

Exam 1.

- The total of this exam is 105 points (including 5 bonus points).
- The exam consists of 5 pages.

Part I (3 points each)

Summarize your answers in the space below. For questions in the back page, use the blank space.

1. _____ 2. _____ 3. _____ 4. _____ 5. _____
 6. _____ 7. _____ 8. _____ 9. _____ 10. _____
 11. _____ 12. _____ 13. _____ 14. _____ 15. _____
 16. _____ 17. _____ 18. _____ 19. _____ 20. _____

1. A typical trend during a recession is that:
 - a. the unemployment rate rises.
 - b. the popularity of the incumbent president falls.
 - c. income falls.
 - d. all of the above
2. All of the following actions are investments in the sense of the term used by macroeconomists except:
 - a. IBM's building a new factory.
 - b. Corner candy store's buying a new computer.
 - c. John Smith's buying a newly constructed home.
 - d. Sandra Santiago's buying 100 shares of IBM stock.
3. If nominal GDP grew by 8% and GDP deflator grew by 6%, then real GDP grew by approximately ____%.
4. If bread is produced by using a constant-returns-to-scale production function, then if the amounts of equipment and workers are both doubled, four times as much bread will be produced. T/F?
5. In the classical model with fixed output, the supply and demand for goods and services are balanced by:
 - a. Government spending.
 - b. Taxes.
 - c. Fiscal policy.
 - d. The interest rate.
6. In an open economy, if total investment is greater than national saving, net exports will be negative. T/F.
7. According to the classical theory of money, which one(s) are affected by an increase in the supply of money? (Choose all.)
 - a. employment

- b. real income
 - c. real wage
 - d. nominal GDP
8. All of the following assets are included in M1 except:
 - a. currency
 - b. demand deposits
 - c. traveler's checks
 - d. money market deposit accounts
 9. If the quantity of real money balance is $0.5Y$ where Y is real income, then income-velocity of money is _____. The costs of reprinting catalogs and price lists because of inflation are called _____.
 10. In the case of an unanticipated inflation, debtors with a fixed nominal interest rate are hurt because they have to pay more than they expected in real terms. T/F?
 11. If a short-run equilibrium occurs at a level above the natural rate, then in the transition to the long run, prices will ____ and output will _____. (Choose increase or decrease.)
 12. The short run refers to a period during which output is fixed at a given level regardless of the aggregate demand condition. T/F?
 13. According to the quantity equation, if the velocity of money increases while the supply of money is fixed, then the quantity of goods and services purchased _____ at a given price level.
 14. Starting from long-run equilibrium, if a drought pushes up food prices throughout the economy, the Fed could move the economy more rapidly back to full-employment output by increasing the money supply, which would increase the price level permanently. T/F?
 15. Suppose that there is an increase in the velocity of money. The response of the Fed will be identical whether it cares only about keeping unemployment at the natural level or only about keeping the price level stable. T/F.
 16. If consumers become more optimistic about the future, the IS curve is likely to shift to the right. T/F?
 17. A rise in government purchase shifts the IS curve because it _____ national saving for any given level of income, which _____ the interest rate for any given level of income.
 18. An explanation for the slope of the LM curve is that as income rises, money demand rises, and a lower interest rate is required. T/F?
 19. The IS curve plots the relationship between the interest rate and _____ that arise in the market for _____.
 20. A decrease in the nominal money supply, other things being equal, will shift the LM curve to the _____.

Part II

1. (15 points) Assume that equilibrium GDP (Y) is 6000. Consumption is given by $C = 600 + 0.6(Y - T)$. Investment is given by the equation $I = 2000 - 100r$, where r is the real interest rate in percent. Taxes (T) are 500. Government spending is also 500.
 - a. Find the equilibrium real interest rate.
 - b. Find the value of private saving.
 - c. Suppose that government spending rises to 1000. Obtain the new equilibrium values of the real interest rate, consumption and investment.

2. (15 points) Suppose that an earthquake destroys a significant portion of country's capital stock. Use the classical theory of Chapter 3 to predict how each of the following changes.
- real wage
 - real income
 - the real interest rate
 - the price level

For question (a), draw a labor market diagram. For question (c), draw a loanable funds market diagram. Assume that private saving is not affected by the interest rate. Assume also that the demand for investment is unaffected by the earthquake. I.e. the investment function, $I(r)$, remains unchanged. [You may not need diagrams for (b) or (d).]

3. (15 points) Assume the following model of the economy:

$$C = 0.75(Y-T)$$

$$I = 800 - 20r$$

$$Y = C + I + G$$

$$T = 1000$$

$$G = 1000$$

- a. Write an equation for the IS curve, showing Y as a function of r alone. Show your work.
- b. Government spending increases by 200. Find the direction and the size of the horizontal shift in the IS curve.
- c. If the demand for money is unresponsive to changes in the interest rate, how will real income (Y) change in (b)? Use the IS-LM model with a diagram in your answer.