**ECON 311 - Intermediate Macroeconomics (Professor Gordon)**

**Second Midterm Examination: Winter 2022**

**YOUR NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**NetID: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Circle the **TA session** you attend: Diego – 3PM Gabriel - 3PM

 Diego - 4PM Gabriel - 4PM

**INSTRUCTIONS:**

1. The exam lasts **1 hour**.
2. The exam is worth 60 points in total: 30 points for the multiple choice questions (Part A) and 30 points for the three analytical problems (Part B).
3. If you need to change a multiple choice answer, **erase the old answer completely.**
4. **Place all of your answers for part B in the spaces provided**.
5. You must show your work for part B questions. There is no need to explain your answers for the multiple choice questions.

Good luck!

**PART A: Multiple Choice Problems**

Answer multiple choice questions in the space provided below.

**USE CAPITAL LETTERS.**

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| **1** | A | **6** | B | **11** | C | **16** | C | **21** | B | **26** | C |
| **2** | C | **7** | C, A | **12** | B | **17** | B | **22** | A | **27** | D |
| **3** | D | **8** | C | **13** | C | **18** | A | **23** | B | **28** | C |
| **4** | D | **9** | A | **14** | A ,D | **19** | C | **24** | B | **29** | A |
| **5** | A | **10** | C | **15** | D | **20** | D | **25** | A | **30** | C |



**PART A: Multiple choice. Choose the one alternative that best completes the statement or answers the question.**

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| 1) If domestic saving exceeds domestic investment, then net exports are \_\_\_\_\_\_ and net capital outflows are \_\_\_\_\_\_.

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|   | a.  | positive; positive |
|   | b.  | positive; negative |
|   | c.  | negative; negative |
|   | d.  | negative; positive |

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| 2) *All* of the following are causes of structural unemployment *except*:

|  |  |  |
| --- | --- | --- |
|   | a.  | minimum-wage laws. |
|   | b.  | the monopoly power of unions. |
|   | c.  | unemployment insurance. |
|   | d.  | efficiency wages. |

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3) The *Economist* article on the IS-LM model tries to explain an aspect of the real world by arguing that

|  |  |  |
| --- | --- | --- |
|   | a.  | the IS curve has shifted to the left.  |
|   | b.  | the IS curve has shifted to the right.  |
|   | c.  | the LM curve has shifted to the left.  |
|   | d.  | the LM curve has shifted to the right. |

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| 4) Assume that a country experiences a reduction in productivity that lowers the marginal product of labor for any given level of labor. In this case, the:

|  |  |  |
| --- | --- | --- |
|   | a.  | labor supply curve shifts to the right. |
|   | b.  | labor supply curve shifts to the left. |
|   | c.  | labor demand curve shifts upward and to the right. |
|   | d.  | labor demand curve shifts downward and to the left. |

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| 5) A tax cut shifts the \_\_\_\_\_\_ curve to the right, and the aggregate demand curve \_\_\_\_\_\_.

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| --- | --- | --- |
|   | a.  | *IS*; shifts to the right |
|   | b.  | *IS*; does not shift |
|   | c.  | *LM*; shifts to the right |
|   | d.  | *LM*; does not shift |

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| 6) When the unemployment rate is at a steady state:

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| --- | --- | --- |
|   | a.  | no hiring or firings are occurring. |
|   | b.  | the number of people finding jobs equals the number of people losing jobs. |
|   | c.  | the number of people finding jobs exceeds the number of people losing jobs. |
|   | d.  | the number of people losing jobs exceeds the number of people finding jobs. |

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7) The “Big Mac” index shows that what principle is violated?

|  |  |  |
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|   | a.  | the law of one price.  |
|   | b.  | supply equals demand.  |
|   | c.  | purchasing power parity.  |
|   | d.  | the principle of liquidity preference.  |

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| 8) The intersection of the *IS* and *LM* curves determines the values of:

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| --- | --- | --- |
|   | a.  | *r*, *Y*, and *P*, given *G*, *T*, and *M*. |
|   | b.  | *r*, *Y*, and M, given *G*, *T*, and *P*. |
|   | c.  | *r* and *Y*, given *G*, *T*, *M*, and *P*. |
|   | d.  | *p* and *Y*, given *G*, *T*, and *M*. |

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| 9) In the *IS*–*LM* model, a decrease in the interest rate would be the result of a(n):

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| --- | --- | --- |
|   | a.  | increase in the money supply. |
|   | b.  | increase in government purchases. |
|   | c.  | decrease in taxes. |
|   | d.  | increase in money demand. |

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| 10) According to the Keynesian-cross analysis, when there is a shift upward in the government-purchases schedule by an amount Δ*G*, then equilibrium income rises by:

|  |  |  |
| --- | --- | --- |
|   | a.  | one unit. |
|   | b.  | Δ*G*. |
|   | c.  | Δ*G* divided by one minus the marginal propensity to consume. |
|   | d.  | Δ*G* multiplied one plus the marginal propensity to consume. |

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| 11) When exports exceed imports, *all* of the following are true *except*:

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| --- | --- | --- |
|   | a.  | net capital outflows are positive. |
|   | b.  | net exports are positive. |
|   | c.  | domestic investment exceeds domestic saving. |
|   | d.  | domestic output exceeds domestic spending. |

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12) Between 2019 and 2021 real net exports \_\_\_\_\_\_ a lot and consumer spending on goods \_\_\_\_\_\_ a lot.

