Midterm Examination #3

Information/Instructions

Name_________________________
Signature ______________________
Student ID _____________________
TA___________________________
Discussion Number______________

This exam is closed book/closed notes. Calculators are not allowed.

You must use a #2 pencil to complete the exam.

How to Fill Out the Coding Sheet

1. Print your last name, first name, and middle initial in the spaces marked “last name”, etc. Fill in the corresponding bubbles below.
2. Print your student ID number in the spaces marked “identification number.” Fill in the bubbles.
3. Write your discussion section number under “special codes” spaces ABC and fill in the bubbles.

Use your best judgment in answering these questions. If you are confused about any question and/or answer, raise your hand and ask a proctor for clarification. Remember, we are looking for the best answer to each question.

When you are done with the exam, please remain in your seat. Raise your hand and the proctors will come to collect your answers as well as this sheet. You must show your student id when your exam is collected.
Questions
(There are 15 questions; each question is worth 2 points)

Section 1. AD/AS analysis

For each question, remember that the IS/LM model is part of the AD/AS model.

For the IS/LM model use:

\[ \frac{M}{P} = m + l(r + \pi) + dY, \quad l < 0, \quad d > 0 \]

\[ Y = c_0 + I_0 + cY + br + G + NX, \quad c > 0, \quad b < 0 \]

Note: \( c_0, I_0, G, M, P, NX \) and \( \pi \) are exogenous. There are no taxes.

1. Suppose that in the AD/AS model nominal wages and nominal prices are both flexible. What statement best describes the value of the government spending multiplier?

   a. The multiplier is positive, but smaller than the multiplier for the IS/LM model

   b. The multiplier is negative.

   c. The multiplier is 0.

   d. The size and direction of the multiplier cannot be determined without additional information on the magnitudes of the changes in \( G \) and \( M \) and on magnitudes of the parameters of the IS/LM model.
2. If wages exhibit downward nominal rigidity, which of the following best describes the aggregate supply (AS) schedule. (Assume that in a graph, the x-axis corresponds to \( Y \) and the y-axis corresponds to \( P \))

   a. The AS schedule is horizontal
   b. The AS schedule is vertical.
   c. The AS schedule is upward sloping for prices below some price level \( \bar{P} \) and vertical thereafter.
   d. The AS schedule is upward sloping, but not vertical, for all values of \( P \)

3. Using the AD/AS model, suppose that the price level and nominal wage level are both flexible. Which of the following strategies will increase private sector investment?

   a. Increase \( M \)
   b. Decrease \( G \).
   c. Provide each consumer in the economy with a lump sum tax reduction, all rebates equal size.
   d. None of these strategies will increase investment, since under the assumptions of the problem the equilibrium level of output is determined by the labor market equilibrium and so is not affected by demand side policies.

4. Suppose that the demand for money does not depend on nominal interest rates. This implies that an increase in government spending will have what effect on the location of the AD schedule in a graph where the x-axis corresponds to \( Y \) and the y-axis corresponds to \( P \)

   a. The AD schedule will shift to the right, i.e. for each value of \( P \), the corresponding value of \( Y \) on the AD schedule is higher after the increase in \( G \)
   b. The AD schedule will shift upwards, i.e. for each level of \( Y \), the corresponding value of \( P \) on the AD schedule is higher after the increase in \( G \)
   c. The AD schedule will shift to the left.
   d. The AD schedule will not shift.
5. In the AD/AS model, suppose that prices are flexible but wages exhibit downward nominal rigidity. Suppose that the AD schedule initially intersects the AS schedule in the upward sloping (nonvertical) part of the AS schedule. (Assume the intersection is somewhere in the middle of the upward sloping section of the AS schedule.) A joint increase in the level of government spending and the nominal money supply will have what effect?

a. $P$, $r$, and $Y$ will each increase

b. $Y$ will not change, $P$ will increase and $r$ will increase

c. $r$ will not change, $P$ will increase and $Y$ will increase

d. $P$ and $Y$ will increase, but the effect on $r$ cannot be determined without additional information on the parameters of the AD, IS, and LM equations and specification of the magnitudes of the changes in $G$ and $M$

