**University Examination for the Second Semester of 2010/11 Academic Year**

**SECTION I: Multiple choice Questions (40 marks)**

**Select the best choice and write the corresponding letter in your answer paper (0.8 mark each)**

1. David is divorcing Dawn. Years of being yelled at and constant nagging, has robbed David of his sanity and left him partially deaf in one ear. Poor David! As a result, David's lawyer – Vlad – is able to obtain Tshs. 50,000,000 in damages, 10% of which is Vald's fee. The contribution to GDP is:
   A. Nothing since no output has been produced.
   B. Tshs. 50,000,000 – the amount of the settlement.
   **C. Tshs. 5,000,000 – Vlad's fee.**
   D. Tshs. 45,000,000 – the amount David receives in compensation.

2. Which of the following would increase GDP?
   A. Twiga Cement Company begins to both produce and sell cement in Kenya.
   **B. Bamburi Ltd, a Kenyan cement company, begins to both produce and sell cement in Tanzania.**
   C. A Tanzanian investor buys 100 shares of Twiga Cement Company.
   D. A Tanzanian investor buys 100 shares of Bamburi Ltd, a Kenyan cement company.

3. A high savings rate automatically leads to high investment. *True (T) or* ***False (F)?***

4. The observed tendency for the form of money to evolve from commodity money to fiat money increases the fragility of money because
   A. Fiat money can lose much of its value in hyperinflations.
   B. Fiat money is unbacked, i.e., it is not collateralized by any commodity.
   C. Fiat money can lose much of its value if people lose confidence in its general acceptability as a means of payment.
   **D. All of the above.**
   E. Only A and C.

5. Tanzanian monetary policy makers worry about being able to accurately measure and control the money supply because
   **A. Management of the money supply (as well as interest rates) is thought to be important for ensuring the well-being of the Tanzanian economy.**
   B. They are obliged by law to keep close track of the flow of money through the economy.
   C. Their prime responsibility is to use money supply changes to keep the national debt in check.
   D. Their prime responsibility is to use money supply changes to ensure the re-election of the President who appointed them to office.

6. If a decrease in the money supply were desired to slow inflation, the Central Bank might
   A. Increase the reserve requirements.
   B. Sell Tanzanian securities on the open market.
   C. Raise the discount rate.
   **D. Buy Tanzanian securities directly from the Treasury.**

7. If a person sells a 30-year Tanzanian Treasury bond back to the government in return for currency, then
   A M1 stays the same and M2 increases. B M1 increases and M2 stays the same.
   C M1 stays the same and M2 increases. D **M1 increases and M2 increases.**

8. The reason monetary policy makers are keenly interested in the velocity of money (*v*), defined as the ratio of nominal gross domestic product (GDP) to the money supply (M) ($v$ = GDP/M), is that:
   A. A higher value for *v* implies a higher GDP growth rate.
   **B. The constancy of *v* over time would imply the Central Bank could control nominal GDP by controlling the money supply M.**
   C. A higher value for *v* implies a higher inflation rate.
   D. A higher value for *v* implies a strengthening (appreciation) of the Tanzanian shilling.

9. Which of the following are changes altering the nature of money and the usefulness of the money supply figures?
   A. The widespread holding of Tanzanian currency outside the country by foreigners
   B. The increasing availability of stock and bond mutual funds
   C. The use of debit cards and electronic money
   **D. All of the above**

10. If the Bank of Tanzania wanted to use all three of its major monetary control tools to decrease the money supply, it would
   A. Buy bonds, reduce the discount rate, and reduce reserve requirements.
   B. Sell bonds, reduce the discount rate, and reduce reserve requirements.
   C. Sell bonds, reduce the discount rate, and increase reserve requirements.
   **D. Sell bonds, increase the discount rate, and increase reserve requirements.**

11. Suppose the Bank of Tanzania purchases Tshs. 100 billion of securities from the public. The reserve requirement is 20 percent and all banks have zero excess reserves. The total impact of this action on the money supply will be a
   A. Tshs. 100 billion decrease in the money supply.
   B. Tshs. 100 billion increase in the money supply.
   C. Tshs. 200 billion increase in the money supply.
   **D. Tshs. 500 billion increase in the money supply.**

12. All money in the Tanzanian economy is created by the Bank of Tanzania. *True (T) or* ***False (F)*?**

13. When wage rates rise faster than the increase in labour productivity, the
   A Output gap falls. B **AS curve shifts upward.**
   C AS curve shifts downward. D AD curve shifts left.
   E Output gap increases.

14. If the economy's AS curve is upward sloping, a negative shock to aggregate demand will result in
    A. An increase in both real GDP and prices.
    B. An increase in prices and no change in real GDP.
    C. An increase in real GDP and no change in prices.
    **D. A decrease in both real GDP and prices.**
    E. A decrease in prices but no change in real GDP.

15. Suppose that investment (I) in the goods market is not responsive to the interest rate (that is, I does not depend on the interest rate at all). Then
    A. The IS curve is a vertical line and monetary policy is very effective in raising output.
    B. The IS curve is a horizontal line and monetary policy is very effective in raising output.
    **C. The IS curve is a vertical line and monetary policy does not affect output in the IS-LM model.**
    D. The IS curve is a horizontal line and monetary policy does not affect output in the IS-LM model.
    E. The IS curve still has a negative slope, but monetary policy monetary policy does not affect output in the IS-LM model.

16. An increase in the money supply and a drop in consumer confidence will lead to
    A. A decrease in output with an ambiguous effect on the interest rate.
    B. An increase in output and a decrease in the interest rate.
    C. A decrease in output and an increase in the interest rate.
    D. An ambiguous effect on output and an increase in the interest rate.
    **E. An ambiguous effect on output and a decrease in the interest rate.**

17. The variable that links the market for goods and services and the market for real money balances in the IS-LM model is the:

| | |
|---|---|
| A Consumption function | B **Interest rate.** |
| C Price level. | D Nominal money supply |

18. Suppose there is a decrease in the price level from P to P'. Given the stock of nominal money, M, this leads to an increase in the real money stock, M/P, which shifts the LM curve down. This implies that the AD curve shifts to the right. *True (T)* ***or False (F)?***

19. Okun's Law:
    A. Was passed by the congress in 1990s to address the fiscal deficit.
    B. States that there is a cyclical relation between unemployment and real growth.
    C. States that the change in the unemployment rate is twice the growth rate difference between potential and actual GDP growth.
    D. States that the level of unemployment is half the % gap between potential and actual GDP.
    **E. Both B and D are true answers.**

20. If the central bank sells bonds to shrink the money supply and the government decreases spending then (in the short run):
    A. Investment will increase while the production may rise or fall
    **B. Production will decrease, and investment may rise or fall**
    C. Investment and production will definitely increase.
    D. Investment and production will definitely decrease.
    E. None of the above

21. A major problem associated with using fiscal policy to remove a recessionary gap is that an increase in
    **A. Government's spending may be difficult to reverse when private investment begins to gain momentum.**
    B. Consumption will increase resulting from a tax cut will cause the short run AS curve to shift left.
    C. Government spending has no effect on real GDP.
    D. Private investment it will lead to a large amount of crowding out.
    E. Government spending may lead to a multiplier effect which increases private spending and real GDP.

22. When economists argue that fiscal policy is of limited effectiveness in stabilizing the economy, the reasons they give include
    A. The long and uncertain time lags in implementing fiscal policy.
    B. Households will tend to save the extra income from a tax cut rather than spend it.
    C. Private investment is crowded out by government's borrowing.
    **D. All of the above**
    E. none of the above

23. Some argue that the long-term burden of the debt arising from deficit-financing will
    A. Reduce current investment and as a result reduce long-run economic growth.
    B. Impose a burden on future generations who may have to pay interest to foreign owners of government bonds.
    C. Cause a reduction in net exports and the employment if implies in an open economy.
    D. Cause a redistribution of resources away from future generations toward the current generation.
    **E. All of the above**

24. Suppose Tanzanian policy makers decide that to stimulate GDP growth, investment must be increased. What is needed, they conclude, is a reallocation of resources away from producing consumer goods and toward producing capital goods. Which of the following policy alternatives would most likely accomplish this objective?
    A. A reduction in personal income taxes
    B. A reduction in state sales taxes
    **C. A tax credit allowance for business investment in capital equipment**
    D. Restrictive monetary policy

25. Consider the following statements:

(I) Since forecasting is an imprecise science, policy makers should not respond to minor economic ups and downs, which may be misleading indicators. Precise fine-tuning is beyond our knowledge and capabilities

(II) Demand stimulus can reduce the rate of unemployment below the natural level for a long time

Which of the following statement is most likely to be true?

A. Most economists would agree with I; most economists would agree with II.
B. Most economists would disagree with I; most economists would agree with II.
**C. Most economists would agree with I; most economists would disagree with II.**
D. Most economists would disagree with I; most economists would disagree with II.

26. If restrictive macroeconomic policy will reduce inflation emanating from excess demand, ideally the policy should be undertaken

A When inflation is at its highest.
B When inflation begins to increase.
C **Before inflation begins to increase**.
D About six months after inflation peaks.

27. In a single year, a Tshs. 1 trillion tax reduction was accompanied by a Tshs. 1.8 trillion increase in consumer spending. From a Keynesian view, the most probable explanation for the increase in consumer spending by more than the amount of the tax cut is that

A. Lower taxes caused government spending to fall, which led to the increase in consumer spending.
**B. Increased consumption spending by those with higher disposable incomes led to higher incomes and still more consumption spending by others.**
C. The tax cut caused interest rates to fall, thus increasing consumer spending.
D. The lower taxes prompted the Central Bank to sell securities, causing both the money supply and consumer spending to increase.

28. Which of the following is an example of an automatic stabilizer?

A. The parliament legislates lower tax rates to increase consumption and investment.
B. Tax rates are increased during a recession to maintain a balanced budget.
C. A regressive income tax system reduces tax revenues (as a share of income) as income expands.
**D. Revenues from the corporate income tax increase sharply during a business boom but decline substantially during a recession, even though no new tax legislation is enacted.**

29. The crowding-out effect suggests that

A. Expansionary fiscal policy causes inflation.
B. Restrictive fiscal policy is an effective weapon against inflation.
**C. Reduction in private spending resulting from the higher interest rates caused by a budget deficit will largely offset the expansionary impact of a pure fiscal action.**
D. A budget surplus will cause the private demand for loanable funds, the interest rate, and aggregate demand to fall.

30. The four basic markets that characterize the economy (as in the circular flow diagram) are the

A. Goods market, services market, stock market, and bond market.
B. Resource market, labor market, goods market, and loanable funds market.
**C. Goods and services market, resource market, foreign exchange market, and loanable funds market.**

D. Savings market, stock market, bond market, and investment market.

31. As the general price level in an economy rises, the aggregate quantity demanded of goods and services falls because
    A. The prices of domestic goods have risen relative to foreign goods, causing exports to fall and imports to rise.
    B. Higher interest rates caused by an increase in the demand for money balances causes a reduction in current investment and consumption.
    C. The value of money will fall, reducing the real wealth and thus the consumption of persons holding money balances.
    **D. All of the above are correct.**

32. Consider the following statements:
    (I) The short-run aggregate supply curve is upward sloping because the prices firms pay for major resources is set by long-term contracts, thus unexpected increases in product prices lead to higher profits inducing firms to expand output.
    (II) The long-run aggregate supply curve is vertical because an economy's productive ability is determined in the long run by its resources, not by the price level. Additionally, in the long run, decision makers will adjust long-term contracts to take price changes into account

    Which of the following is most likely to be true?

    A I is true; II is false.
    B I is false; II is true.
    C **Both I and II are true.**
    D Both I and II are false.

33. If the United Auto Workers union can obtain a substantial wage increase for auto workers, the price of automobiles will rise. The rise can be attributed to
    A. Shift to the right in the supply curve for automobiles.
    **B. A shift to the left in the supply curve for automobiles.**
    C. A shift to the right in the demand curve for automobiles.
    D. A shift to the left in the demand curve for automobiles.

34. Which of the following is the most likely result of an increase in the minimum wage?
    A. An increase in the employment of unskilled workers
    B. A decrease in the unemployment rate of unskilled workers
    C. An increase in the demand for unskilled workers
    **D. A decrease in the employment of unskilled workers**

35. Which of the following would directly increase the size of the Tanzanian current account deficit?
   A. A decline in Tanzanian household net interest income on Tanzanian-issued government bonds.
   B. An increase in the amount of labor services purchased from Kenya.
   C. An increase in foreign aid from Tanzania to Southern Sudan.
   D. All of the above.
   **E. Only B and C above.**

36. If the nominal exchange rate (e) is foreign currency per shilling, the domestic price is P, and the foreign price is P*, the real exchange rate is defined as:

   A $e(P^*/P)$ **B(ans)** $e(P/P^*)$

   C $e + P/P^*$ D $e - P/P^*$

37. In an open economy, the government budget deficit tends to
   A. Crowd out exports and reduce interest rates.
   B. Depreciate the currency.
   **C. Crowd out exports and attract foreign capital.**
   D. Crowd out private consumption.
   E. Attract foreign capital and reduce interest rates.

38. If the Bank of Tanzania pursues a contractionary monetary policy, interest rate will
   **A. Rise, there will be capital inflow, and the Tanzanian shilling will appreciate.**
   B. Fall, there will be a loss in official reserves at the Bank of Tanzania and the Tanzanian shilling will depreciate.
   C. Rise, there will be capital outflow and the Tanzanian shilling will depreciate.
   D. Fall, there will be capital outflow, and the Tanzanian shilling will appreciate.
   E. Fall, there will be capital inflow, and the Tanzanian shilling will depreciate.

39. It is not likely that a country will specialize completely in one good even if it has a lower opportunity cost because:
   A. Comparative advantage is not a workable concept in the world economy.
   B. Opportunity costs increase as more of a good is produced.
   C. The country would want to save some of the good for its own citizens.
   **D. The country would end up inside its production-possibilities curve.**

40. World output of goods and services increases with specialization because:
   **A. The world's resources are being used more efficiently.**
   B. Each country's production-possibilities curve is shifted outward.
   C. Each country's workers are able to produce more than they could before specialization.
   D. All of the above.

41. Suppose the world's political leaders decided that world trade should be based on worker productivity rather than comparative advantage. Compared to a comparative advantage basis for trade:
   A. Total world production would be higher.

B. **International trade would decrease, especially between more developed countries and less developed countries.**
C. Production possibilities would expand for all countries.
D. International trade would increase.

42. Suppose that Tanzania has a comparative advantage in coffee and Kenya has a comparative advantage in tomatoes. Which of the following groups would be worse off if these countries specialize and trade?
A. **Kenyan coffee producers.**
B. Tanzanian coffee producers.
C. Kenyan tomato producers.
D. All groups are better off when specialization and trade take place.

43. The elimination of import restrictions will:
A. Alter the mix of output from export industries toward domestic industries.
B. **Redistribute income from import-competing industries to export industries.**
C. Alter the mix of output from export industries to import-competing industries.
D. Redistribute income from domestic to foreign producers.

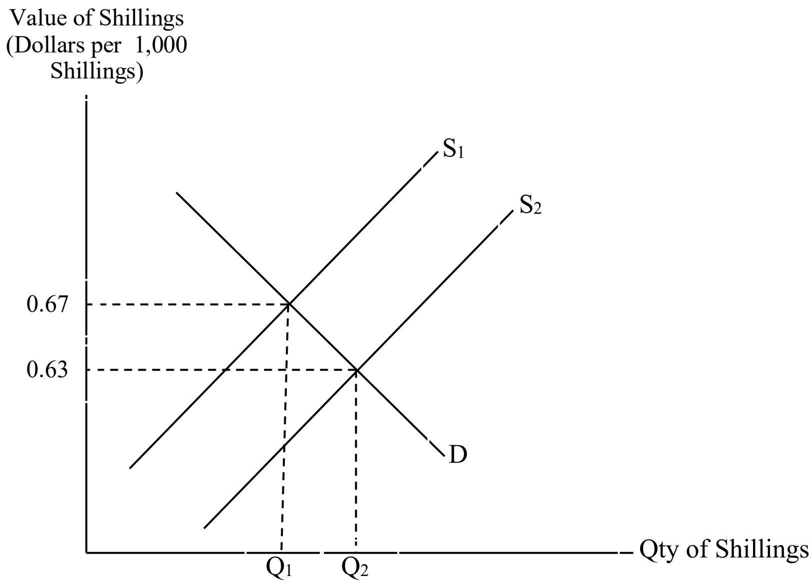
44. Which of the following generates a demand for shillings in the foreign-exchange market?
A. Transfers of money by foreign workers in Tanzania to their relatives abroad.
B. Tanzanian projects start ups abroad.
C. Foreign aid given by Tanzania.
D. **Travel by foreign visitors in Tanzania**.

45. An increase in the Tanzanian trade deficit could be caused by:
A. **An appreciation of the shilling in terms of other currencies.**
B. An increase in the rate of inflation in the Tanzania.
C. The imposition of a tariff on imported goods.
D. A depreciation of the shilling in terms of other currencies.

46. If speculators with Tanzanian shillings believe the Kenyan shilling was going to depreciate against the dollar, they would most likely:
A. Purchase Tanzanian shillings.
B. **Purchase dollars.**
C. Purchase Kenyan shillings.
D. Not participate in foreign-exchange markets because of the volatility.

47. The fact that Tanzania is a debtor nation is an indication that:
   A. The Tanzanian economy is in a long-term decline compared to the other developing economies of the world.
   B. An undesirable as they are, trade restrictions are becoming a necessity.
   C. Tanzania should never have abandoned the gold standard.
   **D. The Tanzanian economy is highly regarded by world investors.**

Use the following figure to answer the next three questions:




48. Refer to Figure above for the shillings-dollar foreign-exchange market. Which of the following is true?
   A. The Tanzanian shilling depreciates in value compared to the dollar when supply increases from $S_1$ to $S_2$.
   B. The dollar depreciates in value compared to the Tanzanian shilling when supply decreases from $S_2$ to $S_1$.
   C. An increase in supply from $S_1$ to $S_2$ could be caused by an increase in the Tanzanian demand for U.S. computers.
   **D. All of the above.**

49. Suppose the supply of shillings increased from $S_1$ to $S_2$ in Figure above. As a result of this change:
   A. U.S. computer imports to Tanzania will be lower priced.
   **B. Tanzania coffee exports to U.S. will be lower priced.**
   C. A trade surplus will be created in U.S.
   D. The U.S. dollar will lose value worldwide.

50. Suppose the supply of shillings decreased from $S_2$ to $S_1$ in Figure above. As a result of this change:
   **A. U.S. computer imports to Tanzania will be lower priced.**
   B. Tanzania coffee exports to U.S. will be lower priced.
   C. A trade deficit will be created in U.S.
   D. The U.S. dollar will gain value worldwide.

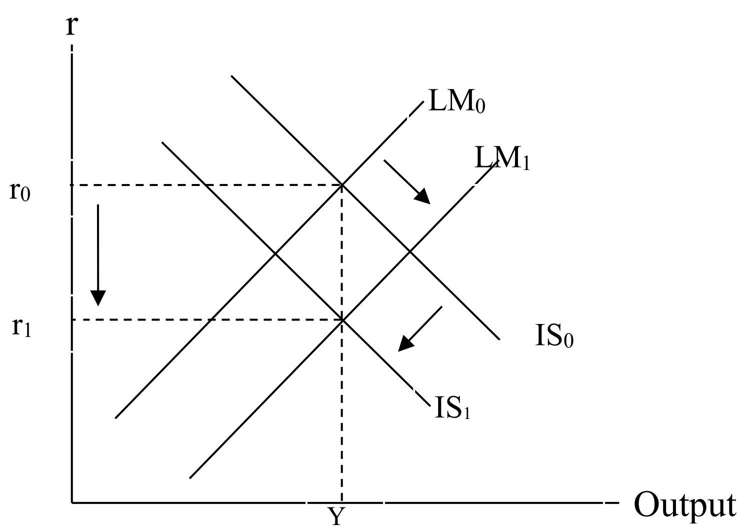
**SECTION II: Short Answer Questions (20 marks)**

**QUESTION ONE (12 marks)**

For a number the government has been running a budget deficit. In the recent past, the government has openly expressed its intention to wipe out this deficit over a five-year period. In a surprise announcement last week, H.E. the President and Hon. Minister for Finance say that they have agreed to a package of spending cuts and tax increases that will balance the budget much sooner than previously planned - in fact, they can do it right away. The Central Bank's Governor also attends the press conference, and indicates that this move will allow him to loosen monetary policy – although he also warns that given the current tightness of labor market it remains important to remain vigilant against inflation.

**Required:**

a) Using the IS-LM framework, show how the proposed package would affect the economy **(4 marks)**.




...........................*(02 Marks)*

*The package consists of a fiscal contraction and a monetary expansion. As a result, IS curve shifts down left and LM shifts down to the right. Final effect is that interest rate goes down, and output is in principle ambiguous. The most correct answer is that output will stay more or less constant or decrease, because the fed remains vigilant*

*to inflation, but we accepted as correct the other options as long as your answer is consistent.* ...................................................... *(02 Marks)*

b) What will happen to the following variables: investment; consumption; unemployment? **(3 marks)**.

- *Interest rate decreases means investment goes up. If output is constant then nothing else happens. If it goes down, investment goes down too; so the final effect is ambiguous*........................................................................................................... *(01 Mark).*

- *Consumption goes down because T increases. If output is constant nothing else happens. If output decreases, C decreases too..................................................................................(01 Mark)*
- *Unemployment varies negatively with output. If output constant, U is constant too.................................................................................................................... (01 Mark)*

c) What will happen to stock and bond prices? Why? **(3 marks)**.

- *Stock prices can decline if Y suffers a substantial decline; this is so because Y affects the size of dividends. Otherwise the price of the stock will rise due to a lower discount factor for future dividends (i.e. due to a lower i)............................................................................ (1.5 Mark)*
- *Because short-term interest rates fall today and in the future, long term interest rates fall too. Therefore the prices of bonds go up, that is, Price = Z / (1+i)...............................(1.5 Mark)*

d) Suppose the agreement does not take effect immediately but will go into effect two years from now. What will happen to today's stock and bond prices? Why? **(2 marks)**.

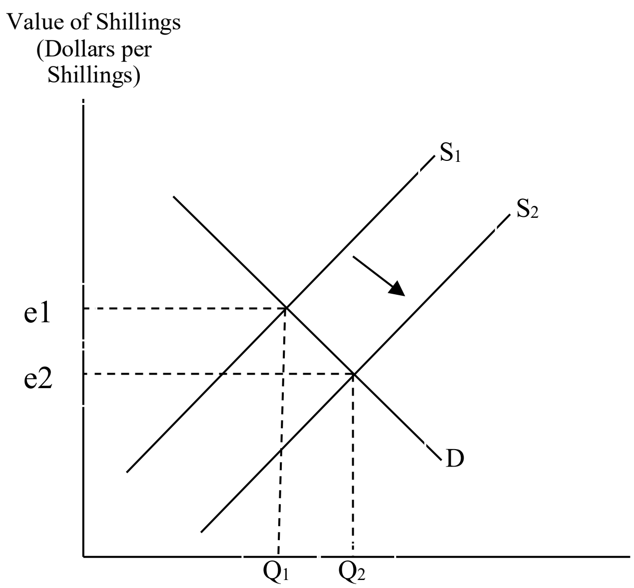
- *This policy will reduce expected interest rates, therefore long term interest rates are reduced (NB: the yield curve), thus prices of bonds today increase…………………………… (01 Mark)*
- *It is probably that the stock price will increase today, due to the lower future interest rates. But it could be the case that the increase in future taxes decreases future income, causing lower future dividends. Thus, the effect today is uncertain……………………………………...… (01 Mark)*

*NB: One point here, the policy is expected tomorrow, so tomorrow there won't be any change in prices (given no additional news in the future). But the announcement of the policy is today and it was not expected, that is reason why today we do have a change in the prices of bonds and stocks.*

**QUESTION TWO (8 marks)**

Under a flexible exchange rate, how does an easing of monetary policy (a lower real interest rate) affect the value of the exchange rate? Does this change in the exchange rate tend to weaken or strengthen the effect of the monetary ease on output and employment? Explain. **(8 marks)**.

*Under a flexible exchange rate, easing of monetary policy i.e. expansionary monetary policy through increasing money supply lowers real interest rate. In turn, the exchange rate will depreciate. The decline in real interest rates makes our investment avenues less attractive than foreign avenues (according to interest rate parity conditions) which in turn increases demand for foreign assets. This leads to increased demand for foreign currency and thus more supply of shillings to the market. According to demand and supply framework, the downward shift of the supply curve from $S_1$ to $S_2$ produces a depreciation of the shilling………….…………(03 Marks).*




………….................………. (01 Mark)

*Depreciation of exchange rate strengthens the effect of the monetary easy on output and employment. Under a closed economy, the fall in interest rate leads to increase in investments and consumption on credit i.e. purchase of durables like cars, furniture or house. The increase in output is thus from increased consumption and investments which both have a negative relationship with interest rate. In an open economy, the depreciation of shilling makes exports cheaper and imports dearer, thus increase overall net exports (exports minus imports) which in turn increase output. Thus the depreciation strengthens the monetary easy via increase in net exports which is a component of aggregate demand and output i.e. Y =* ***C*** *+* ***I*** *+ G + (****X – M****)……………………………………………………………………………………….…… (04 Marks)*

## University Supplementary/Special Examination for the Second Semester of 2010/11 Academic Year

**SECTION I: Multiple choice Questions (40 marks)**
**Select the best choice and write the corresponding letter in your answer paper (0.8 mark each)**

*(***IMPORTANT:** *Arrange your answers in <u>two columns</u> – one running from Question 1 to 25 and the other from Question 26 to 50 – without skipping a line/row).*

51. Consider the simplest macro model with demand-determined output, where AE = C + I. Suppose that actual national income is Tshs. 90 trillion and desired consumption plus desired investment is Tshs. 92 trillion. We can expect that
    A) Firms will see an increase in inventories, and they will respond by decreasing output, thereby decreasing actual national income.

B) Firms will decrease autonomous investment by Tshs. 2 trillion until equilibrium national income is reached at Tshs. 90 trillion.
C) Actual national income will decrease until equilibrium national income is reached at Tshs. 90 trillion.
D) Firms will increase autonomous investment by Tshs. 2 trillion until equilibrium national income is reached at Tshs. 92 trillion.
**E) Firms will see a decrease in inventories, and they will respond by increasing output, thereby increasing actual national income.**

52. If nominal national income increased by 20 percent over a certain period of time while real national income increased by 10 percent, then
    **A. The price level has increased by approximately 10 percent.**
    B. Inflation has decreased during this time period.
    C. Everybody in the economy became worse off.
    D. The price level has declined by about 10 percent.
    E. The labour force increased by 10 percent.
53. A German citizen buys an automobile produced in the United States by a Japanese company. As a result,
    A. U.S. net exports increase, U.S. GNP and GDP are unaffected, Japanese GNP increases, German net exports decrease, and German GNP and GDP are unaffected.
    B. U.S. net exports, GNP, and GDP increase, Japanese GDP increases, German net exports decrease, and German GDP is unaffected.
    **C. U.S. net exports and GDP increase, Japanese GNP increases, German net exports decrease, and German GDP and GNP are unaffected.**
    D. U.S. net exports, GNP, and GDP are unaffected, Japanese GNP increases, German net exports decrease, and German GDP and GNP fall.
54. Suppose that real GDP grew more in Country A than in Country B last year.
    A. Country A must have a higher standard of living than country B.
    B. Country A's productivity must have grown faster than country B's.
    C. Both of the above are correct.
    **D. None of the above is correct.**
55. Suppose that there are diminishing returns to capital. Suppose also that two countries are the same except one has less capital and so less real GDP per person. Suppose that both increase their saving rate from 3 percent to 4 percent. In the long run
    A. Both countries will have permanently higher growth rates of real GDP per person, and the growth rate will be higher in the country with more capital.
    B. Both countries will have permanently higher growth rates of real GDP per person, and the growth rate will be higher in the country with less capital.
    C. Both countries will have higher levels of real GDP per person, and the temporary increase in growth in the level of real GDP per person will have been greater in the country with more capital.

**D. Both countries will have higher levels of real GDP per person, and the temporary increase in growth in the level of real GDP per person will have been greater in the country with less capital.**

56. If real GDP increases and the price index has increased:
    A. Money GDP must have fallen.
    **B. Money GDP must have increased.**
    C. Money GDP may have either increased or decreased.
    D. The percentage increase in money GDP must have been less than the percentage increase in the price level.
57. Which of the following would increase GDP?
    E. Ford Motor Company (American company) begins to produce and sell cars in Japan.
    F. **Mercedes-Benz (German company) begins to produce and sell cars in Texas.**
    G. An American investor buys 100 shares of Ford stock.
    H. An American investor purchases 100 shares of Mercedes-Benz stock.
58. GDP is the sum of all business sales. *True: T or* ***False: F****?*
59. Changes in consumer confidence are the main source of fluctuations in output. *True: T or* ***False: F****?*
60. The observed tendency for the form of money to evolve from commodity money to fiat money increases the fragility of money because
    F. Fiat money can lose much of its value in hyperinflations.
    G. Fiat money is un-backed, i.e., it is not collateralized by any commodity.
    H. Fiat money can lose much of its value if people lose confidence in its general acceptability as a means of payment.
    **I. All of the above.**
    J. Only A and C.

