Examination Period 3: 2016/17

Module Title: Intermediate Macroeconomics
Level: Five
Time Allowed: Two hours

Instructions to students:

- Enter your student number **not** your name on all answer books.
- Answer **all** questions from Section A and **three** out of the **four** questions from Section B.
- **Section A:** All questions are equally weighted. Answer all questions by circling your chosen answer.
- **Section B:** Each question carries 25 marks
  Answer **three** out of the **four** questions.
  Begin each question in a separate answer book; label each answer book clearly with the number of the question you are answering.
- Students are **not** permitted to remove this examination paper from the examination room. For all purposes the examination paper remains the property of the University of Northampton.
- Calculators are **not** permitted.
- Insert your student number in the space below:

Student Number.................................

<table>
<thead>
<tr>
<th>No. of Pages</th>
<th>7</th>
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</thead>
<tbody>
<tr>
<td>No. of Questions</td>
<td>24</td>
</tr>
</tbody>
</table>
Section A

Answer all questions.

1. The unemployment rate is:

   a. the fraction of the population with no job
   b. the fraction of those seeking work with no job
   c. the rate of growth of those with no job
   d. the rate of growth of those seeking work

2. When GDP is expanding toward a high point it is called a(n):

   a. depression
   b. boom
   c. recession
   d. inflation

3. During recessions the unemployment rate:

   a. declines
   b. increases
   c. is stable
   d. is unmeasurable

4. The dollar price paid to use capital is known as:

   a. the interest rate
   b. the exchange rate
   c. the rental price of capital
   d. the general price level

5. In an economic model:

   a. endogenous variables feed into a model to affect exogenous variable
   b. exogenous variables feed into a model to affect endogenous variables
   c. exogenous and endogenous variables feed into the model
   d. none of the above

6. An exchange rate reflects:

   a. the sum of the values of two currencies
   b. the rate at which one currency exchanges for another currency
   c. the relative levels of labour supply in two countries
   d. the relative levels of capital in two countries

Section A continues overleaf
7. Consumption depends ______ on disposable income, and investment depends ______ on the real interest rate.

   a. positively; positively
   b. positively; negatively
   c. negatively; negatively
   d. negatively; positively

8. If the consumption function is given by $C = 500 + 0.5(Y - T)$, and $Y$ is 6,000 and $T$ is given by $T = 200 + 0.2Y$, then $C$ equals:

   a. 2,500
   b. 2,800
   c. 3,500
   d. 4,200

9. If $L$ equals the size of the labour force, $E$ the number of employed workers, and $U$ the number of unemployed workers, the unemployment rate is equal to:

   a. $(L-E)/L$
   b. $U/L$
   c. $1-(E/L)$
   d. all of the above

10. A government policy that will increase frictional unemployment is a(n):

    a. extension of job training
    b. increase in unemployment benefits
    c. reduction in the minimum wages
    d. dissemination of information about job vacancies

11. Equilibrium in the market for goods and services determines the ______ interest rate and the expected rate of inflation determines the ______ interest rate.

    a. ex ante real; ex ante nominal
    b. ex post real; ex post nominal
    c. ex ante nominal; ex post real
    d. ex post nominal; ex post real

12. Holding other factors constant, legislation to cut taxes in an open economy will:

    a. increase national saving and lead to a trade surplus
    b. increase national saving and lead to a trade deficit
    c. reduce national saving and lead to a trade surplus
    d. reduce national saving and lead to a trade deficit

Section A continues overleaf
13. If the real exchange rate depreciates from 1 Japanese good per U.S. good to 0.5 Japanese good per U.S. good, then U.S. exports ______ and U.S. imports ______.
   a. increase; increase  
   b. decrease; decrease  
   c. increase; decrease  
   d. decrease; increase

14. Holding other factors constant, legislation to cut taxes in an open economy will:
   a. increase national saving and lead to a trade surplus  
   b. increase national saving and lead to a trade deficit  
   c. reduce national saving and lead to a trade surplus  
   d. reduce national saving and lead to a trade deficit

15. In a small open economy, if the government encourages investment, say through an investment tax credit, investment:
   a. increases and is financed through an increase in national saving  
   b. increases and is financed through an increase in exports  
   c. increases and is financed through an inflow of foreign capital  
   d. does not increase; the interest rate rises instead

