Problem Set 4 (Chapters 10-11)

Essay Questions

1) Refer to the information provided in table below to answer the questions that follow.

<table>
<thead>
<tr>
<th>Employment</th>
<th>10,000 people</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unemployment</td>
<td>2,500 people</td>
</tr>
<tr>
<td>Economically inactive</td>
<td>3,000 people</td>
</tr>
</tbody>
</table>

Calculate

a) The economically active = Employment + Unemployment = 10,000 + 2,500 = 12,500 people
b) The unemployment rate = (Unemployment/Economically active) = (2,500/12,500) * 100 = 20%
c) The economic activity rate = Economically active/Working age population = (12,500/(12,500 + 3,000)) * 100 = 80.65%
d) The employment rate = Employment/Economically active = (10,000/12,500) * 100 = 80%

2) The information below is for a two-good economy and it shows production and prices for three consecutive years:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Shoes</td>
<td>100</td>
<td>30</td>
<td>200</td>
<td>20</td>
<td>100</td>
<td>10</td>
</tr>
<tr>
<td>Pen</td>
<td>50</td>
<td>20</td>
<td>100</td>
<td>10</td>
<td>150</td>
<td>20</td>
</tr>
</tbody>
</table>

a) Calculate the nominal GDP for each year. Show all your work.
   2000 ----- 100 * 30 + 50 * 20 = 4000
   2001 ----- 200 * 30 + 100 * 10 = 5000
   2002 ----- 100 * 10 + 150 * 20 = 4000

b) Calculate the real GDP for each year using 2000 as the base year. Show all your work.
   2000 ----- = 4000 (The real GDP in 2000 is the same as the nominal GDP in 2000 because the base year is 2000)
   2001 ----- 200 * 30 + 100 * 20 = 8000 (we use prices in 2000)
   2002 ----- 100 * 30 + 150 * 20 = 6000 (we use prices in 2000)

c) By what percentage did real GDP rise from year 2000 to year 2001 and from year 2001 to year 2002?

   From 2000 to 2001:
   \[ \frac{GDP_{2001} - GDP_{2000}}{GDP_{2000}} \times 100 = \frac{(8000 - 4000)}{4000} \times 100 = 100\% \]
   GDP increased by 100% from 2000 to 2001

   From 2001 to 2002:
   \[ \frac{GDP_{2002} - GDP_{2001}}{GDP_{2001}} \times 100 = -25\% \]
   GDP decreased by 25% from 2001 to 2002

3) Which of the following is an intermediate good? Which of the following is a final good?

   I) Coffee beans bought by Starbucks.
   II) Starbucks coffee bought by a student.
   III) The purchase of a new limo for the prime minister.
   IV) Tires Ford buys to put on a car.
4) Use the data in the table below to calculate aggregate expenditure and imports of goods and services.

<table>
<thead>
<tr>
<th>Item</th>
<th>Billions of pounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government Expenditure on goods and Services</td>
<td>25</td>
</tr>
<tr>
<td>Aggregate income</td>
<td>110</td>
</tr>
<tr>
<td>Consumption Expenditure</td>
<td>65</td>
</tr>
<tr>
<td>Investment</td>
<td>20</td>
</tr>
<tr>
<td>Exports of goods and services</td>
<td>25</td>
</tr>
</tbody>
</table>

Aggregate expenditure is ________ billion pounds.
Aggregate income = Aggregate expenditure
Aggregate expenditure = 110
Imports of goods and services are ________ billion pounds.
Aggregate expenditure equation: Y=C+I+G+X-M, import: M
110=65+20+25+25-M
M=25
Net exports are ________ billion pounds.
Net exports= X-M
X-M=25-25
X-M = 0

Multiple Choice Questions

1) UK Gross domestic product is the market value of all the ________ produced ; ________ in a ________.
   A) Final Goods and services; within the UK; given time period
   B) goods; within the UK; month
   C) goods; by UK firms located anywhere in the world; year
   D) Final Goods and services; by UK firms located anywhere in the world; quarter

2) During a year, a firm’s net investment is $4000 and depreciation is $1000. The firm’s gross investment is
   A) $6000
   B) $4000
   C) $5000
   D) $1000

3) All of the following are examples of net investment except
   A) the purchase of bookshelves by DNR
   B) The purchase of cash registers by Migros
   C) TRT’s purchase of a new studio
   D) a person depositing $100 a week to her savings account

4) A bakery uses flour to produce bread. When calculating GDP, we include ________, because when we add the value of the flour to the value of bread to calculate GDP, the result is ________.
   A) Both the value of bread sold in a store and the value of the flour used to produce the bread; the true value of the economy’s output
B) Only the value of bread sold in a store; double counting
C) Both the value of bread sold in a store and the value of the flour used to produce the bread; double counting
D) Only the value of the flour used to produce the bread; double counting

5) An electrician who is laid off because the economy is in a recession and who gets rehired some months later ______________.
   A) frictionally unemployed.
   B) structurally unemployed.
   C) cyclically unemployed.
   D) naturally unemployed.

6) When an economics professor quits his/her job at a university and starts looking for a better job in another university, he/she is
   A) frictionally unemployed.
   B) structurally unemployed.
   C) cyclically unemployed.
   D) naturally unemployed.

7) The unemployment that arises when changes in technology or international competition change the skills is
   A) frictionally unemployed.
   B) structurally unemployed.
   C) cyclically unemployed.
   D) naturally unemployed.

8) CPI tells us ___________.
   A) the price level in a given period expressed as a percentage of the price level in the base period, which is by definition equal to zero
   B) the inflation rate in a given period compared to the inflation rate in the base period, which is by definition equal to zero
   C) the price level in a given period expressed as a percentage of the price level in the base period, which is by definition equal to 100
   D) the inflation rate in a given period compared to the inflation rate in the base period, which is by definition equal to 100

9) If the CPI in 2001 was 100 and the CPI in 2002 was 130, then the rate of inflation between 2001 and 2002 was
   A) 11%.
   B) 30%.
   C) 13%.
   D) 14%.

10) An increase in the overall price level is known as
    A) deflation.
    B) recession.
    C) inflation.
    D) stagflation.

11) The term business cycle refers to the
    A) Periodic but irregular up and down movement of total production.
    B) Regular up and down movement of total production.
    C) long-term trends in the level of total production.
D) None of the above.

12) In a business cycle, a peak represents the end of ________ and a trough represents the end of ________.
   A) an expansion; a recession
   B) a depression; an expansion
   C) a trough; a peak
   D) a recession; an expansion