ANSWER KEY

Answers to Multiple-Choice Questions with Explanations

1. **B.** Raising the reserve requirement leads to higher interest rates and less consumption, investment and exports.
2. **D.** Opportunity cost is constant when resources are perfectly substitutable.
3. **D.** A decrease in the real interest rate in the United States would decrease the demand for the dollar, resulting in its depreciation.
4. **D.** If the Fed purchases bonds, interest rates fall and investment increases, leading to more aggregate demand. Also, the decrease in interest rates either reduces the demand for the dollar or induces an increase in the supply of the dollar in the foreign exchange market, leading to its depreciation.
5. **C.** The fed funds rate is the interest rate banks charge each other for borrowing reserves overnight.
6. **D.** The reclassification of discouraged workers to unemployed workers results in an increase in the number of officially unemployed persons and the labor force. To solve for the unemployment rate, you must divide 60 by 220 in order to arrive at the unemployment rate of 27.3%.
7. **B.** Both policies are expansionary, but have opposite effects on interest rates.
8. **C.** $200 billion/$50 billion results in a multiplier of 4. This means that the marginal propensity to save must be 0.25 and therefore the marginal propensity to consume must be 0.75.
9. **C.** The M1 includes cash, coin, and demand deposits, which are all used primarily for buying and selling.
10. **A.** Increased energy prices increase the costs of production, which results in a decrease in short-run aggregate supply, a.k.a., cost-push inflation.
11. **C.** A rightward shift of the short run Phillips curve is consistent with an increase in both unemployment and inflation.
12. **C.** The money supply will decrease as a result of banks having fewer excess reserves to lend.
13. **B.** Decreasing the discount rate provides an incentive for banks to borrow reserves and make more loans which results in lower interest rates and more consumption and investment.
14. **B.** Changes in interest rates directly affect the international value of the currency, leading to a change in net exports.
15. **D.** A decrease in French interest rates results in more euros being supplied in foreign exchange, leading to its depreciation.
16. **D.** Decreasing the money supply raises interest rates and discourages investment and consumption. The decrease in government spending, combined with the above policy, results in a decrease in aggregate demand and therefore inflation.
17. **D.** Frictional unemployment is associated with voluntary unemployment, which results from entering the labor force in order to find work.
18. **A.** When the Federal Reserve buys bonds, banks have more excess reserves and the money supply increases.
19. **D.** If the marginal propensity to save is 0.25, then the marginal propensity to consume is 0.75. If disposable income increases by $1000, then consumers will spend 75% of this, or $750.
20. **D.** Increases in the money supply reduce the interest rate, resulting in more investment and consumption, which further leads to an increase in aggregate demand. An increase in aggregate demand leads to a higher price level and output. Real wages decrease in the short run as input prices are inflexible and do not adjust to the change in the price level.
21. **D.** If the money supply grows by exactly 3%, then 3% growth is accommodated without inducing inflation.

22. **E.** Increased consumer wealth results in greater consumption and hence aggregate demand. Increases in aggregate demand lead to greater income and lower unemployment in the short run.

23. **B.** A higher price level in the United States results in the dollar depreciating, making imported goods relatively more expensive.

24. **A.** The increased discount rate results in higher interest rates and less investment, which leads to less aggregate demand and higher unemployment.

25. **C.** A decrease in the real interest rate encourages more investment in capital.

26. **E.** The presence of a surplus leads to competition among producers to lower prices.

27. **B.** The demand for loanable funds shows an inverse relationship between the real interest rate and the quantity of loanable funds.

28. **B.** The equal size increases in spending and taxes results in a balanced budget multiplier of 1.

29. **C.** Increases in the government's budget deficit increase the demand for loanable funds and thus the real interest rate.

30. **A.** Increased Canadian household income results in more imports by Canadian consumers, leading to the Canadian dollar depreciating.

31. **D.** Decreases in aggregate demand result in a decrease in the price level or deflation.

32. **E.** Nominal interest rate = real interest rate + expected inflation. If nominal rates increase by 2 percent while real interest rates remain unchanged, then expected inflation must have also increased by 2 percent.

33. **C.** Increased savings comes at the expense of consumption which results in less aggregate demand in the short run.

34. **D.** Increased educational attainment increases the productivity of labor, resulting in an increase in the long-run aggregate supply.

