

**MACROECONOMIC THEORY I**  
**ECO2142 A**  
**SERGE COULOMBE**  
**MIDTERM**  
**MAY 24 2017 FROM 5:30 TO 8 PM**

**Part A - MULTIPLE CHOICE. Choose the one alternative that best completes the statement. ANSWER in the SCANTRON SHEET. 60 points, 1.5 point per question**

1. A graph of the unemployment rate in Canada since the 1920 shows:
  - A) an upward trend over all the period.
  - B) The higher unemployment rates occurred in the 1980s and the 1990s.
  - C) The unemployment rate is very steady through times.
  - D) The lower unemployment rates **occurred** in the mid-1940s.
  
2. A typical trend during a recession is that:
  - A) the unemployment rate falls.
  - B) the popularity of the incumbent president rises.
  - C) **incomes fall.**
  - D) the inflation rate rises.
  
3. Deflation occurs when:
  - A) real GDP decreases.
  - B) the unemployment rate decreases.
  - C) **prices fall.**
  - D) prices increase, but at a slower rate.
  
4. The amount of capital in an economy is a \_\_\_\_\_ and the amount of investment is a \_\_\_\_\_.
  - A) flow; stock
  - B) **stock; flow**
  - C) final good; intermediate good
  - D) intermediate good; final good

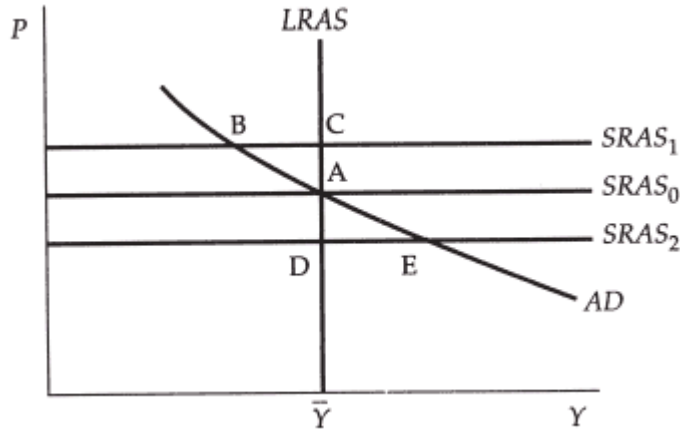
5. In the national income accounts, consumption expenditures include *all* of the following *except* household purchases of:
- A) durable goods.
  - B) nondurable goods.
  - C) new residential housing.
  - D) services.
6. A competitive, profit-maximizing firm hires labour until the:
- A) marginal product of labour equals the wage.
  - B) price of output multiplied by the marginal product of labour equals the wage.
  - C) real wage equals the real rental price of capital.
  - D) wage equals the rental price of capital.
7. If the production function describing an economy is  $Y = 100 K^{.25} L^{.75}$ , then the share of output going to labour:
- A) is 25 percent.
  - B) is 75 percent.
  - C) depends on the quantities of labour and capital.
  - D) depends on the state of technology.
8. With a Cobb-Douglas production function, the share of output going to labour:
- A) decreases as the amount of labour increases.
  - B) increases as the amount of labour increases.
  - C) increases as the amount of capital increases.
  - D) is independent of the amount of labour.
9. According to the neoclassical theory of distribution, in an economy described by a Cobb-Douglas production function, workers should experience high rates of real wage growth when:
- A) real interest rates are high.
  - B) real interest rates are low.
  - C) average labour productivity is growing rapidly.
  - D) capital's share of income is growing rapidly.
10. Money's liquidity refers to the ease with which:
- A) coins can be melted down.
  - B) illegally obtained money can be laundered.
  - C) loans can be floated.
  - D) money can be converted into goods and services.
11. Open-market operations are:
- A) Department of Finance efforts to open foreign markets to international trade.
  - B) Bank of Canada purchases and sales of government bonds.
  - C) Securities and Exchange Commission rules requiring open disclosure of market trades.
  - D) Finance Department purchases and sales of gold.

