

**ECON 1010 Principles of Macroeconomics
Final Exam**

Section A: Multiple Choice Questions. (120 points; 3 pts each)

#1. The opportunity cost of something is:

- a) greater during periods of rising prices.
- b) equal to the money cost.
- c) less during periods of falling prices.
- d) what is given up to acquire it.

#2. The production possibility frontier illustrates that:

- a) the economy will automatically end up at full employment.
- b) an economy's productive capacity increases proportionally with its population.
- c) if all resources of an economy are being used efficiently, more of one good can be produced only if less of another good is produced.
- d) economic production possibilities have no limit.

#3. When the price of gas goes down, the demand for tires goes up. A likely possibility is that tires and gas are:

- a) substitutes.
- b) complements.
- c) both expensive.
- d) both inexpensive.

#4. Along a given demand curve, an increase in price of the product will:

- a) increase the demand.
- b) decrease the demand.
- c) increase the quantity demanded.
- d) decrease the quantity demanded.

#5. If the minimum wage is a binding price floor, then:

- a) business owners will hire more workers.
- b) there will be a job for everyone who is willing to work.
- c) the equilibrium wage will increase.
- d) the number of workers who want to work will be greater than the number of jobs available.



#6. Using the figure above, if a price floor of \$15 was imposed on this market and the government chose to purchase the surplus, the government would need to buy _____ units of the good and spend a total amount of _____ on its purchase.

- a) 5; \$75
- b) 10; \$150
- c) 9; \$135
- d) 9; \$81

#7. Monetary policy involves:

- a) changing bank regulations.
- b) changes in the money supply intended to affect interest rates.
- c) putting more money directly in the hands of college students.
- d) putting more money directly in the hands of consumers.

#8. Imports are \$15 billion and net exports are -\$5 billion. Exports are

- a) -\$5 billion.
- b) \$0 billion.
- c) \$5 billion.
- d) \$10 billion.

#9. Included in GDP would be the:

- a) dollar value of a used car sold during the period.
- b) dollar value of a new car imported during the period.
- c) dollar value of a new car exported during the period.
- d) purchase of 100 shares of General Motors stock.

#10. An increase in the number of discouraged workers in the economy tends to:

- a) raise the official unemployment rate.
- b) lower the official unemployment rate.
- c) lower the number of people who are frictionally unemployed.
- d) increase the number of people who are structurally unemployed.

TABLE. Price and Output Data

Year	Output	Price per Unit
1	2	\$2
2	3	4
3 (base period)	4	5
4	6	6
5	6	9

#11. According to the table above, between years 4 and 5, _____ of the increase in nominal GDP was due to inflation.

- a) None
- b) 58 percent
- c) 92 percent
- d) all

#12. For most of U.S. modern economic history, when the unemployment rate is _____, real GDP is _____.

- a) falling; rising
- b) falling; falling
- c) rising; unchanged
- d) rising; rising

#13. Sally works 20 hours a week for an accounting firm. She would like to work full time and expects that she will in the future. Sally is a(n):

- a) discouraged worker
- b) unemployed worker
- c) underemployed worker
- d) full-time worker

#14. Structural unemployment is:

- a) unemployment that results when there are more people seeking jobs than there are jobs available at the current wage rate.
- b) unemployment experienced by those entering the labor force for the first time.
- c) zero when the economy is in full employment.
- d) caused by short-run economic fluctuations.

#15. During rapid price inflation, firms must frequently change prices. The cost of changing listed prices is known as:

- a) menu cost.
- b) real interest rate cost.
- c) shoe-leather cost.
- d) unit-of-account cost.

#16. In the country of Sildavia, a market basket of goods and services cost \$130 in 2009, \$140 in 2010, and \$160 in 2011. Based on this information and considering 2009 as the base year, inflation from 2009 to 2011 was:

- a) 7.14 percent.
- b) 7.69 percent.
- c) 14.28 percent.
- d) 23.07 percent.

#17. Due to the presence of diminishing returns to capital, doubling the amount of physical capital available for one worker to use will:

- a) decrease output by less than a factor of two.
- b) increase output by less than a factor of two.
- c) increase output by exactly a factor of two.
- d) increase output by more than a factor of two.

#18. In a closed economy government spending was \$30 billion, consumption was \$70 billion, taxes were \$20 billion, and GDP was \$110 billion this year. Investment spending was \$10 billion. As a result:

- a) private savings were equal to \$20 billion.
- b) net savings were equal to \$0.
- c) the government's budget balance was equal to a surplus of \$10 billion.
- d) private savings were equal to \$10 billion.

#19. If an economy is closed:

- a) the only source of funding for investment spending is government spending.
- b) the government will increase taxes to provide for investment spending.
- c) its only source of funding for investment spending is domestic saving.
- d) its sources of funding for investment spending are domestic and foreign saving.

#20. Higher rates of interest tend to _____ the quantity of loanable funds demanded, and lower rates of interest tend to _____ it.