Use Table 1 to answer the next 6 questions:

**Table 1: National income accounts** (figures in billions of shillings)

| | |
|---|---|
| Expenditure for Consumer Goods and Services | 2,850 |
| Exports | 250 |
| Government Purchase of Goods and Services | 810 |
| Social Security Taxes | 295 |
| Net Investment | 510 |
| Indirect Business Taxes | 425 |
| Imports | 450 |
| Gross Investment | 700 |
| Corporate Income Taxes | 190 |
| Personal Income Taxes | 875 |
| Corporate Retained Earnings | 210 |
| Government Transfer Payments to Households | 780 |

11. On the basis of Table 1, GDP is:

A shs2,040 billion. B shs4,160 billion. C shs4,350 billion. D shs3,970 billion.

12. On the basis of Table 1, net domestic product is:

A shs4,350 billion. B shs2,040 billion. C shs4,160 billion. D shs3,970 billion.

13. On the basis of Table 1, national income is:

A shs3,545 billion. B shs3,735 billion. C shs2,425 billion. D shs1,615 billion.

14. On the basis of Table 1, personal income is:

A shs2,757billion. B shs2,935 billion. C shs2,070 billion. D shs3,630 billion

15. On the basis of Table 1, depreciation (capital consumption allowance) is:

A shs425 billion. B shs125 billion. C -shs125 billion. D shs190 billion.

16. On the basis of Table 1, personal saving is:

A shs190 billion. B -shs190 billion. C shs95 billion. D -shs95 billion.

17. What happens to the multiplier as autonomous consumption decreases?

A It goes up. B It fluctuates wildly.

C **It remains constant.** D Its activity is unpredictable

18. In accounting for the capital stock, depreciation adjusts for the fact that interest rates fluctuate. *True or* ***False***?

19. During inflation:
    a) The purchasing power of money falls.
    b) Sellers of debt instruments benefit as the real value of their payment obligations falls.
    c) Buyers of debt instruments benefit as the real value of their payment receipts rises.
    d) Only A and C.
    **e) Only A and B.**
20. Economists have no single precise measure of money because:
    a) The money supply data supplied by private commercial banks is confidential information (not to be released publicly), by law.
    b) The Federal Reserve System does not allow the public release of money supply data on the grounds that this release would encourage speculative trading.
    **c) The "moneyness" (liquidity) of an asset is a matter of degree.**
    d) Economists are sharply divided on ideological grounds about the definition of "money."
21. If a private investor BUYS a newly issued 30-year Treasury bond from the government in return for currency, then:

    A M1 stays the same and M2 decreases. B M1 decreases and M2 stays the same.

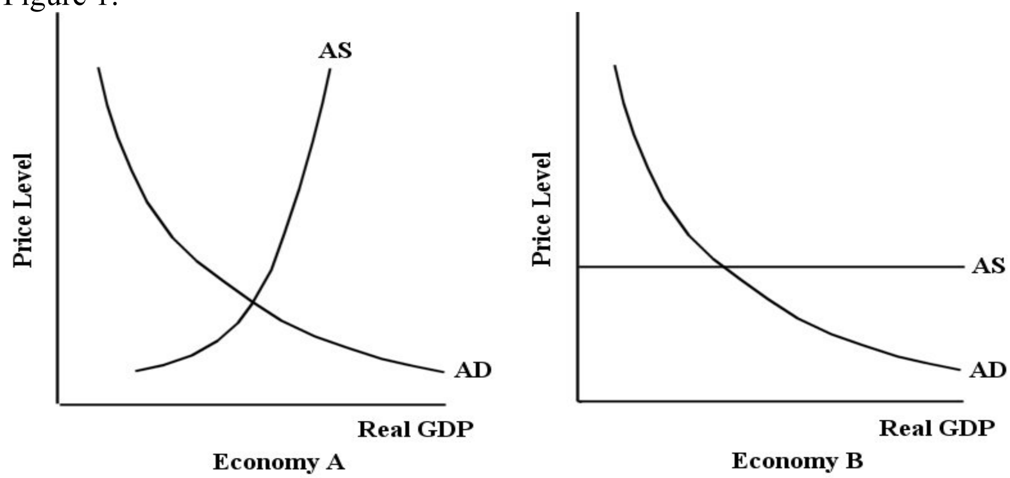
    C M1 increases and M2 increases. D **M1 decreases and M2 decreases.**
22. The aggregate consumption function is based on a number of assumptions. Given these assumptions, which of the following statements is true?
    a) The Marginal propensity to consume (MPC) and average propensity to consume (APC) are always less than unity.
    b) Below a certain level of income, APC > 1 and MPC < 0.
    c) As income rises, the MPC falls and the APC rises.
    **d) The MPC is greater than zero and less than one, and the APC falls as income rises.**
23. Consider two economies that are identical, with the exception that one has a high marginal propensity to consume (MPC) and one has a low MPC. If the money supply is increased by the same amount in each economy, the high MPC economy will experience:
    **a) A larger increase in output and a smaller decrease in the interest rate.**
    b) A smaller increase in output and a smaller decrease in the interest rate.
    c) A larger increase in output and a larger decrease in the interest rate.
    d) A smaller increase in output and a larger decrease in the interest rate.

24. Assume that $C = c_0 + c_1(Y-T)$ where $c_1<1$. Suppose taxes increase and money supply increases in such a way that output is constant in equilibrium. These policy changes will produce:
    a) **An increase in investment and a decrease in private consumption.**
    b) An increase in investment and a decrease in government spending.
    c) An increase in investment and an increase in private saving.
    d) A decrease in investment and an increase in public saving.
25. Suppose that investment (I) in the goods market is not responsive to the interest rate (that is, I does not depend on the interest rate at all). Then:
    a) The IS curve is a vertical line and monetary policy is very effective in raising output.
    b) The IS curve is a horizontal line and monetary policy is very effective in raising output.
    **c) The IS curve is a vertical line and monetary policy does not affect output in the IS-LM model.**
    d) The IS curve still has a negative slope, but monetary policy does not affect output in the IS-LM model.
26. "Monetary instability has been the major cause of economic instability in this country. Expansion in the money supply has been the source of every major inflation. Every major recession has been either caused or perpetuated by monetary contraction." Who among the following would most likely adhere to this view?
    a) **Monetarists**
    b) Keynesians
    c) Supply-side economists
    d) Early proponents of the quantity theory of money
27. Which of the following is an example of an automatic stabilizer?
    a) Congress legislates lower tax rates to increase consumption and investment.
    b) Tax rates are increased during a recession to maintain a balanced budget.
    c) A regressive income tax system reduces tax revenues (as a share of income) as income expands.
    **d) Revenues from the corporate income tax increase sharply during a business boom but decline substantially during a recession, even though no new tax legislation is enacted.**
28. Which of the following would not be counted as part of this year's GDP?
    a) the paint you buy to paint your house
    **b) the government bond you receive as a birthday present**
    c) the purchase of an IBM computer (produced during the year) by the U.S. government
    d) the purchase of wheat (produced during the year by a Kansas farmer) by the Russian government
29. The compilation of macroeconomic statistics on the GDP and its components clearly presupposes the existence of some kind of *money* that is universally used as:

| | | | |
|---|---|---|---|
| A | A medium of exchange. | B | A store of value. |
| C | A unit of account. | D | A deflator. |

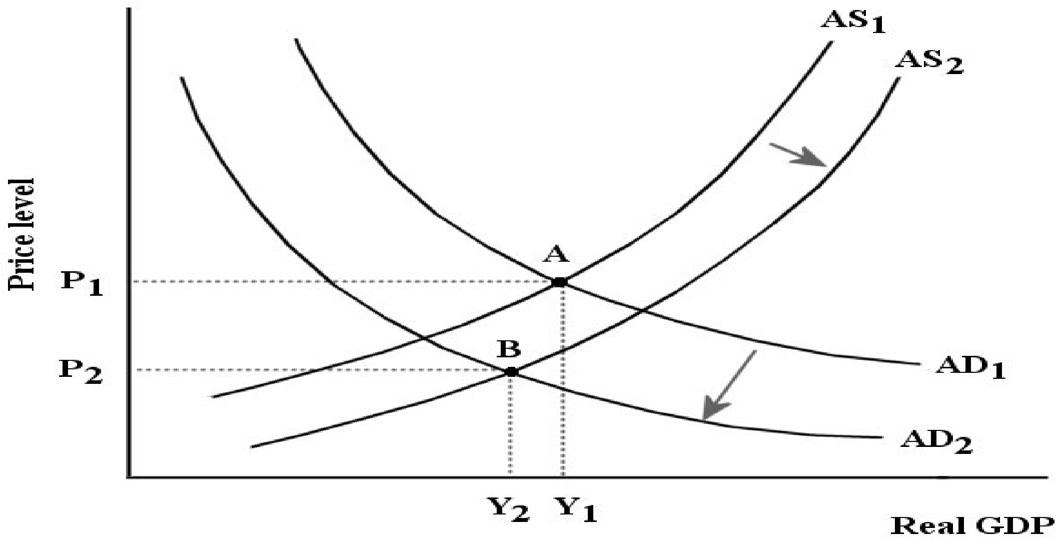
30. According to the Keynesian transmission mechanism, a *decrease in the money supply:*
    a) Raises the interest rate and, thus, lowers the quantity of money demanded.
    b) Raises investment in bonds, stocks, and other financial instruments.
    c) Raises the total expenditures line and shifts the aggregate demand curve to the right.
    d) Raises the price level, while leaving the real GDP unaffected.
    e) Leads to all of the above and more.

Figure 1:




31. Refer to Figure 1. Which of the following statements best describes the supply side of Economy A?
    A. Unit costs are rising, but firms can produce more output by employing standby capacity and overtime labour, for example, with no increase in the price level.
    **B. Unit costs are rising rapidly as firms are producing beyond their capacity. Firms will produce more only if prices increase.**
    C. Unit costs are rising, but firms are able to produce more output because there is excess capacity in the economy.
    D. Firms are producing well below their capacity and are willing to produce more output with no increase in price.
    E. Firms are producing well below their capacity and are willing to produce more only if prices rise.
32. Refer to Figure 1. Which of the following statements best describes the supply side of Economy B?
    A. Unit costs are rising rapidly as firms are producing beyond their capacity. Firms will produce more only if prices increase.
    B. Unit costs are rising rapidly, but firms can produce more output by employing standby capacity and overtime labour, for example, with no increase in the price level.
    C. Firms are not able to produce more output because there is no excess capacity in the economy.
    D. Firms are producing well below their capacity and are willing to produce more only if prices rise.
    **E. Firms are producing well below their capacity and are willing to produce more output with no increase in price.**

Figure 2:

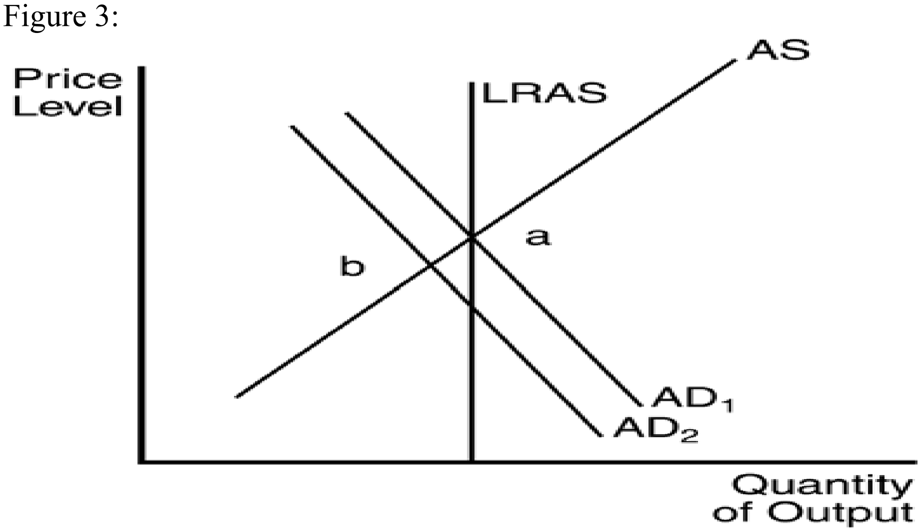



33. Consider Figure 2. Initially the economy is in equilibrium at point A. An unexpected shock then shifts both the AD and the AS curves as shown and results in a new equilibrium represented by point B. Which of the following events could cause such a shock?
    A. an increase in factor prices
    **B. a decrease in the world price of oil**
    C. a decrease in firms′ desired investment expenditures
    D. an increase in the net tax rate
    E. a decrease in labour productivity
34. Consider the basic AD/AS model. Suppose that a rising percentage of high-school graduates are illiterate, resulting in a decrease in average labour productivity. This change will
    **A. Shift the AS curve to the left.**
    B. Cause a movement to the right along the AS curve.
    C. Shift the AD curve to the left.
    D. Shift the AD curve to the right.
    E. Shift the AS curve to the right.
35. Potential output growth is influenced by
    A. The tax rate payable on wages and profits
    B. Level of education
    C. Demographic structure (age-sex mix) of the population
    D. A and B
    **E. A, B and C**
36. Suppose that workers in the Republic of Communia are highly unionized, while workers in the Republic of Individuela are not. In all other respects, the two countries are exactly the same. Which statement is true?
    A. Communia is likely to have a higher natural level of output than Individuela.
    B. **Communia is likely to have a higher natural rate of unemployment than Individuela.**
    C. Wages are probably lower in Communia than in Individuela.
    D. In the short-run, the price level is always lower in Communia than in Individuela.
    E. In the short-run, output is always higher in Communia than in Individuela.
37. Which of the following terms is not equivalent to the others listed here?
    **A. Frictional-unemployment GDP.**

**B.** Full-employment real GDP.
C. Natural real GDP.
D. Potential output.

38. An attempt to reduce the budget deficit will necessarily raise unemployment (TRUE/FALSE). **False.**
39. Which of the following people would not be considered unemployed?
    A. A recent college graduate who has not yet found a job
    B. An executive who quit one job but is still looking for another
    **C. A construction worker laid off, waiting to be called back, because of a slowdown in home building**
    D. A person who has given up trying to find a job after an unsuccessful search
40. Part-time workers are counted as:
    A. Unemployed and therefore the official unemployment rate may understate the level of unemployment
    B. Fully employed and therefore the official unemployment rate may overstate the level of unemployment.
    **C. Fully employed and therefore the official unemployment rate may understate the level of unemployment.**
    D. Unemployed and therefore the official unemployment rate may overstate the level of unemployment.

Figure 3:




41. From Figure 3, which of the following would cause the aggregate demand curve to shift from AD1 to AD2?
    A. an increase in government purchases
    **B. a decrease in stock prices**
    C. consumers and firms become more optimistic about the future
    D. None of the above is correct.
42. From Figure 3, if the economy is at point b, the correct policy to restore full employment would be
    **A. an increase in the money supply.**
    B. a decrease in government purchases.
    C. an increase in taxes.
    D. All of the above are correct.
43. From Figure 3, which of the following is true?

A. A wave of optimism could move the economy from a to b.
B. If aggregate demand moves from $AD_1$ to $AD_2$ the economy will stay at b in both the short and long run.
C. **It is possible that either fiscal or monetary policy might have caused the shift from $AD_1$ to $AD_2$.**
D. All of the above are correct.

44. From Figure 3, which of the following is not true?
    A. Unemployment rises as the economy moves from a to b.
    B. Either fiscal or monetary policy could be used to move the economy from b to a.
    **C. As the economy moves from b to long-run equilibrium, the price level will fall further.**
    D. At point b there is an excess demand for goods and services.
45. Okun's law states that if the growth rate of potential GDP exceeds actual GDP growth by one percent for a year, then the unemployment rate goes down by 0.5%. (TRUE/FALSE) **False.**
46. During inflation:
    A. The purchasing power of money falls.
    B. Sellers of debt instruments benefit as the real value of their payment obligations falls.
    C. Buyers of debt instruments benefit as the real value of their payment receipts rises.
    D. Only A and C.
    **E. Only A and B.**

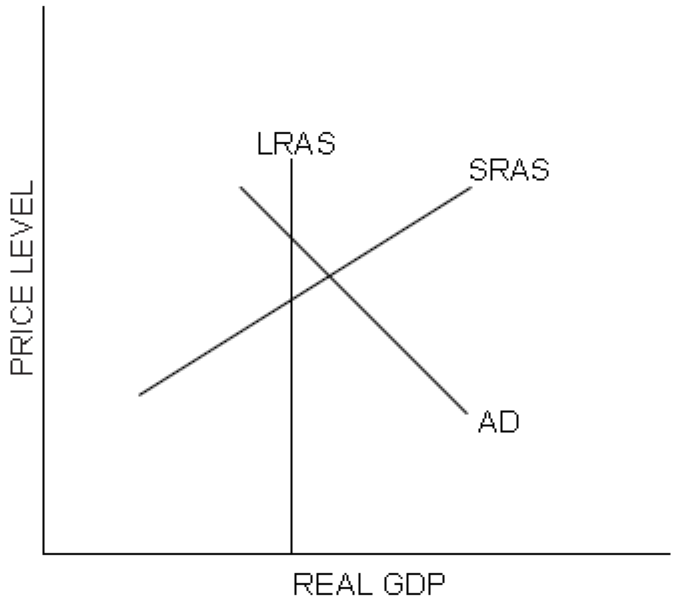
47. A worker currently earning $3000 per month has negotiated a 4% wage increase in anticipation of a 4% inflation rate in the next year. Under what scenario will the worker have a higher purchasing power?
    A. if next year′s inflation rate is 4%
    **B. if next year′s inflation rate is 3%**
    C. if next year some prices increase by only 5%
    D. if next year′s inflation rate is 5%
    E. if next year some prices increase by only 4%
48. As long as we do not mind having high inflation, we can achieve as low a level of unemployment as we want. All we have to do is increase the demand for goods and services by using, for example, expansionary fiscal policy. (TRUE/FALSE) **False.**
49. Which of the following is most likely to result when the Tanzanian shilling strengthens (appreciates) against the Kenyan shilling?
    A. Tanzania will definitely be better off.
    B. Tanzania goods exported to Kenya will cost less in Kenya, so Kenyans will buy more of them.
    **C. Tanzanian goods exported to Kenya will cost more in Kenya, so Kenyans will buy fewer of them.**
    D. Tanzanian citizens will buy fewer Kenyan goods.
50. In a two-country world divided between home country (HC) and the rest-of-the-world (ROW), in order to offset an appreciation of HC currency, the HC central bank could ______ HC currency in the Foreign Exchange Market, which would tend to shift _____.
    **A. sell; the supply curve for HC currency to the right**
    B. sell; the demand curve for HC currency to the right
    C. buy; the demand curve for HC currency to the right
    D. sell; the supply curve for HC currency to the left
    E. buy; the demand curve for HC currency to the left

**SECTION II: Short Answer Questions (20 marks)**

**QUESTION ONE (12 marks)**

The Federal Reserve Board of Governors determines that it is currently appropriate to follow a contractionary policy.

***a)*** Use a correctly labelled aggregate demand and aggregate supply graph to illustrate the situation that would make this policy appropriate. ***Graph must be properly labeled, showing output on the horizontal axis, price level on the vertical, an upward-sloping SRAS and some indication of potential. The intersection of SRAS and AD is beyond full employment or LRAS, illustrating an inflationary economy.***




b) Would the monetary policy be to increase or decrease the money supply? Explain. ***The policy would be to reduce the money supply. By reducing the money supply, interest rates would rise and investment spending and other interest rate sensitive components of aggregate demand would decrease, reducing the upward pressure on prices. Or from the Monetarist view, the reduction in the money supply itself would reduce the price level (the SRAS being vertical, reduction in AD lowers price level).***

c) Describe the policy the Federal Reserve is likely to take, and explain how its action achieves the goal of following a contractionary policy. Explain how the policy would affect each of the following:

- Interest rates
- Investment
- Output
- Price level
- Employment

***The Federal Reserve would most likely sell bonds on the open market, taking money directly and immediately out of circulation. Other actions the Federal Reserve could take are increasing the discount rate or raising the reserve requirement.***

- ***Any of these actions will cause interest rates to rise because the supply of money is decreasing.***
- ***As interest rates rise, investment looks less profitable and thus declines.***
- ***A decrease in investment leads to a decrease in AD. If the economy is on the upward sloping***
- ***Portion of SRAS, output will decrease with the leftward shift of AD.***
- ***The goal of the policy is to lower the price level. On the upward-sloping SRAS, the price***
- ***Level will fall with less spending.***
- ***If on the upward-sloping SRAS, employment will decline with the decline in output.***

**QUESTION TWO (8 marks)**

Suppose that the Phillips Curve is given by $\pi_t - \pi_t^e = 0.1 - 2u_t$ and $\pi_t^e = \pi_{t-1}$. Suppose that inflation in the year 2000 is zero. In the year 2001, the authorities decide to keep the unemployment rate at 4% percent forever.

a) Compute the rate of inflation for years 2001, 2002, 2003 and 2004. **(3 marks)**

Now suppose that half the workers have indexed labor contracts. That is, the expected rate $\pi_t^e$ is still the relevant inflation rate in determining wages for half the workers in the economy, whereas the current rate, $\pi_t$ replaces $\pi_t^e$ as the relevant inflation rate in determining wages for the other half (those who have wages indexed to inflation). Hint: Instead of $\pi_t^e$, then, we will have $0.5\pi_t^e + 0.5\pi_t$.

b) What is the new equation for the Phillips Curve? **(2 marks)**
c) Repeat the exercise in (a) —now under this new assumption. **(2 marks)**
d) What is the effect of indexation on the relation between π and u? Explain in words. (If you wish, you can simply base your answer on the results you derived in the questions above). **(3 marks)**

**SECTION I: Multiple Choice and True/False Question (20 MARKS).**

Select the best choice and write the corresponding letter in your answer paper **(1 mark each)**

1. What happens to the multiplier as autonomous consumption decreases?
   a) It goes up.
   b) It fluctuates wildly.
   c) It goes down.
   d) **It remains constant.**
   e) Its activity is unpredictable
2. In accounting for the capital stock, depreciation adjusts for the fact that interest rates fluctuate. *True or* ***False***?
3. During inflation:
   f) The purchasing power of money falls.
   g) Sellers of debt instruments benefit as the real value of their payment obligations falls.

h) Buyers of debt instruments benefit as the real value of their payment receipts rises.
i) Only A and C.
**j) Only A and B.**

4. Economists have no single precise measure of money because:
   e) The money supply data supplied by private commercial banks is confidential information (not to be released publicly), by law.
   f) The Federal Reserve System does not allow the public release of money supply data on the grounds that this release would encourage speculative trading.
   **g) The "moneyness" (liquidity) of an asset is a matter of degree.**
   h) Economists are sharply divided on ideological grounds about the definition of "money."
5. If a private U.S. investor BUYS a newly issued 30-year U.S. Treasury bond from the U.S. government in return for currency, then:
   a) M1 stays the same and M2 decreases.
   b) M1 decreases and M2 stays the same.
   c) M1 increases and M2 increases.
   **d) M1 decreases and M2 decreases.**
   e) M1 increases and M2 decreases.
6. In the Global Financial Crisis (GFC) of 2007-2009, which items had growing percentage in the portfolios of financial institutions prior to 2007 and how did they trigger the crisis?
   a) Stock shares; speculative bubble on stock share prices due to market psychology ("animal spirits").
   **b) Derivative financial instruments based on subprime residential mortgages; high level of systemic (aggregate) risk because the values of all of these assets depended on U.S. housing prices continuing to rise.**
   c) Long-term government bonds; debt crisis due to the inability of the U.S. government to sell more bonds.
   d) Corporate commercial paper; moral hazard problem because the corporations were not being adequately monitored in order to detect and prevent undesirable behaviors that could increase default risk.
7. The aggregate consumption function is based on a number of assumptions. Given these assumptions, which of the following statements is true?
   e) The MPC and APC are always less than unity.
   f) Below a certain level of income, APC > 1 and MPC < 0.
   g) As income rises, the MPC falls and the APC rises.
   h) The APC is greater than zero and less than one, and the MPC falls as income rises.
   **i) The MPC is greater than zero and less than one, and the APC falls as income rises.**
8. Consider a simple macro model with a constant price level and demand-determined output. The equations of the model are: $C = 60 + 0.43Y$, $I = 150$, $G = 260$, $T = 0$, $X = 90$, $IM = 0.06Y$. The vertical intercept of the Aggregate Expenditure (*AE)* function is:
   a) 60.0. b) 210.0. c) 300.0. d) 414.4. **e) 560.0**
9. An increase in the rate of money growth decreases the nominal interest rate. True, False or **Uncertain**?
10. Consider two economies that are identical, with the exception that one has a high marginal propensity to consume (MPC) and one has a low MPC. If

the money supply is increased by the same amount in each economy, the high MPC economy will experience:

e) **A larger increase in output and a smaller decrease in the interest rate.**
f) A smaller increase in output and a smaller decrease in the interest rate.
g) A larger increase in output and a larger decrease in the interest rate.
h) A smaller increase in output and a larger decrease in the interest rate.
i) None of the above.

11. Assume that $C = c_0 + c_1(Y-T)$. Suppose that taxes increase and money supply increases in such a way that output is constant in equilibrium (assume $c1<1$). These policy changes will produce:

e) **An increase in investment and a decrease in private consumption.**
f) An increase in investment and a decrease in government spending.
g) An increase in investment and an increase in private saving.
h) A decrease in investment and an increase in public saving.
i) Uncertain.

12. Suppose that investment (I) in the goods market is not responsive to the interest rate (that is, I does not depend on the interest rate at all). Then:

e) The IS curve is a vertical line and monetary policy is very effective in raising output.
f) The IS curve is a horizontal line and monetary policy is very effective in raising output.
g) **The IS curve is a vertical line and monetary policy does not affect output in the IS-LM model.**
h) The IS curve is a horizontal line and monetary policy does not affect output in the IS-LM model.
i) The IS curve still has a negative slope, but monetary policy does not affect output in the IS-LM model.

13. An increase in the money supply and a drop in consumer confidence will lead to:

a) A decrease in output with an ambiguous effect on the interest rate.
b) An increase in output and a decrease in the interest rate.
c) A decrease in output and an increase in the interest rate.
d) An ambiguous effect on output and an increase in the interest rate.
e) **An ambiguous effect on output and a decrease in the interest rate.**

14. "Monetary instability has been the major cause of economic instability in this country. Expansion in the money supply has been the source of every major inflation. Every major recession has been either caused or perpetuated by monetary contraction." Who among the following would most likely adhere to this view?

e) **Monetarists**
f) Keynesians
g) Supply-side economists
h) Early proponents of the quantity theory of money

15. Which of the following accurately summarizes the transmission of restrictive monetary policy to the goods and services market?

a) Higher real interest rates will lead to a reduction in both business investment and consumer purchases of durable items, causing a reduction in aggregate demand.

b) The exchange rate value of the shilling will rise, causing Tanzania exports to fall and imports to rise. With lower net exports, aggregate demand will fall.
c) Bank reserves will fall and loans will become less available to small- and medium-sized businesses. The investment undertaken by these businesses will fall, leading to a reduction in aggregate demand.
d) **All of the above are true.**

16. Suppose the Parliament raises taxes and the Bank of Tanzania slow the annual money supply growth from 10 percent to 5 percent. If decision makers accurately anticipate the impact of these policy changes on prices,
    a) Unemployment will rise.
    b) Unemployment will fall.
    **c) There will be no effect on unemployment.**
    d) Unemployment will fall if the change in monetary policy dominates, but unemployment will rise if the change in fiscal policy dominates.
17. If the Bank of Tanzania wanted to use all three of its major monetary control tools to decrease the money supply, it would
    a) Buy bonds, reduce the discount rate, and reduce reserve requirements.
    b) Sell bonds, reduce the discount rate, and reduce reserve requirements.
    c) Sell bonds, reduce the discount rate, and increase reserve requirements.
    **d) sell bonds, increase the discount rate, and increase reserve requirements.**
18. In a single year, a \$5 billion tax reduction was accompanied by a \$9 billion increase in consumer spending. From a Keynesian view, the most probable explanation for the increase in consumer spending by more than the amount of the tax cut is that:
    a) Lower taxes caused government spending to fall, which led to the increase in consumer spending.
    **b) Increased consumption spending by those with higher disposable incomes led to higher incomes and still more consumption spending by others.**
    c) The tax cut caused interest rates to fall, thus increasing consumer spending.
    d) The lower taxes prompted the Federal Reserve to sell U.S. securities, causing both the money supply and consumer spending to increase.
19. Which of the following is an example of an automatic stabilizer?
    e) Congress legislates lower tax rates to increase consumption and investment.
    f) Tax rates are increased during a recession to maintain a balanced budget.
    g) A regressive income tax system reduces tax revenues (as a share of income) as income expands.
    **h) Revenues from the corporate income tax increase sharply during a business boom but decline substantially during a recession, even though no new tax legislation is enacted.**
20. Which of the following would not be counted as part of this year's GDP?
    e) the paint you buy to paint your house
    **f) the government bond you receive as a birthday present**
    g) the purchase of an IBM computer (produced during the year) by the U.S. government
    h) the purchase of wheat (produced during the year by a Kansas farmer) by the Russian government

Consider the following model economy for questions 21 and 22:
$C = c_0 + c_1(Y-T)$; $I = d_0 + d_1Y - d_2i$; $G = 50$; $T = 50$; $X = x_1(Y_{foreign})$; $M = m_0 + m_1Y$; $0 < c_1 < 1$; $0 < d_1 < 1$ and $0 < m_1 < 1$:

21. Changes in which of the following parameters change the multiplier?

**a) $c_1$ only**

b) $c_1$ and $c_0$

c) $d_1$ and $c_1$

d) $d_1$, $c_1$, and $m_1$

e) $d_0$ and $c_0$

22. In the above model economy, the most effective way for the government to promptly increase output – holding all else constant – is to

a) Cut taxes (T) by 10.

