

**PART A: MULTIPLE-CHOICE QUESTIONS**

Answer **ALL** out of the 4 questions.

Each question is worth 1 mark. (**Total marks: 4**)

**Question 1. [1 mark]** 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. Both B and D are correct.

**Question 2. [1 mark]** We can expect the IS curve to get steeper as:

- A. money demand becomes less sensitive to changes in the interest rate.
- B. the marginal propensity to save increases.
- C. investment becomes more sensitive to changes in the interest rate.
- D. the income tax rate decreases.
- E. the expenditure multiplier increases.

**Question 3. [1 mark]** If money demand becomes more income elastic, the LM curve will:

- A. shift to the right.
- B. shift to the left.
- C. become flatter.
- D. become steeper.
- E. remain unaffected.

**Question 4. [1 mark]** Crowding out:

- A. cannot happen if the LM curve is horizontal.
- B. cannot happen if the IS curve is vertical.
- C. is caused by a fall in interest rates resulting from expansionary fiscal policies.
- D. Both A and B are correct.
- E. All of the answers given here are correct.

**PART B: PROBLEM SOLVING QUESTIONS**

Answer **ALL** out of the 5 questions.  
Marks are as indicated. (**Total marks: 24**)

Consider the following model of the labour market:

$$Y = 25N - \frac{N^2}{2} \quad (1) \quad \text{Production function}$$

$$N_d = 100 - \frac{W}{P} \quad (2) \quad \text{Labour demand}$$

$$N_s = 0.25\frac{W}{P} \quad (3) \quad \text{Labour supply}$$

$$N_d = N_s = N \quad (4) \quad \text{Labour market equilibrium}$$

and goods market:

$$Z = C + I + G \quad (5) \quad \text{Planned aggregate expenditure}$$

$$C = 40 + 0.5Y_D \quad (6) \quad \text{Consumption function}$$

$$I = 5 + 0.5Y - 50i \quad (7) \quad \text{Planned investment}$$

$$G = 50 \quad (8) \quad \text{Government expenditure}$$

$$Y_D = Y - T \quad (9) \quad \text{Disposable income}$$

$$T = 25 + 0.5Y \quad (10) \quad \text{Tax function}$$

$$Y = Z \quad (11) \quad \text{Equilibrium Condition}$$

and money market:

$$L = 25 + 0.25Y - 100i \quad (12) \quad \text{Money demand}$$

$$\frac{M}{P} = \left(\frac{100}{P}\right) \quad (13) \quad \text{Money supply}$$

$$L = \frac{M}{P} \quad (14) \quad \text{Money market equilibrium}$$

Using this model and rounding to 3 decimal places, answer the following questions:

**Question 1. [2 marks]** Solve for the IS equation (expressing  $Y$  in terms of  $i$ ).

**Question 2. [2 marks]** Solve for the LM equation (expressing  $i$  in terms of  $Y$  and  $P$ ).

**Question 3. [4 marks]** Suppose that the interest rate is *exogenously* fixed at  $i = 0.025$ . In this case, what is the value of the fiscal multiplier and the equilibrium value of output  $Y^*$  according to the goods market?

**Question 4. [4 marks]** Suppose, alternatively, that the interest rate is an *endogenous* variable, but the price level is fixed exogenously at  $P = 1$ . In this case, what are the equilibrium values of  $Y^*$  and  $i^*$ ?

**Question 5. [12 marks]** Suppose, alternatively, that both the interest rate and the price level are *endogenous* variables. In this case, what are the equilibrium values of  $(W^*/P^*)$ ,  $N^*$ ,  $Y^*$ ,  $i^*$ ,  $P^*$  and  $W^*$ ?

**PART C: SHORT-ANSWER QUESTIONS**

Answer **ALL** out of the 1 question.

Marks as indicated. (**Total marks: 8**)

**Question 1. [8 marks]** Evaluate the following statement as true/false/uncertain and explain your answer carefully:

*According to the Keynesian labour market model studied in class, a reduction in the disutility of labour will increase the labour supply, will increase unemployment, will not affect output and will make some workers worse off.*

Your answer should be approximately one-page long. Please use diagrams and/or algebra, when appropriate.

**PART D: RECORD OF DISRUPTIONS QUESTIONS**

Answer **ALL** out of the 1 question if needed.

No marks assigned. (**Total marks: 0**)

**Question 1. [No marks]** Specify any assumptions you have made in completing the exam and to which questions those assumptions relate. You may also include queries you may have made with respect to a particular question, should you have been able to 'raise your hand' in an examination room.

**END OF EXAMINATION**