UNIVERSITY OF LONDON

EC1002

Introduction to Economics

Candidate should answer ALL questions

Section A (40 marks): EIGHT True/False/Uncertain questions, four on microeconomics and four on macroeconomics, each worth FIVE marks . Candidates must answer all questions. Candidates must justify their answer with a short explanation.

Section B (60 marks): TWO questions, one microeconomics and one macroeconomics, each worth THIRTY marks. Candidates must answer both questions. It is essential that candidates explain their answers.

Please find questions on the following page.

SECTION A: Candidates must answer all EIGHT questions from this section (5 marks each). For each question indicate whether the statement is True/False/Uncertain and explain your reasoning.

Question 1

Dunder Mifflin and the Michael Scott Paper company are two firms that sell paper. The firms compete in prices and have the same marginal costs and no fixed cost is incurred in production. We should expect both firms to make a positive profit in equilibrium.

Question 2

Starland and Moonland are two countries deciding whether to invest in reducing emissions. Their payoffs are as follows:

Starland/Moonland	Invest	Don't
Invest	3,4	5,3
Don't	2,3	7,6

Given these payoffs there is a unique dominant strategy equilibrium.

Question 3

With perfect information perfectly competitive markets lead to the efficient output of private goods.

Question 4

Citizens of Taxland can decide how many hours to work. This year, the government of Taxland introduced a higher income tax. The introduction of the tax lowers the real wage of Taxland's citizens, but it is uncertain whether each citizen will work more or fewer hours following the higher tax.

Question 5

There is no unemployment at full employment.

Question 6

The following data shows the transactions of Surplusland (in $billions) in 2020. The information provided is complete.

Export of Goods	30
Imports of Goods	20
Change in foreign assets in Surplusland	24
Change in assets abroad	16
Export of services	14
Imports of services	10
Income receipts on investment	10
Income payments on investments	20
Unilateral transfers	12

Surplusland's balance of payment is equal to zero and hence the exchange rate must be flexible.

Question 7

In the Solow growth model if we are below the steady state equilibrium then the output must be rising because funds available to create capital are greater than the amount that is required to keep capital labour ratio constant.

Question 8

The asset motive for holding money shows its use as a low risk store of value.

SECTION B: Candidates must answer both questions. It is essential that candidates explain their answers.

Question 1

Bowen is the founder of a fashion company. His company produces dresses according to the production function $Q = 2K + L$ where K captures the sewing machines used in production and L the number of hours it takes a worker to sew a garment.

a) What is an isoquant? Draw a few isoquants that correspond to the production function for dresses. [5 marks]
b) Bowen wishes to produce 100 dresses. The cost of a sewing machine is £100, while a worker is paid £20 per hour. What is the optimal combination of sewing machines and hours of work that Bowen should hire? Show the optimal bundle on your diagram. What is the cost associated with producing the dresses? [10 marks]
c) Continue to assume that sewing machines cost £100 and a worker demands a wage of £20. Bowen's firm operates in a competitive market, where many other entrepreneurs can produce similar dresses with the same cost structure. What is the expected market price of dresses? [5 marks]
d) Bowen's runs a successful marketing campaign that makes consumers perceive his dresses as unique. Bowen is now free to act as a monopolist. Show graphically how Bowen will decide the price to set and quantity to produce under his new market structure. [10 marks]

Question 2

a) In the IS-MP model we have real interest rate on the vertical axis and output on the horizontal axis. Explain the IS curve, and its slope by assuming a closed economy where $C = C_0 + c(Y - T)$, $I = I_0 - br$ and $G = G_0$. I_0 and G_0 and C_0 are all positive, $b > 0$ and $0 < c < 1$. T is a lump sum tax. [8 marks]

b) Assume that the lump sum tax is replaced by a proportional tax equal to t where $t < 1$. What happens to the multiplier and the slope of the IS curve? [7 marks]

c) Assume the MP curve is given by $r = 1.0 + 0.75\pi$, where π is the inflation rate. The IS curve is given by $Y = 12 - r$. Derive the equation of the aggregate demand curve and indicate what its intercept and slopes are. If inflation is 10% what is the level of output? [10 marks]

d) Assume business confidence rises so I_0 rises by 2. What is the impact on the level of output if inflation rate is 5%? [5 marks]

End of paper