**b) Raise government spending (G) by 10.**

c) Encourage consumers to save, thus increasing the marginal propensity to save.

d) Have the Federal Reserve raise interest rates.

e) Put tariffs on exports.

23. The compilation of macroeconomic statistics on the GDP and its components clearly presupposes the existence of some kind of *money* that is universally used as:

**a) A medium of exchange.**

b) A store of value.

c) A unit of account.

d) A basis for purchasing power calculations.

e) A deflator.

24. According to the Keynesian transmission mechanism, a *decrease in the money supply:*

f) Raises the interest rate and, thus, lowers the quantity of money demanded.

g) Raises investment in bonds, stocks, and other financial instruments.

h) Raises the total expenditures line and shifts the aggregate demand curve to the right.

i) Raises the price level, while leaving the real GDP unaffected.

j) Leads to all of the above and more.

25. Keynesians expect expansionary monetary policy to eliminate a recessionary gap, *provided:*

a) The Bank of Tanzania decreases the reserves of the banking system.

b) Banks do not hold excess reserves and there are no cash leakages.

c) The interest rate falls because there is no liquidity trap.

d) Investment is insensitive to changes in the interest rate (to avoid crowding out).

e) There is a decrease in the unemployment rate.

## SECTION II: SHORT ANSWER QUESTIONS (20 MARKS)

1. The hypothetical country “Changanyikeni” is a closed economy and obeys our short-run IS-LM model. Assume it starts out in equilibrium in both the goods market and

the money market. Changanyikeni economy is described by the following set of equations:

Goods Market: $C = c_0 + c_1(1-t)Y$, where C is consumption; Y is income; t represents a proportional tax; and $c_0$ and $c_1$ are positive constants; $I = b_0 - b_1 i$, where I is investment; i is the interest rate; and $b_0$ and $b_1$ are positive constants and $G = G^*$ where $G$ is a positive constant.

Money Market: $M^d = P(m_0 + m_1 Y - m_2 i)$, where $M^d$ is money demand; P is the price level; $m_0$ (a positive constant) represents exogenous changes to $M^d$; and $m_1$ and $m_2$ are also positive constants. Let $M^s$ represent money supply:

a) Combine the goods market equations to derive an expression for Y as a function of i (i.e. derive the IS curve). Give the definition of the IS relation. (7 points)
b) Use the money market equations to express i as a function of Y (i.e. derive the LM curve). Give intuition for why the LM curve slopes upward/downward. (7 points)
c) Graph the IS and the LM curves on the same diagram, putting i on the vertical axis and labelling the curves. Label the equilibrium interest rate and output, $i_0$ and $Y_0$, respectively. (7 points)
d) Suppose the government increases its spending by $\Delta G^*$. Which curve will shift, if any? Draw a diagram that shows the impact of this policy. (9 points)
e) What will happen to investment as a result of the government policy described in part 4? (5 points)
f) Suppose that the government decides to cut taxes instead of increasing spending. Analyze the effects of this expansionary fiscal policy using a diagram. (5 points)
g) Using the IS-LM model, explain what can be done to offset the changes in the interest rate caused by increased government spending and, at the same time, keep output from declining. (10 points)

2. Draw the circular flow of economic activity, labeling all economic actors, markets, and money flows.

Use Table 1 to answer the next 6 questions:

**Table 1: National income accounts** (figures in billions of shillings)

| | |
|---|---|
| Expenditure for Consumer Goods and Services | 2,850 |
| Exports | 250 |
| Government Purchase of Goods and Services | 810 |
| Social Security Taxes | 295 |
| Net Investment | 510 |
| Indirect Business Taxes | 425 |
| Imports | 450 |
| Gross Investment | 700 |
| Corporate Income Taxes | 190 |

| | |
|---|---|
| Personal Income Taxes | 875 |
| Corporate Retained Earnings | 210 |
| Government Transfer Payments to Households | 780 |

26. On the basis of Table 1, GDP is:
A shs2,040 billion. B **shs4,160 billion.** C shs4,350 billion. D shs3,970 billion.

27. On the basis of Table 1, net domestic product is:
A shs4,350 billion. B shs2,040 billion. C shs4,160 billion. D **shs3,970 billion.**

28. On the basis of Table 1, national income is:
A **shs3,545 billion.** B shs3,735 billion. C shs2,425 billion. D shs1,615 billion.

29. On the basis of Table 1, personal income is:
A shs2,757billion. B shs2,935 billion. C shs2,070 billion. D **shs3,630 billion**

30. On the basis of Table 1, depreciation (capital consumption allowance) is:
A shs425 billion. B shs125 billion. C -shs125 billion. D **shs190 billion.**

31. On the basis of Table 1, personal saving is:
A shs190 billion. B -shs190 billion. C shs95 billion. D **-shs95 billion.**

32. What happens to the multiplier as autonomous consumption decreases?
A It goes up. B It fluctuates wildly.
C **It remains constant.** D Its activity is unpredictable

33. In accounting for the capital stock, depreciation adjusts for the fact that interest rates fluctuate. *True or* ***False*?**

34. During inflation:
k) The purchasing power of money falls.
l) Sellers of debt instruments benefit as the real value of their payment obligations falls.
m) Buyers of debt instruments benefit as the real value of their payment receipts rises.
n) Only A and C.
**o) Only A and B.**

35. Economists have no single precise measure of money because:
i) The money supply data supplied by private commercial banks is confidential information (not to be released publicly), by law.
j) The Bank of Tanzania does not allow the public release of money supply data on the grounds that this release would encourage speculative trading.
**k) The "moneyness" (liquidity) of an asset is a matter of degree.**
l) Economists are sharply divided on ideological grounds about the definition of "money."

36. If a private investor buys a newly issued 30-year Treasury bond from the government in return for currency, then:
A M1 stays the same and M2 decreases. B M1 decreases and M2 stays the same.
C M1 increases and M2 increases. D **M1 decreases and M2 decreases.**

37. The aggregate consumption function is based on a number of assumptions. Given these assumptions, which of the following statements is true?
   j) The Marginal propensity to consume (MPC) and average propensity to consume (APC) are always less than unity.
   k) Below a certain level of income, APC > 1 and MPC < 0.
   l) As income rises, the MPC falls and the APC rises.
   **m) The MPC is greater than zero and less than one, and the APC falls as income rises.**

38. Consider two economies that are identical, with the exception that one has a high marginal propensity to consume (MPC) and one has a low MPC. If the money supply is increased by the same amount in each economy, the high MPC economy will experience:
   **j) A larger increase in output and a smaller decrease in the interest rate.**
   k) A smaller increase in output and a smaller decrease in the interest rate.
   l) A larger increase in output and a larger decrease in the interest rate.
   m) A smaller increase in output and a larger decrease in the interest rate.

39. Assume that $C = c_0 + c_1(Y-T)$ where $c_1<1$. Suppose taxes increase and money supply increases in such a way that output is constant in equilibrium. These policy changes will produce:
   **j) An increase in investment and a decrease in private consumption.**
   k) An increase in investment and a decrease in government spending.
   l) An increase in investment and an increase in private saving.
   m) A decrease in investment and an increase in public saving.

40. Suppose that investment (I) in the goods market is not responsive to the interest rate (that is, I does not depend on the interest rate at all). Then:
   j) The IS curve is a vertical line and monetary policy is very effective in raising output.
   k) The IS curve is a horizontal line and monetary policy is very effective in raising output.
   **l) The IS curve is a vertical line and monetary policy does not affect output in the IS-LM model.**
   m) The IS curve still has a negative slope, but monetary policy does not affect output in the IS-LM model.

41. "Monetary instability has been the major cause of economic instability in this country. Expansion in the money supply has been the source of every major inflation. Every major recession has been either caused or perpetuated by monetary contraction." Who among the following would most likely adhere to this view?
   **i) Monetarists**
   j) Keynesians
   k) Supply-side economists
   l) Early proponents of the quantity theory of money

42. Which of the following is an example of an automatic stabilizer?
   i) The parliament legislates lower tax rates to increase consumption and investment.
   j) Tax rates are increased during a recession to maintain a balanced budget.
   k) A regressive income tax system reduces tax revenues (as a share of income) as income expands.
   **l) Revenues from the corporate income tax increase sharply during a business boom but decline substantially during a recession, even though no new tax legislation is enacted.**

43. Which of the following would not be counted as part of this year's GDP?
   i) the paint you buy to paint your house

j) **the government bond you receive as a birthday present**
k) the purchase of a power generator (produced during the year) by the Tanzanian. government
l) the purchase of coffee (produced during the year by a Kilimanjaro farmer) by the Russian government

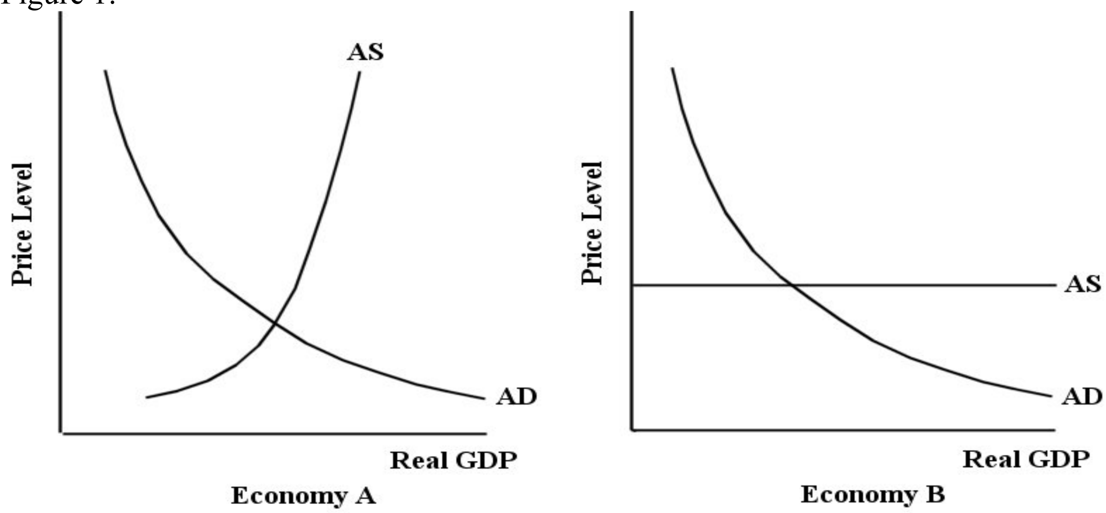
44. The compilation of macroeconomic statistics on the GDP and its components clearly presupposes the existence of some kind of *money* that is universally used as:

A **A medium of exchange.** B A store of value.
C A unit of account. D A deflator.

45. According to the Keynesian transmission mechanism, a *decrease in the money supply:*
   k) Raises the interest rate and, thus, lowers the quantity of money demanded.
   l) Raises investment in bonds, stocks, and other financial instruments.
   m) Raises the total expenditures line and shifts the aggregate demand curve to the right.
   n) Raises the price level, while leaving the real GDP unaffected.
   o) Leads to all of the above and more.

**SECTION I: Multiple Choice and True/False Question (20 MARKS).**
Select the best choice and write the corresponding letter in your answer paper **(1 mark each)**
**SECTION I: Multiple Choice and True/False Question (20 MARKS).**
Select the best choice and write the corresponding letter in your answer paper **(1 mark each)**

Figure 1:

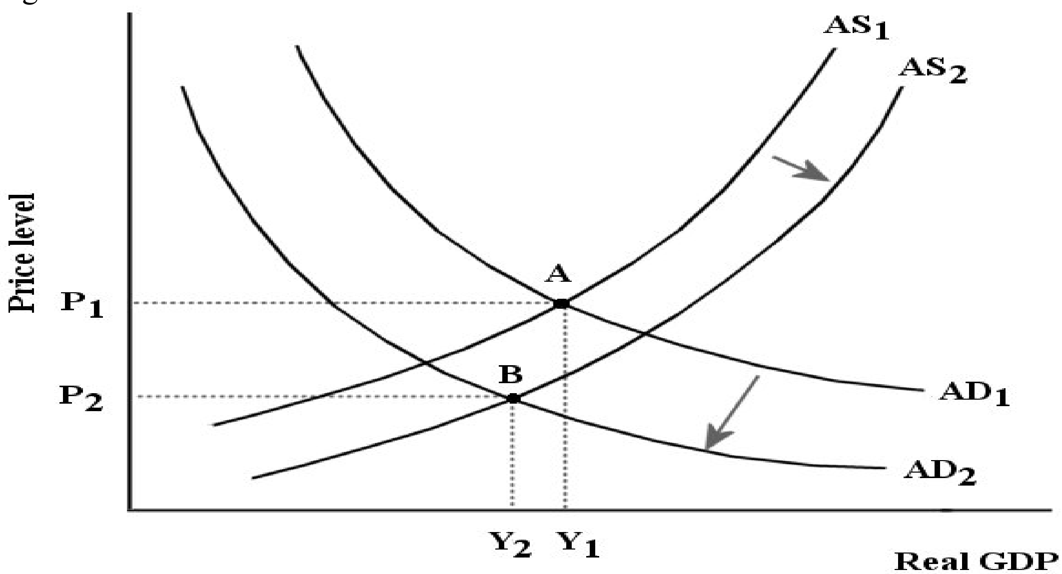



1. Refer to Figure 1. Which of the following statements best describes the supply side of Economy A?
   F. Unit costs are rising, but firms can produce more output by employing standby capacity and overtime labour, for example, with no increase in the price level.
   G. Unit costs are rising rapidly as firms are producing beyond their capacity. Firms will produce more only if prices increase.
   H. Unit costs are rising, but firms are able to produce more output because there is excess capacity in the economy.
   I. Firms are producing well below their capacity and are willing to produce more output with no increase in price.
   J. Firms are producing well below their capacity and are willing to produce more only if prices rise.

2. Refer to Figure 1. Which of the following statements best describes the supply side of Economy B?
   F. Unit costs are rising rapidly as firms are producing beyond their capacity. Firms will produce more only if prices increase.
   G. Unit costs are rising rapidly, but firms can produce more output by employing standby capacity and overtime labour, for example, with no increase in the price level.
   H. Firms are not able to produce more output because there is no excess capacity in the economy.

I. Firms are producing well below their capacity and are willing to produce more only if prices rise.
J. Firms are producing well below their capacity and are willing to produce more output with no increase in price.

Figure 2:




3. Consider Figure 2. Initially the economy is in equilibrium at point A. An unexpected shock then shifts both the AD and the AS curves as shown and results in a new equilibrium represented by point B. Which of the following events could cause such a shock?
   F. an increase in factor prices
   B. a decrease in the world price of oil
   C. a decrease in firms′ desired investment expenditures
   D. an increase in the net tax rate
   E. a decrease in labour productivity

4. Consider the basic AD/AS model. Suppose that a rising percentage of high-school graduates are illiterate, resulting in a decrease in average labour productivity. This change will
   A. Shift the AS curve to the left.
   B. Cause a movement to the right along the AS curve.
   C. Shift the AD curve to the left.
   D. Shift the AD curve to the right.
   E. Shift the AS curve to the right.

5. Potential output growth is influenced by
   A. The tax rate payable on wages and profits
   B. Level of education
   C. Demographic structure (age-sex mix) of the population
   D. A and B
   E. A, B and C

6. Suppose that workers in the Republic of Communia are highly unionized, while workers in the Republic of Individuela are not. In all other respects, the two countries are exactly the same. Which statement is true?
   F. Communia is likely to have a higher natural level of output than Individuela.
   G. Communia is likely to have a higher natural rate of unemployment than Individuela.
   H. Wages are probably lower in Communia than in Individuela.

I. In the short-run, the price level is always lower in Communia than in Individuela.
J. In the short-run, output is always higher in Communia than in Individuela.

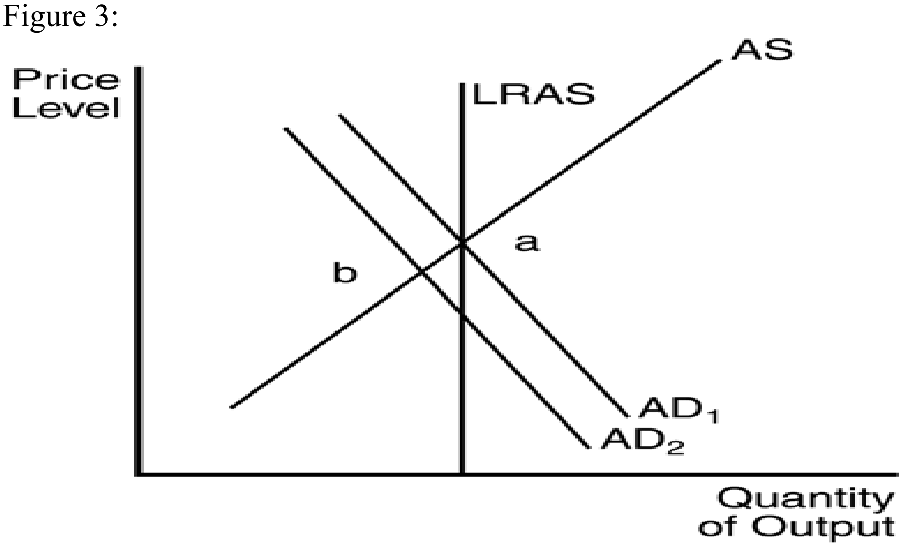
7. Which of the following terms is not equivalent to the others listed here?
A. Frictional-unemployment GDP. B. Full-employment real GDP.
C. Natural real GDP. D. Potential output.

8. An attempt to reduce the budget deficit will necessarily raise unemployment. True: T or False: F?

9. Which of the following people would not be considered unemployed?
E. A recent college graduate who has not yet found a job
F. An executive who quit one job but is still looking for another
G. A construction worker laid off, waiting to be called back, because of a slowdown in home building
H. A person who has given up trying to find a job after an unsuccessful search

10. Part-time workers are counted as:
E. Unemployed and therefore the official unemployment rate may understate the level of unemployment
F. Fully employed and therefore the official unemployment rate may overstate the level of unemployment.
G. Fully employed and therefore the official unemployment rate may understate the level of unemployment.
H. Unemployed and therefore the official unemployment rate may overstate the level of unemployment.

Figure 3:




11. From Figure 3, which of the following would cause the aggregate demand curve to shift from AD1 to AD2?
E. an increase in government purchases

F. a decrease in stock prices
G. consumers and firms become more optimistic about the future
H. None of the above is correct.

12. From Figure 3, if the economy is at point b, the correct policy to restore full employment would be
A. an increase in the money supply. B. a decrease in government purchases.
C. an increase in taxes. D. All of the above are correct.

13. From Figure 3, which of the following is true?
E. A wave of optimism could move the economy from a to b.
F. If aggregate demand moves from $AD_1$ to $AD_2$ the economy will stay at b in both the short and long run.
G. It is possible that either fiscal or monetary policy might have caused the shift from $AD_1$ to $AD_2$.
H. All of the above are correct.

14. From Figure 3, which of the following is not true?
E. Unemployment rises as the economy moves from a to b.
F. Either fiscal or monetary policy could be used to move the economy from b to a.
G. As the economy moves from b to long-run equilibrium, the price level will fall further.
H. At point b there is an excess demand for goods and services.

15. Okun's law states that if the growth rate of potential GDP exceeds actual GDP growth by one percent for a year, then the unemployment rate goes down by 0.5%. True: T or False: F?

16. During inflation:
F. The purchasing power of money falls.
G. Sellers of debt instruments benefit as the real value of their payment obligations falls.
H. Buyers of debt instruments benefit as the real value of their payment receipts rises.
I. Only A and C.
J. Only A and B.

17. A worker currently earning $3000 per month has negotiated a 4% wage increase in anticipation of a 4% inflation rate in the next year. Under what scenario will the worker have a higher purchasing power?
F. if next year′s inflation rate is 4%
G. if next year′s inflation rate is 3%
H. if next year some prices increase by only 5%
I. if next year′s inflation rate is 5%
J. if next year some prices increase by only 4%

18. As long as we do not mind having high inflation, we can achieve as low a level of unemployment as we want. All we have to do is increase the demand for goods and services by using, for example, expansionary fiscal policy. True: T or False: F?

19. Which of the following is most likely to result when the Tanzanian shilling strengthens (appreciates) against the Kenyan shilling?
E. Tanzania will definitely be better off.

F. Tanzania goods exported to Kenya will cost less in Kenya, so Kenyans will buy more of them.
G. Tanzanian goods exported to Kenya will cost more in Kenya, so Kenyans will buy fewer of them.
H. Tanzanian citizens will buy fewer Kenyan goods.

20. In a two-country world divided between home country (HC) and the rest-of-the-world (ROW), in order to offset an appreciation of HC currency, the HC central bank could ______ HC currency in the Foreign Exchange Market, which would tend to shift _____.
F. sell; the supply curve for HC currency to the right
G. sell; the demand curve for HC currency to the right
H. buy; the demand curve for HC currency to the right
I. sell; the supply curve for HC currency to the left
J. buy; the demand curve for HC currency to the left

| VERSION C | | | | VERSION P | | | | VERSION R | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Qn** | **Ans** | **Qn** | **Ans** | **Qn** | **Ans** | **Qn** | **Ans** | **Qn** | **Ans** | **Qn** | **Ans** |
| 1 | B | 11 | E | 1 | B | 11 | A | 1 | B | 11 | B |
| 2 | A | 12 | B | 2 | A | 12 | D | 2 | E | 12 | A |
| 3 | A | 13 | F | 3 | B | 13 | F | 3 | B | 13 | C |
| 4 | B | 14 | E | 4 | F | 14 | B | 4 | A | 14 | C |
| 5 | E | 15 | B | 5 | E | 15 | C | 5 | E | 15 | F |
| 6 | C | 16 | A | 6 | F | 16 | B | 6 | B | 16 | E |
| 7 | B | 17 | B | 7 | A | 17 | B | 7 | A | 17 | B |
| 8 | D | 18 | C | 8 | B | 18 | C | 8 | F | 18 | F |
| 9 | F | 19 | C | 9 | E | 19 | A | 9 | D | 19 | C |
| 10 | F | 20 | A | 10 | E | 20 | C | 10 | B | 20 | A |

## SECTION II: SHORT ANSWER QUESTIONS (20 MARKS)

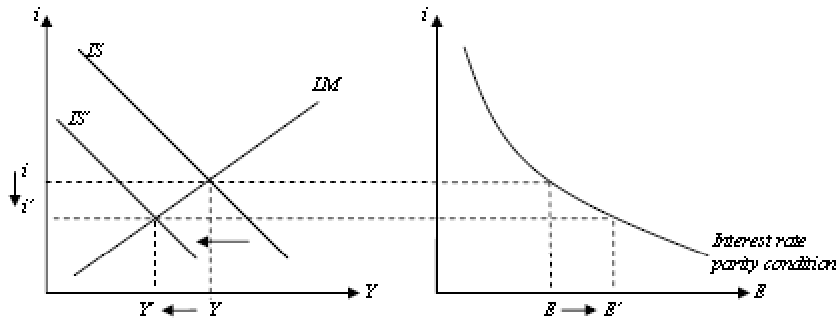
1. Consider an economy that is described by the following model:
   - **Consumption function:** $C = c_0 + c_1(Y - T)$, where C is consumption; Y is income; T represents taxes; and $c_0$ and $c_1$ are positive constants
   - **Investment function:** $I = b_1Y - b_2i$, where I is investment; i is the interest rate; and $b_1$ and $b_2$ are positive constants
   - **Government Expenditure:** $G = \overline{G}$, where $\overline{G}$ is a positive constant
   - **Imports:** $M = m_1Y$, where M is imports; and $m_1$ is a positive constant
   - **Exports:** $X = x_1Y^*$ , where X is exports; Y* is foreign income (exogenous); and $x_1$ is a positive constant
   - **Money Market Equilibrium:** The LM equation in this economy is $i = (1/m_2)(m_1Y - M^s)$, where $M^s$ is nominal money supply; and $m_1$ and $m_2$ are positive constants
   - Let $P^* = P = 1$

In this economy the exchange rate is allowed to float.
Assume that, following a depreciation of the exchange rate, the trade balance improves.

**Questions**

a) What is the effect on output (Y), net exports (NX), the domestic interest rate (i), and the real exchange rate if taxes increase? Use intuition and draw a diagram (no calculations required). **(2.5 marks)**

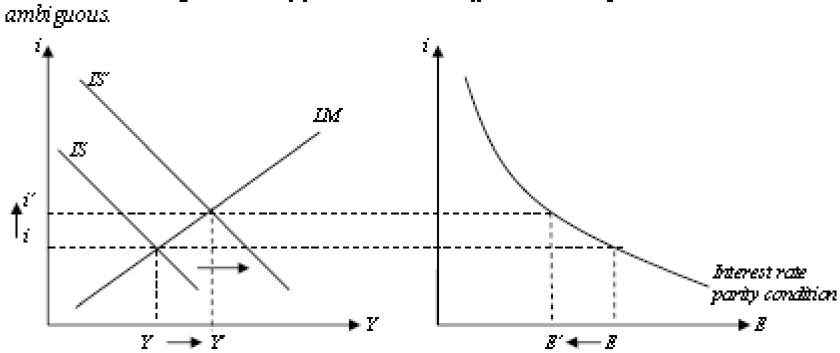
*If taxes increase, the IS curve shifts to the left. Therefore, an increase in taxes will lead to a decrease in output), a decrease in the interest rate, and a depreciation of the exchange rate. What happens to net exports? If you assumed that the Marshall-Lerner condition holds, then net exports increase following this depreciation, because (NX=NX(Y,Y*,E) → as output decreases, net exports increase, and as the exchange rate increases (a depreciation), net exports increase, i.e. the two effects go in the same direction. On the other hand, if you used the expressions given to you, the effect on net exports is ambiguous. Output increases and the exchange rate increases. In the expression $x_1Y^*$-- $\varepsilon(im_1Y)$, Y decreases, while $\varepsilon$ increases, making the effect ambiguous. So, we gave credit if you said that the effect on NX is positive or ambiguous.*




b) What is the effect of an increase in foreign output on domestic output (Y), net exports (NX), the domestic interest rate (i), and the real exchange rate? Use intuition and draw a diagram (no calculations required). **(2.5 marks)**

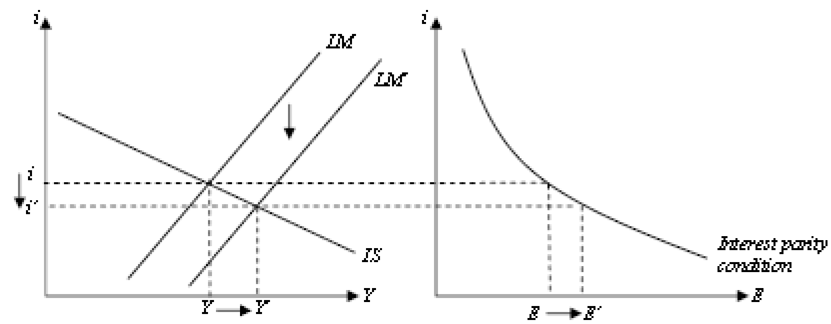
*If foreign output increases, the IS curve shifts to the right, because foreign demand rises and they buy more of domestic exports. Therefore, an increase in foreign output will lead to an increase in domestic output, an increase in the interest rate, and an appreciation of the exchange rate. What happens to net exports? NX=NX(Y,Y*,E) → the direct channel is that as foreign output increases, net exports increase. But note that there is also an increase in domestic output and a decrease in the exchange rate (an appreciation). So, theoretically, the net effect on net exports is ambiguous*

*(whether or not you used the fact that the Marshall-Lerner condition holds). However, empirically the effect is unambiguously positive (NX increase as Y* increases). So, we gave credit if you said that the effect on NX is positive or ambiguous.*



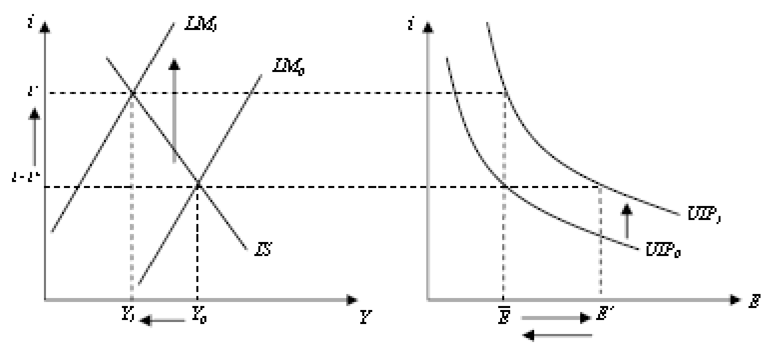

c) What is the effect of an increase in the money supply on output (Y), net exports (NX), the domestic interest rate (i), and the real exchange rate? Use intuition and draw a diagram (no calculations required). **(2.5 marks)**

*If money supply increases, the LM curve shifts down and to the right. Therefore, output increases, interest rate decreases, and the exchange rate depreciates. What happened to net exports? If you use the assumption that the Marshall-Lerner condition holds, the effect is ambiguous. Again, remember that* $NX=NX(\underset{-}{Y},\underset{+}{Y^*},\underset{+}{E})$. *In this case, output increases, which decreases net exports, but on the other hand, the exchange rate increases (a depreciation), which increases net exports. What if you used the math?* $NX= x_1Y^* - \varepsilon(im_1Y)$. *We have that Y increases, and ε increases. This means that NX decreases unambiguously. So, we gave credit if you said that the effect on NX is negative or ambiguous.*




d) Suppose that investors' expectations of the future exchange rate increase ($E^e$ increases). However, the Central Bank does not want the exchange rate to depreciate today. What effect will this have on the economy (no calculations required)? Draw a diagram. **(2.5 marks)**

*The fact that investors expect an increase in $E^e$ in the future will shift the interest-rate-parity-condition (UIP) curve up and to the right. In order to keep the exchange rate from depreciating today, the Central Bank will have to enact a monetary contraction (decrease money supply). This will shift the LM curve up and to the left, bringing the interest rate up to the level (i') at which the exchange rate is at its original level ($\bar{E}$ ).*




*Note that we also gave credit to those of you who said that the IS curve would shift if response to the changing expectation. This is a possible secondary effect that we did not focus on.*

2. Suppose that the Phillips Curve is given by $\pi_t - \pi_t^e = 0.1 - 2u_t$ and $\pi_t^e = \pi_{t-1}$. Suppose that inflation in the year 2000 is zero. In the year 2001, the authorities decide to keep the unemployment rate at 4% percent forever.

   e) Compute the rate of inflation for years 2001, 2002, 2003 and 2004. **(3 marks)**

**π2001 = π2000 + 0.1 − 2u2001 = 0.00 + 0.1 − 0.08 = 0.02 = 2%**
**π2002 = π2001 + 0.1 − 2u2002 = 0.02 + 0.1 − 0.08 = 0.04 = 4%**
**π2003 = π2002 + 0.1 − 2u2003 = 0.04 + 0.1 − 0.08 = 0.06 = 6%**
**π2004 = π2003 + 0.1 − 2u2004 = 0.06 + 0.1 − 0.08 = 0.08 = 8%**

Now suppose that half the workers have indexed labor contracts. That is, the expected rate $\pi_t^e$ is still the relevant inflation rate in determining wages for half the workers in the economy, whereas the current rate, $\pi_t$ replaces $\pi_t^e$ as the relevant inflation rate in determining wages for the other half (those who have wages indexed to inflation). Hint: Instead of $\pi_t^e$, then, we will have $0.5\pi_t^e + 0.5\pi_t$.

