

2. ① $MC > AVC$

$$2q_i + 50 > q_i + 50$$

$$q_i > 0$$

$$P = MC = 2q_i + 50$$

$$\Rightarrow q_i = \frac{P}{2} - 25 \quad \text{Ans: } q_i = \frac{P}{2} - 25, q_i > 0$$

$$\textcircled{2} Q^S = 40 \left(\frac{P}{2} - 25 \right) = 20P - 1000$$

$$A: 20P - 1000$$

$$\textcircled{3} 20P - 1000 = 3500 - 1000$$

$$20P = 4500$$

$$P^* = 150 \quad Q^* = 2000$$

$$\textcircled{4} q_i = \frac{P}{2} - 25 = \frac{150}{2} - 25 = 50 \quad \text{A: } P^* = 150 \quad Q^* = 2000$$

$$AC = q_i + 50 + \frac{600}{q_i} = 102$$

$$\pi = TR - TC$$

$$= 150 \times 50 - 102 \times 50$$

$$= 7500 - 5100$$

$$= 2400$$

$$\text{A: 销售量 } 50$$

$$\pi = 2400$$

3. ① $MC > AVC$

$$2q_i + 80 > q_i + 80$$

$$q_i > 0$$

$$P = MC = 2q_i + 80$$

$$q_i = \frac{P}{2} - 40$$

$$\text{A: } q_i = \frac{P}{2} - 40, q_i > 0$$

$$\textcircled{2} Q^S = 40 \left(\frac{P}{2} - 40 \right) = 20P - 1600$$

$$\text{A: } 20P - 1600$$

$$\textcircled{3} 20P - 1600 = 2000 - 1600$$

$$20P = 3600$$

$$P^* = 120, Q^* = 800$$

$$\text{A: } P^* = 120, Q^* = 800$$

$$\textcircled{4} q_i = \frac{P}{2} - 40 = \frac{120}{2} - 40 = 20$$

$$AC = q_i + 80 + \frac{300}{q_i} = 115 \quad \pi = 20 \times 120 - 20 \times 115$$

$$= 2400 - 2300 = 100 \quad \text{A: } \pi = 100$$

經濟 = 2 分支型 A107260100 1/4

$$Q^d = 2000 - 10P$$

設 $STC = q_i^2 + 50q_i + 100$

① 廠商短期供給曲線

$$MC = 2q_i + 50$$

$$AVC < MC = q_i + 50 < 2q_i + 50$$

$$AVC = q_i + 50$$

$$\Rightarrow q_i > 0$$

$$P = MC = 2q_i + 50$$

$$q_i = \frac{P}{2} - 25$$

$$\text{Ans: } q_i = \frac{P}{2} - 25, q_i > 0$$

② 市場供給曲線

$$Q^s = 40 \left(\frac{P}{2} - 25 \right) = 20P - 1000 \quad \text{Ans: } 20P - 1000$$

③ 市場均衡 P^*, Q^*

$$Q^s = Q^d$$

$$20P - 1000 = 2000 - 10P$$

$$30P = 3000$$

$$P = 100, Q = 1000$$

$$A: P^* = 100, Q^* = 1000$$

④ 廠商最適產量與利潤(元)

$$q_i = \frac{100}{2} - 25 = 25$$

$$AC = q_i + 50 + \frac{100}{q_i} = 79$$

$$\pi = 100 \times 25 - 79 \times 25 = 525$$