16. According to the quantity theory of money, if output is higher, ______ real balances are required, and for fixed M this means ______ P.
   a. higher; lower  
   b. lower; higher  
   c. higher; higher  
   d. lower; lower

17. If the short-run aggregate supply curve is horizontal, then changes in aggregate demand affect:
   a. level of output but not prices  
   b. prices but not level of output  
   c. both prices and level of output  
   d. neither prices nor level of output

Section A continues overleaf
18. If an aggregate demand curve is drawn with real GDP (Y) along the horizontal axis and the price level (P) along the vertical axis, using the quantity theory of money as a theory of aggregate demand, this curve slopes ______ to the right and gets ______ as it moves farther to the right.

a. downward; steeper
b. downward; flatter
c. upward; steeper
d. upward; flatter

19. When the Bank of England reduces the money supply, at a given price level the amount of output demanded is ______ and the aggregate demand curve shifts ______.

a. greater; inward
b. greater; outward
c. lower; inward
d. lower; outward

20. The vertical long-run aggregate supply curve satisfies the classical dichotomy because the natural rate of output does not depend on:

a. the labour supply
b. the supply of capital
c. the money supply
d. technology
Section B

Answer three out of four questions.

21. Given the quantity equation theory that MV=PY, suppose the Bank of England reduces the money supply by 5 per cent:

a. Demonstrate and discuss the impact on the aggregate demand curve. (8 marks)

b. Demonstrate and discuss the impact on the level of output and the price level in the short run and in the long run. (8 marks)

c. According to Okun’s law, what happens to unemployment in the short run and in the long run? (9 marks)

22. Given the following hypothetical data for the UK economy for 2016

<table>
<thead>
<tr>
<th>Item</th>
<th>£</th>
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<tbody>
<tr>
<td>GDP</td>
<td>1249</td>
</tr>
<tr>
<td>Income receipts from rest of world</td>
<td>51</td>
</tr>
<tr>
<td>Income payments to rest of world</td>
<td>47</td>
</tr>
<tr>
<td>Depreciation of capital stock</td>
<td>157</td>
</tr>
<tr>
<td>Statistical discrepancy</td>
<td>4</td>
</tr>
<tr>
<td>Corporate taxes/ contribution for social insurance/net interest/business transfers/surplus of government enterprises</td>
<td>364</td>
</tr>
<tr>
<td>Personal income receipts on assets, personal transfer payments</td>
<td>299</td>
</tr>
<tr>
<td>Personal taxes</td>
<td>121</td>
</tr>
</tbody>
</table>

a. Calculate GNP, NNP, National income, Personal income, Disposable income. (15 marks)

b. What are the shortcomings of GDP, as a national measure? (10 marks)
23. There are three clear reasons why the real wage may remain above the level that brings labour supply and labour demand to equilibrium.

   a. Discuss? (12 marks)

   b. Given the following notations:

   \[ L = \text{labour force} \]
   \[ E = \text{number of the employed} \]
   \[ U = \text{number of the unemployed} \]
   \[ U/L = \text{unemployment rate (u)} \]
   \[ s = \text{rate of job separation} \]
   \[ f = \text{rate of job finding} \]

   Derive:
   i. the steady state unemployment condition. (4 marks)
   ii. the equilibrium rate of employment. (4 marks)

   c. Suppose the rate of job separation is 0.02 and the rate of job finding is 0.08 and the current unemployment rate is 0.10. How will the unemployment rate change in the next period (increase or decrease) and why? (5 marks)

24. Use the model of small open economy to predict what would happen to trade balance in response to each of the following events:

   a. A contractionary fiscal policy at home (e.g., a reduction in government spending). (7.5 marks)

   b. The government provides an investment tax credit to encourage higher investment. (7.5 marks)

   c. Consider an economy described by the following equations:

   \[ Y = C + I + G + NX \]
   \[ Y = 5,000 \]
   \[ G = 1,000 \]
   \[ T = 1,000 \]
   \[ C = 250 + 0.75(Y - T) \]
   \[ I = 1,000 - 50r \]
   \[ NX = 500 - 500e \]
   \[ r = r^* = 5 \]

   In this economy, solve for national saving, investment, the trade balance, and the equilibrium exchange rate. (10 marks)