**It is even easier to derive these by using the fact that the Phillips Curve**
**can be simplified as: πt = πt−1 + 0.1 − 2ut = πt−1 + 0.02 = πt−1 + 2%,**
**since ut = 0.04 for all t here. (10 points)**

f) What is the new equation for the Phillips Curve? **(2 marks)**

**The PC becomes:**
**πt = 0.5πt−1 + 0.5πt + 0.1 − 2ut and hence**
**πt − πt−1 = 0.2 − 4ut**
**If ut = 0.04 for all t, then:**
**πt = πt−1 + 0.04 = πt−1 + 4%**

g) Repeat the exercise in (a) —now under this new assumption. **(2 marks)**

**π2001 = π2000 + 0.04 = 0.04 = 4%**
**π2002 = π2001 + 0.04 = 0.08 = 8%**
**π2003 = π2002 + 0.04 = 0.12 = 12%**
**π2004 = π2003 + 0.04 = 0.16 = 16%**

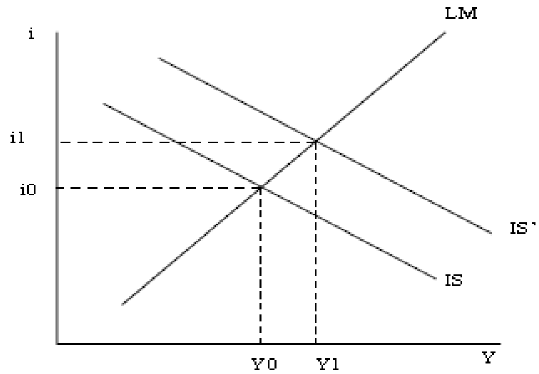
h) What is the effect of indexation on the relation between π and u? Explain in words. (If you wish, you can simply base your answer on the results you derived in the questions above). **(3 marks)**

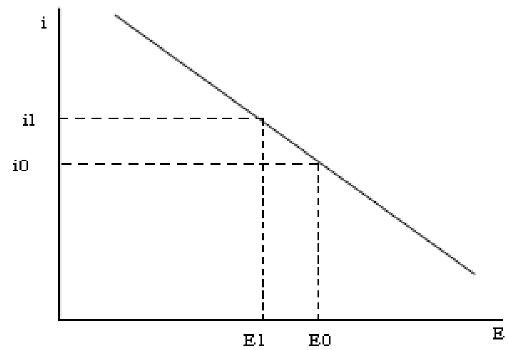
**As indexation increases (this is, as more workers have indexed labor contracts), low unemployment leads to a larger increase in inflation over time. In other words, the impact of u on π becomes stronger.**

**Bonus Question (3 Points)**

Suppose that the foreign country implements an expansionary monetary and fiscal policy so that i* remains unchanged and Y* increases. What is the impact on domestic output and domestic interest rate? What happens to the exchange rate? Why? Show this graphically, do not solve for the equilibrium algebraically.

*If Y* increases, then net exports are going to increase too. This is equivalent to an expansionary policy in the domestic country. The IS curve shifts to the right, from IS to IS0. Output is higher, and interest rate increases too (from i0 to i1 in the figure). Now that the domestic interest rate is higher than the international, we need an appreciation of the Dollar to make investors* *indifferent between domestic and foreign bonds, and that is why the new exchange rate is E1 instead of E0. Domestic interest rate goes up, since demand for money increases with the increase in income, but money supply is given.*




## University Examination for the Second Semester of 2011/12 Academic Year

**SECTION I: Multiple Choice Questions (1 mark @; 40 marks)**

61. To measure the economic growth of living standards for a region, economists should focus on the behavior of:
    A. The rate of growth of real GDP.
    B. The rate of growth of nominal GDP.
    C. The rate of growth of real GDP per capita.
    D. The rate of growth of nominal GDP per capita.

62. Assume that between 2000 and 2009 nominal GDP increased from Tshs. 5 trillion to Tshs. 8.3 trillion and that the price index rose from 100 to 140. Which of the following expresses GDP for 1990 in terms of 1998 prices?
    A. Shs. 5.93 trillion
    B. Shs. 7 trillion
    C. Shs. 8.3 trillion
    D. Shs. 11.63 trillion

63. If GNP exceeds GDP, we know with certainty that:
    A. A budget deficit exists.
    B. A trade deficit exists.
    C. Receipts of factor income from the rest of the world exceed payments of factor income to the rest of the world.
    D. Receipts of factor income from the rest of the world are less than payments of factor income to the rest of the world.

64. Changes in consumer confidence are the main source of fluctuations in output. *True: T, False: F, or Uncertain: U*?

65. Mr. Massawe is about to retire and is thinking of selling his Range Rover Sport. He spends Tshs. 10 million in repairing and tuning the engine, and finally agrees to sell it to Miss Tanzania for Tshs. 100 million. As a result, GDP increases by Tshs. 110 million. *True: T, False: F, or Uncertain: U*?

66. Suppose Tanzania has no exports and her imports are 200 Mercedes Benz cars worth Tshs. 180 million each from Germany. Germany has no imports and only exports those 200 cars to Tanzania. Neither Tanzania nor Germany trade with any other countries or engage in any transactions with other countries. Which one of the following statements must be true?
   A. Tanzania has a capital account deficit.
   B. Germany has a current account deficit.
   C. Germans are buying Tanzanian assets.
   D. The exchange rate of shillings per Euros (the currency in Germany) is bigger than 1.
   E. None of the above.

67. Through a typical business cycle, we expect that each 1% increase in GDP will be associated with a 1% change in business investment. *True: T, False: F, or Uncertain: U*?

68. GDP is the sum of all business sales. *True: T, False: F, or Uncertain: U*?

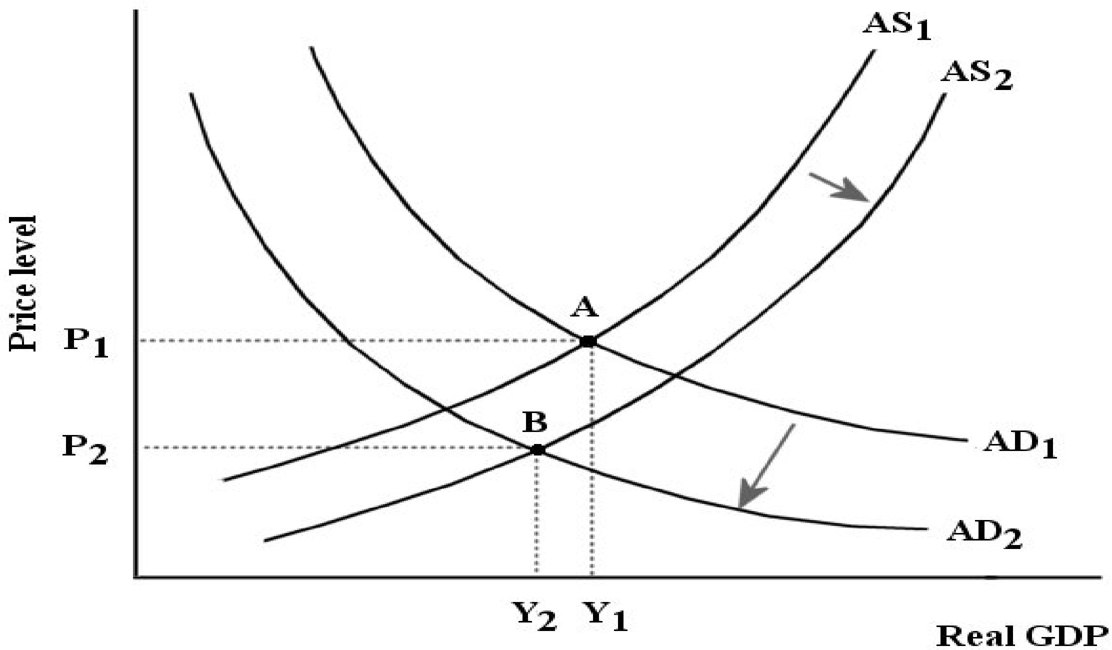
69. In the standard IS-LM model, an increase in Government spending (G) without changing taxes has:
   A. A positive effect on equilibrium consumption,
   B. A negative effect on equilibrium consumption,
   C. An ambiguous effect on equilibrium consumption.
   D. An insignificant effect on equilibrium consumption.

70. Which type of the following technological innovations might directly, significantly affect the LM curve?
   A. ATM cards
   B. More efficient ships
   C. Faster computer chips
   D. A and B are true.
   E. A, and C. are true

71. In an open economy with government and demand-determined output, an increase in the equilibrium level of national income could be caused by:
   A. An increase in taxes at all levels of income.

B. An increase in the desired level of imports at all levels of income.
C. A decrease in desired consumption at all levels of income.
D. A decrease in government purchases.
E. A decrease in the desired level of saving at all levels of income.

Figure 1: AD and AS Framework




72. Consider Figure 1. Initially the economy is in equilibrium at point A. An unexpected shock then shifts both the AD and the AS curves as shown and results in a new equilibrium represented by point B. Which of the following events could cause such a shock?
A. An increase in factor prices
B. A decrease in the world price of oil
C. A decrease in firms′ desired investment expenditures
D. An increase in the net tax rate
E. A decrease in labour productivity

73. Which one of the following statements correctly describes the transmission mechanism?
A. An increase in the money supply leads to a lower interest rate, higher investment, an upward shift in the AE curve and a higher GDP.
B. An increase in personal consumption leads to an upward shift in the AE curve and thereby increases real GDP.
C. A decrease in imports causes the AE curve to shift upwards, leading to a higher interest rate.
D. A decrease in the money supply leads to a lower interest rate, higher investment, an upward shift in the AE curve and a higher GDP.
E. An increase in government spending causes the AE curve to shift upwards, leading to a higher GDP.

74. Suppose Tanzanian policy makers decide that to stimulate GDP growth, investment must be increased. What is needed, they conclude, is a reallocation of resources away from producing consumer goods and toward producing capital goods. Which of the following policy alternatives would most likely accomplish this objective?
    E. A reduction in personal income taxes
    F. A reduction in state sales taxes
    G. A tax credit allowance for business investment in capital equipment
    H. Restrictive monetary policy

75. Other things constant, an increase in marginal tax rates will:
    A. Decrease the supply of labor and reduce its productive efficiency.
    B. Decrease the supply of capital and reduce its productive efficiency.
    C. Encourage individuals to substitute less desired, tax-deductible goods for more desired, non-deductible goods.
    D. Cause all of the above.

76. Compared to the closed economy, a given increase in government spending will cause a larger increase in output in the open economy with flexible exchange rates. (Assume that the two economies start in equilibrium.) *True: T, False: F, or Uncertain: U*?

77. Suppose the Tanzanian Treasury finances a budget deficit by selling securities to the public. The money supply will
    A. Increase because the demand deposits of the Treasury will increase.
    B. Decrease because the demand deposits of the public will decrease.
    C. Decrease because the money in the hands of the central bank will increase.
    D. Remain unchanged as long as the government spends what is borrowed.

78. A major problem associated with using fiscal policy to remove a recessionary gap is that an increase in:
    F. Government's spending may be difficult to reverse when private investment begins to gain momentum.
    G. Consumption will increase resulting from a tax cut will cause the short run AS curve to shift left.
    H. Government spending has no effect on real GDP.
    I. Private investment it will lead to a large amount of crowding out.
    J. Government spending may lead to a multiplier effect which increases private spending and real GDP.

79. When economists argue that fiscal policy is of limited effectiveness in stabilizing the economy, the reasons they give include
    F. The long and uncertain time lags in implementing fiscal policy.

G. Households will tend to save the extra income from a tax cut rather than spend it.
H. Private investment is crowded out by government's borrowing.
I. All of the above
J. None of the above

80. It is argued that a government deficit, far from being a burden for future generations, may provide net benefits to future generations if the deficit is used to:
    A. Ensure that all interest paid goes to non-residents outside the country.
    B. Invest into the research and development that has long term potential wide use to raise factor productivity.
    C. Earn a social rate of return less than the interest rate on the debt.
    D. Pay transfers such as welfare and old age pensions in the present period.
    E. All of the above

81. An increase in the rate of money growth decreases the nominal interest rate. *True: T, False: F or Uncertain: U*?

82. Consider two economies that are identical, with the exception that one has a high marginal propensity to consume (MPC) and one has a low MPC. If the money supply is increased by the same amount in each economy, the high MPC economy will experience
    A. A larger increase in output and a smaller decrease in the interest rate.
    B. A smaller increase in output and a smaller decrease in the interest rate.
    C. A larger increase in output and a larger decrease in the interest rate.
    D. A smaller increase in output and a larger decrease in the interest rate.
    E. None of the above.

83. An increasing government budget deficit, financed by Treasury borrowing, may well have the following effect:
    A. An increase in the real interest rate.
    B. An increased demand for Tanzanian shillings in foreign-exchange markets and an appreciation of the shilling.
    C. A rightward shift of the AD curve as a direct result of the expansionary fiscal policy, but a leftward shift as a result of the shilling appreciation (that decreases Tanzanian net exports).
    D. All of the above.
    E. None of the above.

84. Suppose there is a decrease in the price level from P to P'. Given the stock of nominal money, M, this leads to an increase in the real money stock, M/P, which shifts the LM curve down. This implies that the AD curve shifts to the right. *True: T, False: F, or Uncertain: U?*

85. As the general price level in an economy rises, the aggregate quantity demanded of goods and services falls because:
    E. The prices of domestic goods have risen relative to foreign goods, causing exports to fall and imports to rise.
    F. Higher interest rates caused by an increase in the demand for money balances causes a reduction in current investment and consumption.
    G. The value of money will fall, reducing the real wealth and thus the consumption of persons holding money balances.
    H. All of the above are correct.

86. The observed tendency for the form of money to evolve from commodity money to fiat money increases the fragility of money because:
    K. Fiat money can lose much of its value in hyperinflations.
    L. Fiat money is un-backed, i.e., it is not collateralized by any commodity.
    M. Fiat money can lose much of its value if people lose confidence in its general acceptability as a means of payment.
    N. All of the above.
    O. Only A and C.

87. The neutrality of money means that monetary policy cannot affect output. *True: T, False: F, or Uncertain: U*?

88. Which of the following people would not be considered unemployed?
    A. A recent college graduate who has not yet found a job.
    B. An executive who quit one job but is still looking for another.
    C. A construction worker lay off, waiting to be called back, because of a slowdown in home building.
    D. A person who has given up trying to find a job after an unsuccessful search.

89. When an economy opens to trade and subsequently increases the degree of competition faced by producers in the final goods market, the natural rate of unemployment increases. *True: T, False: F, or Uncertain: U?*

90. Which of the following is the most likely result of an increase in the minimum wage?
    E. An increase in the employment of unskilled workers
    F. A decrease in the unemployment rate of unskilled workers
    G. An increase in the demand for unskilled workers
    H. A decrease in the employment of unskilled workers

91. Other things being the same, higher inflation leads to higher real output. *True: T, False: F, or Uncertain: U*?

92. Okun's law:
   A. Was passed by the Congress in 1990s to address the fiscal deficit.
   B. States that there is a cyclical relation between unemployment and real growth.
   C. States that the change in the unemployment rate is twice the growth rate difference between potential and actual GDP growth.
   D. States that the level of unemployment is half the % gap between potential and actual GDP.
   E. Both B and D are true answers.

93. A Tanzanian citizen buys an automobile produced in the United States by a Japanese company. As a result:
   E. U.S. net exports increase, U.S. GNP and GDP are unaffected, Japanese GNP increases, Tanzanian net exports decrease, and Tanzanian GNP and GDP are unaffected.
   F. U.S. net exports, GNP, and GDP increase, Japanese GDP increases, Tanzanian net exports decrease, and Tanzanian GDP is unaffected.
   G. U.S. net exports and GDP increase, Japanese GNP increases, Tanzanian net exports decrease, and Tanzanian GDP and GNP are unaffected.
   H. U.S. net exports, GNP, and GDP are unaffected, Japanese GNP increases, Tanzanian net exports decrease, and Tanzanian GDP and GNP fall.

94. A Home Country (HC) current account ___ indicates that the Rest of the World (ROW) is increasing its net claims on HC assets because the HC is ___.
   A. Deficit; a net lender to ROW.
   B. Surplus; a net borrower from ROW.
   C. Deficit; a net borrower from ROW.
   D. Surplus; a net lender to ROW.

95. Which of the following would directly increase the size of the Tanzanian current account deficit?
   F. A decline in Tanzanian household net interest income on Tanzania-issued government bonds.
   G. An increase in the amount of labor services purchased from China.
   H. An increase in foreign aid from Tanzania to Somalia.
   I. All of the above.
   J. Only B and C above.

96. If the nominal exchange rate E is shilling per foreign currency, the domestic price is P, and the foreign price is P*, the real exchange rate is defined as:
   A. $E(P^*/P)$.
   B. $E(P/P^*)$.
   C. $P^*/(EP)$.
   D. $P/(EP^*)$.

97. In an open economy, the government budget deficit tends to:
   F. Crowd out exports and reduce interest rates.
   G. Depreciate the currency.
   H. Crowd out exports and attract foreign capital.
   I. Crowd out private consumption.
   J. Attract foreign capital and reduce interest rates.

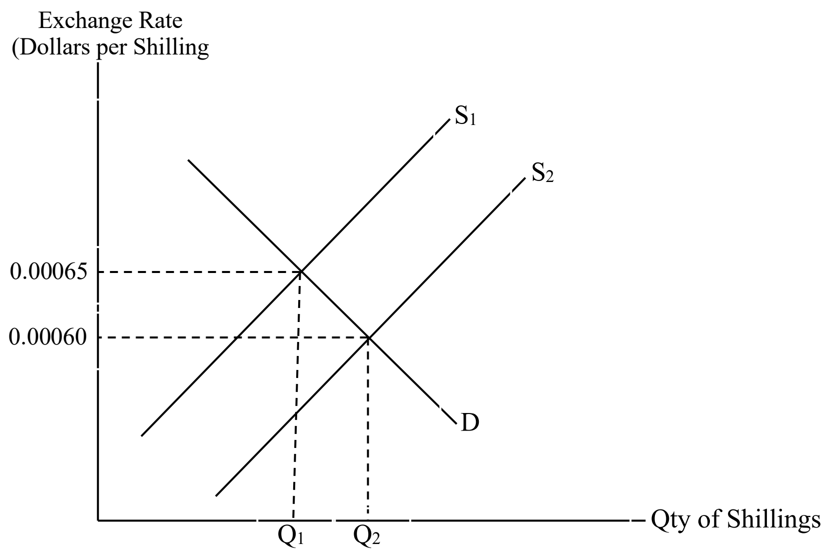
98. When the Bank of Tanzania purchases foreign exchange; this transaction:
   A. Enters as a credit in the current account.
   B. Enters as a debit in the capital account.
   C. Represents the sale of an asset, and thus enters as a credit item in the official financing account.
   D. Enters as a credit in the capital account.
   E. Represents the purchase of an asset from abroad, and thus enters as a debit item in the official financing account.

99. It is not likely that a country will specialize completely in one good even if it has a lower opportunity cost because:
   E. Comparative advantage is not a workable concept in the world economy.
   F. Opportunity costs increase as more of a good is produced.
   G. The country would want to save some of the good for its own citizens.
   H. The country would end up inside its production-possibilities curve.

100. Suppose France and Tanzania do not trade and the competitive price of an ordinary bottle of wine is 40 francs in France and 4,000/= in Tanzania. The price of wheat per bushel is 40 francs in France and 12,000/= in Tanzania. If prices reflect only the differences in the costs of the resources to produce wine and wheat in the two countries, this information is sufficient to enable us to state that:
   A. Tanzania has a comparative advantage in the production of wine.
   B. France has a comparative advantage in the production of wine.
   C. Neither country has a comparative advantage in the production of either good.
   D. Tanzania has an absolute advantage in the production of both goods.

101. When tariffs are imposed, the losers include:
   A. Domestic consumers and the domestic government.
   B. Foreign consumers and domestic producers of import-competing goods.
   C. Domestic consumers and domestic producers of import-competing goods.
   D. Domestic consumers and foreign producers.

Figure 2: Shilling-Dollar Market




102. According to Figure 2, which of the following is true?
   E. The Tanzanian shilling depreciates in value compared to the US dollar when supply increases from $S_1$ to $S_2$.
   F. The US dollar depreciates in value compared to the Tanzanian shilling when supply decreases from $S_2$ to $S_1$.
   G. An increase in supply from $S_1$ to $S_2$ could be caused by an increase in the Tanzanian demand for US Dell computers.
   H. All of the above.

103. According to Figure 2, suppose the supply of shillings increases from $S_1$ to $S_2$. As a result of this change:
   E. US Dell computer imports to Tanzania will be lower priced.
   F. Tanzania coffee exports to US will be lower priced.
   G. A trade surplus will be created in US.
   H. The US dollar will lose value worldwide.

104. According to Figure 2, the supply of shillings decreases from $S_2$ to $S_1$. As a result of this change:
   E. US Dell computers imports to Tanzania will be lower priced.
   F. Tanzania coffee exports to US will be lower priced.
   G. A trade deficit will be created in US.
   H. The US dollar will gain value worldwide.

105. In an open economy, expansionary monetary policy will:
   A. Have a lesser impact on the real GDP than in a closed economy.
   B. Lead to shilling depreciation.
   C. Decrease the demand for foreign currencies in foreign-exchange markets.

D. Decrease net exports.
E. Lead to all of the above and more.

106. Following a shilling depreciation, the Tanzanian trade balance improves. *True: T, False: F, or Uncertain: U*?

107. An appreciation of the Tanzanian shilling on international currency markets requires the Bank of Tanzania to:
A. Increase the target band for the overnight lending rate.
B. Engage in contractionary monetary policy to counter the rise in the dollar.
C. Engage in expansionary monetary policy to counter the rise in the dollar.
D. Identify the cause of the change in the exchange rate before taking any action to change the money supply.
E. Increase the target band for the inflation rate.

108. Suppose that Tanzania has a comparative advantage in coffee and Kenya has a comparative advantage in tomatoes. Which of the following groups would be worse off if these countries specialize and trade?
E. Kenyan coffee producers.
F. Tanzanian coffee producers.
G. Kenyan tomato producers.
H. All groups are better off when specialization and trade take place.

109. A good time for a Tanzanian to hold American stocks, ceteris paribus, is when the:
A. Dollar is stable compared to the Tanzanian shilling.
B. Tanzanian shilling depreciates in value compared to the dollar.
C. Tanzania shilling appreciates in value compared to the dollar.
D. The return in the American stock market has no relationship to the value of the shilling compared to the dollar.

110. In an open economy, fiscal policy is more effective than (or at least as effective as) monetary policy (in terms of changing output). *True: T, False: F, or Uncertain: U*?

111. The elimination of import restrictions will:
E. Alter the mix of output from export industries toward domestic industries.
F. Redistribute income from import-competing industries to export industries.
G. Alter the mix of output from export industries to import-competing industries.
H. Redistribute income from domestic to foreign producers.

| Qn | Ans | Qn | Ans |
|---|---|---|---|
| 1 | A | 21 | F |
| 2 | C | 22 | D |
| 3 | F | 23 | E |
| 4 | C | 24 | T |
| 5 | C | 25 | C |
| 6 | E | 26 | D |
| 7 | B | 27 | E |
| 8 | D | 28 | C |
| 9 | D | 29 | B |
| 10 | D | 30 | D |
| 11 | A | 31 | B |
| 12 | F | 32 | A |
| 13 | A | 33 | A |
| 14 | U | 34 | E |
| 15 | B | 35 | B |
| 16 | D | 36 | D |
| 17 | F | 37 | A |
| 18 | D | 38 | U |
| 19 | D | 39 | F |
| 20 | F | 40 | B |

**SECTION II: Short Answer Questions (20 marks)**

**QUESTION ONE (09 marks)**

Consider a Country ABC whose main components of its government budget are:

- Tax Revenues: $T = 1{,}000 + 0.1Y$
- Transfers: $T_r = 800 - 0.05Y$
- Government Purchases: $G = 1{,}900$
- Imagine that the potential output of Country ABC is $Y^* = 10{,}000$ and the actual output is $Y = 8{,}000$.

a) Find the actual budget deficit and the structural budget deficit for country ABC. Is the actual deficit smaller or bigger than the structural deficit when this country is in recession? Why? **(3 marks)**

***Suggested Solution:***

*Actual Budget Deficit* $= G - (T - T_r)$ *[at actual output* $Y = 8{,}000$*]*

$= 1{,}900 - [(1{,}000 + 0.1Y) - (800 - 0.05Y)]$

$= 1{,}900 - [(1{,}000 + 0.1 \times 8{,}000) - (800 - 0.05 \times 8{,}000)]$

$= 500$ ***(01 Mark)***

*Structural Budget Deficit* $= G - (T - T_r)$ *[at potential output* $Y^* = 10{,}000$*]*

$= 1{,}900 - [(1{,}000 + 0.1Y^*) - (800 - 0.05Y^*)]$

$= 1{,}900 - [(1{,}000 + 0.1 \times 10{,}000) - (800 - 0.05 \times 10{,}000)]$

$= 200$ ***(01 Mark)***

*Actual deficit is bigger than structural deficit. Since taxes and transfers are automatic stabilizers, in a recession ($Y < Y^*$), taxes decrease and transfers increase, reducing the government revenue and increasing government expenses, making the recession less harsh at the expense of increasing deficit.* ***(01 Mark)***

b) Imagine that Country ABC wants to reduce her cyclical deficit and cuts G by 100. What happens to the actual deficit? What happens to Y? Is that a good policy? **(3 marks)**

***Suggested Solution:***

$\Delta G = -100$

*New G Level = 1,900 – 100 = 1,800 shillings billion*

*Actual Budget Deficit* $= G - (T - T_r)$ *[at actual output Y = 8,000]*

$= 1{,}800 - [(1{,}000 + 0.1Y) - (800 - 0.05Y)]$

$= 1{,}800 - [(1{,}000 + 0.1 \times 8{,}000) - (800 - 0.05 \times 8{,}000)]$

$= 400$ ***(01 Mark)***

*Structural Budget Deficit* $= G - (T - T_r)$ *[at potential output Y* = 10,000]*

$= 1{,}800 - [(1{,}000 + 0.1Y^*) - (800 - 0.05Y^*)]$

$= 1{,}800 - [(1{,}000 + 0.1 \times 10{,}000) - (800 - 0.05 \times 10{,}000)]$

$= 100$ ***(01 Mark)***

*Actual and structural deficit decrease by 100, and Y decreases by 100 as well ($Y = C + G + I + X - M$), it makes recession worse.* ***(01 Mark)***

c) Imagine that the government passes a tax reform such that the taxes become T = 1,400 + 0.05Y. Show that this tax reform is revenue-neutral. Why this could be a good policy? **(3 marks)**

**Suggested Solution:**

*Previous Tax Policy:*

$T = 1{,}000 + 0.1Y$*; at* $Y = 8000$*;* $T = 1{,}800$

*New Tax Policy:*

$T = 1{,}400 + 0.05Y$*; at* $Y = 8000$*;* $T = 1{,}800$ ***(01 mark)***

*Thus, a revenue-neutral tax reform, because total tax revenues are unchanged. However, the reform has reduced the marginal tax rate (from 0.1 to 0.05), keeping unchanged agents' disposable income which will make people more willing to work.* ***(02 marks)***