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| --- | --- | --- |
|   | a.  | increased; decreased.  |
|   | b.  | decreased; increased.  |
|   | c.  | increased; increased.  |
|   | d.  | decreased; decreased.  |

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| 13) The equilibrium of the Keynesian cross shows:

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| --- | --- | --- |
|   | a.  | determination of equilibrium income and the interest rate in the short run. |
|   | b.  | determination of equilibrium income and the interest rate in the long run. |
|   | c.  | equality of planned expenditure and income in the short run. |
|   | d.  | equality of planned expenditure and income in the long run. |

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14) Which of the following is not a reason for the aspect of the current U.S. economy called “The Great Resignation?

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| --- | --- | --- |
|   | a.  | people working at home instead of in offices.  |
|   | b.  | mothers staying at home because schools are on remote learning.  |
|   | c.  | adults refusing to go to work for fear of Covid infection.. |
|   | d.  | negative; positive.  |

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| 15) An increase in the money supply:

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| --- | --- | --- |
|   | a.  | increases income and lowers the interest rate in both the short run and in the long run. |
|   | b.  | increases income in both the short run and in the long run but leaves the interest rate unchanged in the long run. |
|   | c.  | lowers the interest rate in both the short run and in the long run but leaves income unchanged in the long run. |
|   | d.  | lowers the interest rate and increases income in the short run but leaves both unchanged in the long run. |

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| 16) In a small open economy, if the world real interest rate is above the rate at which national saving equals domestic investment, then there will be a trade \_\_\_\_\_\_ and \_\_\_\_\_\_ net capital outflow.

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|   | a.  | surplus; negative |
|   | b.  | deficit; positive |
|   | c.  | surplus; positive |
|   | d.  | deficit; negative |

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| 17) According to the *IS*–*LM* model, when the government increases taxes and government purchases by equal amounts:

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| --- | --- | --- |
|   | a.  | income, the interest rate, consumption, and investment are unchanged. |
|   | b.  | income and the interest rate rise, whereas consumption and investment fall. |
|   | c.  | income and the interest rate fall, whereas consumption and interest rise. |
|   | d.  | income, the interest rate, consumption, and investment all rise. |

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| 18) The *IS* curve shifts when any of the following economic variables change *except*:

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| --- | --- | --- |
|   | a.  | the interest rate. |
|   | b.  | government spending. |
|   | c.  | taxes. |
|   | d.  | the marginal propensity to consume. |

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19) The U.S. has \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ net foreign investment income and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ net foreign asset holdings.

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| --- | --- | --- |
|   | a.  | positive; positive.  |
|   | b.  | negative; negative.  |
|   | c.  | positive; negative. |
|   | d.  | negative; positive.  |

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| 20) If *MPC* = 0.6 (and there are no income taxes) when *G* increases by 200, then the *IS* curve for any given interest rate shifts to the right by:

|  |  |  |
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|   | a.  | 200. |
|   | b.  | 300. |
|   | c.  | 400. |
|   | d.  | 500. |

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| 21) The *IS–LM* model takes \_\_\_\_\_\_ as exogenous.

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|   | a.  | the price level and national income |
|   | b.  | the price level |
|   | c.  | national income |
|   | d.  | the interest rate |

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| 22) If neither investment nor consumption depends on the interest rate, then the *IS* curve is \_\_\_\_\_\_, and \_\_\_\_\_\_ policy has no effect on output.

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|   | a.  | vertical; monetary |
|   | b.  | horizontal; monetary |
|   | c.  | vertical; fiscal |
|   | d.  | horizontal; fiscal |

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| 23) An increase in investment demand for any given level of income and interest rates—due, for example, to more optimistic "animal spirits"—will, within the *IS*–*LM* framework, \_\_\_\_\_\_ output and \_\_\_\_\_\_ interest rates.

|  |  |  |
| --- | --- | --- |
|   | a.  | increase; lower |
|   | b.  | increase; raise |
|   | c.  | lower; lower |
|   | d.  | lower; raise |

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24) Which of the following is not a cause of an increase in autonomous consumption?

