INSTRUCTIONS TO CANDIDATES:
There are two parts to the paper.

PART A: ESSAY QUESTIONS

- This part of the paper consists of TWO sections. Answer one question from each section. You may NOT answer both questions in one section.
- Please answer each question in a separate answer book. Where relevant answer all parts pertaining to the same question.
- Ensure that your student number and the number of the question attempted appear on the cover of each answer book.

PART B: MULTIPLE-CHOICE QUESTIONS

- This part of the paper consists of 45 multiple-choice questions.
- Answer as many questions as possible in the time available on the electronic multiple-choice sheet provided.
- Please use an HB pencil. The electronic scanner will not read entries in pen.
- Please ensure that you fill in your student number in the relevant blocks.
PART A: ESSAY QUESTIONS 200 MARKS

SECTION A

Answer either Question One or Question Two. You may NOT answer both.

QUESTION ONE TOTAL 100 MARKS

i. Consider a two-sector model of growth, with two kinds of investment opportunities – one with a diminishing marginal product and one with constant marginal product.

a. Illustrate this model on one diagram. Name the curves that you have drawn and explain why the curves have the shapes (slopes) that they do. Be sure to label all curves and axes. [50 marks]

b. Indicate the equilibrium positions on your diagram. Briefly discuss the implication for economic growth at each position. [30 marks]

c. What policy implications can be drawn from this two-sector model regarding the type of investment that should be undertaken? [20 marks]

OR

QUESTION TWO TOTAL 100 MARKS

i. What are the basic determinants of the natural rate of unemployment? [20 marks]

ii. Suppose the economy is initially in equilibrium at full-employment and that there is then a decrease in aggregate supply. If an accommodating fiscal policy is put in place after the shock, explain how the economy adjusts back to the full employment equilibrium (use a well labeled AS-AD diagram for illustration). Compare the real wage rate and prices at full employment both before and after the shock. [50 Marks]
iii. Suppose the economy is initially in equilibrium at full-employment and that the Reserve Bank implements an expansionary monetary policy. Will the expansionary policy be successful in keeping unemployment below its natural rate in the long run? Use a new diagram of the AD-AS model to explain your answer. (i.e. do not use the same diagram you drew in question (i) above)

[30 Marks]

SECTION B

Answer either Question Three or Question Four. You may NOT answer both.

QUESTION THREE

i. Using normally-sloped IS and LM curves, explain the effects of an increase in autonomous investment on the equilibrium levels of income and the interest rate. Be sure to draw any relevant diagram(s) with accurately-labeled curves and axes.

[50 marks]

ii. Using normally-sloped IS and LM curves, assuming that the price level is no longer fixed, explain the derivation of the aggregate demand curve. Be sure to draw any relevant diagram(s) with accurately-labeled curves and axes.

[50 marks]

OR

QUESTION FOUR

Using the Mundell-Fleming model, analyse and illustrate the effectiveness of monetary and fiscal policy in changing output in the case of:

i. fixed exchange rates;
[50 marks]

ii. flexible exchange rates.
[50 marks]
1. With the production function $y = k^{\frac{1}{4}}$, a 1% increase in the capital-labour ratio should increase per capita potential output by:

a) 0.25%
b) 0.5%
c) 0.75%
d) 1%
e) 0.1%

2. If nominal GDP, prices, and population all increase but real GDP remains the same then:

a) real GDP per capita will decrease
b) real GDP per capita will increase
c) we cannot tell what will happen to real GDP per capita
d) the standard of living will increase
e) the standard of living will remain the same

3. Growth accounting explains:

a) how economic decisions control the accumulation of capital.
b) how the current savings rate affects the stock of capital in the future.
c) what part of growth in total output is due to growth in different factors of production.
d) all of the above.
e) only (a) and (b).

4. Assume a production function, where the income share of capital is 0.3 and the income share of labour is 0.7. If capital grows by 1.5%, labour grows by 2% and growth of total factor productivity is 1.2%, by how much does total output grow?

a) 4.70%
b) 3.50%
c) 3.05%
d) 2.85%
e) 1.20%
5. In the neoclassical growth model, if a nation's saving decreases, we would expect that:

a) the long-run income per capita will increase.
b) the long-run capital-labour ratio will increase.
c) the rate of growth of output will temporarily decrease but eventually return to its long run trend.
d) the economy would be unable to attain 'steady-state' where savings equals required investment.
e) population growth would also decline.

