1. A sunk cost is one that
   a. changes as the level of output changes in the short run
   b. was paid in the past and will not change regardless of later decisions
   c. should determine the rational course of action in the future
   d. has the most impact on profit-maximizing decisions
   e. influences rational decision makers

2. If marginal cost is greater than average total cost then
   a. profits are increasing
   b. economies of scale are becoming greater
   c. average total cost remains constant
   d. average total cost is increasing
   e. average total cost is decreasing

3. If expansion of an industry’s output causes a downward shift of firms’ average total cost curves,
   a. each firm earns a long-run economic profit
   b. all of the following are correct
   c. there will be long-run economic profits
   d. it is a decreasing-cost industry
   e. it is an increasing-cost industry

4. A natural monopoly is producing an output level of 1000 units per day. If the monopoly is broken up into 5 firms, then average total cost for each of the 5 firms
   a. will exceed the monopolist’s average total cost
   b. will equal the monopolist’s average total cost
   c. will fall below the monopolist’s average total cost
   d. may equal or fall below the monopolist’s average total cost
   e. may equal or exceed the monopolist’s average total cost

5. Rent seeking lowers profits by
   a. shifting the market demand curve to the right
   b. shifting the market supply curve to the left
   c. shifting the ATC curve upward
   d. shifting the ATC curve downward
   e. flattening the marginal revenue curve

6. When a firm engages in perfect price discrimination,
   a. marginal revenue is equal to price
   b. marginal revenue is below price
   c. marginal revenue is below marginal cost
   d. profits are reduced relative to a single-price monopolist
   e. rent-seeking behavior must occur
7. A firm in a monopolistically competitive market is similar to a monopolist in the sense that it
   a. must overcome significant barriers to entry
   b. faces a downward-sloping demand curve
   c. produces a large share of the market output
   d. is dependent on the actions of other firms
   e. produces the same product as its competitors do

8. If the Gini coefficient decreases,
   a. income inequality rises
   b. compensating wage differentials fall
   c. the Lorenz curve moves closer to the diagonal line
   d. the poverty rate falls
   e. the Lorenz curve moves farther away from the diagonal line

9. Production possibilities frontiers are typically concave (bowed out) from the origin because
   a. of the law of supply
   b. there is usually a one-for-one trade-off in resources used in production
   c. economies of scale enable firms to reduce the average costs of production as output rises
   d. the opportunity costs of a good rises as the quantity of the good produced increases
   e. resources are often left idle in the firm

10. For a given supply curve, the more inelastic the demand for a good,
   a. the more of an excise tax that is paid by sellers
   b. the less an excise tax is shifted
   c. the smaller the burden of an excise tax
   d. the more of an excise tax that is paid by buyer
   e. the smaller the increase in market price following imposition of an excise tax

11. Lin is maximizing total utility while consuming food and clothing. Her marginal utilities of food and clothing are 50 utils and 25 utils, respectively. If clothing is priced at $10 per unit, the price of a unit of food
   a. must be rising
   b. must be falling
   c. must equal $10 as well
   d. must equal $20
   e. cannot be determined without additional information

12. A price floor in a perfectly competitive market
   a. creates more harm for sellers than gain for buyers
   b. is effective only if it is set at the equilibrium price
   c. is a Pareto improvement
   d. can turn an inefficient outcome into an efficient outcome
   e. creates more harm for buyers than gain for sellers
13. Which of the following is a definition of value added? Revenue received by a firm for its output
   a. minus the cost of all the final goods bought
   b. plus the cost of all the intermediate goods bought
   c. minus the cost of all the intermediate goods bought
   d. minus the cost of all the interest payments
   e. plus the cost of all the final goods bought

14. A decrease in the government’s budget deficit will
   a. increase the supply of loanable funds, lower the interest rate, and increase investment spending
   b. reduce the supply of loanable funds, raise the interest rate, and reduce investment spending
   c. increase the demand for loanable funds, raise the interest rate, and reduce investment spending
   d. reduce the demand for loanable funds, lower the interest rate, and increase investment spending
   e. increase the supply of loanable funds, reduce the demand for loanable funds, leave the interest rate unchanged, and increase investment spending

15. If aggregate expenditure was less than GDP, which of the following would happen?
   a. Inventories would shrink and GDP would drop in future periods
   b. Inventories would grow and GDP would drop in future periods
   c. Inventories would shrink and GDP would increase in future periods
   d. Inventories would grow and GDP would increase in future periods
   e. Inventories would not change and GDP would drop in future periods

