FIRST NAME_______________________________________

LAST NAME____

REGISTRATION no._________________________________
(matricola)

UNIVERSITY OF ROME "TOR VERGATA"

Macroeconomics / Global Economics

Academic Year XXXX

Date: **XXXXX**

Time allowed: 2 hours

- For this exam all the exam rules apply.
- Total scores on the multiple-choice section are based on the number of questions answered correctly. No points will be awarded for unanswered questions. Points will not be deducted for incorrect answers.

Q1 - Question - Points 10/10

1. Explain clealry the reasons that gave rise to the recent crisis (great recession)
2. Describe the immediate effects of the crisis and the international spillover mechanisms
3. With the help of an IS-LM model modified with expectations try to explain how and why *quantitative easing* can be used as a means to give a kick to the economy

Q2 - Exercise - Points 10/10

Suppose that the economy's production function is of the following type:

$$Y = \sqrt{K}\sqrt{AN}$$

where Y denotes output (income), K capital, A labour productivity (technology) and N refers to labour inputs (workers). Now assume that the saving rate, s, is equal to 20%, while the rate of depreciation, δ, of capital is equal to 5%. Suppose further that the number of workers grows at 1% per year and that the rate of technological progress is 2% per year.

1. Transform the production function into a relation between output per effective worker and capital effective per worker.
2. Find the steady-state values of the variables listed in (a) through (e).
   (a) The capital stock per effective worker
   (b) Output per effective worker
   (c) The growth rate of output per effective worker
   (d) The growth rate of output per worker

(e) The growth rate of output

3. Suppose that the rate of technological progress decreases to 1% per year. Recompute the answers to point 2. Explain what you observe.

4. Now suppose that the rate of technological progress is back to 2% per year, but the number of workers now grows at 3% per year. Re-compute the answers to point 2. Is output per effective worker higher in point 2 or in point 4? Explain what you observe.

5. Suppose now that the number of workers grows at 0% per year, the rate of technological progress is 0% per year, the rate of depreciation, δ, of capital is equal to 5 % and the saving rate, s, is equal to 20%. Now assume that the saving rate increases to 25%. With the help of a graph show the effects on output of this increase in the saving rate. Explain what you observe.

Q3 - Multiple Choice - Points 10/10

1. For this question, assume that the domestic interest rate is 6% and that the foreign interest rate 4%. And finally, assume that the domestic currency is expected to appreciate by 3% during the coming year. Given this information, we know that:

   (a) **individuals will prefer to hold domestic bonds**
   (b) individuals will prefer to hold foreign bonds
   (c) the interest parity condition holds
   (d) individuals will be indifferent about holding domestic or foreign bonds

2. If the interest rate is 10%, what is the present value of a bond that pays you 1100 euros next year, 1210 the year after, and 1331 the year after that?

   (a) 3310
   (b) 3300
   (c) 3641
   (d) **3000**

3. Suppose an individual experiences a 20,000 euros increase in real income and the individual believes this increase in income is permanent. Economic theory suggests that this individual's current consumption will:

   (a) decrease or remain unchanged, depending on the value of the real interest rate
   (b) increase by more than 20,000 euros
   (c) decrease, remain unchanged, or increase, depending on the value of the real interest rate
   (d) **increase by at most 20,000 euros**

4. Which of the following represents a stock's fundamental value?

   (a) the price the stock would sell at if the interest rate were zero.
   (b) **the present value of its expected future dividend payments**
   (c) the price the stock would sell at in the midst of a rational bubble
   (d) the simple sum of its future dividend payments

5. Assume the economy is initially operating at the natural level of output. Which of the following events will initially cause a shift of the aggregate supply curve?

(a) an increase in the money supply
(b) an increase in consumer confidence
(c) an increase in government spending
(d) **none of the above**

6. Suppose the Phillips curve is represented by the following equation: $\pi_t - \pi_{t-1} = 20 - 2u_t$. Given this information, we know that the natural rate of unemployment in this economy is:

   (a) 20%.
   (b) 5%.
   (c) 6.5%.
   (d) **10%.**

7. An increase in domestic demand will have which of the following effects in an open economy under flexible exchange rates?

   (a) a larger effect on output than in a closed economy and a negative effect on the trade balance
   (b) a larger effect on output than in a closed economy and a positive effect on the trade balance
   (c) a smaller effect on output than in a closed economy and a positive effect on the trade balance
   (d) **a smaller effect on output than in a closed economy and a negative effect on the trade balance**

8. Use the following information to answer this question: 100 million people are working, 10 million are not working but are looking for work, and 20 million are not working and have given up looking for work. The official unemployment rate is

   (a) approximately 7.7%.
   (b) **approximately 9.09%.**
   (c) 10%.
   (d) approximately 23%.

9. Suppose the economy is initially in its medium-run equilibrium. Then assume there is an increase in military spending due to rising international tensions. According to the model of aggregate demand and aggregate supply (AD-AS), what happens to prices, output and interest rate in the short run?

   (a) **Prices rise; output rises; the interest rate rises**
   (b) Prices fall; output rises; the interest rate falls
   (c) Prices fall; output falls; the interest rate rises
   (d) Prices rise; output falls; the interest rate falls

10. National saving is equal to

   (a) investment + consumption expenditures - current account
   (b) **private saving + public saving**
   (c) GDP - government purchases.
   (d) GDP + consumption expenditures + government purchases