Module Title: Introduction to Macroeconomics
Level: Four
Time Allowed: Two hours

Instructions to students:
- Enter your student number not your name on all answer books.
- **Section A:** Answer all questions by circling your chosen answer. All questions are equally weighted.
- **Section B:** Answer three out of four questions. Each question carries 27 marks. Begin each answer in a separate answer book; label each answer book clearly with the number of the question you are answering.
- Neither books nor notes may be taken into the examination.
- The use of a non-programmable calculator is permitted.
- Students are not permitted to remove this examination paper from the examination room. For all purposes the examination paper remains the property of the University of Northampton.
- Insert your student number in the space below:
  Student number: .................................................

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Section A

Answer all questions.

1. If real GDP is 5,100 and nominal GDP is 4,900, then the GDP deflator is:
   a. 104.1 so prices are higher than in the base year.
   b. 104.1 so prices are lower than in the base year.
   c. 96.1 so prices are higher than in the base year.
   d. 96.1 so prices are lower than in the base year.

2. Suppose an economy produces only iPhones and bananas. In 2010, 1000 iPhones are sold at £300 each and 5000 pounds of bananas are sold at £3 per pound. In 2009, the base year, iPhones sold at £400 each and bananas sold at £2 per pound. For 2010:
   a. nominal GDP is £315,000, real GDP is £410,000 and the GDP deflator is 76.83.
   b. nominal GDP is £410,000, real GDP is £315,000 and the GDP deflator is 130.16.
   c. nominal GDP is £315,000, real GDP is £410,000 and the GDP deflator is 130.16.
   d. nominal GDP is £410,000, real GDP is £315,000 and the GDP deflator is 76.83.

3. If one wants to know how the material well-being of the average person has changed over time in a given country, one should look at the:
   a. level of real GDP.
   b. growth rate of nominal GDP.
   c. growth rate of real GDP.
   d. growth rate of real GDP per person.

4. The one variable that stands out as the most significant explanation of large variations in living standards around the world is:
   a. productivity.
   b. population.
   c. preferences.
   d. prices.
5. Suppose a closed economy had public saving of £2 trillion and private saving of £4 trillion. What are national saving and investment for this country?

a. £6 trillion, £6 trillion
b. £6 trillion, £2 trillion
c. £1 trillion, £4 trillion
d. £2 trillion, £2 trillion

6. Suppose that in a closed economy GDP is equal to 11,000, taxes are equal to 2,500, consumption equals 7,000, and government purchases equal 3,000. What are private saving and public saving?

a. 1,500 and -500, respectively
b. 1,500 and 500, respectively
c. 1,000 and -500, respectively
d. 1,000 and 500, respectively

7. Calculate government purchases for country ZZ, if its: GDP = 120,000; Consumption = 70,000; Private savings = 9,000; National savings = 12,000.

a. £12,000
b. £18,000
c. £28,000
d. £38,000

8. What is country A’s unemployment rate, if its: Total population = 58.8; Adult population = 47.3; Number of unemployed = 1.4; Number of employed = 28.4?

a. 1.4 per cent
b. 3.0 per cent
c. 4.7 per cent
d. 4.9 per cent
9. Which one of the following types of unemployment results from the wage being held above the competitive equilibrium wage?

a. Structural unemployment.
b. Cyclical unemployment.
c. Frictional unemployment.
d. Sectoral unemployment.

10. If the natural rate of unemployment is 5.2 per cent and the actual rate of unemployment is 5.7 per cent, then by definition there is:

a. cyclical unemployment amounting to 0.5 per cent of the labour force.
b. frictional unemployment amounting to 0.5 per cent of the labour force.
c. structural unemployment amounting to 0.5 per cent of the labour force.
d. search unemployment amounting to 0.5 per cent of the labour force.

End of Section A
Section B follows overleaf
Section B

Answer three out of four questions.

11. Using real world examples, explain the following concepts:

   a. Opportunity cost
   b. Economic models
   c. Frictional unemployment
   d. Structural unemployment
   e. Wage rigidity

   (27 marks)

12. a. Discuss the various instruments employed by the Bank of England to carry out monetary policy.

   b. What is the largest possible increase in the money supply, if the Bank of England conducts a £50 million open-market purchase of government bonds, and the required reserve ratio is 10 per cent? Explain your answer.

   (27 marks)


   b. If a country has £120 billion of national saving and £80 billion of domestic investment, discuss the condition under which this economy will be in equilibrium. In particular, demonstrate how the £40 billion of national savings has been used up.

   (27 marks)
14. Suppose the government reduces taxes by £20 billion, there is no crowding out, and the marginal propensity to consume is 0.75.

   a. What is the initial effect of the tax reduction on aggregate demand?

   b. What additional effects follow this initial effect? What is the total effect of the tax cut on aggregate demand?

   c. How does the total effect of this £20 billion tax cut compare to the total effect of a £20 billion increase in government purchases? Why?

   (27 marks)