35. **C.** \$100 billion in new deposits, \$75 billion in new excess reserves. Given a reserve ratio of 25 percent, the multiplier is 4. \$75 billion in excess reserves × 4 = \$300 billion in new loans and money supply. Because the transaction was private, the change in loans equals the change in the money supply.

36. **D.** Zumbulu faces an opportunity cost of 100 tons of cocoa for 100 tons of bananas produced, thus Zumbulu produces 1 ton of cocoa for each ton of bananas sacrificed. Costa Del Rey faces an opportunity cost of 100 tons of cocoa for each 25 tons of bananas produced, thus each ton of bananas costs Costa Del Rey 4 tons of cocoa.

37. **C.** Zumbulu has the comparative advantage in bananas and Costa Del Rey has the comparative advantage in cocoa (See explanation to question 36.).

38. **C.** 1B = 3C benefits Zumbulu because they now gain an additional 2 tons of cocoa for each ton of bananas produced. 1B = 3C benefits Costa Del Rey as well because they now have to sacrifice only 3 tons of cocoa to gain a ton of bananas through trade, as opposed to 4 tons of cocoa for each ton of bananas when they are self-sufficient.

39. **D.** Decreases in government spending result in a decrease in aggregate demand and no change in the short-run aggregate supply.

40. **A.** Frictional unemployment is associated with voluntary job search.

41. **E.** The marginal propensity to save is equal to one minus the marginal propensity to consume.

42. D. Selling bonds on the open market reduces output and price level by decreasing the money supply, raising interest rates, discouraging investment and therefore reducing aggregate demand.

43. C. This combination results in lower interest rates, which encourages capital investment but has offsetting effects on the price level.

44. C. The nominal gross domestic product for this year is calculated by multiplying the amount of production by this year's prices and summing the results. The rate of inflation is calculated by finding the difference between last year and this year's nominal GDP and dividing by last year's nominal GDP.

45. B. Reduced production costs result in an increase in short-run aggregate supply, which decreases the price level and expected inflation, causing a leftward shift in the short-run Phillips curve and a decrease in inflation.

46. E. In the long run, output above full employment forces nominal wages up, resulting in a leftward shift in the short run aggregate supply curve.

47. D. Increases in the money supply drive up the price level in only the long run, therefore nominal GDP increases while real GDP remains unchanged.

48. A. Increases in the price of resources causes an increase in the unit cost of production that firms face, resulting in a decrease in the short-run aggregate supply.

49. C. This economy is in long-run equilibrium because the short-run aggregate supply and aggregate demand intersect at full employment output.

50. B. Decreases in aggregate demand in the long run result in a lower price level at full employment, therefore nominal GDP is decreased while real GDP remains unchanged.

51. C. The banks effectively keeps 10% reserves against demand deposits, resulting in $90 of excess reserves that the bank will lend.

52. A. Dollar appreciation results in American goods being relatively more expensive and European goods being relatively cheaper.

53. C. A professional manicure is a service counted as consumption.

54. B. Shifts in short-run aggregate supply are mirrored shifts of the short-run Phillips curve.

55. B. An increase in expected profits would increase firms' incentive to invest in new capital, resulting in an increase in aggregate demand.

56. E. Decreased business taxes not only reduce the unit cost of production but also provide an incentive to increase their investment in capital.

57. D. Increases in the supply of loanable funds decrease the real interest rate, which either decreases the demand for the currency or an increase in the supply of the currency, leading to the currency's depreciation. The depreciated currency induces an increase in net exports as exports become relatively cheaper and imports become relatively more expensive.

58. D. Points inside the production possibilities curve occur when resources are not being fully employed.

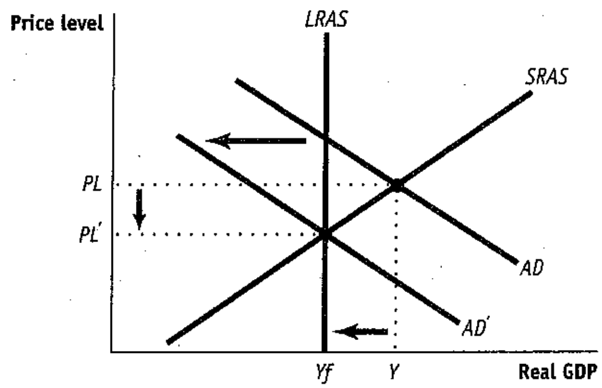
59. D. Governments running a budget deficit gain from unanticipated inflation because it effectively reduces the real value of their debt.

