the firm's profit-maximising daily output?
- What is the total daily revenue of the profit-maximising firm?
- At which price will it be immaterial for the firm if it shuts down or continues production?
- At what point will the firm minimize its economic loss?
- What will the firm earn at a price of R20? Briefly explain why?
- Briefly explain the concept *break even*. Also indicate at which corresponding point on the figure this situation will occur.
- The vertical distance between *AC* and *AVC* represents.....
- Which part of the firm's *MC* curve can be regarded as the firm's supply curve?

# Questions Relating to slide 26