6. In a neoclassical growth model, a decline in population growth will:

a) shift the production function down.
b) shift the savings function down.
c) decrease the slope of the investment requirement line.
d) decrease long-run per capita income.
e) cause both (b) and (c) to occur.

7. Assume an endogenous growth model with a production function of the form \( Y = F(K, AN) \), where \( y = (1.5)k \). If the rate of population growth is \( n = 0.02 \) and the rate of depreciation is \( d = 0.15 \), what is the growth rate in per capita output that can be achieved given a savings rate of 20 percent?

a) 10%  
b) 30%  
c) 37%  
d) 13%  
e) 7%

8. According to the Keynesian aggregate supply curve:

a) Because resources are fully employed, any attempts made by monetary or government authorities to influence output levels would be ineffective.
b) The presence of cyclical unemployment allows firms to increase output levels without affecting the prevailing price level.
c) The economy faces only frictional employment.
d) Wages are fully flexible, despite the presence of unemployment.
e) None of the above statements is correct.
9. In the long run, as potential GDP grows at a steady pace and nominal money supply is continuously increased over time:

a) The level of output is essentially determined by shifts in the AS-curve.
b) The level of output is essentially determined by shifts in the AD-curve.
c) The price level will not change since the AS-curve is horizontal.
d) Real money balances continuously decrease as the AD-curve remains constant.
e) The price level is determined solely by the shift in the AS-curve.

10. For many macroeconomic policy makers, the standard Phillips curve initially:

a) Implied a trade-off between lowering unemployment at the cost of higher inflation or lowering inflation at the cost of higher unemployment.
b) Implied that wage inflation would fall if there was an increase in aggregate demand.
c) Relieved concern about an increase in unemployment, since the economy could always be expected to adjust to the natural rate.
d) Implied that frictional unemployment may be reduced by implementing contractionary demand-side policies.
e) Showed the direct relationship between output per head and capital per head.

11. Given a Phillips curve that accounts for inflation expectations, assume the economy is operating at the level of potential output $Y^*$ (full employment), and that the actual level of inflation is at 14 percent. This implies that the:

a) Natural rate of unemployment is higher than the actual rate of unemployment.
b) Actual rate of unemployment is higher than the natural rate of unemployment.
c) Level of expected or anticipated inflation equals the actual rate of inflation.
d) Level of expected inflation is higher than the actual rate of inflation.
e) Level of expected inflation is equal to the natural rate of unemployment.

12. The insider-outsider model refers to:

a) Central government policy-making in consultation with trade unions.
b) The fact that the unemployed do not take part in collective bargaining.
c) Fiscal policy affecting real output and unemployment.
d) Slow price adjustments in an imperfectly competitive environment.
e) The interaction of individuals in the labour force and those outside the labour force.
13. According to Keynesians, wages may be regarded as 'sticky' rather than flexible since:

a) Labour contracts contain cost-of-living adjustments.
b) Insiders would rather maintain wages at low levels to ensure that those currently employed do not lose their jobs.
c) Prices in the economy are able to adjust rapidly, thereby ensuring that real wages remain constant.
d) Firms are willing to pay in excess of market-clearing wages to ensure that workers remain motivated.
e) None of the above statements is correct.

14. What type of event is likely to result in stagflation?

a) A decrease in money supply.
b) An increase in labour productivity.
c) An increase in oil prices.
d) A decrease in the prices of raw materials.
e) An increase in capital productivity.

15. Unemployment hysteresis refers to the fact that:

a) high rates of unemployment tend to perpetuate themselves.
b) when unemployed, individuals reduce their consumption, causing firms to lay off more workers and therefore cyclical unemployment increases even more.
c) individuals who experience long spells of unemployment often get desperate and take jobs for which they are overqualified.
d) politicians often react irrationally to news of high unemployment and stimulate the economy causing unnecessary political cycles.
e) none of the above

16. If wages and prices were fully indexed:

a) There would be less inflation following an adverse supply shock.
b) Inflation could always be perfectly anticipated.
c) Inflation arising from money expansion could be prevented.
d) The economy would have difficulty adjusting to supply shocks since real wages could not adjust easily.
e) Politicians would be more likely to fight inflation vigorously.
17. Okun's law suggests that a 1% increase in unemployment:

a) Leads to a 2% increase in the price level.
b) Leads to a 2% increase in GDP.
c) Leads to a 2% fall in GDP.
d) In the current period will lead to a higher natural rate of unemployment in the future.
e) Will ensure that both (c) and (d) are correct.