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| --- | --- | --- |
|   | a.  | increase in consumer confidence.  |
|   | b.  | increase in transfer payments.  |
|   | c.  | decline in the interest rate. |
|   | d.  | rise in stock market prices.  |

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| 25) Other things equal, a given change in government spending has a larger effect on demand the:

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| --- | --- | --- |
|   | a.  | flatter the *LM* curve. |
|   | b.  | steeper the *LM* curve. |
|   | c.  | smaller the interest sensitivity of money demand. |
|   | d.  | larger the income sensitivity of money demand. |

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| 26) Any policy aimed at lowering the natural rate of unemployment must either \_\_\_\_\_\_ the rate of job separation or \_\_\_\_\_\_ the rate of job finding.

|  |  |  |
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|   | a.  | reduce; reduce |
|   | b.  | increase; increase |
|   | c.  | reduce; increase |
|   | d.  | increase; reduce |

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| 27) Permitting a lower minimum wage for teenagers would likely:

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| --- | --- | --- |
|   | a.  | raise teenage unemployment. |
|   | b.  | raise teenage wages overall. |
|   | c.  | prevent teenagers from getting job experience. |
|   | d.  | raise unemployment among unskilled adults. |

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28) Which of the following was not one of the “Six Blunders” that led to the financial crisis and Great Recession of 2008-09, according to the Alan Blinder article in the outside readings?

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|   | a.  | sky-high leverage.  |
|   | b.  | subprime surge.  |
|   | c.  | too-high taxes. |
|   | d.  | fiddling on foreclosures. |

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| 29) In a small open economy, if domestic investment exceeds domestic saving, then the extra investment will be financed by:

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| --- | --- | --- |
|   | a.  | borrowing from abroad. |
|   | b.  | borrowing from domestic banks. |
|   | c.  | the domestic government. |
|   | d.  | the World Bank. |

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| 30) A liquidity trap occurs when:

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| --- | --- | --- |
|   | a.  | banks have too much currency and close their doors to new customers. |
|   | b.  | the central bank mistakenly prints too much money, generating hyperinflation. |
|   | c.  | interest rates fall so low that monetary policy is no longer effective. |
|   | d.  | dams and locks are built to prevent flooding. |

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**PART B: Analytic Problems.**

**QUESTION 1 (10 points)**

Consider an economy described by the following Cobb-Douglas production function:

1. Derive the equation for labor demand as a function of the real wage and the capital stock. (3 points)

W = MPL = 4 (K/L)^⅓ and solving for L you find L = (W/4)^(-3)K
2. The economy has 216 units of capital and a labor force of 64 workers. Calculate real wage, total output, and total amount earned by workers. (3 points)

 Y = 6 \* 6 \* 16 = 576 and W = 4 \* 6 /4 = 6 and WL = 384

1. Suppose the Congress sets a minimum wage 1/3 above the equilibrium wage in b. Calculate effect on real wage and employment, output and total amount earned by workers. (4 points)

W min = 8 and L' = (8/4)^(-3)\*216 = 27 and W min \* L' = 216

**QUESTION 2 (10 points)**

Consider an economy initially described as follows:

 *Y = C + I + G*

 4000

1. Derive the IS and LM curves. Calculate the equilibrium interest rate and income. (4 points)

IS: Y = 500 + ½(Y-T) + 1000 - 100r + 600 and Y = 4000 - 200r
and LM: M/P = (M/P)^d and Y = 1000 + 50r and combining both you find r = 12 and Y = 1600
2. Suppose a newly elected president cuts taxes by 10 percent. Assuming that the money supply is held constant, what are the new equilibrium interest rate and income? (3 points)

T' = 180 and IS: Y = 4020 - 200r and LM: Y = 1000 + 50r and Y = 1604 and r = 12.08
3. Now assume that the central bank adjusts the money supply to hold the interest rate constant (equal to its value on item a). What is the new equilibrium income? What must the new money supply be? (3 points)

r = 12 and M'/4 = Y - 50r and IS: Y = 4020 - 200r and Y = 1620 and M' = 4080

**QUESTION 3 (10 points)**

Consider an economy initially described as follows:

 *Y = C + I + G + NX*

 *Y = 2000*

 *r = r\* = 2*

1. Solve for private saving, public saving, national saving, investment, the trade balance, and the equilibrium exchange rate. (2 points)

private S = Y - C - T = 2000 - 1000 - ⅕\*2000 + ⅕\*500 - 500 = 200

public S = 0

national S = 200
I = 60

NX = 2000 - 1000 - ⅕\*2000 + ⅕\*500 - 60 - 500 = 140
exchange rate = 4

1. Suppose now that G is cut to 450. Solve for private saving, public saving, national saving, investment, the trade balance, and the equilibrium exchange rate. Explain intuitively how the change in G affected the way it did. (4 points)

private S = Y - C - T = 2000 - 1000 - ⅕\*2000 + ⅕\*500 - 500 = 200
public S = -50
national S = 150
I = 60
NX = 2000 - 1000 - ⅕\*2000 + ⅕\*500 - 60 - 450 = 190
exchange rate = 2
2. Suppose now that G is again 500 but the world interest rate increases from 2 to 4 percent. Solve for private saving, public saving, national saving, investment, the trade balance, and the equilibrium exchange rate. Explain intuitively how the change in r\* affected the way it did. (4 points)

private S = Y - C - T = 2000 - 1000 - ⅕\*2000 + ⅕\*500 - 500 = 200
public S = 0
national S = 200
I = 20
NX = 2000 - 1000 - ⅕\*2000 + ⅕\*500 - 20 - 500 = 180
exchange rate = 2,4