12. Consider the money demand function that takes the form  $(M/P)^d = kY$ , where  $M$  is the quantity of money,  $P$  is the price level, and  $Y$  is real output. If the money supply is growing at a 10 percent rate, real output is growing at a 3 percent rate, and  $k$  is constant, what is the rate of inflation in this country?
- A) 3 percent
  - B) 7 percent
  - C) 10 percent
  - D) 13 percent
13. Between 1880 and 1896, the price level in the United States fell 23 percent. This movement was \_\_\_\_\_ for bankers of the Northeast and \_\_\_\_\_ for farmers of the South and West.
- A) bad; bad
  - B) good; good
  - C) good; bad
  - D) bad; good
14. To end a hyperinflation, a government trying to reduce its reliance on seigniorage would:
- A) print more money.
  - B) raise taxes and cut spending.
  - C) lower taxes and increase spending.
  - D) lower interest rates.
15. The classical dichotomy:
- A) cannot hold if money is “neutral.”
  - B) is said to hold when the values of real variables can be determined without any reference to nominal variables or the existence of money.
  - C) fully describes the world in which we live, especially in the short run.
  - D) arises because money depends on the nominal interest rate.
16. Short-run fluctuations in output and employment are called:
- A) sectoral shifts.
  - B) the classical dichotomy.
  - C) business cycles.
  - D) productivity slowdowns.
17. The relationship between the quantity of output demanded and the aggregate price level is called:
- A) aggregate demand.
  - B) aggregate supply.
  - C) aggregate output.
  - D) aggregate consumption.

18. Evidence from the past 50 years in Canada supports the Fisher effect and shows that when the inflation rate is high, the \_\_\_\_\_ interest rate tends to be \_\_\_\_\_.
- A) nominal; high
  - B) nominal; low
  - C) real; high
  - D) real; low
19. The opportunity cost of holding money is the:
- A) nominal interest rate.
  - B) real interest rate.
  - C) rate of inflation.
  - D) prevailing Treasury bill rate.
20. When the Bank of Canada reduces the money supply, at a given price level the amount of output demanded is \_\_\_\_\_ and the aggregate demand curve shifts \_\_\_\_\_.
- A) greater; inward
  - B) greater; outward
  - C) lower; inward
  - D) lower; outward
21. Assume that the economy begins in long-run equilibrium and the short-run supply curve is flat. Then the Bank of Canada reduces the money supply. In the short run \_\_\_\_\_, whereas in the long run prices \_\_\_\_\_ and output returns to its original level.
- A) output decreases and prices are unchanged; rise
  - B) output decreases and prices are unchanged; fall
  - C) output and prices both decrease; rise
  - D) output and prices both decrease; fall
22. Two interpretations of the *IS-LM* model are that the model explains:
- A) the determination of income in the short run when prices are fixed, or what shifts the aggregate demand curve.
  - B) the short-run quantity theory of income, or the short-run Fisher effect.
  - C) the determination of investment and saving, or what shifts the liquidity preference schedule.
  - D) changes in government spending and taxes or the determination of the supply of real money balances.
23. In the Keynesian-cross model, actual expenditures differ from planned expenditures by the amount of:
- A) liquidity preference.
  - B) the government-purchases multiplier.
  - C) unplanned inventory investment.
  - D) real money balances.

Use the following to answer questions 24-27:

(Exhibit: Supply Shock)



24. (Exhibit: Supply Shock) In this graph, assume that the economy starts at point A and there is a favourable supply shock that does not last forever. In this situation, point \_\_\_\_\_ represents short-run equilibrium and point \_\_\_\_\_ represents long-run equilibrium.
- A) B; C  
 B) B; A  
 C) E; D  
 D) E; A
25. (Exhibit: Supply Shock) Assume that the economy is at point B. With no further shocks or policy moves, the economy in the long run will be at point:
- A) A.  
 B) B.  
 C) C.  
 D) D.
26. (Exhibit: Supply Shock) Assume that the economy is at point E. With no further shocks or policy moves, the economy in the long run will be at point:
- A) A.  
 B) B.  
 C) C.  
 D) D.
27. (Exhibit: Supply Shock) Assume that the economy starts at point A and there is a drought that severely reduces agricultural output in the economy for just one year. In this situation, point \_\_\_\_\_ represents the short-run equilibrium immediately following the drought and point \_\_\_\_\_ represents the eventual long-run equilibrium.
- A) B; C  
 B) B; A  
 C) E; D  
 D) D; A