18. Assume a simple model without any government or foreign sector. If an increase in autonomous investment of 70 leads to an increase in income of 175, then the multiplier is:

a) 6
b) 2
c) 2.5
d) 4
e) 8

19. In a model with no government or foreign sector, if saving is defined as
\[ S = -200 + (0.1)Y \]
and investment is \( I_0 = 200 \), what is the equilibrium level of consumption?

a) 3,800
b) 3,600
c) 1,800
d) 2,000
e) 1,000

20. Suppose consumption expenditures, taxes and spending on imports depends on income. Suppose also that the marginal propensity to consume, \( c \), is 0.8 and the income tax rate, \( t \), is 0.25. Given this information an increase in autonomous expenditure of R100 will cause aggregate output to

a) decrease by R200.
b) decrease by R100.
c) increase by R100.
d) increase by R250.
e) increase by R500.

21. An decrease in the income tax rate would initially imply the following:

a) An increase in saving.
b) An increase in the multiplier.
c) An increase in government spending.
d) An increase in government transfer payments.
e) A decrease in the marginal propensity to consume
22. The LM curve shows the combinations of:

a) interest rates and levels of output such that planned spending equals income
b) interest rates and the price level such that money demand equals money supply
c) interest rates and the levels of output such that money demand equals money supply
d) the price level and the levels of output such that planned spending equals income
e) the price level and levels of output such that money demand equals money supply

23. The ‘classical case’ of the LM curve refers to:

a) the complete breakdown of the transmission mechanism.
b) a vertical LM curve whereby monetary policy has a maximal effect on equilibrium income/output:
c) a liquidity trap.
d) a horizontal LM curve and the importance of government spending.
e) a situation whereby fiscal policy has a maximal effect on equilibrium income/output.

24. In the context of the IS-LM model, which of the following is NOT relevant after a monetary expansion?

a) Usually people adjust to the excess money supply by buying bonds
b) Usually bond prices rise and the interest rate declines
c) Usually aggregate demand increases causing inventories to run down
d) Usually at the end of the adjustment process, interest rates, investment and output are all higher
e) Usually at the end of the adjustment process, investment and output are higher but interest rates are lower

25. Fiscal policy will be more effective in changing output

a) the less sensitive money demand is to a change in the interest rate.
b) in the classical case.
c) the more sensitive investment spending is to a change in the interest rate.
d) the smaller the marginal propensity to consume and the larger the income tax rate.
e) the more sensitive money demand is to a change in the interest rate.
26. Monetary policy is very effective in changing output in the IS-LM model if:

a) An economy is in a liquidity trap.
b) Investment expenditure is unresponsive to changes in the interest rate.
c) The demand for money is dependent only on the level of real income.
d) Money demand is extremely interest sensitive.
e) Both (b) and (d) are correct.

27. In a normal IS-LM framework, which of the following statements is correct?

a) An increase in government spending will increase consumption and GDP but decrease the equilibrium interest rate.
b) A decrease in money supply will increase investment expenditure and GDP but decrease the equilibrium interest rate.
c) An increase in money supply will decrease investment expenditure and GDP but increase the equilibrium interest rate.
d) A decrease in government spending will increase consumption and GDP and increase the equilibrium interest rate.
e) A decrease in government spending will decrease consumption and GDP and decrease the equilibrium interest rate.

28. In a model with perfect capital mobility and flexible exchange rates, an increase in government purchases will

a) increase net exports but decrease private domestic investment.
b) be totally crowded by a decrease in private domestic investment of the same magnitude.
c) crowd out net exports due to an exchange rate appreciation.
d) increase net exports due to a depreciation of the exchange rate.
e) increase consumption and net exports but decrease private domestic saving of output.

29. In the IS-LM model with perfect capital mobility and fixed exchange rates, an expansionary monetary policy will ultimately

a) increase output and decrease interest rates.
b) reduce output and increase interest rates.
c) reduce output but not affect interest rates.
d) have no effect on output or interest rates.
e) raise interest rates but have no effect on output.

