

Sample Midterm Exam

Name _____

Id # _____

Instructions: There are two parts to this midterm. Part A consists of multiple choice questions. Please mark the answers to the multiple choice questions on the exam paper. Part A has 20 questions and is worth 60%.

Part B is worth 40% and consists of short answer questions. Please answer any two of the three questions in the space provided. Answering more than two questions in part B will not gain you more than 40%.

Part A: MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 1) A firm's value added equals:
- A) its revenue minus all of its costs.
 - B) its revenue minus its wages and profit.
 - C) its revenue minus its wages.
 - D) its revenue minus its cost of intermediate goods.
 - E) none of the above

Answer: D

- 2) Use the following information to answer this question: 100 million people are working, 10 million are not working but are looking for work, and 20 million are not working and have given up looking for work. The official unemployment rate for that month is:
- A) 7.7%. B) 9.1%. C) 10%. D) 23%. E) 30%.

Answer: B

- 3) In the United States, someone is classified as unemployed if he or she:
- A) does not have a job, has recently looked for work, and is collecting unemployment insurance.
 - B) does not have a job, and is collecting unemployment insurance.
 - C) does not have a job.
 - D) does not have a job, or else has a job but is looking for a different one while continuing to work.
 - E) none of the above

Answer: E

- 4) The labor force in the United States is defined as:
- A) the sum of the total number of individuals who are employed and the officially unemployed.
 - B) the total number of individuals who are 16 years old and older, but not retired.
 - C) the sum of the total number of individuals who are employed, the officially unemployed, and discouraged workers.
 - D) the total number of individuals who are employed.
 - E) none of the above

Answer: A

- 5) The GDP deflator provides a measure of which of the following?
- A) the ratio of GDP to the number of workers employed
 - B) the ratio of GDP to the size of the population
 - C) the ratio of nominal GDP to real GDP
 - D) real GDP divided by the aggregate price level
 - E) the price of a typical consumer's basket of goods

Answer: C

- 6) Changes in GDP in the short run are caused primarily by:
- A) technology.
 - B) supply factors.
 - C) demand factors.
 - D) capital accumulation.
 - E) all of the above

Answer: C

- 7) Deflation generally occurs when which of the following occurs?
- A) nominal GDP does not change
 - B) the consumer price index is greater than the GDP deflator
 - C) the consumer price index decreases
 - D) the rate of inflation falls, for example, from 4% to 2%

Answer: C

- 8) Which of the following components of GDP is the largest for the United States?
- A) exports
 - B) government spending
 - C) imports
 - D) investment
 - E) consumption

Answer: E

9) An economy is assumed to be closed when:

- A) $G = T$.
- B) $S = I$.
- C) $X = IM$.
- D) $G = T = 0$.
- E) none of the above

Answer: E

10) Disposable income equals:

- A) income minus saving.
- B) income minus both saving and taxes.
- C) the sum of consumption and saving
- D) consumption minus taxes.
- E) none of the above

Answer: C

11) Let the consumption function be represented by the following equation: $C = c_0 + c_1 Y_D$. For this equation, we assume that c_1 is:

- A) larger than c_0 .
- B) different at different levels of income.
- C) equal to one.
- D) negative.
- E) none of the above

Answer: E

12) Equilibrium in the goods market requires that:

- A) production equals income.
- B) government spending equals taxes minus transfers.
- C) consumption equals income.
- D) production equals demand.
- E) consumption equals saving.

Answer: D

13) An economy is in equilibrium when which of the following conditions is satisfied?

- A) output equals consumption
- B) total saving equals investment
- C) consumption equals saving
- D) total saving equals zero
- E) all of the above

Answer: B

14) Which of the following events would cause an increase in the size of the multiplier?

- A) a reduction in government spending
- B) an increase in the marginal propensity to consume
- C) an increase in the marginal propensity to save
- D) a reduction in taxes
- E) none of the above

Answer: B

15) Based on our understanding of consumption and saving, we know that the marginal propensity to consume and the marginal propensity to save must:

- A) sum to less than one.
- B) be equal to each other.
- C) be equal to the multiplier.
- D) sum to exactly one.
- E) sum to more than one.