**QUESTION TWO (11 marks)**

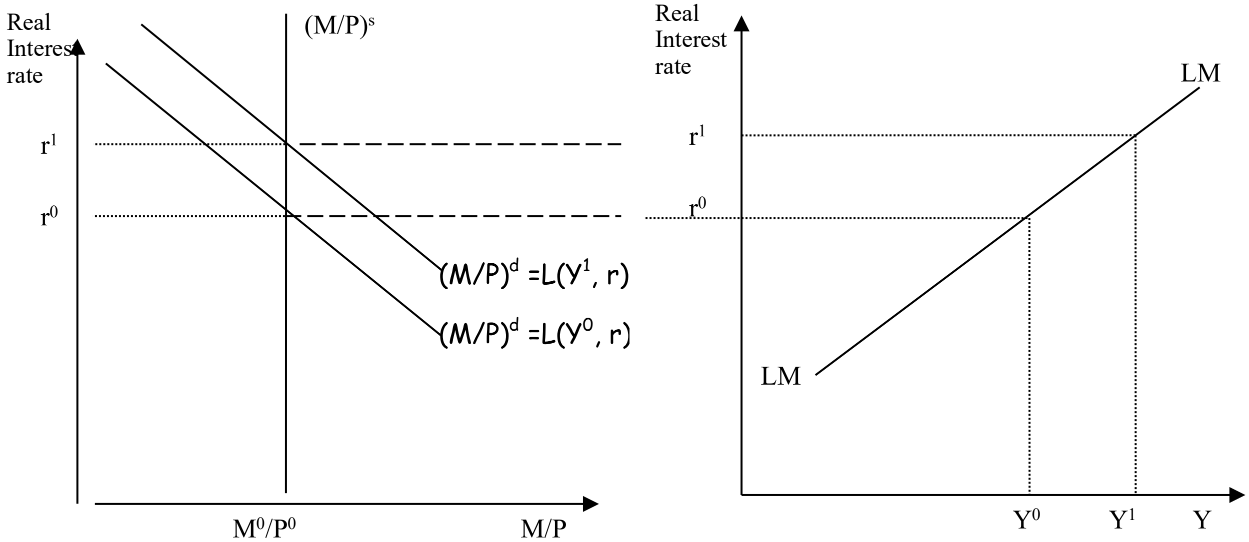
a) Consider money demand function of the form $\mathbf{(M/P)^d = L(Y, i)}$ and money supply function of the form $\mathbf{(M/P)^s = (M^0/P)}$ where $Y$, $i$, $M$ and $P$ are income, real interest rate, nominal money supply, and price level respectively while the superscripts d, s and 0 represent demand, supply and constant (nominal money supply) respectively. Based on these notations, show graphically how the LM curve is derived. **(03 marks)**

**Suggested Solution:**

- *Given money demand and supply functions;* $(M/P)^d = L(Y, i)$ *and* $(M/P)^s = (M^0/P)$
- *Suppose the level of income increases from* $Y^0$ *to* $Y^1$

- *The real demand for money will increase from $(M/P)^d = L(Y^0, i)$ to $(M/P)^d = L(Y^1, i)$ leading to upward shift to the right of the money demand curve.*
- *With sticky prices and nominal money supply, the higher demand forces interest rate up from $r^0$ to $r^1$ (Panel A).*
- *LM Curve: Increase in income coupled with constant money supply leads to an increase in equilibrium level of interest rate, thus, a positive relationship and upward sloping LM curve (Panel B).* ***(01 Mark)***

*Panel A: Money Market Equilibrium* ***(02 Marks)*** *Panel B: LM Curve*




b) Assume that a financial system has checkable deposits (DD) of 900 billion shillings, a required reserve ratio (θ) of 0.2, currency ratio (CC/M1 = c) of 0.5 where CC is currency in circulation, and $M_1$ is narrow money:

(i) Find the amount of currency in circulation (CC) and required reserves (RR). **(02 marks)**

***Suggested Solution:***

$c = CC/M_1 = 0.5$; thus $CC = 0.5M_1$; but $M_1 = CC + DD$

$CC = 0.5\ (CC + DD)$ and $DD = 900$

*Thus, CC = 900 billion shillings* ***(01 mark)***

$\theta = RR/DD = 0.2$

$RR = 0.2DD = 0.2 \times 900 = 180$ *billion shillings* ***(01 mark)***

(ii) Find the money multiplier. **(02 marks)**

***Suggested Solution:***

$MB = CC + RR$ but $RR = \theta DD$

$MB = CC + \theta DD$ but $M_1 = CC + DD$; thus $DD = M_1 - CC$

$MB = CC + \theta(M_1 - CC)$ but $CC = c \times M_1$

$MB = cM_1 + \theta(M_1 - cM_1) = [c + \theta(1 - c)]M_1$

$M_1 = MB / [c + \theta(1 - c)]$ where multiplier $= 1 / [c + \theta(1 - c)]$

Multiplier $= 1 / [0.5 + 0.2 \times (1 - 0.5)] = 1.67$ ***(02 mark)*** (iii)Describe two different ways the Bank of Tanzania can decrease money supply. **(02 marks)**

***Any two among:***

- *Selling government securities (OMO),*
- *Increasing reserve requirement ratio, OR*
- *Raising the discount rate* ***(02 marks)***

(iv)If the Bank of Tanzania sells bonds worth 250 billion shillings, what is going to be the new level of money supply? **(02 marks)**

***Suggested Solution:***

*$M_1$ (beg) = CC + DD = 900 + 900 = 1,800 billion shillings*

*$\Delta M$ = multiplier x $\Delta MB$ = 1.67 x -250*

*$\Delta M$ = -417.5 billion shillings*

*$M_1$ (new) = $M_1$ (beg) + $\Delta M$*

*= 1,800 – 417.5*

*= 1,382.5 billion* ***(02 marks)***

112. To measure the economic growth of living standards for a region, economists should focus on the behavior of:

E. The rate of growth of real GDP.
F. The rate of growth of nominal GDP.
**G. The rate of growth of real GDP per capita.**
H. The rate of growth of nominal GDP per capita.

113. Assume that between 2000 and 2009 nominal GDP increased from Tshs. 5 trillion to Tshs. 8.3 trillion and that the price index rose from 100 to 140. Which of the following expresses GDP for 1990 in terms of 1998 prices?

**E. Shs. 5.93 trillion**
F. Shs. 7 trillion
G. Shs. 8.3 trillion
H. Shs. 11.63 trillion

114. If GNP exceeds GDP, we know with certainty that:

E. A budget deficit exists.
F. A trade deficit exists.
G. Receipts of factor income from the rest of the world exceed payments of factor income to the rest of the world.
H. Receipts of factor income from the rest of the world are less than payments of factor income to the rest of the world.

115. Changes in consumer confidence are the main source of fluctuations in output. *True: T,* ***False: F****, or Uncertain: U*?

116. Mr. Massawe is about to retire and is thinking of selling his Range Rover Sport. He spends Tshs. 10 million in repairing and tuning the engine, and finally agrees to sell it to Miss Tanzania for Tshs. 100 million. As a result, GDP increases by Tshs. 110 million. *True: T,* ***False: F****, or Uncertain: U*?

117. Suppose Tanzania has no exports and her imports are 200 Mercedes Benz cars worth Tshs. 180 million each from Germany. Germany has no imports and only exports those 200 cars to Tanzania. Neither Tanzania nor Germany trade with any other countries or engage in any transactions with other countries. Which one of the following statements must be true?

F. Tanzania has a capital account deficit.
G. Germany has a current account deficit.
H. **Germans are buying Tanzanian assets.**
I. The exchange rate of shillings per Euros (the currency in Germany) is bigger than 1.
J. None of the above.

118. Through a typical business cycle, we expect that each 1% increase in GDP will be associated with a 1% change in business investment. *True: T,* ***False: F,*** *or Uncertain: U*?

119. GDP is the sum of all business sales. *True: T,* ***False: F,*** *or Uncertain: U*?

120. In the standard IS-LM model, an increase in Government spending (G) without changing taxes has:

E. A positive effect on equilibrium consumption,
F. A negative effect on equilibrium consumption,
**G. An ambiguous effect on equilibrium consumption.**
**H.** An insignificant effect on equilibrium consumption.

121. Which type of the following technological innovations might directly, significantly affect the LM curve?

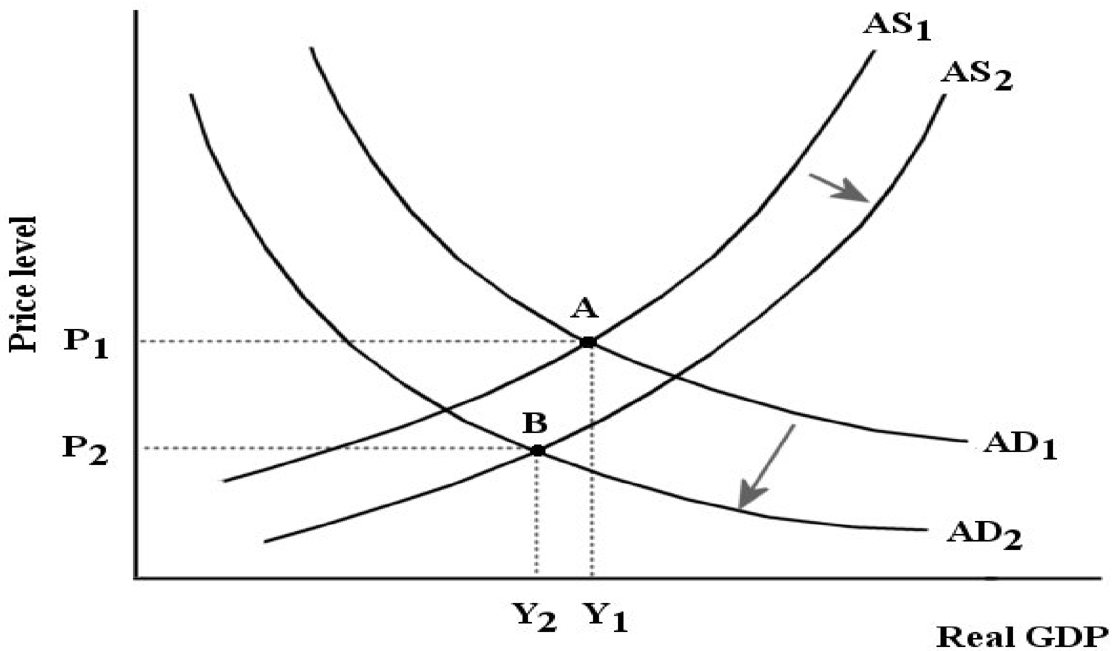
**F. ATM cards**
G. More efficient ships
H. Faster computer chips
I. A and B are true.
J. A, and C. are true

122. In an open economy with government and demand-determined output, an increase in the equilibrium level of national income could be caused by:

F. An increase in taxes at all levels of income.
G. An increase in the desired level of imports at all levels of income.

H. A decrease in desired consumption at all levels of income.
I. A decrease in government purchases.
**J. A decrease in the desired level of saving at all levels of income.**

**Figure 1: AD and AS Framework**

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**F. An increase in the money supply leads to a lower interest rate, higher investment, an upward shift in the AE curve and a higher GDP.**
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L. Restrictive monetary policy

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F. Decrease the supply of capital and reduce its productive efficiency.
G. Encourage individuals to substitute less desired, tax-deductible goods for more desired, non-deductible goods.
H. **Cause all of the above.**

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**E.** Increase because the demand deposits of the Treasury will increase.
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L. Consumption will increase resulting from a tax cut will cause the short run AS curve to shift left.
M. Government spending has no effect on real GDP.
N. Private investment it will lead to a large amount of crowding out.
O. Government spending may lead to a multiplier effect which increases private spending and real GDP.

130. When economists argue that fiscal policy is of limited effectiveness in stabilizing the economy, the reasons they give include

K. The long and uncertain time lags in implementing fiscal policy.
L. Households will tend to save the extra income from a tax cut rather than spend it.

M. Private investment is crowded out by government's borrowing.
**N. All of the above**
O. None of the above

131. It is argued that a government deficit, far from being a burden for future generations, may provide net benefits to future generations if the deficit is used to:
F. Ensure that all interest paid goes to non-residents outside the country.
**G. Invest into the research and development that has long term potential wide use to raise factor productivity.**
H. Earn a social rate of return less than the interest rate on the debt.
I. Pay transfers such as welfare and old age pensions in the present period.
J. All of the above

132. An increase in the rate of money growth decreases the nominal interest rate. *True: T, False: F or* ***Uncertain: U***?

133. Consider two economies that are identical, with the exception that one has a high marginal propensity to consume (MPC) and one has a low MPC. If the money supply is increased by the same amount in each economy, the high MPC economy will experience
F. **A larger increase in output and a smaller decrease in the interest rate.**
G. A smaller increase in output and a smaller decrease in the interest rate.
H. A larger increase in output and a larger decrease in the interest rate.
I. A smaller increase in output and a larger decrease in the interest rate.
J. None of the above.

134. An increasing government budget deficit, financed by Treasury borrowing, may well have the following effect:
F. An increase in the real interest rate.
G. An increased demand for Tanzanian shillings in foreign-exchange markets and an appreciation of the shilling.
H. A rightward shift of the AD curve as a direct result of the expansionary fiscal policy, but a leftward shift as a result of the shilling appreciation (that decreases Tanzanian net exports).
I. All of the above.
J. None of the above.

135. Suppose there is a decrease in the price level from P to P'. Given the stock of nominal money, M, this leads to an increase in the real money stock, M/P, which shifts the LM curve down. This implies that the AD curve shifts to the right. *True: T,* ***False: F****, or Uncertain: U?*

136. As the general price level in an economy rises, the aggregate quantity demanded of goods and services falls because:

I. The prices of domestic goods have risen relative to foreign goods, causing exports to fall and imports to rise.
J. Higher interest rates caused by an increase in the demand for money balances causes a reduction in current investment and consumption.
K. The value of money will fall, reducing the real wealth and thus the consumption of persons holding money balances.
**L. All of the above are correct.**

137. The observed tendency for the form of money to evolve from commodity money to fiat money increases the fragility of money because:

P. Fiat money can lose much of its value in hyperinflations.
Q. Fiat money is un-backed, i.e., it is not collateralized by any commodity.
R. Fiat money can lose much of its value if people lose confidence in its general acceptability as a means of payment.
**S. All of the above.**
T. Only A and C.

138. The neutrality of money means that monetary policy cannot affect output. *True: T,* ***False: F****, or Uncertain: U*?

139. Which of the following people would not be considered unemployed?

E. A recent college graduate who has not yet found a job.
F. An executive who quit one job but is still looking for another.
G. A construction worker lay off, waiting to be called back, because of a slowdown in home building.
H. A person who has given up trying to find a job after an unsuccessful search.

140. When an economy opens to trade and subsequently increases the degree of competition faced by producers in the final goods market, the natural rate of unemployment increases. *True: T,* ***False: F****, or Uncertain: U?*

141. Which of the following is the most likely result of an increase in the minimum wage?

I. An increase in the employment of unskilled workers
J. A decrease in the unemployment rate of unskilled workers
K. An increase in the demand for unskilled workers
L. **A decrease in the employment of unskilled workers**

142. Other things being the same, higher inflation leads to higher real output. ***True: T****, False: F, or Uncertain: U*?

143. Okun's law:

F. Was passed by the Congress in 1990s to address the fiscal deficit.
G. States that there is a cyclical relation between unemployment and real growth.
H. States that the change in the unemployment rate is twice the growth rate difference between potential and actual GDP growth.
I. States that the level of unemployment is half the % gap between potential and actual GDP.
**J. Both B and D are true answers.**

144. A Tanzanian citizen buys an automobile produced in the United States by a Japanese company. As a result:

I. U.S. net exports increase, U.S. GNP and GDP are unaffected, Japanese GNP increases, Tanzanian net exports decrease, and Tanzanian GNP and GDP are unaffected.
J. U.S. net exports, GNP, and GDP increase, Japanese GDP increases, Tanzanian net exports decrease, and Tanzanian GDP is unaffected.
**K. U.S. net exports and GDP increase, Japanese GNP increases, Tanzanian net exports decrease, and Tanzanian GDP and GNP are unaffected.**
L. U.S. net exports, GNP, and GDP are unaffected, Japanese GNP increases, Tanzanian net exports decrease, and Tanzanian GDP and GNP fall.

145. A Home Country (HC) current account ___ indicates that the Rest of the World (ROW) is increasing its net claims on HC assets because the HC is ___.

E. Deficit; a net lender to ROW.
F. Surplus; a net borrower from ROW.
**G. Deficit; a net borrower from ROW.**
H. Surplus; a net lender to ROW.

146. Which of the following would directly increase the size of the Tanzanian current account deficit?

K. A decline in Tanzanian household net interest income on Tanzania-issued government bonds.
L. An increase in the amount of labor services purchased from China.
M. An increase in foreign aid from Tanzania to Somalia.
N. All of the above.
**O. Only B and C above.**

147. If the nominal exchange rate **E** is shilling per foreign currency, the domestic price is P, and the foreign price is P*, the real exchange rate is defined as:

E. E(P*/P).
F. E(P/P*).
G. P*/ (EP).
H. P/ (EP*).

148. In an open economy, the government budget deficit tends to:

K. Crowd out exports and reduce interest rates.
L. Depreciate the currency.
**M. Crowd out exports and attract foreign capital.**
N. Crowd out private consumption.
O. Attract foreign capital and reduce interest rates.

149. When the Bank of Tanzania purchases foreign exchange; this transaction:

F. Enters as a credit in the current account.
G. Enters as a debit in the capital account.
H. Represents the sale of an asset, and thus enters as a credit item in the official financing account.
I. Enters as a credit in the capital account.
**J. Represents the purchase of an asset from abroad, and thus enters as a debit item in the official financing account.**

150. It is not likely that a country will specialize completely in one good even if it has a lower opportunity cost because:

I. Comparative advantage is not a workable concept in the world economy.
J. Opportunity costs increase as more of a good is produced.
K. The country would want to save some of the good for its own citizens.
**L. The country would end up inside its production-possibilities curve.**

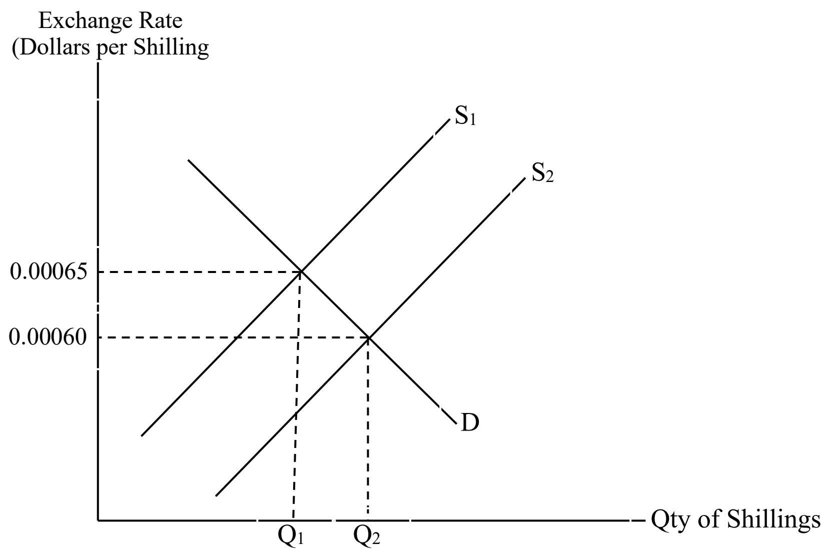
151. Suppose France and Tanzania do not trade and the competitive price of an ordinary bottle of wine is 40 francs in France and 4,000/= in Tanzania. The price of wheat per bushel is 40 francs in France and 12,000/= in Tanzania. If prices reflect only the differences in the costs of the resources to produce wine and wheat in the two countries, this information is sufficient to enable us to state that:

**E. Tanzania has a comparative advantage in the production of wine.**
F. France has a comparative advantage in the production of wine.
G. Neither country has a comparative advantage in the production of either good.
H. Tanzania has an absolute advantage in the production of both goods.

152. When tariffs are imposed, the losers include:

E. Domestic consumers and the domestic government.
F. Foreign consumers and domestic producers of import-competing goods.
G. Domestic consumers and domestic producers of import-competing goods.
**H. Domestic consumers and foreign producers.**

**Figure 2: Shilling-Dollar Market**




153. According to Figure 2, which of the following is true?

I. The Tanzanian shilling depreciates in value compared to the US dollar when supply increases from $S_1$ to $S_2$.

J. The US dollar depreciates in value compared to the Tanzanian shilling when supply decreases from $S_2$ to $S_1$.

K. An increase in supply from $S_1$ to $S_2$ could be caused by an increase in the Tanzanian demand for US Dell computers.

**L. All of the above.**

154. According to Figure 2, suppose the supply of shillings increases from $S_1$ to $S_2$. As a result of this change:

I. US Dell computer imports to Tanzania will be lower priced.

**J. Tanzania coffee exports to US will be lower priced.**

K. A trade surplus will be created in US.

L. The US dollar will lose value worldwide.

155. According to Figure 2, the supply of shillings decreases from $S_2$ to $S_1$. As a result of this change:

I. **US Dell computers imports to Tanzania will be lower priced.**

J. Tanzania coffee exports to US will be lower priced.

K. A trade deficit will be created in US.

L. The US dollar will gain value worldwide.

156. In an open economy, expansionary monetary policy will:

F. Have a lesser impact on the real GDP than in a closed economy.

G. Lead to shilling depreciation.

H. Decrease the demand for foreign currencies in foreign-exchange markets.

I. Decrease net exports.
J. Lead to all of the above and more.

157. Following a shilling depreciation, the Tanzanian trade balance improves. *True: T, False: F, or* ***Uncertain: U***?

158. An appreciation of the Tanzanian shilling on international currency markets requires the Bank of Tanzania to:
F. Increase the target band for the overnight lending rate.
G. Engage in contractionary monetary policy to counter the rise in the dollar.
H. Engage in expansionary monetary policy to counter the rise in the dollar.
**I. Identify the cause of the change in the exchange rate before taking any action to change the money supply.**
J. Increase the target band for the inflation rate.

159. Suppose that Tanzania has a comparative advantage in coffee and Kenya has a comparative advantage in tomatoes. Which of the following groups would be worse off if these countries specialize and trade?
**I. Kenyan coffee producers.**
J. Tanzanian coffee producers.
K. Kenyan tomato producers.
L. All groups are better off when specialization and trade take place.

160. A good time for a Tanzanian to hold American stocks, ceteris paribus, is when the:
E. Dollar is stable compared to the Tanzanian shilling.
**F. Tanzanian shilling depreciates in value compared to the dollar.**
G. Tanzania shilling appreciates in value compared to the dollar.
H. The return in the American stock market has no relationship to the value of the shilling compared to the dollar.

161. In an open economy, fiscal policy is more effective than (or at least as effective as) monetary policy (in terms of changing output). *True: T,* ***False: F****, or Uncertain: U*?

162. The elimination of import restrictions will:
I. Alter the mix of output from export industries toward domestic industries.
**J. Redistribute income from import-competing industries to export industries.**
K. Alter the mix of output from export industries to import-competing industries.
L. Redistribute income from domestic to foreign producers.

**SECTION II: Short Answer Questions (20 marks)**

**QUESTION ONE (09 marks)**

Consider a Country ABC whose main components of its government budget are:

- Tax Revenues: $T = 1{,}000 + 0.1Y$
- Transfers: $T_r = 800 - 0.05Y$
- Government Purchases: $G = 1{,}900$
- Imagine that the potential output of Country ABC is $Y^* = 10{,}000$ and the actual output is $Y = 8{,}000$.

d) Find the actual budget deficit and the structural budget deficit for country ABC. Is the actual deficit smaller or bigger than the structural deficit when this country is in recession? Why? **(3 marks)**

e) Imagine that Country ABC wants to reduce her cyclical deficit and cuts G by 100. What happens to the actual deficit? What happens to Y? Is that a good policy? **(3 marks)**

f) Imagine that the government passes a tax reform such that the taxes become $T = 1{,}400 + 0.05Y$. Show that this tax reform is revenue-neutral. Why this could be a good policy? **(3 marks)**

**QUESTION TWO (11 marks)**

c) Derive the LM curve from money market equilibrium. **(03 Points)**

d) Assume that a financial system has checkable deposits (DD) of 900 billion shillings, a required reserve ratio ($\theta$) of 0.2, currency ratio ($CC/M1 = c$) of 0.5 where CC is currency in circulation, and $M_1$ is narrow money:

(v) Find the amount of currency in circulation (CC) and required reserves (RR). **(02 Points)**

(vi) Find the money multiplier. **(02 Points)**

(vii) Describe two different ways the Bank of Tanzania can decrease money supply. **(02 Points)**

(viii) If the Bank of Tanzania sells bonds worth 250 billion shillings, what is going to be the new level of money supply? **(02 Points)**

## Question One (10 Marks)

Assume that the Central Bank expects an increase in the inflation rate resulting from high levels of consumer spending:

a) How is the Central Bank likely to react? **(02 Marks)**

***Will reduce money supply via contractionary monetary policy tools.***

b) What effect will this have on the aggregate demand curve? **(02 + 04 Marks)**

***Will shift to downwards to the left.***

c) What factors determine the amount by which aggregate demand changes? **(04 Marks)**

***1. Fiscal policy – government spending, transfer payments and spending.***
***2. Monetary policy – quantity of money***
***3. Wealth – assets minus liabilities***
***4. Expectations – future income, profits, and inflation.***
***5. Foreign income levels – increases exports.***
***6. Exchange rate – effect on exports and imports.***

## Question Two (10 Marks)

Under a flexible exchange rate, how does an easing of monetary policy (a lower real interest rate) affect the value of the exchange rate? Does this change in the exchange rate tend to weaken or strengthen the effect of the monetary ease on output and employment? Explain.

***Solution:***

***Easing of monetary policy means expansionary monetary policy***

***Expansionary monetary policy lowers interest rate, which triggers capital outflows, increases the supply and reducing demand for local currency, leading to shilling depreciation. (04 Marks)***

***Low interest rate also increases the level of investment and consumption on credit (thus increasing AD). In addition effect of depreciating currency increases level of exports and reduces level of imports, thus increasing net exports value and strengthen effect on AD. (04 Marks)***

***It strengthens effect of monetary easy on output and employment. (02 Marks)***

## Question Three (10 Marks)

Suppose that the Phillips Curve is given by $\pi_t - \pi_t^e = 0.1 - 2u_t$ where $\pi_t^e = \pi_{t-1}$. Suppose that inflation in the year 2000 is zero. In the year 2001, the authorities decide to keep the unemployment rate at 4% percent forever.

a) Compute the rate of inflation for years 2001, 2002, 2003 and 2004. **(03 Marks)**

$\pi_{2001} = \pi_{2000} + 0.1 - 2u_{2001} = 0.00 + 0.1 - 0.08 = 0.02 = 2\%$
$\pi_{2002} = \pi_{2001} + 0.1 - 2u_{2002} = 0.02 + 0.1 - 0.08 = 0.04 = 4\%$
$\pi_{2003} = \pi_{2002} + 0.1 - 2u_{2003} = 0.04 + 0.1 - 0.08 = 0.06 = 6\%$
$\pi_{2004} = \pi_{2003} + 0.1 - 2u_{2004} = 0.06 + 0.1 - 0.08 = 0.08 = 8\%$

Now suppose that half of the workers have indexed labor contracts. That is, the expected rate $\pi_t^e$ is still the relevant inflation rate in determining wages for half the workers in the economy, whereas the current rate, $\pi_t$, replaces $\pi_t^e$ as the relevant inflation rate in determining wages for the other half (those who have wages indexed to inflation).

b) What is the new equation for the Phillips Curve? (**02 Marks)**

***It is even easier to derive these by using the fact that the Phillips Curve can be simplified as: $\pi_t = \pi_{t-1} + 0.1 - 2ut = \pi_{t-1} + 0.02 = \pi_{t-1} + 2\%$, since $u_t = 0.04$ for all t here.***

***The PC becomes:***

$\pi_t = 0.5\pi_{t-1} + 0.5\pi_t + 0.1 - 2u_t$ ***and hence***

$\pi_t - \pi_{t-1} = 0.2 - 4u_t$

***If $u_t = 0.04$ for all t, then:***

$\pi_t = \pi_{t-1} + 0.04 = \pi_{t-1} + 4\%$

c) Repeat the exercise in (a) under the new assumption. **(03 Marks)**

$\pi_{2001} = \pi_{2000} + 0.04 = 0.04 = 4\%$

$\pi_{2002} = \pi_{2001} + 0.04 = 0.08 = 8\%$

$\pi_{2003} = \pi_{2002} + 0.04 = 0.12 = 12\%$

$\pi_{2004} = \pi_{2003} + 0.04 = 0.16 = 16\%$

d) What is the effect of indexation on the relation between π and u? **(02 Marks)**

***As indexation increases (this is, as more workers have indexed labor contracts), low unemployment leads to a larger increase in inflation over time. In other words, the impact of u on π becomes stronger.***

## Question Four (10 Marks)

Suppose the economy is represented by the following equations: $M^d = 6Y – 120i$; $M^s = 5400$; $C = 180 + 0.7Y_D$; $Y_D = Y – T$; $I = 100 – 18i + 0.1Y$; $T = 400$; $G = 400$; and $Y = C + I + G$.