- a) increase; reduce
- b) reduce; reduce
- c) increase; increase
- d) reduce; increase

#21. In the loanable funds market, savers:

- a) demand funds.
- b) supply funds.
- c) represent borrowers of funds.
- d) pay the equilibrium interest rate.

#22. A firm is considering a new capital expenditure that would cost \$2 million. This expenditure is expected to yield \$1 million in annual profits for each of the next two years. Given this information, the firm should:

- a) not undertake the project, because the costs are not offset by the profits.
- b) undertake the project, because the profits will be greater than the costs.
- c) undertake the project only if the interest rate is zero.
- d) undertake the project regardless of the interest rate.

#23. Given an annual interest rate of 3%, the present value of a future payment of \$2,080 to be paid in one year is:

- a) \$1,904.76.
- b) \$2,000.00.
- c) \$2,019.42.
- d) \$2,080.00.

#24. In an economy with no taxes and no imports, when disposable income increases from \$2000 to \$3000, consumption increases from \$1500 to \$2100. Given this information, the marginal propensity to consume is:

- a) \$600
- b) 0.71
- c) 0.6
- d) 0.5

#25. In a simple economy with no taxes, government spending, exports, or imports, if disposable income increases by \$100 and \$30 is saved, _____ is spent on the consumption of goods and services.

- a) \$30
- b) \$70
- c) \$100
- d) \$170

#26. In 2005, Airbus Co. purchased raw materials worth \$400 million in order to manufacture airplanes for a total value of \$900 million. In that year, Airbus Co. sold airplanes for a total value of \$800 million. During 2005, Airbus Co. registered inventory investment of:

- a) \$900 million.
- b) \$500 million.
- c) \$400 million.
- d) \$100 million.

#27. If GDP is greater than planned aggregate spending, then:

- a) unplanned inventory investment is negative.
- b) GDP will fall.
- c) the economy is in equilibrium.
- d) GDP will rise.

#28. When firms and individuals become more optimistic about economic prospects, aggregate demand:

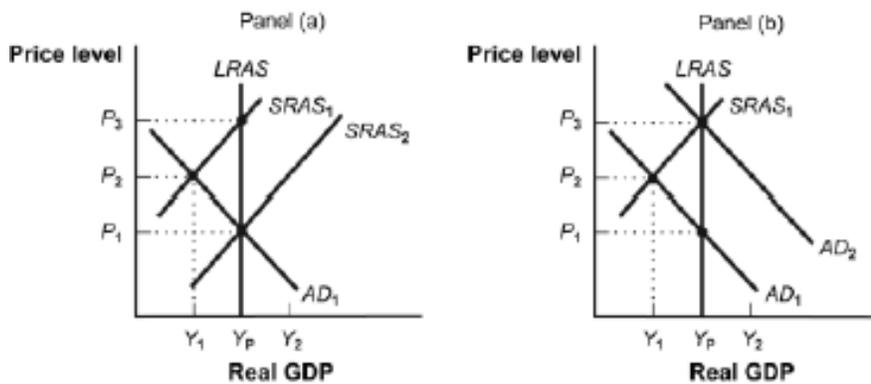
- a) increases, thereby shifting to the left.
- b) increases, thereby shifting to the right.
- c) decreases, thereby shifting to the left.
- d) decreases, thereby shifting to the right.

#29. The current unemployment rate in the U.S. is

- a) 2%
- b) 5%
- c) 10%
- d) 15%

#30. The inflation target for the Federal Reserve (i.e., the “Fed”) is

- a) -2%
- b) 2%
- c) 5%
- d) 10%

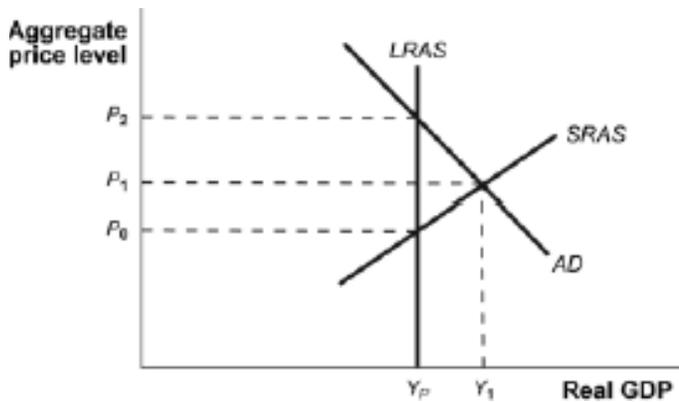


#31. According to panel (b) in the figure above, the economy is initially in short-run equilibrium at real GDP level Y_1 and price level P_2 . If the government decides to intervene, it would most likely:

- a) increase taxes.
- b) decrease the quantity of money available.
- c) increase the level of government purchases of goods and services.
- d) decrease the level of government purchases of goods and services.

#32. In the short run, when there is an increase in aggregate demand the aggregate price level will:

- a) rise and the aggregate output level will decrease.
- b) rise and the aggregate output level will increase.
- c) fall and the aggregate output level will increase.
- d) fall and the aggregate output level will decrease.