30. The full employment budget surplus increases if

a) government transfer payments decrease.
b) welfare spending increases.
c) defense spending increases.
d) the tax rate decreases.
e) None of the above.
31. If the price level of South African goods is 200, the price level of foreign goods is 125, and the Rand price of foreign currency is 1.20, what is the real exchange rate?

a) 1.92  
b) 1.60  
c) 1.04  
d) 0.75  
e) 0.63

32. A real depreciation of the domestic currency will

a) Improve the trade balance and lower aggregate demand  
b) Improve the trade balance but not affect aggregate demand  
c) Improve the trade balance and increase aggregate demand  
d) Lower the trade balance and aggregate demand  
e) Lower the trade balance and increase aggregate demand

33. If the Rand price of foreign goods increases, we can expect that:

a) South African imports and South African exports will both increase  
b) South African imports will decrease and South African exports will increase  
c) South African imports will increase and South African exports will decrease  
d) South African imports will increase and South African exports will stay the same  
e) South African net exports will decrease

34. Formulating an appropriate policy response to an economic disturbance is difficult since policy makers are often unsure about

a) How the economy really works  
b) How a proposed policy measure affects people's expectations  
c) The timing and magnitude of the effects of a proposed policy measure  
d) Whether a disturbance is temporary or permanent  
e) All of the above
35. The concept of dynamic inconsistency implies that a central bank:

a) will always do the wrong thing if it is concerned with long-run outcomes rather than current disturbances
b) should resist making policy changes that may endanger its stated long-run goals even though these changes could successfully address a short-run problem
c) should never announce its intentions because doing so renders discretionary monetary policy useless
d) should always be inconsistent in its behavior so people will be less likely to profit from anticipating its policy actions
e) None of the above

36. A country following a beggar-thy-neighbour policy is:

a) inducing an exchange rate depreciation to increase domestic output.
b) inducing an exchange rate appreciation to create unemployment in other countries.
c) imposing a tax on goods that are exported.
d) a decrease in tariffs on imports.
e) asking other nations for foreign aid.

37. Stabilisation policy is affected by inside lags, which are:

a) longer for fiscal policy than for monetary policy
b) made up of the recognition, decision, and discretionary lags
c) made up of the recognition, decision, and outside lags
d) the length of time it takes for a policy to affect the economy after its implementation
e) generally distributed lags which means that once the policy action has been taken, its effects on the economy are spread over time.

38. The initial response of the Federal Reserve to the economic collapse at the beginning of the Great Depression was to:

a) observe from the sidelines
b) lend vigorously to banks facing liquidity problems
c) guarantee customer deposits in failed banks
d) abolish previously imposed credit controls
e) conduct huge open market sales in an effort to change interest rates
39. According to the monetarists, the Great Depression:

a) Was a result of a decline in investment opportunities and there was little that the Fed could have done to avoid the depression.

b) Proved that the economy only remains at full employment if the Fed employs active counter-cyclical monetary policy.

c) Was the result of the failure of the Fed to prevent bank failures and halt the decline in money supply from 1930 to 1933.

d) Was caused by the Fed’s insistence that inflation needed to be drastically reduced.

e) All of the above.

40. High powered money:

a) Earns more interest than other forms of money.

b) Consists of currency and bank reserves.

c) Consists of currency and demand deposits at banks.

d) Includes time and demand deposits held at banks.

e) Is created whenever the Fed sells Treasury bills.

41. The size of the money multiplier during the Great Depression:

a) Could not be influenced by the actions of the central bank in any way.

b) Increased with an increase in the reserve-deposit ratio.

c) Increased as the currency-deposit ratio increased.

d) Decreased as the reserve ratio decreased.

e) Decreased as the currency-deposit ratio increased.

42. If the velocity of circulation of money is estimated at 2.5, and nominal GDP is valued at R180bn while real GDP is valued at R60bn then using the quantity theory of money, the money supply is:

a) R450bn

b) R72bn

c) R24bn

d) 150bn

e) R48bn

43. When an anti-inflation policy is credible:

a) A new long-run equilibrium at a lower inflation rate is reached much faster.

b) The sacrifice ratio is zero.

c) The Fed can cheat a little by letting money supply grow to avoid a recession.

d) Real wages immediately adjust and thus no increase in the rate of unemployment is needed to reduce inflation.

e) There is no need for workers to adjust their wage demands, so the economy will adjust more easily to a new long-run equilibrium.
44. Inflation can be reduced sharply if the government is willing to:

a) Induce a deep recession by employing restrictive monetary policy.
b) Induce a shallow recession by employing restrictive fiscal policy.
c) Reduce income tax rates to stimulate aggregate supply.
d) Increase income tax rates but allow money supply to grow.
e) Gradually reduce money supply and cut taxes to stimulate growth.

45. Which of the following statements is true?

a) There is a closer relationship between money supply growth and inflation in the short run than in the long run.
b) There is no relationship at all between money supply growth and inflation in the long run.
c) In the short run, only growth in the money supply can influence inflation.
d) In the short run, factors other than the growth in money supply may have an influence on inflation.
e) None of the above statements are true.