Answer: D

16) Which of the following equals demand in a closed economy?

- A) $C + I + G + X$
- B) $C + I + G + IM - X$
- C) $C + I + G + X - IM$
- D) none of the above

Answer: D

17) An increase in the marginal propensity to consume from .6 to .8 will cause:

- A) the ZZ line to become steeper and a given change in autonomous consumption (c_0) to have a smaller effect on output.
- B) the ZZ line to become flatter and a given change in autonomous consumption (c_0) to have a larger effect on output.
- C) the ZZ line to become flatter and a given change in autonomous consumption (c_0) to have a smaller effect on output.
- D) the ZZ line to become steeper and a given change in autonomous consumption (c_0) to have a larger effect on output.

Answer: D

18) Which of the following will cause a leftward shift in the money demand curve?

- A) an increase in the interest rate
- B) a reduction in the interest rate
- C) a reduction in income
- D) an open market sale of bonds by the central bank
- E) none of the above

Answer: C

- 19) For this question, recall that Y is real GDP, $\$Y$ is nominal GDP, and M is the money supply. Which of the following ratios represents the velocity of money?
- A) the ratio of M to high powered money (M/H)
 - B) Y/M
 - C) $M/\$Y$
 - D) $\$Y/M$
 - E) M/Y

Answer: D

- 20) Which of the following will cause the velocity of money to decrease?
- A) a reduction in the interest rate
 - B) an increase in the interest rate
 - C) the introduction of credit cards into the economy
 - D) all of the above
 - E) none of the above

Answer: A

Here are some additional questions on IS–LM for you to practice on:

- 21) Which of the following is the correct definition of the IS curve?
- A) The IS curve represents the single level of output where financial markets are in equilibrium.
 - B) The IS curve represents the combinations of output and the interest rate where the goods market is in equilibrium.
 - C) The IS curve represents the single level of output where the goods market is in equilibrium.
 - D) The IS curve represents the combinations of output and the interest rate where the money market is in equilibrium.
 - E) none of the above

Answer: B

- 22) Which of the following statements is consistent with a given (i.e., fixed) IS curve?
- A) A reduction in the interest rate causes investment spending to increase.
 - B) A reduction in the interest rate causes money demand to decrease.
 - C) An increase in government spending causes an increase in demand for goods.
 - D) An increase in taxes causes a reduction in demand for goods.
 - E) A reduction in the interest rate causes an increase in the money supply.

Answer: A

- 23) Suppose the economy is currently operating on both the LM curve and the IS curve. Which of the following is true for this economy?
- A) The money supply equals money demand.
 - B) The quantity supplied of bonds equals the quantity demanded of bonds.
 - C) Financial markets are in equilibrium.
 - D) Production equals demand.
 - E) all of the above

Answer: E

- 24) Which of the following will occur if there is a reduction in consumer confidence?
- A) The LM curve will shift down.
 - B) The LM curve will shift up.
 - C) The IS curve will shift rightward.
 - D) The IS curve will shift leftward.
 - E) The IS curve will shift rightward, and the LM curve will shift up.

Answer: D

- 25) Suppose the central bank decides to conduct an open market purchase of bonds. Which of the following will occur as a result of this monetary policy action?
- A) The LM curve shifts up.
 - B) The LM curve shifts down.
 - C) The IS curve shifts leftward as the interest rate increases.
 - D) The IS curve shifts rightward as the interest rate falls.
 - E) none of the above

Answer: B

Part B: SHORT ANSWER QUESTIONS (40%)

Here are some practice questions on different topics:

16. (20%) **GDP and the AE/Keynesian Model:**

Consider a small open economy in which aggregate expenditures, AE, is the sum of consumption spending by households, investment spending by firms, government expenditures and net exports. You may assume that net exports are independent of GDP and taxes are lump-sum.

a. (4%) For the table below, calculate the missing values, **A** and **B**.