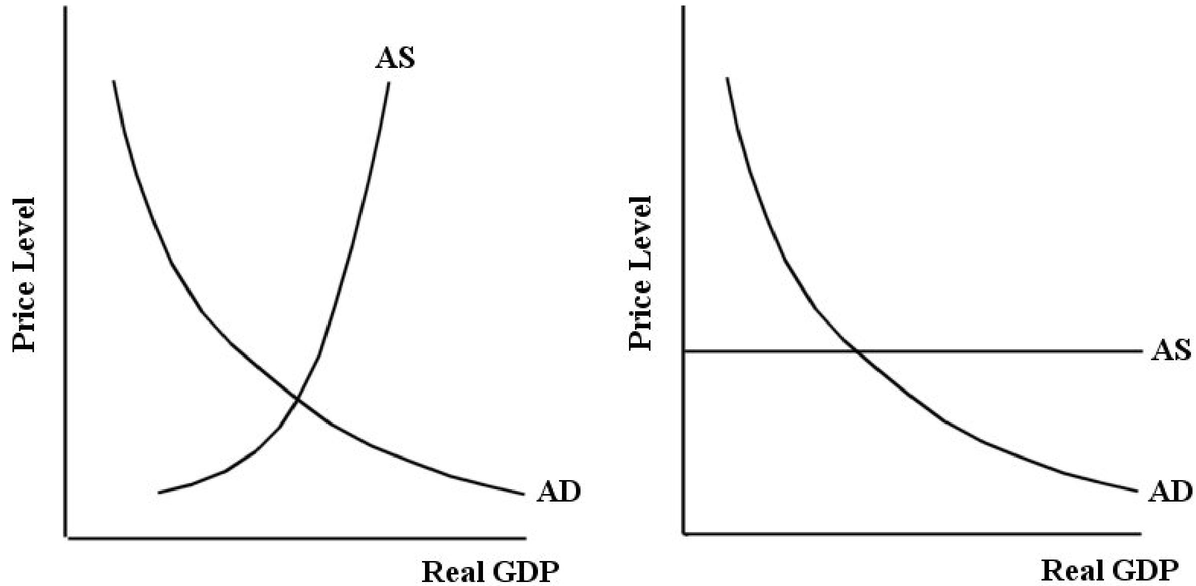
a) Write down equation for equilibrium in the goods market and solve for this equilibrium level of output. **(03 Marks)**
b) Write down the equation for equilibrium in the financial markets. **(03 Marks)**
c) Calculate the overall level of equilibrium output. **(02 Marks)**
d) At equilibrium output, what is the level of consumption and investment? **(02 Marks)**

**SECTION I: Multiple Choice and True/False Question (20 MARKS).**

Select the best choice and write the corresponding letter in your answer paper **(1 mark each)**

1. The increase in use of ATMs decreases the currency/deposit ratio (c). According to the Keynesian theory of sticky prices:
   **A. Output increases and the interest rate goes down.**
   B. Output increases and the interest rate goes up.
   C. Output decreases and the interest rate goes down.
   D. Output increases and interest rate goes up.

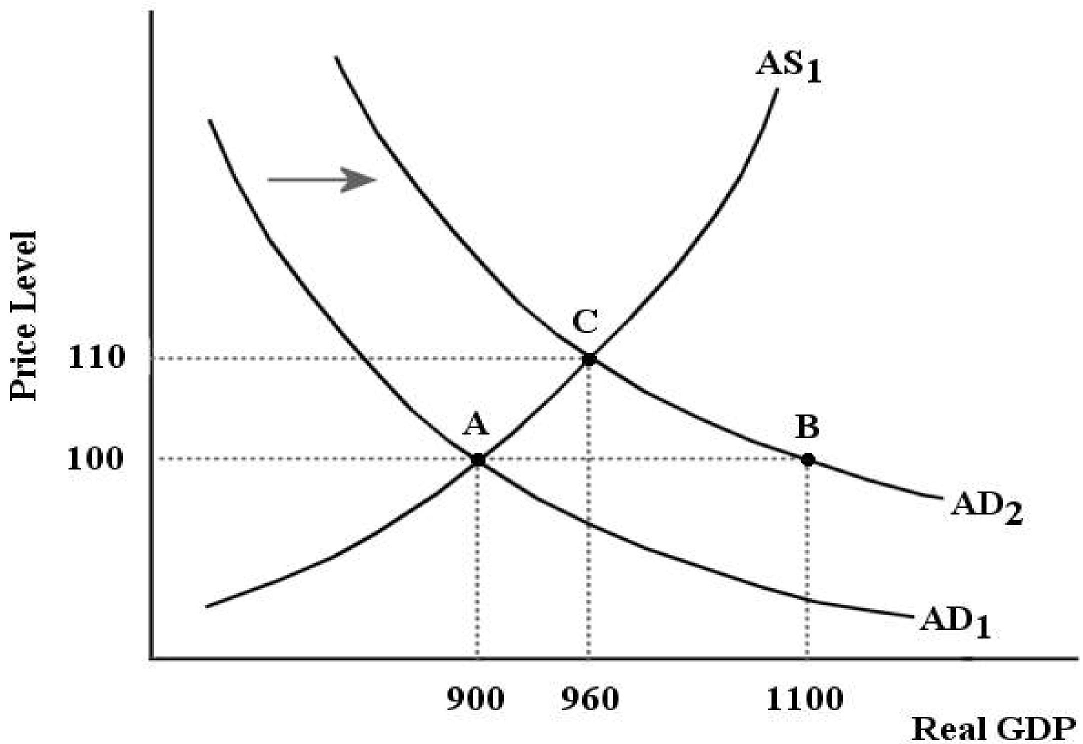
**Figure 1: AD and AS for Economies A and B**




**Economy A** **Economy B**

2. According to Figure 1, which of the following statements best describes the supply side of Economy B?
   A. Unit costs are rising rapidly as firms are producing beyond their capacity. Firms will produce more only if prices increase.
   B. Unit costs are rising rapidly, but firms can produce more output by employing standby capacity and overtime labour, for example, with no increase in the price level.
   C. Firms are not able to produce more output because there is no excess capacity in the economy.
   D. Firms are producing well below their capacity and are willing to produce more only if prices rise.
   **E. Firms are producing well below their capacity and are willing to produce more output with no increase in price.**
3. According to Figure 1, which of the following statements best describes the supply side of Economy A?
   A. Unit costs are rising, but firms can produce more output by employing standby capacity and overtime labour, for example, with no increase in the price level.
   **B. Unit costs are rising rapidly as firms are producing beyond their capacity. Firms will produce more only if prices increase.**
   C. Unit costs are rising, but firms are able to produce more output because there is excess capacity in the economy.
   D. Firms are producing well below their capacity and are willing to produce more output with no increase in price.
   E. Firms are producing well below their capacity and are willing to produce more only if prices rise.

**Figure 2: AD and AS Framework**




4. According to Figure 2, suppose that an increase in government purchases by 50 causes the AD curve to shift to the right, as shown. The simple multiplier is __ and the multiplier is __. A) 2.8; 1.2 B) 4; 2.8 C) 4; 3.2 **D) 4; 1.2** E) 6; 1.2
5. An increase in the money supply and a drop in consumer confidence will lead to:
   F. A decrease in output with an ambiguous effect on the interest rate.
   G. An increase in output and a decrease in the interest rate.
   H. A decrease in output and an increase in the interest rate.
   I. An ambiguous effect on output and an increase in the interest rate.
   **J. An ambiguous effect on output and a decrease in the interest rate.**
6. If the central bank sells bonds to shrink the money supply and the government decreases spending, then (in the short run):
   F. Investment will increase while the production may rise or fall.
   **G. Production will decrease, and investment may rise or fall.**
   H. Investment and production will definitely increase.
   I. Investment and production will definitely decrease.
   J. None of the above
7. Suppose that workers in the Republic of Communia are highly unionized, while workers in the Republic of Individuela are not. In all other respects, the two countries are exactly the same. Which statement is true?
   A. Communia is likely to have a higher natural level of output than Individuela.
   B. **Communia is likely to have a higher natural rate of unemployment than Individuela.**
   C. Wages are probably lower in Communia than in Individuela.
   D. In the short-run, the price level is always lower in Communia than in Individuela.

E. In the short-run, output is always higher in Communia than in Individuela.

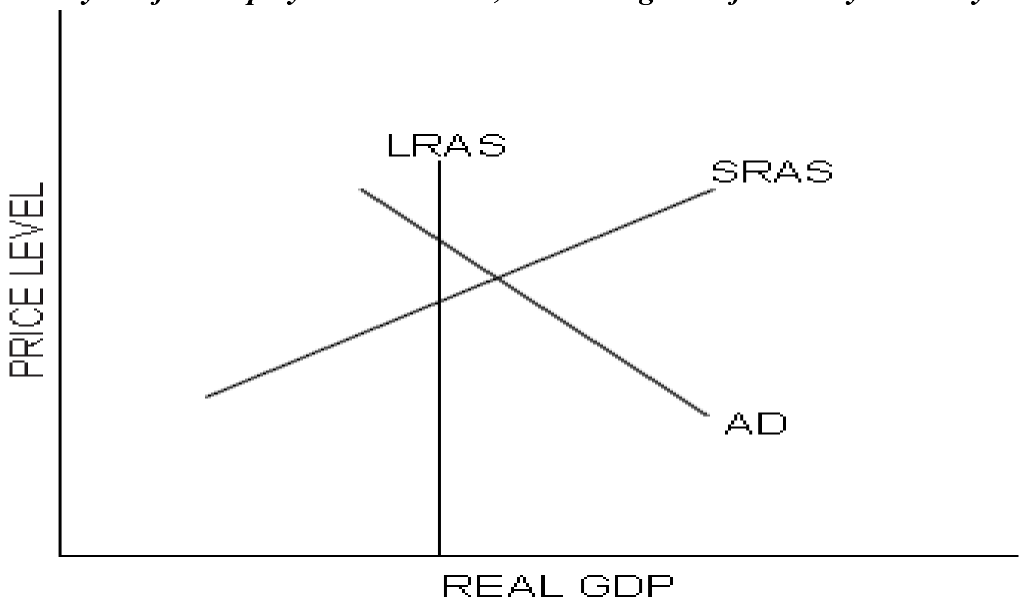
8. Part-time workers are counted as:
   A. Unemployed and therefore the official unemployment rate may understate the level of unemployment.
   B. Fully employed and therefore the official unemployment rate may overstate the level of unemployment.
   **C. Fully employed and therefore the official unemployment rate may understate the level of unemployment.**
   D. Unemployed and therefore the official unemployment rate may overstate the level of unemployment.
9. Some argue that the long-term burden of the debt arising from deficit-financing will:
   F. Reduce current investment and as a result reduce long-run economic growth.
   G. Impose a burden on future generations who may have to pay interest to foreign owners of government bonds.
   H. Cause a reduction in net exports and the employment if implies in an open economy.
   I. Cause a redistribution of resources away from future generations toward the current generation.
   **J. All of the above.**
10. Which of the following accurately summarizes the transmission of restrictive monetary policy to the goods and services market?
    A. Higher real interest rates will lead to a reduction in both business investment and consumer purchases of durable items, causing a reduction in aggregate demand.
    B. The exchange rate value of the dollar will rise, causing U.S. exports to fall and imports to rise. With lower net exports, aggregate demand will fall.
    C. Bank reserves will fall and loans will become less available to small- and medium-sized businesses. The investment undertaken by these businesses will fall, leading to a reduction in aggregate demand.
    D. **All of the above are true.**
11. Suppose the Tanzanian Treasury finances a budget deficit by selling securities to the public. The money supply will:
    **I.** Increase because the demand deposits of the Treasury will increase.
    **J.** Decrease because the demand deposits of the public will decrease.
    **K.** Decrease because the money in the hands of the BoT will increase.
    **L. Remain unchanged as long as the government spends what is borrowed.**
12. Suppose the Parliament raises taxes and the monetary authorities slow the annual money supply growth from 10 percent to 5 percent. If decision makers accurately anticipate the impact of these policy changes on prices:
    A. Unemployment will rise.
    B. Unemployment will fall.
    C. **There will be no effect on unemployment.**
    D. Unemployment will fall if the change in monetary policy dominates, but unemployment will rise if the change in fiscal policy dominates.

13. In a single year, a Shs. 500 billion tax reduction was accompanied by a Shs. 900 billion increase in consumer spending. From a Keynesian view, the most probable explanation for the increase in consumer spending by more than the amount of the tax cut is that:
    E. Lower taxes caused government spending to fall, which led to the increase in consumer spending.
    F. **Increased consumption spending by those with higher disposable incomes led to higher incomes and still more consumption spending by others.**
    G. The tax cut caused interest rates to fall, thus increasing consumer spending.
    H. The lower taxes prompted the Bank of Tanzania to sell securities, causing both the money supply and consumer spending to increase.
14. Although the economy was in the Great Depression, the US administration followed a fiscal policy of balancing the budget. A Keynesian would have found this policy:
    A. **Inappropriate because it probably would have depressed economic activity and led to further increases in unemployment.**
    B. Appropriate because it probably would have led to a significant increase in the money supply and thereby increased employment.
    C. Inappropriate because it probably would have impaired the ability of monetary policy to end the Depression.
    D. Appropriate because it probably would have stimulated economic activity and helped end the Depression.
15. (I) The short-run aggregate supply curve is upward sloping because the prices firms pay for major resources is set by long-term contracts, thus unexpected increases in product prices lead to higher profits inducing firms to expand output.
    (II) The long-run aggregate supply curve is vertical because an economy's productive ability is determined in the long run by its resources, not by the price level. Additionally, in the long run, decision makers will adjust long-term contracts to take price changes into account.
    A. I is true; II is false.
    B. I is false; II is true.
    C. **Both I and II are true.**
    D. Both I and II are false.
16. Suppose there is a decrease in the price level from P to P'. Given the stock of nominal money, M, this leads to an increase in the real money stock, M/P, which shifts the LM curve down. This implies that the AD curve shifts to the right. *True: T or **False: F**?*
17. Okun's law states that if the growth rate of potential GDP exceeds actual GDP growth by one percent for a year, then the unemployment rate goes down by 0.5%. *True: T or **False: F**?*
18. An increase in unemployment benefits will reduce output and raise both the level of prices and the interest rate in the short run, but will have no effect on output in the medium run. *True: T or **False: F**?*
19. As long as we do not mind having high inflation, we can achieve as low a level of unemployment as we want. All we have to do is increase the demand for goods and services by using, for example, expansionary fiscal policy. *True: T or **False: F**?*
20. All money in the U.S. economy is created by the Federal Reserve. *True: T or **False: F**?*

**SECTION II: SHORT ANSWER QUESTIONS (20 MARKS)**

1. The Bank of Tanzania determines that it is currently appropriate to follow a contractionary policy.
   ***d)*** Use a correctly labeled aggregate demand and aggregate supply graph to illustrate the situation that would make this policy appropriate. **(02 Marks)**

   ***Appropriate to follow a contractionary policy when the intersection of SRAS and AD is beyond full employment or LRAS, illustrating an inflationary economy.***




   e) Describe any three major monetary policy tools the Bank of Tanzania is likely to use to achieve this policy action. **(03 Marks)**

   - ***Selling government securities (contractionary OMO)***
   - ***Raising the reserve requirement ratio***
   - ***Raising the discount rate or tighten the discount lending conditions***

   f) Briefly explain how the policy would affect each of the following:
   - Interest rates **(01 Mark)**
     ***Interest rise will rise***

   - Investment **(01 Mark)**
     ***Investments will decline***

   - Output **(01 Mark)**
     ***Output will decline***

   - Price level **(01 Mark)**

*Price level will fall*

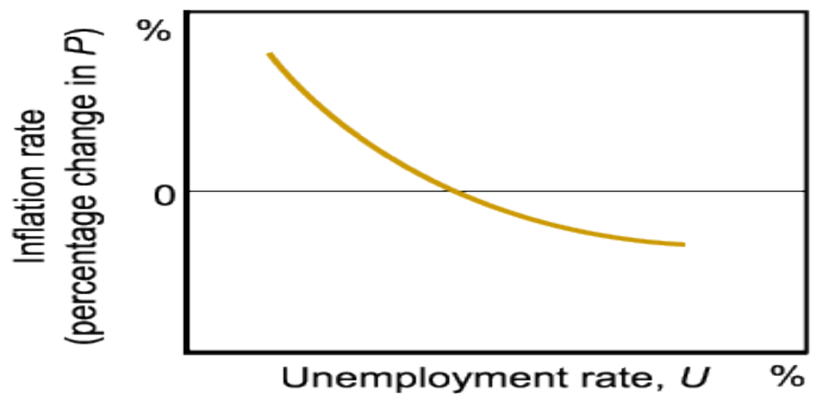
- Employment **(01 Mark)**
  ***More unemployment or less employment***

2. Suppose the Phillips curve is represented by the following: $\pi_t = \pi_t^e + 0.20 - 2u_t$ and $\pi_t^e = \theta\pi_{t-1}$ where $\pi_t$ is inflation in period t, $\pi_{t-1}$ is inflation in period t-1, $\pi_t^e$ is expected inflation in period t, $u_t$ is rate of unemployment in period t, and θ is sensitivity of inflation to unemployment.

a) With support of a diagram, explain what is meant by the Phillips curve. **(02 Marks)**

**Suggested Solution:**

***Phillips curve shows the relationship between inflation rate and unemployment rate. It shows that there is a trade-off between inflation and unemployment. To lower the inflation rate, we must accept a higher unemployment rate.***




b) Assume θ = 0.5, $\pi_{t-1}$ = 0.06, and $u_t$ = 0.08. Calculate $\pi_t$ **(02 Marks)**

**Suggested Solution:**

***Given:*** $\pi_t = \pi_t^e + 0.20 - 2u_t$***; substitute expected inflation*** $\pi_t^e = \theta\pi_{t-1}$ ***given in the model;***

$\pi_t = \theta\pi_{t-1} + 0.20 - 2u_t$ ***then plug in values of variables given:***

$\pi_t = 0.5x0.06 + 0.20 - 2x0.08$

***Inflation is therefore 7%***

c) Suppose $u_t$ increases to 10%. Calculate what happens to $\pi_t$. How does $\pi_t$ change and why? **(03 Marks)**

**Suggested Solution:**

***Given*** $\pi_t = \theta\pi_{t-1} + 0.20 - 2u_t$ ***then plug in the values plus*** $u_t$ ***= 10%***

$\pi_t = 0.5x0.06 + 0.20 - 2x0.10$

***Inflation is therefore 3%***

***NB: Inflation falls by 4% when unemployment increases by 2%. As unemployment increases, wage growth declines causing inflation to decline.***

d) What happens to $\pi_t^e$ as $u_t$ changes? Briefly explain. **(03 Marks)**

**Suggested Solution:**

***Nothing. Expected inflation is based on last period's inflation and not unemployment rate.***

**SECTION I: Multiple Choice Questions (40 marks)**

**Select the best choice and write the corresponding letter in your answer paper (0.8 marks each)**

(**IMPORTANT:** *Arrange your answers in two columns – one running from Question 1 to 25 and the other from Question 26 to 50 – without skipping a line/row).*

163. Consider the simplest macro model with demand-determined output, where AE = C + I. Suppose that actual national income is Tshs. 14 trillion and desired consumption plus desired investment is Tshs. 14.2 trillion. We can expect that
   F) Firms will see an increase in inventories, and they will respond by decreasing output, thereby decreasing actual national income.
   G) Firms will decrease autonomous investment by Tshs. 200 billion until equilibrium national income is reached at Tshs. 14 trillion.
   H) Actual national income will decrease until equilibrium national income is reached at Tshs. 14 trillion.
   I) Firms will increase autonomous investment by Tshs. 200 billion until equilibrium national income is reached at Tshs. 14.2 trillion.
   J) Firms will see a decrease in inventories, and they will respond by increasing output, thereby increasing actual national income.

164. Suppose that real GDP grew more in Country A than in Country B last year.
   A) Country A must have a higher standard of living than country B.
   B) Country A's productivity must have grown faster than country B's.
   C) Both of the above are correct.
   D) None of the above is correct.

165. Suppose that there are diminishing returns to capital. Suppose also that two countries are the same except one has less capital and so less real GDP per person. Suppose that both increase their saving rate from 3 percent to 4 percent. In the long run:
   A) Both countries will have permanently higher growth rates of real GDP per person, and the growth rate will be higher in the country with more capital.
   B) Both countries will have permanently higher growth rates of real GDP per person, and the growth rate will be higher in the country with less capital.
   C) Both countries will have higher levels of real GDP per person, and the temporary increase in growth in the level of real GDP per person will have been greater in the country with more capital.
   D) Both countries will have higher levels of real GDP per person, and the temporary increase in growth in the level of real GDP per person will have been greater in the country with less capital.

166. An increase in the rate of money growth decreases the nominal interest rate. *True: T or False or Uncertain: U*?

167. What happens to the multiplier as autonomous consumption decreases?
A) It goes up.
B) It fluctuates wildly.
C) It remains constant.
D) Its activity is unpredictable

168. Potential output growth is influenced by:
A) The tax rate payable on wages and profits
B) Level of education
C) Demographic structure (age-sex mix) of the population
D) A and B
E) A, B and C

169. Which of the following would increase Tanzanian GDP?
A) Twiga Cement (a Tanzanian company) produces and sells cement in Uganda.
B) Bamburi Cement (a Kenyan company) produces and sells cement in Arusha.
C) A Tanzanian investor buys 100 shares of Twiga Cement.
D) A Tanzanian investor purchases 100 shares of Bamburi Cement stock.

Use Table 1 to answer the next **SIX** questions:

**Table 1: National income accounts (figures in billions of shillings)**

| | |
|---|---:|
| Expenditure for Consumer Goods and Services | 2,850 |
| Exports | 250 |
| Government Purchase of Goods and Services | 810 |
| Social Security Taxes | 295 |
| Net Investment | 510 |
| Indirect Business Taxes | 425 |
| Imports | 450 |
| Gross Investment | 700 |
| Corporate Income Taxes | 190 |
| Personal Income Taxes | 875 |
| Corporate Retained Earnings | 210 |
| Government Transfer Payments to Households | 780 |

170. On the basis of Table 1, GDP is:
A) shs2,040 billion. B) shs4,160 billion. C) shs4,350 billion. D) shs3,970 billion.

171. On the basis of Table 1, net domestic product is:
A) shs4,350 billion. B) shs2,040 billion. C) shs4,160 billion. D) shs3,970 billion.

172. On the basis of Table 1, national income is:
A) shs3,545 billion. B) shs3,735 billion. C) shs2,425 billion. D) shs1,615 billion.

173. On the basis of Table 1, personal income is:
A) shs2,757billion. B) shs2,935 billion. C) shs2,070 billion. D) shs3,630 billion

174. On the basis of Table 1, depreciation (capital consumption allowance) is:
A) shs425 billion. B) shs125 billion. C) -shs125 billion. D) shs190 billion.

175. On the basis of Table 1, personal saving is:
A) shs190 billion. B) -shs190 billion. C) shs95 billion. D) -shs95 billion.

176. Consider the following news headline: ″The Government plans massive hospital construction programs across the country”. Choose the statement below that best describes the likely macroeconomic effects.
A) The AD curve shifts to the left; the price level falls and real GDP falls.
B) The AD curve shifts to the right; the price level rises and real GDP rises.
C) The AD curve shifts to the right and the AS curve shifts to the left; the price level rises and the effect on real GDP is indeterminate.
D) The AD and AS curves both shift to the right; the effect on the price level is indeterminate and real GDP rises.
E) The AD curve shifts to the left and the AS curve shifts to the right; the price level falls and the effect on real GDP is indeterminate.

177. When wage rates rise faster than the increase in labour productivity, the:
A) Output gap falls.
B) AS curve shifts upward.
C) AS curve shifts downward.
D) AD curve shifts left.
E) Output gap increases.

178. Which of the following policy options would simultaneously increase interest rates and decrease output?
A) The central bank sells bonds through open market operations.
B) The government increases its defense purchases.
C) The central bank expands the money supply.
D) The government increases the tax rate.
E) Actions described in both (A) and (D).

179. Suppose that investment (I) in the goods market is not responsive to the interest rate (that is, I does not depend on the interest rate at all). Then:
A) The IS curve is a vertical line and monetary policy is very effective in raising output.
B) The IS curve is a horizontal line and monetary policy is very effective in raising output.
C) The IS curve is a vertical line and monetary policy does not affect output in the IS-LM model.
D) The IS curve is a horizontal line and monetary policy does not affect output in the IS-LM model.
E) The IS curve still has a negative slope, but monetary policy monetary policy does not affect output in the IS-LM model.

180. If the central bank sells bonds to shrink the money supply and the government decreases spending then (in the short run):
A) Investment will increase while the production may rise or fall.
B) Production will decrease, and investment may rise or fall.
C) Investment and production will definitely increase.

D) Investment and production will definitely decrease.
E) None of the above.

181. In a single year, a Tshs. 5 billion tax reduction was accompanied by a Tshs. 9 billion increase in consumer spending. From a Keynesian view, the most probable explanation for the increase in consumer spending by more than the amount of the tax cut is that:
A) Lower taxes caused government spending to fall, which led to the increase in consumer spending.
B) Increased consumption spending by those with higher disposable incomes led to higher incomes and still more consumption spending by others.
C) The tax cut caused interest rates to fall, thus increasing consumer spending.
D) The lower taxes prompted the central bank to sell Treasury securities, causing both the money supply and consumer spending to increase.

182. Consider the basic AD/AS model. Suppose that a rising percentage of high-school graduates are illiterate, resulting in a decrease in average labour productivity. This change will:
A) Shift the AS curve to the left. B) Cause a movement to the right along the AS curve.
C) Shift the AD curve to the left. D) Shift the AD curve to the right.
E) Shift the AS curve to the right.

183. As the general price level in an economy rises, the aggregate quantity demanded of goods and services falls because:
A) The prices of domestic goods have risen relative to foreign goods, causing exports to fall and imports to rise.
B) Higher interest rates caused by an increase in the demand for money balances causes a reduction in current investment and consumption.
C) The value of money will fall, reducing the real wealth and thus the consumption of persons holding money balances.
D) All of the above are correct.

184. (I) The three reasons why the aggregate demand curve slopes downward are the international substitution effect, the real balance effect, and the interest rate effect. (II) The aggregate demand curve shows the relationship between the aggregate quantity of goods and services demanded and the general price level in an economy.
A) I is true; II is false.
B) I is false; II is true.
C) Both I and II are true.
D) Both I and II are false.

185. (I) If long-run equilibrium is present in the goods and services market, the actual price level will equal the price level anticipated when buyers and sellers agreed to long-term contracts. (II) When an economy is in long-run equilibrium, the output level will be less than the full employment or potential level.
A) Both I and II are true.
B) Both I and II are false.
C) I is true; II is false.
D) I is false; II is true.

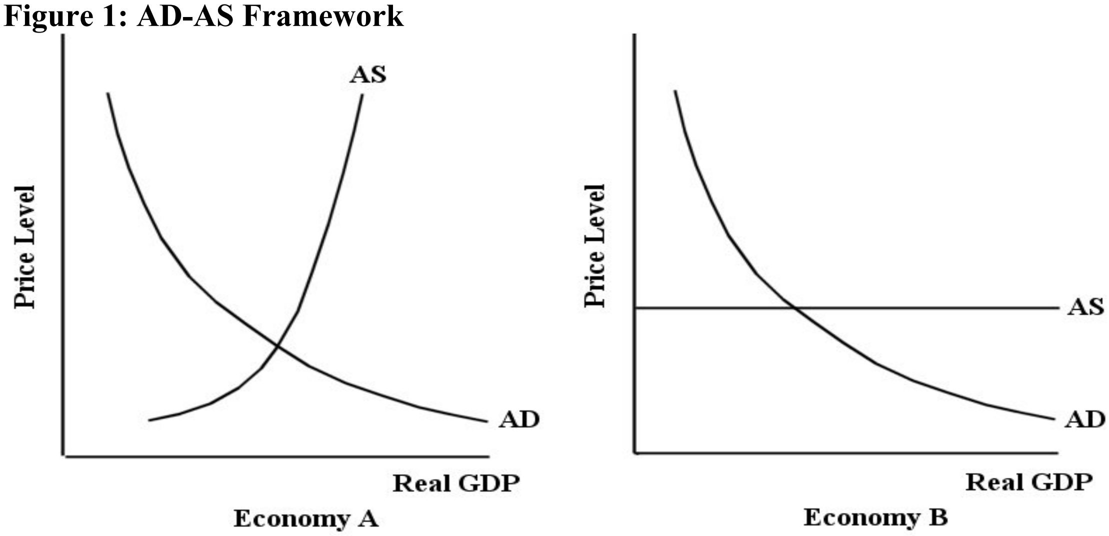
186. An increase in the rate of money growth decreases the nominal interest rate. *True: T or False or Uncertain: U*?

187. The observed tendency for the form of money to evolve from commodity money to fiat money increases the fragility of money because:
A) Fiat money can lose much of its value in hyperinflations.
B) Fiat money is un-backed, i.e., it is not collateralized by any commodity.
C) Fiat money can lose much of its value if people lose confidence in its general acceptability as a means of payment.
D) All of the above.
E) Only A and C.

188. If a person sells a 10-year Tanzanian Treasury bond back to the Tanzanian government in return for currency, then:
A) M1 stays the same and M2 increases.
B) M1 increases and M2 stays the same.
C) M1 stays the same and M2 increases.
D) M1 increases and M2 increases.

189. Which of the following is the most likely result of an increase in the minimum wage?
A) An increase in the employment of unskilled workers.
B) A decrease in the unemployment rate of unskilled workers.
C) An increase in the demand for unskilled workers.
D) A decrease in the employment of unskilled workers.

