1st Midterm Exam

Note: The duration of the exam is 80 minutes. Good luck!

Part 1: Each question is worth 2 points. The whole section is worth 50 points.

1) The circular flow diagram shows
   A) how the prices of factors are determined.
   B) how nominal GDP is distinct from real GDP.
   C) the flows between different sectors of the economy.
   D) the effects of inflation in a simple economy.

2) Depreciation
   A) does not change the level of capital in the economy.
   B) is a stock variable.
   C) is the decrease in the capital stock because of wear and tear.
   D) Both answers B and C are correct.

3) Which of the following is not included in the investment component of GDP?
   A) A firm builds a new warehouse.
   B) A household invests in an expensive dinner.
   C) A business fails to sell all of its output and therefore experiences an increase in inventories.
   D) Purchase of new equipment by a business.

4) Goods that are produced this year, stored in inventories, and then sold to consumers next year
   A) count in next year’s GDP.
   B) count in both this year’s and next year’s GDP.
   C) count in this year’s GDP.
   D) are not counted as a part of GDP.

5) Economists distinguish real from nominal GDP to
   A) determine whether the government sector is growing.
   B) determine whether real production has changed.
   C) determine whether economic welfare has changed.
   D) measure the change in nominal interest rates.

6) Which of the following people would be counted as is unemployed in the Labour Force Survey?
   A) Rich, who is working 20 hours a week but wants a full-time job.
   B) Jason, who was laid off from work less than 6 months ago but who has stopped looking for work.
   C) Debbie, who just graduated from college and is looking for work.
   D) Misty, who just quit her job to return full-time to school.

7) Inflation is defined as a continuing increase in
   A) the price level.
   B) the wages of all workers.
   C) money GDP.
   D) the prices of specific products.
8) Which of the following is NOT a major concern of macroeconomics?  
A) Stock prices  
B) Output growth  
C) Inflation  
D) None of the above  

9) A recession is conventionally defined as a period in which __________ declines for __________ consecutive quarters.  
A) aggregate output; two  
B) stock prices; four  
C) aggregate output; four  
D) employment; four  

10) Personal consumption expenditure is computed as follows:  
A) nonresidential sales + inventories  
B) durable goods + nondurable goods and services  
C) durable goods + exports  
D) durable goods = nondurable goods - federal taxes  

11) If a U.S. firm produces computers in the United States and sells them in Germany, the computers are part of __________ production and should be counted as part of __________ GDP.  
A) German; U.S.  
B) German; German  
C) North American; European  
D) U.S.; U.S.  

12) Which choice below is TRUE?  
A) A decrease in crime is an increase in output and is reflected in GDP.  
B) GDP accounting rules do not adjust for production that pollutes the environment.  
C) Most nonmarket and domestic activities are counted in GDP, as they amount to real production.  
D) GDP is not neutral about the kinds of goods an economy produces.  

13) Which of the following would not occur in an ideal economy?  
A) Rapid growth of output per worker  
B) Low unemployment  
C) Deflation  
D) None of the above  

14) Which of the following statements about the problem of inflation is correct?  
A) Everyone is hurt from inflation.  
B) Incomes and prices increase at the same rate during an inflation.  
C) The sustained growth in the United States in the 1990s brought higher inflation with it.  
D) Increases in economic activity often, but not always, seem to encourage inflation.  

15) If \( C = 100 + .8Y \), then \( S = \)  
A) 0.25Y  
B) \(-100 + .2Y\)  
C) \(-80 + .2Y\)  
D) 100 + .2Y
16) In a closed economy with no government, equilibrium in the goods market occurs at that point
A) where \( Y = C \).
B) where \( S = I \).
C) at which actual aggregate expenditure is greater than aggregate output.
D) at which actual aggregate expenditure is less than aggregate output.

17) The size of the multiplier depends on the
A) point at which consumption intersects the vertical axis.
B) level of equilibrium output.
C) point of intersection of the 45° line and planned aggregate expenditure.
D) marginal propensity to consume.

Refer to the information provided in Figure 8.8 below to answer the questions that follow.

![Figure 8.8](image)

18) Refer to Figure 8.8. At aggregate output level $300 million, there is a
A) $100 million increase in inventories.
B) $75 million increase in unplanned inventories.
C) $100 million decrease in inventories.
D) $75 million decrease in unplanned inventories.

19) Refer to Figure 8.8. How will equilibrium aggregate expenditures and equilibrium aggregate output change as a result of a decrease in investment by $20 million?
A) \( AE \) line shifts down, increasing equilibrium output and equilibrium expenditures.
B) \( AE \) line shifts down, decreasing equilibrium output and equilibrium expenditures.
C) \( AE \) line shifts up, increasing equilibrium output and equilibrium expenditures.
D) \( AE \) line shifts down, increasing equilibrium output and decreasing equilibrium expenditures.

20) The sum of frictional and structural unemployment is thought of as the
A) cyclical rate of unemployment.
B) normal rate of unemployment.
C) seasonal rate of unemployment.
D) natural rate of unemployment.
Part 2: Answer all of the questions. This section is worth 60 points. Read the questions carefully, and show all your work where asked, otherwise you will not be given full credit for the question.