Answer:

GDP	Consumption	Investment	Government Expenditures	Net Exports	Taxes	Aggregate Expenditures
1,000	850	100	50	200	50	A
1,500	B	100	50	200	50	1,600
2,000	1,650	100	50	200	50	2,000
2,500	2,050	100	50	200	50	2,400
3,000	2,450	100	50	200	50	2,800

$$A = C+I+G+NX = 850+100+50+200 = 1200$$

$$B = AE - (I+G+NX) = 1600 - (100+50+200) = 1250$$

b. (4%) Use the table above to calculate the marginal propensity to consume. [Hint: Recall that the mpc is the additional increase in consumption arising from an increase in disposable income.]

Answer: *To calculate this, use any two sets of consumption and GDP pairs: e.g. when (Consumption,GDP) are (850,1000) and (1250,1500):*

$$MPC = \frac{\Delta C}{\Delta YD} = \frac{1250 - 850}{(1500 - 50) - (1000 - 50)} = \frac{400}{500} = 0.8$$

c. (4%) Recall that the consumption function is written as $C = C_0 + c \times (Y - T)$ where c is the mpc and C_0 is Autonomous Consumption. Use the table in part (a) and your answer to part (b) above to calculate Autonomous Consumption C_0 . [Hint: Calculate induced consumption for any given level of disposable income, and use your answer to figure out C_0]

Answer:

Using any of the consumption, income and tax data, e.g. $C=850$, $Y=1000$, $T=50$:

$$C_0 = C - c \times (Y - T) = 850 - 0.8 \times (1000 - 50) = 90$$

d. (4%) Using a similar method to that in part (c), calculate autonomous expenditure, i.e. AE_0 in the aggregate expenditures equation: $AE = AE_0 + c \times Y$.

Answer:

Similarly, using any of the aggregate expenditure and income data: e.g. $AE=2000$, $Y=2000$:

$$AE_0 = AE - c \times Y = 2000 - 0.8 \times 2000 = 2000 - 1600 = 400$$

e. (4%) What is the value of the multiplier?

Answer:

$$\text{Multiplier} = \frac{1}{1 - \text{Slope}(AE)} = \frac{1}{1 - 0.8} = \frac{1}{0.2} = 5$$

17. (20%) **CPI and GDP Deflator:**

A typical family on Dantooine Island consumes only juice and cloth. Last year, which was the base year, the family spent only \$40 on juice and \$25 on cloth. In the base year, juice was \$4 a bottle, and cloth was \$5 a length. In the current year, juice is \$4 a bottle, and cloth is \$6 a length. Calculate

a. (3%) The basket used in the CPI.

Answer.

The basket used in the CPI is made up $\$40/\$4 = 10$ bottles of juice, and $\$25/\$5 = 5$ lengths of cloth

b. (3%) The CPI in the current year.

Answer.

Expenditure on the CPI basket in the current year is : 10 bottles of juice @ \$4 plus 5 lengths of cloth @\$6, i.e. $10 \times \$4 + 5 \times \$6 = \$40 + \$30 = \$70$

Expenditure on the CPI basket in the base year was: 10 bottles of juice @ \$4 plus 5 lengths of cloth @ \$5, i.e. $10 \times \$4 + 5 \times \$5 = \$40 + \$25 = \$65$

Hence the CPI in the current year equals the (Expenditure in the current year/ Expenditure in the base year)*100, i.e. $\text{CPI} = (\$70/\$65) \times 100 = 107.69$

c. (4%) The inflation rate in the current year

Answer:

The CPI in the base year = 100

The CPI in the current year = 107.69

The inflation rate is the percentage change in the price level, so it equals:

$$\text{Inflation Rate} = \frac{\Delta \text{CPI}}{\text{CPI}} = \frac{107.69 - 100}{100} \times 100 = 7.69\%$$

Consider the following table where 2002 is the base year.