#33. According to the figure above, if the economy is at equilibrium at Y_1 and P_1 , it is in a(n):

- a) recessionary gap.
- b) inflationary gap.
- c) high level of unemployment.
- d) liquidity trap.

#34. If the economy is at equilibrium above potential output, there is a(n):

- a) recessionary gap, and expansionary fiscal policy is appropriate.
- b) inflationary gap, and contractionary fiscal policy is appropriate.
- c) recessionary gap, and contractionary fiscal policy is appropriate.
- d) inflationary gap, and expansionary fiscal policy is appropriate.

#35. Assume that the marginal propensity to consume is 0.8 and potential output is \$800 billion. If current real GDP is \$850 billion, which policy would bring the economy to potential output?

- a) Decrease government spending by \$50 billion.
- b) Increase government spending by \$50 billion.
- c) Decrease government transfers by \$50 billion.
- d) Decrease government spending by \$10 billion.

#36. If the marginal propensity to save is 0.1, then the government spending multiplier has a value of

- a) one-tenth.
- b) 9.
- c) 10.
- d) one-ninth.

#37. When the unemployment rate increases, the budget:

- a) is unaffected.
- b) tends to move into deficit.
- c) tends to move into a surplus.
- d) remains neutral.

#38. The difference between a budget deficit and government debt is that:

- a) a deficit is the amount by which government spending exceeds tax revenues, whereas debt is the amount the government owes.
- b) debt is the amount by which government spending exceeds tax revenues, whereas a deficit is the amount the government owes.
- c) a deficit is measured as of a particular point in time, whereas debt is measured over time.
- d) a deficit is a stock variable, whereas debt is a flow variable.

#39. When countries replaced gold and silver coins with paper money exchangeable for certain amounts of precious metals, the monetary system evolved from using:

- a) commodity money to using fiat money.
- b) commodity-backed money to using fiat money.
- c) commodity money to using commodity-backed money.
- d) fiat money to using commodity-backed money.

#40. The reserve requirement is 10% and Jack withdraws \$5,000 from his checkable bank deposit to pay for a trip to New York City. Assume that banks do not hold any excess reserves and that the public holds no currency, only checkable bank deposits. How much would the bank's loans decrease as a result of the withdrawal?

- a) \$5000
- b) \$4500
- c) \$500
- d) \$0

Section B: Short Answer Questions. (80 points)

1. (20 pts) The table below shows production and prices for a stylized economy. Assume the base year is 2012. The market basket for CPI is given by production in 2012.

Year	Production of X	Price of X (\$)	Production of Y	Price of Y (\$)	Production of Z	Price of Z (\$)
2012	10 units	2	3 units	10	5 units	10
2013	15 units	5	5 units	5	10 units	10
2014	20 units	10	10 units	5	10 units	20

- a) (15 pts) Calculate nominal GDP, real GDP, the GDP deflator, and the CPI for 2012, 2013, and 2014.

- b) (5 pts) What is the 2013-2014 growth rate in real GDP? What is the inflation rate over the same period?

2. (20 pts) Countries A and B each produce coal and oil. Currently the two economies do not trade with one another. The table below provides information about the maximum amount of each good they can produce.

	Maximum Tons of Coal Produced	Maximum Barrels of Oil Produced
Country A	400	800
Country B	200	200

- a) (5 pts) Use the information from the table to draw the (linear) PPFs for these two economies. In each graph, measure coal on the horizontal axis and oil on the vertical axis.

- b) (5 pts) What is the slope of each PPF and how does it relate to the opportunity cost of production?

- c) (5 pts) Does either country have an absolute advantage in coal and oil? Who has a comparative advantage in producing coal? Explain.
- d) (5 pts) Suppose Country B discovers new oil reserves and can now produce a maximum of 800 barrels oil per year. Redraw the PPFs showing how the new discovery changes the PPF(s). Using the new PPFs, show how each country can specialize completely in one good, trade, and operate on a point outside the PPF.

- 3. (20 pts)** Assume that planned investment is 200, government spending is 100, autonomous consumption is 100, and the MPC is 0.5. Taxes are zero and the economy is closed.
- a) (10 pts) Find the equilibrium level of real GDP and show the equilibrium using the graphical version of the income-expenditure (Keynesian cross) model.
- b) (10 pts) Congress passes legislation to cut the deficit in half by reducing government spending. Find the new equilibrium level of GDP, graph the resulting equilibrium, and relate it to the government spending multiplier.

4. **(20 pts)** Consider the recent Paris climate talks. Assume countries agree to a 1.5C maximum increase in average global temperatures by reducing the amount of carbon emissions from manufacturing firms. Use the AD-SRAS-LRAS model to show graphically how this will impact a macroeconomy in the short and long run. Label your initial equilibrium “A”, short-run equilibrium “B”, and the long-run equilibrium “C”. Write a corresponding paragraph explaining the transition of the economy and how a central bank could use monetary policy to counteract the climate policy.