60. C. A Decrease in nominal GDP with no change in the money supply results in a lower money demand and thus a lower nominal interest rate.

Scoring Guidelines for Free Response Questions

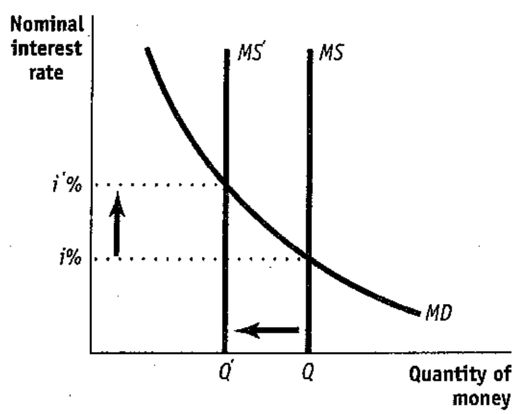
Question 1 (10 points)

Part (a) 3 points
1 pt. correctly labeled AS/AD diagram
1 pt. vertical LRAS at full employment
1 pt. current output and price level above full employment



Part (b) 1 point
1 pt. - sell bonds

Part (c) 2 points
1 pt. - correctly labeled graph of the money market
1 pt. - decrease in the money supply and quantity of money, and increase in the nominal interest rate



Part (d) 1 point
1 pt. - decrease in AD, causing decreases in GDP and PL as shown in graph on part (a)

Part (e) 1 point
1 pt. - gross private investment decreases as fewer investments remain possible at the higher nominal interest rate

Part (f) 2 points
1 pt. - short run aggregate supply decreases as wages or input prices increase
1 pt. - price level increases as a result of the decrease in SRAS

Question 2 (5 points)

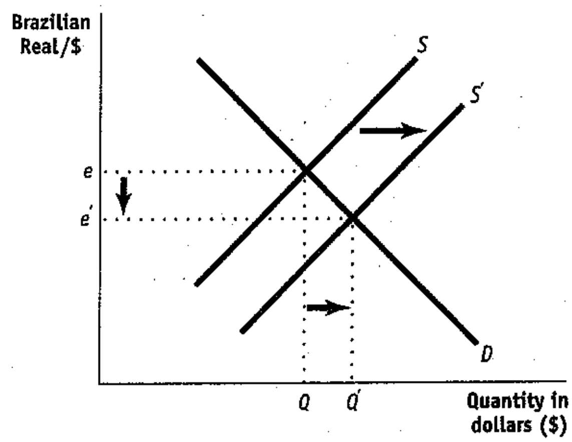
Part (a) 2 points
1 pt. - (i) $450
1 pt. - (ii) $4500

Part (b) 2 points
1 pt. - (i) 0
1 pt. - (ii) undefined or infinite

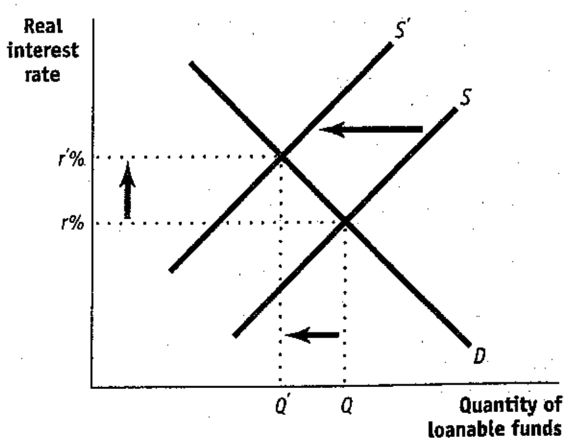
Part (c) 1 point
1 pt. - Banks profit by lending as much of their reserves as possible.

Question 3 (5 points)

Part (a) 3 points
1 pt. - correctly labeled foreign exchange graph for the U.S. dollar
1 pt. - increase in the supply of the dollar because U.S. investors seek higher Brazilian returns
1 pt. - U.S. dollar depreciates



Part (b) 2 points
1 pt. - correctly labeled loanable funds graph
1 pt. - decrease in supply of loanable funds and increase in the real interest rate



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