**Figure 1: AD-AS Framework**




190. Refer to Figure 1. Which of the following statements best describes the supply side of Economy A?
A) Unit costs are rising, but firms can produce more output by employing standby capacity and overtime labour, for example, with no increase in the price level.
B) Unit costs are rising rapidly as firms are producing beyond their capacity. Firms will produce more only if prices increase.
C) Unit costs are rising, but firms are able to produce more output because there is excess capacity in the economy.

D) Firms are producing well below their capacity and are willing to produce more output with no increase in price.
E) Firms are producing well below their capacity and are willing to produce more only if prices rise.

191. Refer to Figure 1. Which of the following statements best describes the supply side of Economy B?
A) Unit costs are rising rapidly as firms are producing beyond their capacity. Firms will produce more only if prices increase.
B) Unit costs are rising rapidly, but firms can produce more output by employing standby capacity and overtime labour, for example, with no increase in the price level.
C) Firms are not able to produce more output because there is no excess capacity in the economy.
D) Firms are producing well below their capacity and are willing to produce more only if prices rise.
E) Firms are producing well below their capacity and are willing to produce more output with no increase in price.

192. Changes in consumer confidence are the main source of fluctuations in output. *True: T or False: F or Uncertain: U*?

193. The reason monetary policy makers are keenly interested in the velocity of money, defined as the ratio $V = {GDP}/{M}$ of nominal gross domestic product (GDP) to the money supply (M), is that:
A) A higher value for V implies a higher GDP growth rate.
B) The constancy of V over time would imply the central bank could control nominal GDP by controlling the money supply M.
C) A higher value for V implies a higher inflation rate.
D) A higher value for V implies a strengthening (appreciation) of the Tanzanian shilling.

194. (I) Since forecasting is an imprecise science, policy makers should not respond to minor economic ups and downs, which may be misleading indicators. Precise fine-tuning is beyond our knowledge and capabilities.
(II) Demand stimulus can reduce the rate of unemployment below the natural level for a long time.
A) Most economists would agree with I; most economists would agree with II.
B) Most economists would disagree with I; most economists would agree with II.
C) Most economists would agree with I; most economists would disagree with II.
D) Most economists would disagree with I; most economists would disagree with II.

33. Which of the following terms is not equivalent to the others listed here?
A) Frictional-unemployment GDP. B) Full-employment real GDP.
C) Natural real GDP. D) Potential output.

34. Part-time workers are counted as:
A) Unemployed and therefore the official unemployment rate may understate the level of unemployment

B) Fully employed and therefore the official unemployment rate may overstate the level of unemployment.
C) Fully employed and therefore the official unemployment rate may understate the level of unemployment.
D) Unemployed and therefore the official unemployment rate may overstate the level of unemployment.

35. If the central bank sells bonds to shrink the money supply and the government decreases spending then (in the short run):
A) Investment will increase while the production may rise or fall
B) Production will decrease, and investment may rise or fall
C) Investment and production will definitely increase.
D) Investment and production will definitely decrease.
E) None of the above

36. The crowding-out effect suggests that
A) Expansionary fiscal policy causes inflation.
B) Restrictive fiscal policy is an effective weapon against inflation.
C) Reduction in private spending resulting from the higher interest rates caused by a budget deficit will largely offset the expansionary impact of a pure fiscal action.
D) A budget surplus will cause the private demand for loanable funds, the interest rate, and aggregate demand to fall.

37. Consider the following statements: (I) The short-run aggregate supply curve is upward sloping because the prices firms pay for major resources is set by long-term contracts, thus unexpected increases in product prices lead to higher profits inducing firms to expand output. (II) The long-run aggregate supply curve is vertical because an economy's productive ability is determined in the long run by its resources, not by the price level. Additionally, in the long run, decision makers will adjust long-term contracts to take price changes into account. Which of the following is most likely to be true?
A) I is true; II is false.
B) I is false; II is true.
C) Both I and II are true.
D) Both I and II are false.

38. In an open economy, expansionary monetary policy will:
A) Have a lesser impact on the real GDP than in a closed economy.
B) Lead to shilling depreciation.
C) Decrease the demand for foreign currencies in foreign-exchange markets.
D) Decrease net exports.
E) Lead to all of the above and more.

39. The elimination of import restrictions will:
A) Alter the mix of output from export industries toward domestic industries.
B) Redistribute income from import-competing industries to export industries.
C) Alter the mix of output from export industries to import-competing industries.
D) Redistribute income from domestic to foreign producers.

40. A Tanzanian citizen buys an automobile produced in Kenya by a Japanese company. As a result,
   A) Kenyan net exports increase, Kenyan GNP and GDP are unaffected, Japanese GNP increases, Tanzanian net exports decrease, and Tanzanian GNP and GDP are unaffected.
   B) Kenyan net exports, GNP, and GDP increase, Japanese GDP increases, Tanzanian net exports decrease, and Tanzanian GDP is unaffected.
   C) Kenyan net exports and GDP increase, Japanese GNP increases, Tanzanian net exports decrease, and Tanzanian GDP and GNP are unaffected.
   D) Kenyan net exports, GNP, and GDP are unaffected, Japanese GNP increases, Tanzanian net exports decrease, and Tanzanian GDP and GNP fall.

41. Which of the following would directly increase the size of the Tanzanian current account deficit?
   A) A decline in Tanzanian household net interest income on Tanzanian-issued government bonds.
   B) An increase in the amount of labor services purchased from Kenya.
   C) An increase in foreign aid from Tanzania to Southern Sudan.
   D) All of the above.
   E) Only B and C above.

42. If the nominal exchange rate (e) is foreign currency per shilling, the domestic price is P, and the foreign price is P*, the real exchange rate is defined as:
   A) $e(P/P*)$
   B) $(P/eP*)$
   C) $e + P/P*$
   D) $e - P/P*$

43. In a two-country world divided between home country (HC) and the rest-of-the-world (ROW), in order to offset an appreciation of HC currency, the HC central bank could _______ HC currency in the Foreign Exchange Market, which would tend to shift _____.
   A) sell; the supply curve for HC currency to the right
   B) sell; the demand curve for HC currency to the right
   C) buy; the demand curve for HC currency to the right
   D) sell; the supply curve for HC currency to the left
   E) buy; the demand curve for HC currency to the left

44. The fact that Tanzania is a debtor nation is an indication that:
   A) The Tanzanian economy is in a long-term decline compared to the other developing economies of the world.
   B) An undesirable as they are, trade restrictions are becoming a necessity.
   C) Tanzania should never have abandoned the gold standard.
   D) The Tanzanian economy is highly regarded by world investors.

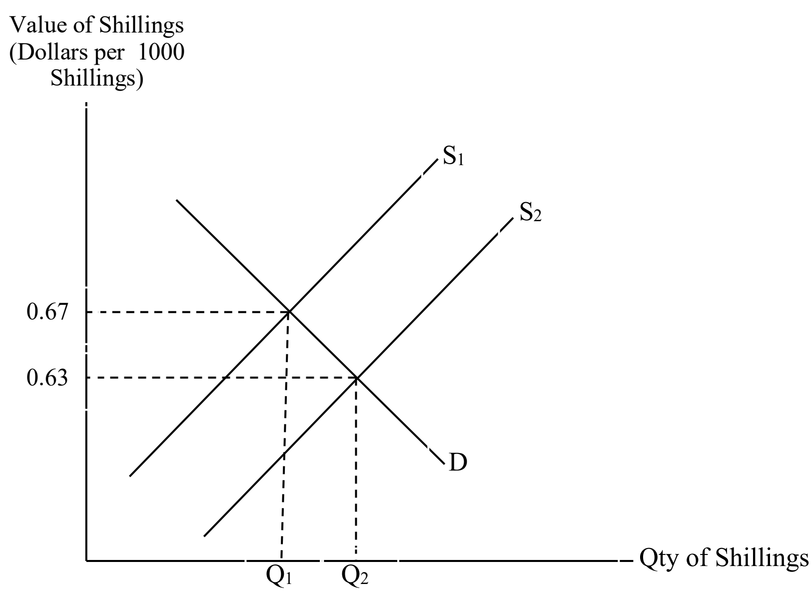
45. In an open economy, the government budget deficit tends to

A) Crowd out exports and reduce interest rates.
B) Depreciate the currency.
C) Crowd out exports and attract foreign capital.
D) Crowd out private consumption.
E) Attract foreign capital and reduce interest rates.

46. Suppose the country of Tanzania has specialized in the production of a good but has not yet entered into trade. At this point in time, Tanzania has:
A) Moved to a level of production outside its production-possibilities curve.
B) Shifted its production-possibilities curve outward.
C) Moved along its existing production-possibilities curve.
D) Moved to a level of consumption outside its production-possibilities curve.

47. If the Bank of Tanzania pursues a contractionary monetary policy, interest rate will:
A) Rise, there will be capital inflow, and the Tanzanian shilling will appreciate.
B) Fall, there will be a loss in official reserves at the Bank of Tanzania and the Tanzanian shilling will depreciate.
C) Rise, there will be capital outflow and the Tanzanian shilling will depreciate.
D) Fall, there will be capital outflow, and the Tanzanian shilling will appreciate.
E) Fall, there will be capital inflow, and the Tanzanian shilling will depreciate.

Use the following figure to answer the next **THREE** questions:




48. Refer to Figure above for the shillings-dollar foreign-exchange market. Which of the following is true?
M. The Tanzanian shilling depreciates in value compared to the dollar when supply increases from $S_1$ to $S_2$.

N. The dollar depreciates in value compared to the Tanzanian shilling when supply decreases from $S_2$ to $S_1$.
O. An increase in supply from $S_1$ to $S_2$ could be caused by an increase in the Tanzanian demand for U.S. computers.
P. All of the above.

49. Suppose the supply of shillings increased from $S_1$ to $S_2$ in Figure above. As a result of this change:
M. U.S. computer imports to Tanzania will be lower priced.
N. Tanzania coffee exports to U.S. will be lower priced.
O. A trade surplus will be created in U.S.
P. The U.S. dollar will lose value worldwide.

50. Suppose the supply of shillings decreased from $S_2$ to $S_1$ in Figure above. As a result of this change:
M. U.S. computer imports to Tanzania will be lower priced.
N. Tanzania coffee exports to U.S. will be lower priced.
O. A trade deficit will be created in U.S.
P. The U.S. dollar will gain value worldwide.

## SECTION II: Short Answer Questions (20 marks)

### QUESTION ONE (10 marks)

The hypothetical country, "Changanyikeni", is a closed economy and obeys our short-run IS-LM model. Changanyikeni economy is described by the following set of equations:

**Goods Market:**

- $C = c_0 + c_1(1-t)Y$, where C is consumption; Y is income; t represents a proportional tax; and $c_0$ and $c_1$ are positive constants;
- $I = b_0 - b_1 r$, where I is investment; r is the interest rate; and $b_0$ and $b_1$ are positive constants and $G = G^*$ where $G$ is a positive constant.

**Money Market:**

- $(\frac{M}{P})^d = m_o + m_1 Y - m_2 r$ where $(\frac{M}{P})^d$ is real money demand; $m_0$ is a positive constant representing exogenous changes to money demand; and $m_1$ and $m_2$ are also positive constants.
- $M^s$ represents money supply:

Assume the economy starts out in equilibrium in both the goods market and the money market.

**Required:**

a) Combine the goods market equations to derive an expression for Y as a function of r (i.e. derive the IS curve). Give the definition of the IS relation. **(2 marks)**
b) Use the money market equations to express r as a function of Y (i.e. derive the LM curve). Give intuition for why the LM curve slopes upward/downward. **(2 marks)**

c) Graph the IS and the LM curves on the same diagram, putting i on the vertical axis and labelling the curves. Label the equilibrium interest rate and output, $i_0$ and $Y_0$, respectively. **(2 marks)**
d) Suppose the government increases its spending by $\Delta G^*$. Which curve will shift, if any? Draw a diagram that shows the impact of this policy. **(2 marks)**
e) What will happen to investment as a result of the government policy described in part 4? **(2 marks)**

**QUESTION TWO (10 marks)**
Consider a Country A and imagine that the main components of its government budget are:

- Tax Revenues: T = 1,000 + 0.1*Y
- Transfers: Tr = 800 - 0.05*Y
- Government Purchases: G = 1,900

Imagine that the potential output of Country A is Y* = 10,000 and the actual output is Y = 8,000, that is, country A is in a recession because Y< Y*.

Required:
g) Find the actual budget deficit (at actual output) and the structural budget deficit (at potential output) of country A. Is the actual deficit smaller or bigger than the structural one when Country A is in recession? Why? **(4 marks)**
h) Suppose that Country A wants to reduce her cyclical deficit and cuts G by 100. What happens to the actual deficit? What happens to Y? Is that a good policy? **(3 marks)**
i) Suppose the government passes a tax reform such that the taxes become T = 1,400 + 0.05*Y. Show that this tax reform is revenue-neutral. Why this could be a good policy? **(3 marks)**

**MULTIPLE CHOICES**
1. Stagflation is a situation that occurs when:
   a) the unemployment rate is high and the inflation rate is low
   **b) the unemployment rate and the inflation rate are both high**
   c) the unemployment rate and the inflation rate are both low
   d) the unemployment rate is low and the inflation rate is high
   e) aggregate output declines for two consecutive quarters
2. Suppose a recent report indicates that the number of individuals who fall into the "discouraged worker" category has increased. Assuming that all other factors are constant, this indicates that:
   a) the number of employed individuals has fallen.
   **b) the unemployment rate has decreased.**
   c) the percent of labor force that is unemployed has increased.
   d) the number of unemployed individuals has increased.

3. In the long run, changes in GDP are caused by changes in:
   a) demand factors
   b) supply factors
   **c) demand and supply factors**
   d) only monetary policy
4. Net National Product (NNP) is equal to:
   a) GDP minus consumption of fixed capital
   **b) GNP minus consumption of fixed capital**
   c) personal disposable income plus net interest payments
   d) personal income plus net interest payments
5. An increase in the marginal propensity to consume will tend to cause:
   A. an increase in the multiplier and a given change in government expenditures to have a smaller effect on equilibrium output
   **B. an increase in the multiplier and a given change in government expenditures to have a greater effect on equilibrium output**
   C. a reduction in the multiplier and a given change in government expenditures to have a smaller effect on equilibrium output
   D. a reduction in the multiplier and a given change in government expenditures to have a greater effect on equilibrium output
6. Which of the following events will cause an increase in the money multiplier?
   A. an increase in the reserve ratio
   B. an increase in the currency ratio (c)
   **C. a reduction in the reserve ratio**
   D. an increase in the monetary base
7. The IS curve is downward sloping because:
   A. an increase in government purchases causes an increase in income
   B. an increase in the money supply causes an increase in income
   **C. a reduction in the interest rate causes an increase in investment and income**
   D. an increase in the interest rate causes a reduction in money demand
8. In the IS-LM model which incorporates the dynamic adjustment of the goods market, we know that a reduction in the money supply will cause:
   A. an interest rate to adjust immediately to the final, overall equilibrium level
   **B. the interest rate to initially rise above its final, overall equilibrium level**
   C. output to adjust immediately
   D. none of the above
9. Suppose workers and firms expect P to increase by 5%. Given this information, we would expect that:

A. the nominal wage will increase by more than 5%
B. the nominal wage will increase by less than 5%
**C. the nominal wage will increase by exactly 5%**
D. the real wage will increase by 5%

10. Less stringent antitrust legislation will tend to cause:
    A. an increase in unemployment rate and an increase in real wages
    **B. an increase in unemployment rate and a reduction in real wages**
    C. a reduction in unemployment rate and a reduction real wages
    D. a reduction in unemployment rate and an increase in real wages
11. Based on the AS relation, an increase in which of the following variables will cause an increase in the price level (P)?
    A. $P^e$
    B. Unemployment rate
    C. output
    **D. all of the above**
12. The AD curve is downward sloping because of the effects of:
    A. G on the IS curve
    B. the nominal money supply on the LM curve
    **C. P on M/P**
    D. G on i
13. As the proportion of indexed contracts decreases, we would expect that a reduction in the unemployment rate will cause:
    A. a larger increase in inflation
    **B. a smaller increase in inflation**
    C. a larger reduction in inflation
    D. a smaller reduction in inflation
14. Which of the following expressions represent the real exchange rate? (E is nominal exchange rate in indirect quotation)
    **A. EP*/P**
    B. EP/P*
    C. P*/EP
    D. P/EP*
15. Suppose a country has a current account deficit. Given this information, we know that:
    A. this country's exports exceed imports
    B. this country lends to the rest of the world
    C. a capital account deficit exists
    **D. a capital account surplus exists**

16. An increase in G under flexible exchange rates will cause:
    **A. a reduction in E**
    B. a depreciation of the domestic currency
    C. an increase in Y and an increase in NX
    D. all of the above
17. A monetary expansion under flexible exchange rates will cause:
    A. a reduction in i, reduction in E, and increase in Y
    **B. an increase in E and an increase in Y**
    C. ambiguous effects on I since r falls and Y increases
    D. a reduction in r and reduction in E

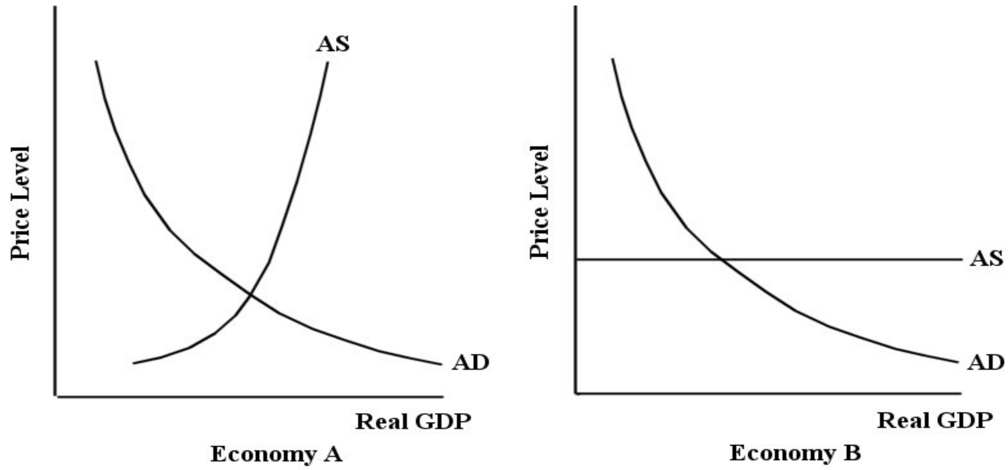
18. Which of the following accurately summarizes the transmission of restrictive monetary policy to the goods and services market?

A German citizen buys an automobile produced in the United States by a Japanese company. As a result,

M. U.S. net exports increase, U.S. GNP and GDP are unaffected, Japanese GNP increases, German net exports decrease, and German GNP and GDP are unaffected.
N. U.S. net exports, GNP, and GDP increase, Japanese GDP increases, German net exports decrease, and German GDP is unaffected.
**O. U.S. net exports and GDP increase, Japanese GNP increases, German net exports decrease, and German GDP and GNP are unaffected.**
P. U.S. net exports, GNP, and GDP are unaffected, Japanese GNP increases, German net exports decrease, and German GDP and GNP fall.

p) Leads to all of the above and more.

Figure 1:




19. Which of the following accurately summarizes the transmission of restrictive monetary policy to the goods and services market?

Refer to Figure 1. Which of the following statements best describes the supply side of Economy A?

K. Unit costs are rising, but firms can produce more output by employing standby capacity and overtime labour, for example, with no increase in the price level.
**L. Unit costs are rising rapidly as firms are producing beyond their capacity. Firms will produce more only if prices increase.**
M. Unit costs are rising, but firms are able to produce more output because there is excess capacity in the economy.
N. Firms are producing well below their capacity and are willing to produce more output with no increase in price.
O. Firms are producing well below their capacity and are willing to produce more only if prices rise.

20. Refer to Figure 1. Which of the following statements best describes the supply side of Economy B?

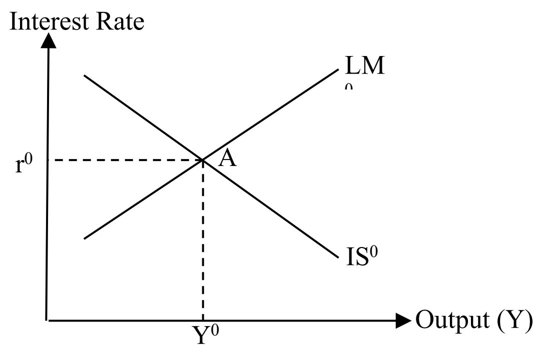
K. Unit costs are rising rapidly as firms are producing beyond their capacity. Firms will produce more only if prices increase.
L. Unit costs are rising rapidly, but firms can produce more output by employing standby capacity and overtime labour, for example, with no increase in the price level.
M. Firms are not able to produce more output because there is no excess capacity in the economy.
N. Firms are producing well below their capacity and are willing to produce more only if prices rise.

O. **Firms are producing well below their capacity and are willing to produce more output with no increase in price.**

**SHORT ANSWERS**

1. **For each of the following, draw into the diagram and provide how the curve or curves should shift in the IS-LM model of a closed economy with fixed prices, and explain in a sentence or two, the reason(s) for the shift(s).**
   **(a) An increase in government purchases financed by borrowing.**
   **(b) An increase in government purchases financed by printing money.**
   **(c) An increase in government purchases financed by increasing taxes by the same amount.**
   **(d) An increase in the reserve requirement of commercial banks.**
   **(e) Consumers, becoming fearful that the government will not provide for them in their retirement, decide to save more out of their disposable incomes.**

1. Use the graph provided below to answer the following questions:




   a) What effect will the increase in government spending have on the IS curve?
   b) Suppose the Bank of Tanzania (BoT) wants to maintain interest rate at the initial level. What type of policy must it conduct (expansionary or contractionary)?
   c) What effect will the policy in (b) have on the LM curve?
   d) Illustrate the effects of both (a) and (b) on the IS and LM graphs and clearly label the new equilibrium point.
   e) What happens to consumption, saving and investment as a result of combined effect of policies in (a) and (b)?

2. **Suppose the goods market is represented by the following equations: C = 180 + 0.7YD, YD = Y – T, T = 400, I = 100 – 18i + 0.1Y, G = 400, and Y = C + I + G.**
   **a) Solve for equilibrium in output.**

b) **Calculate level of output that occurs when interest rate is 5%, 10%, 15% and 20%**
c) **What relationship is (b) and why?**
d) **Calculate equilibrium level of output when G increases by 100 usning multiplier.**
e)

3. S

1. Using the AD-AS model, explain the macroeconomic effects of the following events:
   a) OPEC raises oil price drastically without warning. Show graphically the effects on the aggregate supply curve. Label it $AS_2$. Label the economy's new equilibrium output ($Y_2$) and price level ($P_2$). Label $AD_0$, $AS_0$, $Y_0$, and $P_0$ as your initial conditions. You must explain the adjustment process.
   b) Consumers are fervent about the bright economic future. Show graphically the effects on the AD-AS model. Label your initial conditions with superscript 0 and your new equilibrium with subscript 1. You must explain the adjustment process.
   c) The economy is in dire despair due to high unemployment. The parliament raises government spending in order to stimulate the economy. Assume the Bank of Tanzania maintains a money supply target. Draw the money market model showing the effects of expansionary fiscal policy on interest rates. Label subscript 0 for before the fiscal policy and subscript 1 for after the fiscal policy. Explain the relationships between output and interest rates.

3. Draw the circular flow of economic activity, labeling all economic actors, markets, and money flows.

e) Assume that a financial system has checkable deposits (DD) of 900 billion shillings, a required reserve ratio ($\theta$) of 0.2, currency ratio ($CC/M1 = c$) of 0.5 where CC is currency in circulation, and $M_1$ is narrow money:
   (ix) Find the amount of currency in circulation (CC) and required reserves (RR). **(02 Points)**
   (x) Find the money multiplier. **(02 Points)**
   (xi) Describe two different ways the Bank of Tanzania can decrease money supply. **(02 Points)**
   (xii) If the Bank of Tanzania sells bonds worth 250 billion shillings, what is going to be the new level of money supply? **(02 Points)**

**SECTION I: Multiple Choice Questions (20 marks)**
**Select the best choice and write the corresponding letter in your answer paper (1 mark each)**

21. Stagflation is a situation that occurs when:
    A. the unemployment rate is high and the inflation rate is low
    **B. the unemployment rate and the inflation rate are both high**
    C. the unemployment rate and the inflation rate are both low
    D. the unemployment rate is low and the inflation rate is high
    E. aggregate output declines for two consecutive quarters

22. Suppose a recent report indicates that the number of individuals who fall into the "discouraged worker" category has increased. Assuming that all other factors are constant, this indicates that:
    A. the number of employed individuals has fallen
    **B. the unemployment rate has decreased**
    C. the percent of labour force that is unemployed has increased
    D. the number of unemployed individuals has increased

23. In the long run, changes in gross domestic product (GDP) are caused by changes in:
    e) demand factors
    f) supply factors
    **g) demand and supply factors**
    h) only monetary policy

24. Net National Product (NNP) is equal to:
    A. Gross Domestic Product (GDP) minus consumption of fixed capital
    **B. Gross National Product (GNP) minus consumption of fixed capital**
    C. personal disposable income plus net interest payments
    D. personal income plus net interest payments

25. An increase in the marginal propensity to consume will tend to cause:
    A. an increase in the multiplier and a given change in government expenditures to have a smaller effect on equilibrium output
    **B. an increase in the multiplier and a given change in government expenditures to have a greater effect on equilibrium output**
    C. a reduction in the multiplier and a given change in government expenditures to have a smaller effect on equilibrium output
    D. a reduction in the multiplier and a given change in government expenditures to have a greater effect on equilibrium output

26. Which of the following events will cause an increase in the money multiplier?
    A. an increase in the reserve ratio
    B. an increase in the currency ratio (c)
    **C. a reduction in the reserve ratio**

D. an increase in the monetary base

27. Which of the following expressions represent the real exchange rate? (*where E is nominal exchange rate in indirect quotation, P is domestic price level, P* is foreign price level*)
   **A. (EP*)/P**
   B. (EP)/P*
   C. P*/(EP)
   D. P/(EP*)

28. The IS curve is downward sloping because:
   A. an increase in government purchases causes an increase in income
   B. an increase in the money supply causes an increase in income
   **C. a reduction in the interest rate causes an increase in investment and income**
   D. an increase in the interest rate causes a reduction in money demand

29. In the IS-LM model which incorporates the dynamic adjustment of the goods market, we know that a reduction in the money supply will cause:
   A. an interest rate to adjust immediately to the final, overall equilibrium level
   **B. the interest rate to initially rise above its final, overall equilibrium level**
   C. output to adjust immediately
   D. none of the above

30. Suppose workers and firms expect price level (P) to increase by 5%. Given this information, we would expect that:
   A. the nominal wage will increase by more than 5%
   B. the nominal wage will increase by less than 5%
   **C. the nominal wage will increase by exactly 5%**
   D. the real wage will increase by 5%

31. Less stringent antitrust legislation will tend to cause:
   A. an increase in unemployment rate and an increase in real wages
   **B. an increase in unemployment rate and a reduction in real wages**
   C. a reduction in unemployment rate and a reduction real wages
   D. a reduction in unemployment rate and an increase in real wages

32. Based on the aggregate supply (AS) relation, an increase in which of the following variables will cause an increase in the price level (P)?
   A. expected prices ($P^e$)
   B. unemployment rate
   C. output
   **D. all of the above**

33. The aggregated demand (AD) curve is downward sloping because of the effects of:
   A. Government spending (G) on the IS curve
   B. the nominal money supply on the LM curve
   **C. price level (P) on real money balances (M/P)**
   D. Government spending (G) on real interest rates (r)

34. As the proportion of indexed contracts decreases, we would expect that a reduction in the unemployment rate will cause:
   A. a larger increase in inflation
   **B. a smaller increase in inflation**
   C. a larger reduction in inflation
   D. a smaller reduction in inflation

35. Suppose a country has a current account deficit. Given this information, we know that:
   A. this country's exports exceed imports
   B. this country lends to the rest of the world
   C. a capital account deficit exists
   **D. a capital account surplus exists**

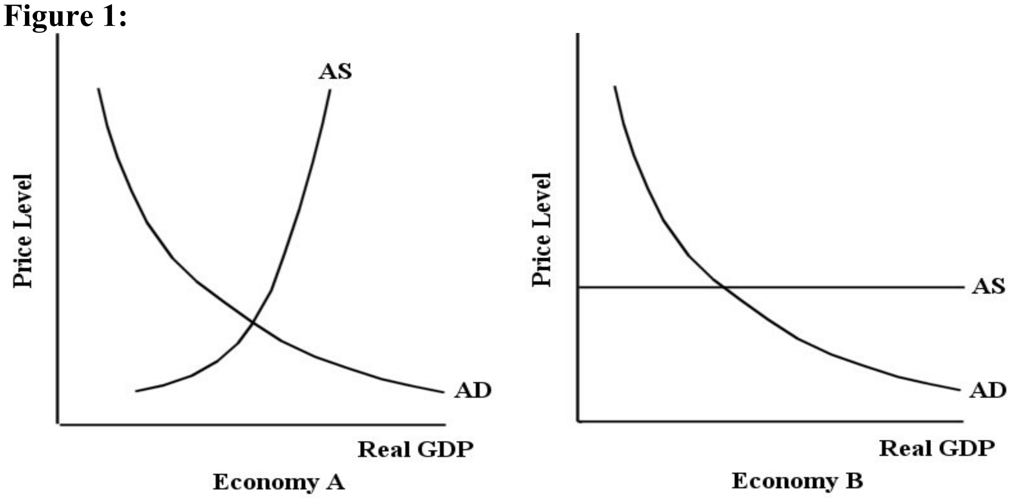
36. An increase in government spending (G) under flexible exchange rates will cause:
   **A. a reduction in nominal exchange rate (E in direct quotation)**
   B. a depreciation of the domestic currency
   C. an increase in output (Y) and an increase in net exports (NX)
   D. all of the above

37. A monetary expansion under flexible exchange rates will cause: (*where E is nominal exchange rate in direct quotation, Y is output, r is real interest rate, I is investment*)
   A. a reduction in r, reduction in E and increase in Y
   **B. an increase in E and an increase in Y**
   C. ambiguous effects on I since r falls and Y increases
   D. a reduction in r and reduction in E

38. A German citizen buys an automobile produced in the United States by a Japanese company. As a result:
   A. U.S. net exports increase, U.S. GNP and GDP are unaffected, Japanese GNP increases, German net exports decrease, and German GNP and GDP are unaffected.
   B. U.S. net exports, GNP, and GDP increase, Japanese GDP increases, German net exports decrease, and German GDP is unaffected.
   **C. U.S. net exports and GDP increase, Japanese GNP increases, German net exports decrease, and German GDP and GNP are unaffected.**

D. U.S. net exports, GNP, and GDP are unaffected, Japanese GNP increases, German net exports decrease, and German GDP and GNP fall.
E. Leads to all of the above and more.