	2002		2003	
	Price (\$)	Quantity	Price (\$)	Quantity
Guns	10	100	20	50
Roses	2	250	1	400
Butter	0.50	400	1	300

d. (2%) What is nominal GDP in 2002?

Answer: Nominal GDP = \$10*100+\$2*250+\$0.50*400=\$1700

e. (2%) What is real GDP in 2002?

Answer: Since 2002 is the base year, Real GDP = Nominal GDP = \$1700

f. (2%) Calculate real GDP in 2003 using the base year method.

Answer: Real GDP (in 2003) = \$10*50+\$2*400+\$0.50*300 = \$1450

g. (2%) What is the growth rate in real GDP between 2002 and 2003?

Answer:

The growth rate in real GDP is given by:

$$\text{GDP Growth} = \frac{\Delta \text{Real GDP}}{\text{Real GDP}} \times 100 = \frac{1450 - 1700}{1700} \times 100 = \frac{-250}{1700} \times 100 = -14.7\%$$

h. (2%) What is the value of the GDP deflator in 2003?

Answer:

Nominal GDP in 2003, is: \$20*50+\$1*400+\$1*300 = \$1700. From part (c), Real GDP in 2003 is \$1450. Hence the deflator is:

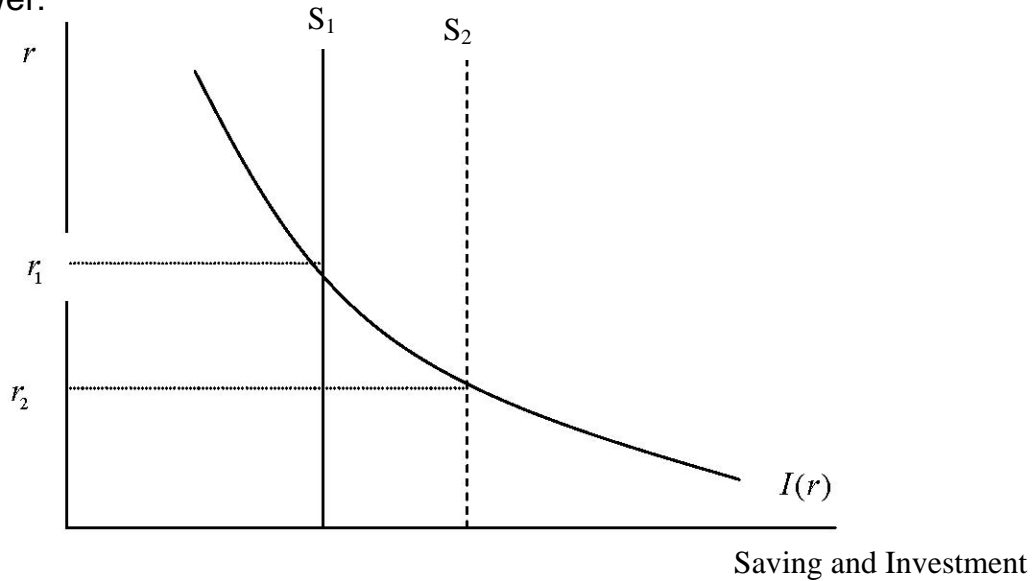
$$GDP\ Deflator = \frac{1700}{1450} \times 100 = 117.24$$

18. (4 pts each part) **Loanable Funds Model:**

Graph the loanable funds model for the closed economy

- (a) Label the horizontal and vertical axes and the curves.
- (b) Shift the curves to show the effect of a reduction in taxes.
- (c) Do interest rates go up, or down, or stay the same?
- (d) Does investment go up or down, or stay the same?
- (e) Does output go up, or down, or stay the same?

Answer:



The reduction in taxes shifts national saving from S_1 to S_2 . Interest rates go down from r_1 to r_2 . Investment rises because the interest rate falls. Output is not affected – it stays the same.