壹、單選題: 每題 2 分，共計 50 分；請於答題卷繪製一【5 列 × 5 欄】表格，每格左上角標明題號，由左至右依序填入答案。

1. Suppose the opportunity cost is a constant 500 TV sets for 1 truck in Canada and 1,000 TV sets for 8 trucks in Mexico. Then, if both countries specialize in accordance with their comparative advantage, the production of 1,000 extra TV sets in one country and 1,000 fewer TV sets in the other would imply that the world as a whole can have
   a. 2 more trucks
   b. 6 more trucks
   c. 8 more trucks
   d. 125 more trucks
   e. 500 more trucks

2. Refer to Figure 1. Suppose the economy is in equilibrium with real GDP of $7 trillion. A demand shock shifts the aggregate demand curve to $AD_2$, increasing real GDP to its full-employment level of $7.2$ trillion. In the long run, following the shock, we would expect the
   a. aggregate demand curve to shift rightward, further increasing real GDP and the price level
   b. aggregate demand curve to shift leftward, returning real GDP to $7 trillion
   c. aggregate supply curve to shift downward, returning the price level to 120
   d. aggregate supply curve to shift upward, returning real GDP to $7 trillion
   e. economy to remain at the new level of output of $7.2$ trillion

3. If the required reserve ratio is 20 percent, banks loan out all excess reserves, people hold no currency, and the Fed sells $5 billion worth of bonds to banks, what is the ultimate impact on the money supply?
   a. The money supply will increase by $5 billion.
   b. The money supply will decrease by $5 billion.
   c. The money supply will increase by $25 billion.
   d. The money supply will decrease by $25 billion.
   e. The money supply will not change.

4. Refer to Figure 2. Use the graph to determine the marginal propensity to consume.
   a. 0.5
   b. 0.6
   c. 0.75
   d. 0.8
   e. 0.9

5. Refer to Figure 3. If the labor supply curve shifts from $S_1$ to $S_2$, what will happen to the real hourly wage rate? The real hourly wage rate will
   a. remain constant and employment will increase to 130 million
   b. fall to $15 and employment will increase to 120 million
   c. fall to $10 and employment will remain at 110 million
   d. fall to $15 and employment will remain at 110 million
   e. fall to $15 and employment will fall to 100 million
6. Which of the following statements is true?
   a. nominal GDP = (GDP price index/real GDP) × 100
   b. nominal GDP = (real GDP/GDP price index) × 100
   c. real GDP = (GDP price index/nominal GDP) × 100
   d. real GDP = (nominal GDP/GDP price index) × 100
   e. GDP price index = (real GDP/nominal GDP) × 100

7. Using the table below, calculate GDP.

<table>
<thead>
<tr>
<th>Consumption spending</th>
<th>$1,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wages and salaries</td>
<td>800</td>
</tr>
<tr>
<td>Rent</td>
<td>100</td>
</tr>
<tr>
<td>Government purchases</td>
<td>200</td>
</tr>
<tr>
<td>Profit</td>
<td>300</td>
</tr>
<tr>
<td>Exports</td>
<td>400</td>
</tr>
<tr>
<td>Interest</td>
<td>250</td>
</tr>
<tr>
<td>Private investment spending</td>
<td>400</td>
</tr>
<tr>
<td>Imports</td>
<td>550</td>
</tr>
</tbody>
</table>

Based on the above information, GDP in this year was
   a. $1,450
   b. $2,000
   c. $2,550
   d. $2,900
   e. $4,000

8. Which of the following is a normative macroeconomic statement?
   a. An increase in government spending will reduce unemployment.
   b. An active government policy should be employed to maintain a healthy economy.
   c. Cutting taxes will create inflationary pressure.
   d. Budget deficits adversely affect economic growth.
   e. Gross domestic product grew 3 percent this year.

9. Figure 4. shows the market supply and demand curves for compact discs. At which of the following points is the marginal benefit of a compact disc equal to $30 for some consumer?
   a. A
   b. F
   c. C
   d. G
   e. H

10. Since each firm in an imperfectly competitive market faces a downward-sloping demand curve,
    a. it demands more of the good as the price rises
    b. it supplies more of the good as the price rises
    c. marginal cost equals price at the profit-maximizing output levels
    d. the market price is too low
    e. price exceeds marginal cost at their profit-maximizing output levels

11. Consider an economy in which all labor markets are perfectly competitive, all workers are equally able to do any job, and the nonwage attributes of all jobs are equally attractive to all workers. Figure 5. shows supply and demand curves in the labor markets for maintenance workers and machinists. In the long run, the hourly wage rate(s)
    a. for machinists will fall to $8
    b. for maintenance workers will rise to $11
    c. will equalize below $8 in both markets
    d. will equalize between $8 and $11 in both markets
    e. will equalize above $11 in both markets
12. In order to maximize its economic profit in the short run, the monopoly firm illustrated in Figure 6 should produce
   a. the output level associated with point F
   b. the output level associated with point G
   c. the output level associated with point H
   d. the output level associated with point I
   e. zero

Figure 6.

13. Figure 7 shows the marginal cost and average total cost curves for a perfectly competitive firm. This firm will
   a. earn an economic profit
   b. incur an economic loss in this long-run situation
   c. incur an economic loss in the short run and close
   d. break even if it expands to 180 units of output
   e. incur an economic loss and continue producing in the short run

Figure 7.

14. The All-the-Rage microbrewery is represented in Figure 8. If the market price is $2.50 per pint, then in the short run, the microbrewery will
   a. earn the same profit by producing zero pints as by producing 50 pints per day
   b. produce zero pints per day to avoid an economic loss
   c. produce 50 pints per day and break even
   d. produce between zero and 50 pints per day
   e. produce more than 50 pints per day

Figure 8.