16. Assuming that households do not change their cash holdings and banks loan out all of their excess reserves, if the required reserve ratio (RRR) is 10 percent and the Fed purchases $2,000 worth of bonds from banks, how much money will be eventually created?
   a. $1,800
   b. $2,000
   c. $9,000
   d. $18,000
   e. $20,000

17. If the federal government announces a tax cut, which of the following is most likely in the short run?
   a. a decrease in output, an increase in money demand, and an increase in the interest rate
   b. an increase in output, an increase in money demand, and a decrease in the interest rate
   c. a decrease in output, a decrease in money demand, and a decrease in the interest rate
   d. an increase in output, a decrease in money demand, and a decrease in the interest rate
   e. an increase in output, an increase in money demand, and an increase in the interest rate

18. In the short run, an increase in the money supply will
   a. decrease the interest rate, increase real GDP, and decrease the price level
   b. increase the interest rate, decrease real GDP, and decrease the price level
   c. result in decreases in the interest rate and real GDP, which are then followed by increases in the interest rate which offset some of the change in real GDP
   d. result in decreases in the interest rate and increase in real GDP, which are then followed by increases in the interest rate which offset some of the increase in real GDP
   e. result in increases in the interest rate and decrease in real GDP, which are then followed by decreases in the interest rate which offset some of the decrease in real GDP
19. If money demand changes for some reason other than a spending shock, the Fed can stabilize

   a. GDP without changing the interest rate
   b. GDP, but at the expense of interest rate stability
   c. GDP by keeping the interest rate stable
   d. the price level by keeping the interest rate stable
   e. the price level and GDP by stabilizing the interest rate

20. If the U.S. interest rate falls relative to the British interest rate,

   a. the U.S. demand for pounds will increase
   b. the U.S. demand for pounds will decrease
   c. the U.S. demand for pounds will not change
   d. there will be a rightward movement along the U.S. demand curve for pounds
   e. there will be a leftward movement along the U.S. demand curve for pounds

二、問答題

1. 甲乙兩家公司同時推出類似的新款商品並準備撰寫商品作廣告，假定每家公司的廣告策略分為兩種，一為大作廣告（500萬的廣告支出），另一為小作廣告（100 萬的廣告支出）兩種。其們的獲利除了這廣告支的費影響外，同時也受到對手廣告支出的影響而定。假定兩家公司的獲利狀況如下：（15%）

<table>
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<tr>
<th>乙公司</th>
<th>500 萬的廣告支出</th>
<th>100 萬的廣告支出</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>甲：5千萬；</td>
<td>甲：3千萬；</td>
</tr>
<tr>
<td></td>
<td>廣告支出 乙：5千萬。</td>
<td>廣告支出 乙：8千萬。</td>
</tr>
<tr>
<td></td>
<td>甲：8千萬；</td>
<td>甲：6千萬；</td>
</tr>
<tr>
<td></td>
<td>廣告支出 乙：3千萬。</td>
<td>廣告支出 乙：6千萬。</td>
</tr>
</tbody>
</table>

請問
   (1) 甲公司的優勢策略（dominant strategy）為何？為什麼？
   (2) 上述的 Nash equilibrium 爲何？其們的利潤分別是多少？
   (3) 如果甲乙兩家公司勾結，其們會採取什麼策略？其們利潤各是多少？

2. 簡易的 Keynes 模型如下（15%）

   \[ C = 100 + 0.8Y_d \]
   \[ Y_d = Y - T \]
   \[ T = 100 + 0.25Y \]
   \[ I = 410 \]
   \[ G = 350 \]
   \[ X = 410 \]
   \[ M = 20 + 0.1Y \]

   式中：C：消費，G：政府支出，I：投資，X：出口，M：進口，T：租稅，Y_d：可支配所得。

請問
   (1) 均衡所得等於多少？這時貿易帳戶會出現盈餘或赤字？等於多少？
   (2) 如果要使經濟體系的 \( X = M \)，貿易帳戶保持平衡，這時所得應該等於多少？投資要增加或減少多少才可以？

3. (1) 規模經濟分為內部規模經濟和外部規模 Economy，請問這兩種有何不同？(5%)
   (2) 如果出現規模 Economies，是否就不存在邊際生產力遞減？請說明。(5%)

試題完