1) The country of Old Jersey produces milk and butter, and it has published the following macroeconomic data, where quantities are in gallons and prices are dollars per gallon.

<table>
<thead>
<tr>
<th>Good</th>
<th>Year 1</th>
<th>Year 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milk</td>
<td>Quantity</td>
<td>Price</td>
</tr>
<tr>
<td>500</td>
<td>$2</td>
<td>900</td>
</tr>
<tr>
<td>Butter</td>
<td>2000</td>
<td>$1</td>
</tr>
</tbody>
</table>

a) Calculate the nominal GDP for each year.

Nom. GDP\_1 = (500*2) + (2000*1) = 3000
Nom GDP\_2 = (900*3) + (3000*2) = 8700

b) What is the Real GDP in Year 2 (Base Year is Year 1)?

Real GDP = (900*2) + (3000*1) = 4800

c) Using Year 1 as the base year, what is the growth rate of real GDP from Year 1 to Year 2?

Growth rate = \([4800 – 3000) / 3000]\] *100 = 6%

2) The country of Hope has published the following macroeconomics data. (10 points)

<table>
<thead>
<tr>
<th>Table 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employed</td>
</tr>
<tr>
<td>Unemployed</td>
</tr>
<tr>
<td>Not in the Labor Force</td>
</tr>
</tbody>
</table>

a) Refer to table 1 and calculate labor force and labor force participation rate (3 points)

Labor force= employed + unemployed = 340000
Population= 340000+160000=500000
LFPR = labor force / population = (340000/500000)*100 =68%

b) What is the unemployment rate according to the table 1? (3 points)
Unemployment rate = (100000/340000)\times 100 = 29.4\% 

c) Suppose that 10000 unemployed people who have been actively looking for a job get discouraged because of lack of new job positions and stop looking for work. Calculate the new labor force and unemployment rate after this discouraged worker effect. (4 points)

Unemployed = 100000 – 10000 = 90000
Labor force = 240000 + 90000 = 330000
Unemployment rate = (90000 / 330000)\times 100 = 27.2\%

3) Next to each item below, state whether they are included in Turkish GDP or not? For those items that are not included, explain why they are not included in Turkish GDP. (14 points, 2 points each)

a) The sale of a new car from a manufacturer's inventory **Not in GDP** (**not produced this year**)  

b) The purchase of a watch from a Swiss company **Not in GDP** (**not produced within the boundaries of the country**)  

c) The sale of a used car **Not in GDP** (**not produced in current year**)  

d) A newly constructed house **GDP**  

e) Purchase of newly issued shares of stock in Macro.com, Inc. **Not in GDP** (**financial transaction**)  

f) The wages of Turkish migrants who work in Switzerland. **Not in GDP** (**not in the boundaries of the country**)  

g) The purchase of 100 liras worth of fish by a seafood restaurant from a fisherman. **Not in GDP**  

4) Consider the following model of the short run closed economy with no government. (21 points)

\[ C = 500 + 0.5Y \]
\[ I = 400 \]

a) How much are the autonomous expenditures? (3 points)

\[ 500 + 400 = 900 \]
b) What is the equilibrium level of aggregate output? (Show all your work)

Draw the graph for the equilibrium level (make sure where autonomous spending starts and where the AE function crosses the 45° reference line). (5 points)

\[ \text{AE} = C + I = 500 + 0.5Y + 400 = 900 + 0.5Y \]
\[ Y = \text{AE} \]
\[ Y = 900 + 0.5Y \]
\[ 0.5Y = 900 \]
\[ Y = 1800 \]

\[ \text{AE} \]
\[ \text{Y} = \text{AE} \]
\[ \text{AE} = 900 + 0.5Y \]

\[ 900 \]
\[ 1800 \]
\[ Y \]

\[ \text{c) What is the value of multiplier? (Show your work) (3 points)} \]

\[ \text{Multiplier} = \frac{1}{1 - \text{MPC}} = \frac{1}{1 - 0.5} = 2 \]

c) What is the value of multiplier? (Show your work) (3 points)

\[ \text{Multiplier} = \frac{1}{1 - \text{MPC}} = \frac{1}{1 - 0.5} = 2 \]

d) Now suppose that autonomous investment spending increases to 500. What will be the new level of output in equilibrium? (Show your work) (5 points)

There are two ways to go about this problem. Both of the answers are acceptable.

1) \[ \text{AE} = C + I = 500 + 0.5Y + 500 = 1000 + 0.5Y \]
\[ Y = \text{AE} \]
\[ Y = 1000 + 0.5Y \]
\[ 0.5Y = 1000 \]
\[ Y = 2000 \]

2) The change in investment spending is 100.
Since the multiplier is 2 the change in equilibrium output will be 200. Hence the new equilibrium output level will be 1800 + 200 = 2000.

\[ \Delta I = 500 - 400 = 100 \]
\[ \Delta Y = \text{multiplier} \times \Delta I = 2 \times 100 = 200 \]
\[ Y = 1800 + 200 = 2000 \]

Answers to Multiple Coice Questions
1) C
2) C
3) B
4) C
5) B
6) C
7) A
8) A
9) A
10) B
11) D
12) B
13) C
14) D
15) B
16) B
17) D
18) B
19) B
20) D