Exercise No: 1

Choose the appropriate answer for each of the following scenarios, and justify your answers in a clear and concise way (1 point per answer)

1 – In a two-sector model, equilibrium occurs when:

a – Consumption plus investment is equal to the value of production.
b – Savings are equal to comsumption.
c – Income is equal to consumption, and savings are equal to zero.

2 – Among the following elements, which one is not included in Investment?

a – Additions to the stock level of businesses.
b – Industrial and residential construction.
c – The purchases of machinery.
d – Consumption expenses.

3 – In a two-agent circular flow

a – The savings leakages are equal to the investment injections.
b – The savings of households represent a leakage outside the circuit.
c – All of the above.
d – Investment represents an injection into the circuit.
e – None of the above.

4 – When the nominal GNP reaches 1100 and the real GNP reaches 1000, the GNP deflator is equal to:

a 90.91, b 9.09, c 110, d 1.11,

5 - To what corresponds the difference between the value of the production of a business and the value of the intemediate goods that it purchased ?

a – Exports, b – value added, c – Net profit, d – Depreciation of capital

In a country where 20 million residents live, 9 million currently work and 1 million are unemployed.

6- If the nominal interest rate is 9% and the inflation rate is 4.5%, the real interest rate is:

a. -4.5% b. 4.5% c. 13.5% d. 9%

7- What is the level of unemployment?

a. 11% b. 10% c. 8% d. 5% e. 1%

8- What is the size of the active population?

a. 20 million b. 10 million c. 9 million d. 8 million e. 1 million

9- One of the following elements is an example of a leakage out of the economic circuit. Which one is it?

a. Exports b. Investment c. Savings d. Subsidies e. Expenses

10- If the price index was 128 at the end of 1987, and 136 at the end of 1988; what is the rate of inflation in 1988?

a. 4.2% b. 5.9% c. 6.25% d. 8% e. 9.4%

11-. Since the base year of the GDP deflator is 1996, it is appropriate to say that

a. nominal GDP was greater than real GDP in 1996.
b. real GDP is GDP measured in 1996 prices.
c. the value of real GDP in 1996 is 100.
d. real GDP in any year is 1996 output multiplied by current prices.

12-. To calculate the real growth rate of GDP,

a. first divide GDP by 100 to get real GDP, then divide real GDP by the GDP deflator, than take the percentage change in real GDP from one year to the next.
b. first take the percentage change in nominal GDP from one year to the next, then divide the result by 100, then divide by the percentage change in the GDP price deflator.
c. first take the percentage change in the GDP price deflator, then divide by the nominal GDP then divide the result by 100
d. first divide the GDP deflator by 100, then divide nominal GDP by the result to get real GDP, then take the percentage change in real GDP from one year to the next.

13-. An inflation rate is calculated as

a. the annual percentage change in the GDP after it has been deflated by a price index.
b. the value of a market basket this year divided by its value in a base year.
c. the percentage change in a price index from one period to another.
d. the value of consumer goods and services as a percentage of the value of all goods and services.

Exercise No : 2 (10 points) 3

Consider two businesses: A and B. In 2004, A produces 500 computers and sells them at 2,000 $ per unit. B produces 5,000 files that it sells at 20 $ per unit.

In 2005, the production of computers declines by 13%, whereas the selling price of a computer increases by 23%. The production of files increases by 13% whereas the selling price of a file remains the same.

A. What is the growth rate of the real and nominal GDP? Comment.

B. Calculate the nominal GDP for 2004 and 2005.

C. calculate the rate of inflation of 2005 considering 2004 as a base year

D. Calculate the real GDP for 2005, considering year 2004 as the base year.

Exercise No : 3 (10 points) 8

Given the following information regarding country X: (the numbers below are in millions)

	1998	1999
Total population	168.2	169.5
Number of unemployed	10.0	11.0
Number of workers	105.2	104.2

a – What can you say regarding the evolution of the rates of activity and unemployment from 1998 to 1999? Explain.

b – Calculate the rate of unemployment for years 1998 and 1999.

c – Calculate the rate of activity of the population for years 1998 and 1999.

(2) In 2004 A (500 computers) produces
(2000$ each)
B (5,000 files)
(20$ each

2005 A (Production ↓ by 13% ⇒ 435 computers
B (Price ↑ by 23% ⇒ $2260 each

B (files ↑ by 13% ⇒ 5690 files
(price of files remains the same)

A)

B) Nominal GDP $_{2004}$ = (500 x 2000) + (5000 x 20) = 1,100,000

Nominal GDP 2005 = (435 x 2260) + (5690 x 20) = 1,096,000

c) $\frac{1100000 - 1,096,000}{1,096,000} \times 100 = 0.36\%$

d) real GDP $_{2005}$ = (435 x 2000) + (5690 x 20) = 483,800

(3) a) The rate of activity in both the years 1998 and 1999 remained the same with 115.2.

While the unemployment rate increased

b) Unemployment rate $_{1998}$ = $\frac{\text{Unemployed}}{\text{labor force}} \times 100 = \frac{10}{115.2} \times 100 =$ **8.6%**

Unemployment rate $_{1999}$ = $\frac{\text{Unemployed}}{\text{labor force}} \times 100 = \frac{11}{115.2} \times 100 =$ **9.5%**

c) rate of activity $_{1998}$ = $\frac{\text{labor force}}{\text{total population}} \times 100 = \frac{115.2}{168.2} \times 100 =$ **68.4%**

rate of activity $_{1999}$ = $\frac{\text{labor force}}{\text{total population}} \times 100 = \frac{115.2}{164.5} \times 100 =$ **67.4%**