**Figure 1:**



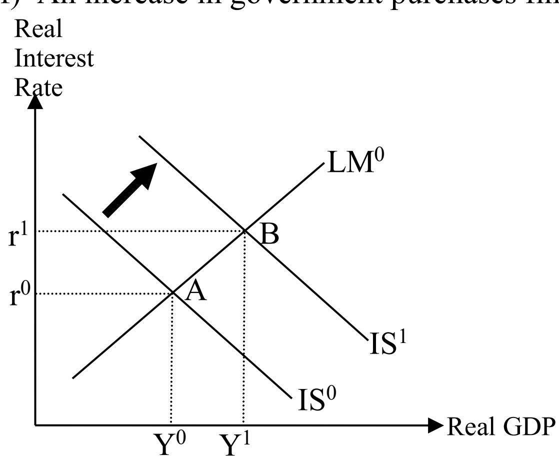

39. Refer to Figure 1. Which of the following statements best describes the supply side of Economy A?
   A. Unit costs are rising, but firms can produce more output by employing standby capacity and overtime labour, for example, with no increase in the price level.
   **B. Unit costs are rising rapidly as firms are producing beyond their capacity. Firms will produce more only if prices increase.**
   C. Unit costs are rising, but firms are able to produce more output because there is excess capacity in the economy.
   D. Firms are producing well below their capacity and are willing to produce more output with no increase in price.
   E. Firms are producing well below their capacity and are willing to produce more only if prices rise.

40. Refer to Figure 1. Which of the following statements best describes the supply side of Economy B?
   A. Unit costs are rising rapidly as firms are producing beyond their capacity. Firms will produce more only if prices increase.
   B. Unit costs are rising rapidly, but firms can produce more output by employing standby capacity and overtime labour, for example, with no increase in the price level.

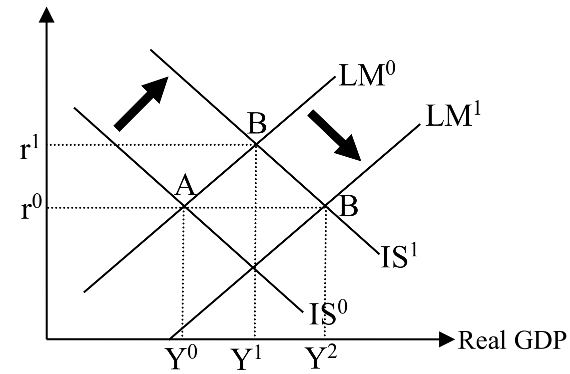
C. Firms are not able to produce more output because there is no excess capacity in the economy.
D. Firms are producing well below their capacity and are willing to produce more only if prices rise.
**E. Firms are producing well below their capacity and are willing to produce more output with no increase in price.**

**SECTION II: (40 marks)**

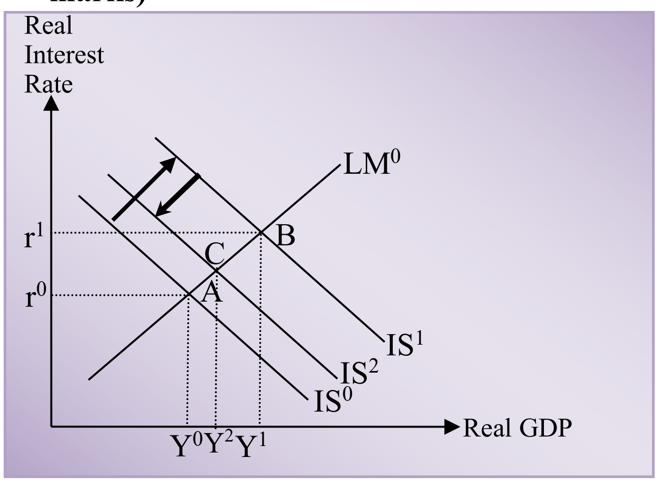
**QUESTION ONE (10 marks)**
For each of the following scenarios, draw and clearly label a diagram that shows how the curve or curves should shift in the IS-LM model of a closed economy with fixed prices.
(f) An increase in government purchases financed by borrowing. **(02 marks)**



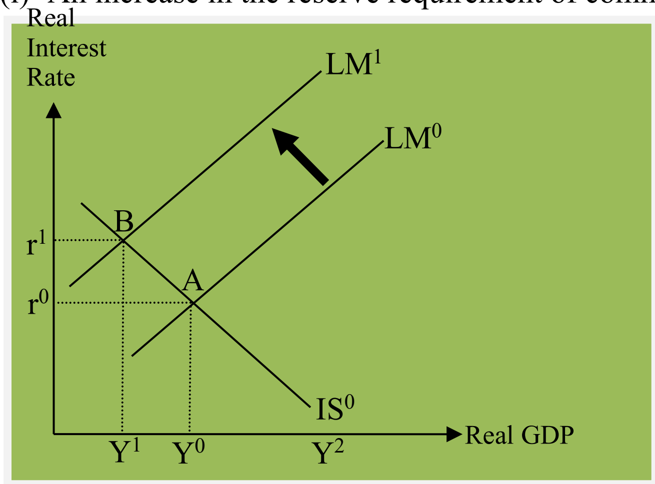

(g) An increase in government purchases financed by printing money. **(02 marks)**
Real
Interest
Rate




(h) An increase in government purchases financed by increasing taxes by the same amount. **(02 marks)**

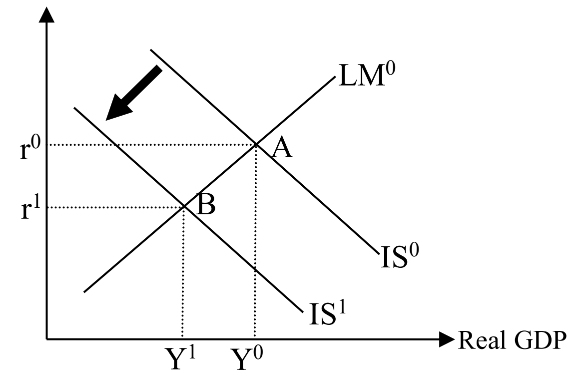



(i) An increase in the reserve requirement of commercial banks. **(02 marks)**




(j) Consumers, becoming fearful that the government will not provide for them in their retirement, decide to save more out of their disposable incomes. **(02 marks)**

Real
Interest
Rate




**QUESTION TWO (15 marks)**

Suppose the goods market is represented by the following equations: (figures in billion shillings)

- $C = 180 + 0.7Y_D$,
- $Y_D = Y - T$,
- $T = 400$,
- $I = 100 - 18i + 0.1Y$,
- $G = 400$,
- $Y = C + I + G$.

Where: C = consumption, $Y_D$ = disposable, income, Y = aggregate income, T = taxes, I = investment, i = interest rate, G = government spending.

**Required:**

f) Solve for equilibrium level of output. **(03 marks)**

***At Equilibrium: Output = AE = C + I + G***

$\boldsymbol{Y = 180 + 0.7\,(Y - T) + 100 - 18i + 0.1Y + G}$

$\boldsymbol{Y = 180 + 0.7\,(Y - 400) + 100 - 18i + 0.1Y + 400}$

$\boldsymbol{0.2Y = 400 - 18i}$

***Thus equilibrium output is Y = 2,000 – 90i*** ***(03 Marks)***

g) Calculate the level of output that occurs for each of the following interest rates: 5%, 10%, 15% and 20% **(02 marks)**

***Given equilibrium output in (a) as Y = 2,000 – 90i***

***Plugging values of 5%, 10%, 15% and 20% we get:***

***Y (5%) = Tshs. 1,995.5 billion*** ***(0.5 Marks)***

***Y (10%) = Tshs. 1,991 billion*** ***(0.5 Marks)***

***Y (15%) = Tshs. 1,986.5 billion*** ***(0.5 Marks)***

***Y (20%) = Tshs. 1,982 billion*** ***(0.5 Marks)***

h) What relationship do you observe in (b) and why? **(04 marks)**

- ***A negative relationship.*** ***(02 Marks)***
- ***Higher interest rates depress investments and thus reducing output.*** ***(02 Marks)***

i) Calculate the Keynesian multiplier. **(03 marks)**

$Multiplier = \dfrac{1}{1 - MPC - MPI}$ ***where MPC = marginal propensity to consume, MPI = marginal propensity of investment.***

$Multiplier = \dfrac{1}{1 - 0.7 - 0.1} = 5$ ***(03 Marks)***

j) Calculate equilibrium level of output when G increases by 100 billion shillings using the multiplier you obtained in (d). **(03 marks)**

***ΔY = multiplier x ΔG***
***= 5 x 100***
***= 500 billion shillings***

***Output will increase by 500 billion shillings.*** ***(03 Marks)***

**QUESTION THREE (15 marks)**

Assume that a financial system has checkable deposits (DD) of 900 billion shillings, a required reserve ratio (θ) of 0.2, currency ratio ($CC/M^1 = c$) of 0.5 where CC is currency in circulation, and $M_1$ is narrow money.

**Required:**

a) Describe any two different ways a central bank of a country can decrease money supply. **(04 Points)**

- ***Selling treasury securities.*** ***(02 Marks)***
- ***Increasing reserve requirement ratio.*** ***(02 Marks)***
- ***Raising the discount rate.***

b) i) Calculate the amount of currency in circulation (CC) and required reserves (RR). **(04 Points)**

*$c = CC/M_1 = 0.5$; thus $CC = 0.5M_1$; but $M_1 = CC + DD$*
*$CC = 0.5\ (CC + DD)$ and $DD = 900$*
*Thus, CC = 900 billion shillings* ***(02 mark)***
*$\theta = RR/DD = 0.2$*
*$RR = 0.2DD = 0.2 \times 900 = 180$ billion shillings* ***(02 mark)***

ii) Calculate the money multiplier. **(04 Points)**

*$MB = CC + RR$ but $RR = \theta DD$*
*$MB = CC + \theta DD$ but $M_1 = CC + DD$; thus $DD = M_1 - CC$*
*$MB = CC + \theta(M_1 - CC)$ but $CC = c \times M_1$*
*$MB = cM_1 + \theta(M_1 - cM_1) = [c + \theta(1 - c)]M_1$*
*$M_1 = MB / [c + \theta(1 - c)]$ where multiplier $= 1 / [c + \theta(1 - c)]$*
*Multiplier $= 1 / [0.5 + 0.2 \times (1 - 0.5)] = 1.67$* ***(04 Marks)***

iii) If the economy's central bank sells bonds worth 250 billion shillings, what is going to be the new level of money supply? **(03 Points)**

*$M_1$ (beg) = CC + DD = 900 + 900 = 1,800 billion shillings*

*$\Delta M$ = multiplier x $\Delta MB$ = 1.67 x -250*

*$\Delta M$ = -417.5 billion shillings*

*$M_1$ (new) = $M_1$ (beg) + $\Delta M$*

*= 1,800 – 417.5*

*= 1,382.5 billion* ***(03 marks)***

**SECTION I: Multiple Choice Question (16 MARKS).**

Select the best choice and write the corresponding letter in your answer paper **(1 mark each)**

1. Suppose nominal GDP decreased during a given year. Based on this information, it is always true that:

A. real GDP fell during the year.
B. the GDP deflator fell during the year.
**C. real GDP and/or the GDP deflator fell during the year.**
D. both real GDP and the GDP deflator fell during the year.

2. Suppose nominal GDP increased by 5% in 2006 (over its previous level in 2005). Given this information, we know with certainty that:

A. the aggregate price level (i.e. the GDP deflator) increased in 2006.
B. real GDP increased in 2006.
C. both the aggregate price level and real GDP increased in 2006.
**D. more information is needed to answer this question.**

3. Suppose nominal GDP in 2012 was less than real GDP in 2012. Given this information, we know with certainty that:

A. the price level (i.e. the GDP deflator) in 2012 was greater than the price level in the base year.
**B. the price level in 2012 was less than the price level in the base year.**
C. real GDP in 2012 was less than real GDP in the base year.
D. real GDP in 2012 was greater than real GDP in the base year.

4. If GNP exceeds GDP, we know with certainty that:

A. a budget deficit exists.
B. a trade deficit exists.
**C. receipts of factor income from the rest of the world exceed payments of factor income to the rest of the world.**
D. receipts of factor income from the rest of the world are less than payments of factor income to the rest of the world.

5. Which of the following is NOT a component of consumption?

**A. purchase of new home** B. durable goods
C. housing services D. education services

6. Which of the following activities would NOT be included in the official measures of GDP?

A. the purchase of a new home
B. a firm's purchase of a new plant
C. a firm's purchase of a new machine

D. wages and salaries received by government employees.
E. government purchases at the state and local level
**F. the purchase of intermediate goods**

7. Which of the following variables is (are) endogenous in the model of goods market equilibrium?
**A. consumption and saving**
B. government spending and consumption
C. investment and saving
D. taxes
E. all of the above
F. none of the above

8. An increase in the marginal propensity to save will tend to cause:
A. an increase in the multiplier and a given change in government expenditures to have a smaller effect on equilibrium output
B. an increase in the multiplier and a given change in government expenditures to have a greater effect on equilibrium output
**C. a reduction in the multiplier and a given change in government expenditures to have a smaller effect on equilibrium output**
D. a reduction in the multiplier and a given change in government expenditures to have a greater effect on equilibrium output

9. Which of the following variables is NOT a stock variable?
A. the money supply
B. wealth
**C. investment**
D. the monetary base

10. Which of the following variables is a liability on the central bank's balance sheet?
A. checkable deposits
B. bonds
**C. currency**
D. loans

11. An expansionary open market operation will tend to cause:
A. an increase in bond prices and an increase in the interest rate
**B. an increase in the bond prices and a reduction in interest rate**
C. a reduction in the bond prices and a reduction in interest rate
D. a reduction in the bond prices and an increase in interest rates

12. A tax cut will cause:
**A. the IS curve to shift to the right**
B. the IS curve to shift to the left
C. the LM curve to shift down
D. the LM curve to shift up

13. The LM curve is upward sloping because:
**A. an increase in Y causes an increase in money demand and an increase in the interest rate**
B. an increase in the money supply causes a reduction in the interest rate
C. a reduction in the money supply causes an increase in the interest rate
D. all of the above

14. A monetary expansion combined with a fiscal contraction will cause:
A. an increase in output with ambiguous effects on interest rate
B. a reduction in output with ambiguous effects on interest rate

C. an increase in interest rate with ambiguous effects on output
**D. a reduction in interest rate with ambiguous effects on output**

15. A monetary contraction combined with a fiscal contraction will cause:
A. an increase in output with ambiguous effects on interest rate
**B. a reduction in output with ambiguous effects on interest rate**
C. an increase in interest rate with ambiguous effects on output
D. a reduction in interest rate with ambiguous effects on output

16. In the IS-LM model which incorporates the dynamic adjustment of the goods market, we know that a fiscal expansion will cause:
A. the interest rate to adjust immediately to the final, overall equilibrium level
B. the interest rate to initially rise above its final, overall equilibrium level
**C. output and, therefore, the interest rate to adjust slowly over time**
D. an increase in the interest rate and a leftward shift in the IS curve

## SECTION II: SHORT ANSWER QUESTIONS (24 MARKS)

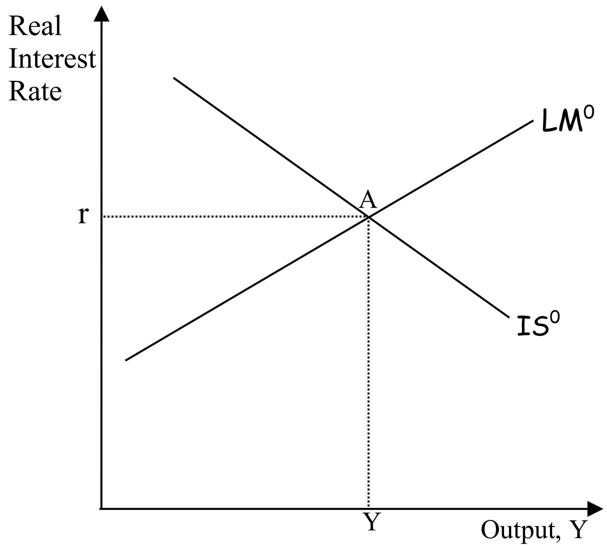
**Question One (10 Points):**

Suppose the economy is represented by the following equations:
$M^d = 6Y - 120i$, $M^s = 5400$, $C = 180 + 0.7Y_D$, $Y_D = Y - T$, $T = 400$, $G = 400$,
$I = 100 - 18i + 0.1Y$, $Y = C + I + G$
Where: $M^d$ = money demand, Y = output, i = interest rate, $M^s$ = money supply, C = consumption, $Y_D$ = disposable income, T = taxes, G = government spending.

a) Write out the equation for equilibrium in the goods market and solve for the goods market equilibrium. **(02 Points)Y = C + I + G, Y = 2000 – 90i**
b) Write out the equation for equilibrium in the financial market. **(01 Points) i = 0.05Y - 45**
c) Calculate the overall equilibrium level of output (combine money and goods market equilibrium). **(01 Points)Y = 1100**
d) Calculate the level of interest rate that equilibrates both the money and goods markets. **(01 Points) i = 10%**
e) At the overall equilibrium level of output, what is the level of consumption and investment? **(01 Points)C = 670, I = 30**
f) Calculate the new equilibrium value of Y, i, C and I when G increases by 10. **(02 Points) Y = 2050 – 90i, Y = 1109.1, I = 10.46%, C = 676.4, I = 22.6**
g) Using the original value of variables, calculate the new equilibrium value of Y, i, C, and I when M increases by 200. **(02 Points) i = 0.05Y – 46.67, i = 9.7%, C = 689.1, I = 38.1**

**Question Two (08 Points):**

In the graph provided, suppose the economy is initially at point A.




If taxes are reduced:

a) What effect will this cut in T have on the IS curve? **(01 Points) Upward to the right**

b) Suppose the Bank of Tanzania wants to maintain Y at initial level. What type of policy must the BOT pursue (i.e. contractionary or expansionary) to maintain output level at the initial level? **(01 Points) Contractionary,**

c) What effect will that policy in (b) have in the LM curve? **(01 Points) Upwards to the left**

d) Illustrate the effects of the lower taxes and the central bank response on the IS-LM framework, and clearly label the new equilibrium. **(03 Points) draw**

e) What happens to consumption, saving, and investment as a result of the this policy mix? **(02 Points) Y same, C and S are higher, I drops**

**Question Three (06 Points):**

Assume that a financial system has checkable deposits ($D^d$) of 900 billion shillings , total money supply ($M^s$) is 1800 billion shillings, reserve ratio ($\theta$) is 0.2, currency ratio ($CU^d/M^d = c$) is 0.5:

a) Find $CU^d$, $R^d$ and $D^d$ in equilibrium. **(03 Points)**

b) Find the money multiplier. **(01 Points)**

c) If the Bank of Tanzania wants to decrease the money supply by 500 million shillings (in order to raise i), what amount of bonds would it have to sell/buy? **(02 Points)**

f) Assume that a financial system has checkable deposits (DD) of 900 billion shillings, a required reserve ratio ($\theta$) of 0.2, currency ratio (CC/M1 = c) of 0.5 where CC is currency in circulation, and $M_1$ is narrow money:

(xiii) Find the amount of currency in circulation (CC) and required reserves (RR). **(02 marks)**

***Suggested Solution:***

*$c = CC/M_1 = 0.5$; thus $CC = 0.5M_1$; but $M_1 = CC + DD$*

*$CC = 0.5\ (CC + DD)$ and $DD = 900$*

*Thus, CC = 900 billion shillings* ***(01 mark)***

*$\theta = RR/DD = 0.2$*

*$RR = 0.2DD = 0.2 \times 900 = 180$ billion shillings* ***(01 mark)***

(xiv) Find the money multiplier. **(02 marks)**

***Suggested Solution:***

*$MB = CC + RR$ but $RR = \theta DD$*

*$MB = CC + \theta DD$ but $M_1 = CC + DD$; thus $DD = M_1 - CC$*

*$MB = CC + \theta(M_1 - CC)$ but $CC = c \times M_1$*

*$MB = cM_1 + \theta(M_1 - cM_1) = [c + \theta(1 - c)]M_1$*

*$M_1 = MB / [c + \theta(1 - c)]$ where multiplier $= 1 / [c + \theta(1 - c)]$*

*Multiplier $= 1 / [0.5 + 0.2 \times (1 - 0.5)] = 1.67$* ***(02 mark)***

(xv) Describe two different ways the Bank of Tanzania can decrease money supply. **(02 marks)**

***Any two among:***

- *Selling government securities (OMO),*
- *Increasing reserve requirement ratio, OR*
- *Raising the discount rate* ***(02 marks)***

(xvi) If the Bank of Tanzania sells bonds worth 250 billion shillings, what is going to be the new level of money supply? **(02 marks)**

***Suggested Solution:***

*$M_1$ (beg) $= CC + DD = 900 + 900 = 1{,}800$ billion shillings*

*$\Delta M$ = multiplier $\times \Delta MB = 1.67 \times -250$*

*$\Delta M = -417.5$ billion shillings*

*$M_1$ (new) $= M_1$ (beg) $+ \Delta M$*

*$= 1{,}800 - 417.5$*

*$= 1{,}382.5$ billion* ***(02 marks)***

**SECTION I: Multiple Choice Question (10 MARKS).**

Select the best choice and write the corresponding letter in your answer paper **(1 mark each)**

1. Which of the following variables would be included in the job market separations?
   A. quits
   B. layoffs
   C. new hires
   D. all of the above
   **E. both (A) and (B)**

2. Suppose firms decide to hire fewer workers. This will tend to:
   A. increase the chances of losing a job if currently employed
   **B. decrease the chances of an unemployed worker finding a job**
   C. all of the above
   D. none of the above

3. Based on the AS relation, a 4% increase in expected price ($P^e$) will cause:
   A. P will increase by more than 4%
   B. P will increase by less than 4%
   **C. P will increase exactly by 4%**
   D. no change in P

4. When $Y < Y^*$ (Misperception Theory), we know that:
   **A. $P^e > P$**
   B. $P^e < P$

   C. $P^e = P$
   D. none of the above

5. Which of the following events will cause a rightward shift of the AD curve?
   A. increase in P
   B. decrease in P
   C. increase in T
   **D. increase in $M^s$**

6. Money is said to be "neutral" because it has no effect on:
   A. nominal variables in the long run
   **B. real variables in the long run**
   C. nominal variables in the short run
   D. real variables in the short run

7. An increase in the price of oil will tend to cause which of the following in the short run?
   A. decrease in output (Y) and decrease in prices (P)
   B. increase in P and a leftward shift in the AD curve
   **C. decrease in Y and an increase in P**
   D. increase in the real wage

8. The original Phillips curve represented a relation between:
   A. changes in inflation and changes in unemployment
   **B. inflation and unemployment**
   C. changes in inflation and unemployment
   D. inflation and changes in unemployment

9. Which of the following helps to explain why the original Phillips curve vanished?
   A. wage indexation
   **B. higher oil prices**
   C. low-wage jobs
   D. all of the above
   E. none of the above

10. Given a certain rate of nominal money growth, an increase in inflation will cause output growth to:
    A. increase
    **B. decrease**
    C. remain constant
    D. more information is needed to answer this question

## SECTION II: SHORT ANSWER QUESTIONS (20 MARKS)

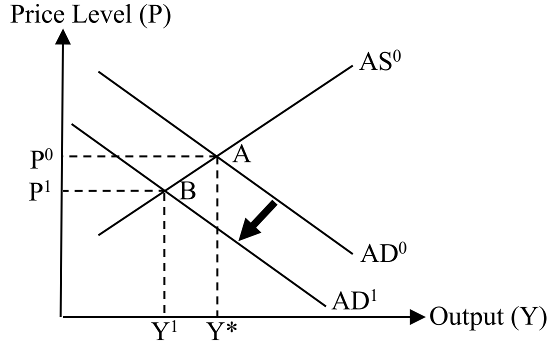
**Question One (10 Points):**

In the graph below, suppose the economy is operating at the potential output ($Y^*$). Suppose further that the Bank of Tanzania conducts a monetary contraction.

a) What is the short-run effects of the monetary contraction on prices (P), real money balances (M/P), interest rate (r), investment (I) and output (Y)? (*just say if it is an increase or decrease*) (03 Points)
   - ***P falls.***

- ***M/P falls (M falls faster than P initially).***
- ***r increases.***
- ***Investment falls.***
- ***Output falls***

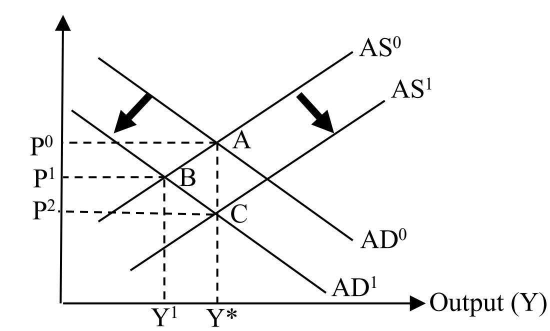
b) Illustrate the effects of (a) in the AD-AS graphical framework. (*just draw and label the graphs*) (02 Points)




c) What is the long-run effects of the monetary contraction on prices (P), real money balances (M/P), interest rate (r), investment (I) and output (Y)? (*just say if it is an increase or decrease*) (03 Points)

- ***P falls further.***
- ***M/P increases.***
- ***r falls.***
- ***Investment increases.***
- ***Output increases and return at its natural rate.***

d) Illustrate the effects of (c) in the AD-AS graphical framework. (*just draw and label the graphs (02 Points)*




**<u>Question Two (10 Points):</u>**

Suppose that the Phillips Curve is given by $\pi_t - \pi_t^e = 0.1 - 2u_t$ where $\pi_t^e = \pi_{t-1}$. Suppose that inflation in the year 2000 is zero. In the year 2001, the authorities decide to keep the unemployment rate at 4% percent forever.

a) Compute the rate of inflation for years 2001, 2002, 2003 and 2004. **(04 Points)**

$\boldsymbol{\pi_{2001} = \pi_{2000} + 0.1 - 2u_{2001} = 0.00 + 0.1 - 0.08 = 0.02 = 2\%}$

$\boldsymbol{\pi_{2002} = \pi_{2001} + 0.1 - 2u_{2002} = 0.02 + 0.1 - 0.08 = 0.04 = 4\%}$

***$\pi_{2003} = \pi_{2002} + 0.1 - 2u_{2003} = 0.04 + 0.1 - 0.08 = 0.06 = 6\%$***
***$\pi_{2004} = \pi_{2003} + 0.1 - 2u_{2004} = 0.06 + 0.1 - 0.08 = 0.08 = 8\%$***

Now suppose that half of the workers have indexed labor contracts. That is, the expected rate $\pi_t^e$ is still the relevant inflation rate in determining wages for half the workers in the economy, whereas the current rate, $\pi_t$, replaces $\pi_t^e$ as the relevant inflation rate in determining wages for the other half (those who have wages indexed to inflation).

b) What is the new equation for the Phillips Curve? (**02 Points)**
***It is even easier to derive these by using the fact that the Phillips Curve can be simplified as: $\pi_t = \pi_{t-1} + 0.1 - 2ut = \pi_{t-1} + 0.02 = \pi_{t-1} + 2\%$, since $u_t = 0.04$ for all t here.***

***The PC becomes:***
***$\pi_t = 0.5\pi_{t-1} + 0.5\pi_t + 0.1 - 2u_t$ and hence***
***$\pi_t - \pi_{t-1} = 0.2 - 4u_t$***
***If $u_t = 0.04$ for all t, then:***
***$\pi_t = \pi_{t-1} + 0.04 = \pi_{t-1} + 4\%$***

c) Repeat the exercise in (a) under the new assumption. **(04 Points)**
***$\pi_{2001} = \pi_{2000} + 0.04 = 0.04 = 4\%$***
***$\pi_{2002} = \pi_{2001} + 0.04 = 0.08 = 8\%$***
***$\pi_{2003} = \pi_{2002} + 0.04 = 0.12 = 12\%$***
***$\pi_{2004} = \pi_{2003} + 0.04 = 0.16 = 16\%$***
d) What is the effect of indexation on the relation between π and u? **(01 Points)**
***As indexation increases (this is, as more workers have indexed labor contracts), low unemployment leads to a larger increase in inflation over time. In other words, the impact of u on π becomes stronger.***