28. When planned expenditure is drawn on a graph as a function of income, the slope of the line is:
- A) zero.
  - B) between zero and one.
  - C) one.
  - D) greater than one.
29. According to the Keynesian-cross analysis, when there is a shift upward in the government-purchases schedule by an amount  $\Delta G$  and the planned expenditure schedule by an equal amount, then equilibrium income rises by:
- A) one unit.
  - B)  $\Delta G$ .
  - C)  $\Delta G$  divided by the quantity one minus the marginal propensity to consume.
  - D)  $\Delta G$  multiplied by the quantity one plus the marginal propensity to consume.
30. In the Keynesian-cross model with a given  $MPC$ , the government-expenditure multiplier \_\_\_\_\_ the tax multiplier.
- A) is larger than
  - B) equals
  - C) is smaller than
  - D) is the inverse of the
31. In the Keynesian-cross model, a realistic value for the expenditure multiplier is
- A) 5.0
  - B) 2.5
  - C) 1.5
  - D) 0.5
32. An explanation for the slope of the  $IS$  curve is that as the interest rate increases, the quantity of investment \_\_\_\_\_, and this shifts the expenditure function \_\_\_\_\_, thereby decreasing income.
- A) increases; downward
  - B) increases; upward
  - C) decreases; upward
  - D) decreases; downward
33. An increase in taxes shifts the  $IS$  curve, drawn with income along the horizontal axis and the interest rate along the vertical axis:
- A) downward and to the left.
  - B) upward and to the right.
  - C) upward and to the left.
  - D) downward and to the right.

34. One argument in favour of tax cuts over spending on infrastructure to increase production is that:
- A) tax cuts increase the  $MPC$  by a larger amount than spending on infrastructure.
  - B) tax cuts increase planned spending, but spending on infrastructure offsets private spending.
  - C) the tax multiplier is larger than the government spending multiplier.
  - D) it takes longer to **implement spending** on infrastructure than to implement tax cuts.
35. When the  $LM$  curve is drawn, the quantity that is held fixed is:
- A) the nominal money supply.
  - B) **the real money supply.**
  - C) government spending.
  - D) the tax rate.
36. The theory of liquidity preference implies that:
- A) **as the interest rate rises, the demand for real balances will fall.**
  - B) as the interest rate rises, the demand for real balances will rise.
  - C) the interest rate will have no effect on the demand for real balances.
  - D) as the interest rate rises, income will rise.
37. In the  $IS-LM$  model when government spending rises, in short-run equilibrium, in the usual case, the interest rate \_\_\_\_\_ and output \_\_\_\_\_.
- A) rises; falls
  - B) **rises; rises**
  - C) falls; rises
  - D) falls; falls
38. If  $MPC = 0.75$  (and there are no income taxes) when  $G$  increases by 100, then the  $IS$  curve for any given interest rate shifts to the right by:
- A) 100.
  - B) 200.
  - C) 300.
  - D) **400.**
39. In a closed economy, the monetary transmission mechanism works through the effects of changes in the money supply on:
- A) the budget deficit.
  - B) **investment.**
  - C) government expenditures.
  - D) taxation.

40. An increase in investment demand for any given level of income and interest rates—due, for example, to more optimistic “animal spirits”—will, within the *IS-LM* framework, \_\_\_\_\_ output and \_\_\_\_\_ interest rates.
- A) increase; lower
  - B) increase; raise
  - C) lower; lower
  - D) lower; raise
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**Part B Problems and essay questions - Answer the following four questions in the examination booklet. 40 points (10 points each)**

B1 – Using the Keynesian-cross model (Closed economy, fixed prices and fixed interest rate), illustrate graphically the impact of an increase in (lump-sum) taxes on the equilibrium level of income.

Be sure to label:

- i. the axes
- ii. the curves
- iii. the initial equilibrium values
- iv. the direction the curve shifts
- v. the terminal equilibrium values.

Explain in words what happens to the equilibrium income because of the increase in lump-sum taxes. What happen to consumption Why?

B2 – Suppose a government decides to decrease government expenditures.

- a. **Using the long-run model** of the economy developed in **Chapter 3**, graphically illustrate the impact of increasing government expenditures on the interest rate, investment, and national saving. Be sure to label:
  - i. the axes
  - ii. the curves
  - iii. the initial equilibrium values
  - iv. the direction curve shifts
  - v. the terminal equilibrium values.
- b. State in words what happens to: i. the real interest rate; ii. National saving; iii. Investment; iv. Consumption; and v. output.

B3 – Consider an economy in a **liquidity trap** with the equilibrium output well below its long-run equilibrium.

- a. Illustrate the situation graphically using the IS-LM model.
- b. Show graphically the impact of an increase in government expenditures on the equilibrium levels of output and the interest rate. Explain briefly
- c. Is there any crowding-out effect in this case? Explain briefly

**B4 – Deriving the aggregate demand curve with the IS-LM model.** Consider the IS-LM model of a closed economy and flexible prices. Draw two diagrams one above the other. The first one (IS-LM) in the interest rate and income (output) plan and a second one (aggregate demand) in a price level and income (output) plan. Consider that initially the interest rate is at  $r_0$  the level of income at  $Y_0$  and the price level at  $P_0$ . Show how to derive the aggregate demand curve.