Sample Questions: Applied Macroeconomics
ECO 3202.U02
Chapters: 1, 2 and 3

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

1) The Compagnie Naturelle sells mounted butterflies, using butterfly bait it buys from another firm for $20,000. It pays its workers $35,000, pays $1000 in taxes, and has profits of $3000. What is its value added?
   A) $19,000      B) $3000      C) $59,000      D) $39,000

2) The equation total production = total income = total expenditure is called
   A) the total identity.
   B) the goods–market equilibrium condition.
   C) Say’s Law.
   D) the fundamental identity of national income accounting.

3) Fred the farmer purchased five new tractors at $20,000 each. Fred sold his old tractors to other farmers for $50,000. The net increase in GDP of these transactions was
   A) $150,000.   B) $100,000.   C) $50,000.   D) $125,000.

4) If C = $500, I = $150, G = $100, NX = $40, and GNP = $800, how much is NFP?
   A) $5        B) -$5        C) -$10        D) $10

5) Monica grows coconuts and catches fish. Last year she harvested 1500 coconuts and 600 fish. She values one fish as having a worth of three coconuts. She gave Rachel 300 coconuts and 100 fish for helping her to harvest coconuts and catch fish, all of which were consumed by Rachel. In terms of fish, Monica’s income would equal
   A) 900 fish.   B) 2700 fish.   C) 1100 fish.   D) 700 fish.

6) Private disposable income equals
   A) GNP − taxes + transfers + interest.
   B) NNP − taxes + transfers + interest.
   C) national income − taxes − transfers + interest.
   D) national income − taxes + transfers + interest.
7) 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></td>
<td>Quantity</td>
<td>Price</td>
</tr>
<tr>
<td>Milk</td>
<td>500</td>
<td>$2</td>
</tr>
<tr>
<td>Butter</td>
<td>2000</td>
<td>$1</td>
</tr>
</tbody>
</table>

Between Year 1 and Year 2, nominal GDP grew by

A) 60.0%.  
B) 190.0%.  
C) 65.5%.  
D) 83.3%.

8) 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.

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Between Year 1 and Year 2, the GDP deflator (based on Year 1 as a base year) rose

A) 60.00%.  
B) 123.00%.  
C) 81.25%.  
D) 83.33%.

9) Nominal gross private domestic investment was $1888.0 billion in 2004 and rose to $2057.4 billion in 2005. The chain-weight price index for gross private domestic investment was 106.6 for 2004 and 110.3 for 2005, where 2000 was the base year. Calculate the percent change in real gross private domestic investment (rounded to the nearest percentage point) from 2004 to 2005.

A) 1%  
B) 5%  
C) 4%  
D) 3%

10) Nominal government purchases were $2226.2 billion in 2004 and rose to $2372.8 billion in 2005. Real government purchases were $1940.6 for 2004 and $1958.0 for 2005, where 2000 was the base year. Calculate the percent change in the chain-weight price index for government purchases (rounded to the nearest percentage point) from 2004 to 2005.

A) 6%  
B) 2%  
C) 4%  
D) 8%

11) The expected real interest rate \( r \) is equal to

A) expected nominal interest rate minus inflation rate.  
B) nominal interest rate plus expected inflation rate.  
C) nominal interest rate minus inflation rate.  
D) nominal interest rate minus expected inflation rate.

12) In the production function \( Y = AF(K, N) \), total factor productivity is

A) \( A \).  
B) \( K/N \).  
C) \( Y/A \).  
D) \( Y/N \).

13) Suppose the economy’s production function is \( Y = A^0.5 N^{0.7} \). When \( K = 1000 \), \( N = 50 \), and \( A = 15 \), what is \( Y \)?

A) 123  
B) 750,000  
C) 1842  
D) 6106
14) The table below represents Freedonia’s macroeconomic data for Year 1 and Year 2.

<table>
<thead>
<tr>
<th>Year</th>
<th>Y</th>
<th>K</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2000</td>
<td>1700</td>
<td>70</td>
</tr>
<tr>
<td>2</td>
<td>2100</td>
<td>1785</td>
<td>75</td>
</tr>
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</table>

Suppose that the production function is given by \( Y = A K^{0.25} N^{0.75} \). Between Year 1 and Year 2, total factor productivity of Freedonia’s economy increased by

A) 12.7%.
B) 5.5%.
C) -1.5%.
D) 5.0%.

15) The marginal product of capital is the increase in

A) output from a one-unit increase in capital.
B) labor needed to accompany a one-unit increase in capital.
C) capital needed to produce one more unit of output.
D) output from a one-dollar increase in capital.
1) D
Value added: Total value of the final product – value of the intermediate good (produced by other company)
(35000+2000+1000+3000)- 20000 = 39000

2) D

3) B
GDP: the value of goods and services in the particular period so the price old tractor is already counted in the GDP
so the net increase is 20000*5 = 100,000

4) D
GNP = C+I+G+NX + NFP
800=500+150+100+40+NFP
NFP=10

5) A
Monica has 1500-300 = 1200 coconuts
600-100 = 500 fishes
If one fish = 3 coconuts, which means 1200 coconuts = 400 fishes
So Monica’s income in terms of fishes is 900

6) A

7) B
Nominal GDP in the year 1 = 500*2 + 2000*1 = $3000
Nominal GDP in the year 2 = 900*3 + 3000*2 = $8700
The percentage increase = (8700-3000)*100/3000 = 190%

8) C
Step 1: we need to calculate the nominal GDP
Year 2 nominal GDP = 900*3 + 3000*2 = $8700
Step 2: calculate the real GDP of year 2 taking the base year 1’s prices
Year 2 real GDP will be 900*2 + 3000*1 = $4800
Step 3: calculate GDP deflator of year 2 i.e. (Nominal GDP of year 2/Real GDP of year 2)*100 = 181.3
Since the base year’s (year 1) deflator is 100 and year 2 deflator is 181.3 which means there is an increase of 81.3%

9) B
Real private domestic investment of year 2004 : (1888/106.6)*100 = $1771
Real private domestic investment of year 2005 : (2057.4/110.3)*100 = $1865
There the percentage change in real private domestic investment between 2004 and 2005 is ((1865-1771)/1771)*100 = 5%

10) A

11) D

12) A

13) C

14) C
15) A