15. In Figure 9, which of the five output levels corresponds to the highest total revenue?
   a. level A
   b. level B
   c. level C
   d. level D
   e. level E

Figure 9.

16. The firm depicted in Figure 10, currently is producing 200 units of output per day. If it decides to increase its output level to 375 units, then it will
   a. adjust from point F to point G in the short run
   b. be unable to adjust to point G in the short run because some inputs are fixed
   c. be unable to adjust to point G in the long run because some are fixed
   d. be unable to adjust to point H in the short run because some inputs are fixed
   e. adjust from point F to point H in the long run
17. At point b in Figure 11, the consumer's utility is
   a. higher than at points a and c, but the cost of all three
      bundles is the same
   b. the same as at points a and c, but the total cost of
      bundle b is lower than the costs of bundles a and c
   c. the same as at points a and c, but the total cost of
      bundle b is higher than the costs of bundles a and c
   d. lower than at points a and c
   e. higher than at points a and c

18. In Figure 12, a movement from point G to point H would
   a. a change in demand
   b. the impact of a decrease in the price of a substitute
      good
   c. higher prices for the inputs used to produce this
      product
   d. a change in demand plus a change in quantity
      demanded
   e. a change in quantity demanded

19. Assume that U.S. agricultural land is used either to raise
    cattle for beef or to grow wheat. Figure 13 depicts the
    production possibility frontier for beef and wheat. Between
    points F and G, the opportunity cost of one bushel of wheat
    equals
   a. 0.25 million pounds of beef
   b. 1.75 million pounds of beef
   c. 0.125 pounds of beef
   d. 8.0 pounds of beef
   e. 0.5 pounds of beef

20. Brian and Matt own the only two bicycle repair shops in
    town. Each must choose between a low price for repair
    work and a high price. The yearly economic profits from
    each strategy are indicated in Figure 14. The upper right
    side of each rectangle shows Brian's profits; the lower left
    side shows Matt's profits. Which of the following
    statements is correct?
   a. Matt's dominant strategy is to charge a low price.
   b. Brian's dominant strategy is to charge a high price.
   c. The dominant strategy for both Brian and Matt is to
      charge a low price.
   d. Matt's dominant strategy is to charge a high price.
   e. Neither Brian nor Matt has a dominant strategy.
23. If consumption of a good creates positive externalities, then
   a. private demand is greater than marginal social benefit
   b. marginal private benefit is less than marginal social benefit
   c. private cost is less than marginal social cost
   d. marginal social cost is greater than marginal social benefit
   e. marginal private cost is zero

24. Stagflation is the combination of
   a. falling output and a falling price level
   b. falling output and rising unemployment
   c. falling output and a rising price level
   d. falling output and falling unemployment
   e. rising unemployment and a falling price level

25. If there was a decrease in autonomous consumption, which of the following could the Federal Reserve do to stabilize output in the short run?
   a. mandate an increase in wages
   b. undertake an open-market purchase of bonds
   c. undertake an open-market sale of bonds
   d. increase the discount rate
   e. increase the required reserve ratio
貳、問答題：3題，共計50分，請標明題號依序作答。

1. (20%)
假设本國某產業為雙占產業，其中 A 廠商為國內生產者，而 B 廠商為國外生產者。兩家廠商的成本函數為

\[ \begin{align*}
TC_A &= 6Q_A \\
TC_B &= 6Q_B
\end{align*} \]

兩家廠商生產齊質性(homogenous)產品，市場需求函數為

\[ P = 30 - (Q_A + Q_B) \]

(1)假設兩廠商採用 Cournot 式競爭，試回答下列問題:

(a) Cournot 均衡達成時，個別廠商之最適生產數量 \(Q^*_A\) 與利潤 \(\pi^*_A\)。

(b) Cournot 均衡達成時之市場均衡價格 \(P^*\)。

(2)假設兩廠商採用 Stackelberg 式，若 A 廠商為領導者，B 廠商為跟隨者，試求個別廠商之最適生產數量 \(Q^*_A, Q^*_B\)。

（3）假設兩廠商採用勾結，使整個聯合利潤極大，求整個市場均衡價格與產量。

2. (20%)
在開放經濟體系下，Fleming (1962) 之模型可以下式表示

商品市場: \[ Y = C(Y) + I(r) + G + T(E, Y, Y^*) \]

貨幣市場: \[ L(Y, r) = DR + FR \]

外匯市場: \[ T(E, Y, Y^*) + K(r - r^*) = F \]

其中，\(Y\):產出；\(Y^*\):國外產出；\(r\):本國利率；\(r^*\):國外利率；\(G\):政府支出；\(T\):貿易收支；\(E\):匯率(以本國貨幣表示的外幣價格)；

\(L\):貨幣需求；\(DR\):央行所持有的本國債券與國庫券；\(FR\):外匯存底；\(K\):資本浹流；\(F\):國際收支

(1)請依據上述模型，求解 IS 線、LM 線與 BP 線之斜率，並解釋其內涵。

(2)在 Fleming 的模型假設下，分析下列政策之產出效果，並解釋其經濟意涵:
(a) 擴張性財政政策。
(b) 擴張性貨幣政策。
(c) 本國貨幣貶值。

(3) 請比較固定匯率與浮動匯率下，政府採用擴張性貨幣政策之產出效果。

3.(10%)
有下列三種生產函數

\[ Q = f(L, K) = \text{Min} \left( \frac{L}{\alpha}, \frac{K}{\beta} \right) \]

\[ Q = f(L, K) = L^{1/2}K^{1/2} \]

(1) 試分別證明上述二個生產函數均為固定規模報酬。

(2) 試分別求出上述二個生產函數之替代彈性。