6. Suppose that the level of the capital stock is increased in the AD/AS model with flexible wages and flexible prices. Which of the following will occur?

a. $Y$ will not change, $r$ will not change, $P$ will increase

b. $Y$ will not change, $r$ will decrease and $P$ will decrease.

c. $Y$ will increase, $r$ will decrease and $P$ will decrease

d. $Y$ will increase, $r$ will increase and $P$ will decrease

Section 2 General

7. According to the theory of purchasing power parity, if a bottle of beer costs $1.50 in Madison and 100 yen in Tokyo, then the nominal exchange rate (units of foreign currency per dollar) should approximately equal

a. 150

b. 100

c. 67

d. 50
8. If purchasing power parity holds, which of the following statements will be true?

   a. Net exports for the US will always be negative.

   b. The real exchange rate equals 1.

   c. Americans will never purchase imports and foreigners will never purchase US exports.

   d. Net capital outflows by the US will always be positive.

9. Which of the following best describes net capital outflows?

   a. Net capital outflows equal net exports.

   b. Net capital outflows equal the level of imports

   c. Net capital outflows equal the value of the US government deficit

   d. None of the above

10. In the IS/LM model, suppose that the net export level is not exogenous, but is determined by

    \[ NX = z_0 + z_1Y, \quad z_1 < 0 \]

    Which statement best describes the implications of this modification?

    a. The government spending multiplier will increase

    b. The government spending multiplier will decrease

    c. The government spending multiplier is unchanged.

    d. The effect on the government spending multiplier cannot be determined because the multiplier depends on other parameters of the model.
11. Consider two assets \( a \) and \( b \) with holding returns \( r_{a,t} \) and \( r_{b,t} \). Suppose the expected return on asset \( a \) exceeds that of asset \( b \). According to the Capital Asset Pricing Model, this means which of the following must be true?

a. The variance of \( r_{a,t} \) is greater than the variance of \( r_{b,t} \).

b. The probability that asset \( a \) will have a nominal return of 0 is greater than the probability that asset \( b \) will have a nominal return of 0.

c. The covariance of \( r_{a,t} \) with the holding return on the market portfolio, \( r_{m,t} \), is greater than the covariance of \( r_{b,t} \) with the holding return on the market portfolio, \( r_{m,t} \).

d. The percentage of the market portfolio made up of asset \( a \) exceeds that of asset \( b \) where size is measured in terms of market value of the total supply of the asset.

12. Let \( SP_t \) denote today’s stock price level. According to the random walk theory of stock prices, today’s expected value of tomorrow’s stock price level, denote this expectation as \( E_t(SP_{t+1}) \), must have what property?

a. \( E_t(SP_{t+1}) \) must exceed \( SP_t \), so that investors expect to receive positive capital gains from holding the stock.

b. \( E_t(SP_{t+1}) \) must be lower than \( SP_t \), since that investors anticipate that any stock price bubble present today may burst tomorrow.

c. \( E_t(SP_{t+1}) \) must equal \( SP_t \)

d. There are no restrictions on \( E_t(SP_{t+1}) \) since any expectations that exist about stock prices are self-fulfilling.
13. Suppose that at time $t$ the interest rate on a two period government bonds is $i_{2,t} = .05$ and the interest rate on a one-period government bond is $i_t = .03$ respectively. According to the pure expectations-based term structure model (i.e. there are no risk premia), the expected return at time $t$ on a one-period bond purchased at time $t+1$, denoted as $E_t(i_{t+1})$, equals

a. .02  
b. .03  
c. .05  
d. .07

14. Which of the following best describes the difference between Keynesian unemployment and classical unemployment?

a. Keynesian unemployment is associated with nominal wage rigidity whereas classical unemployment is associated with real wage rigidity.

b. Keynesian unemployment is always voluntary whereas classical unemployment is always involuntary.

c. Keynesian unemployment cannot be affected by government spending changes whereas classical unemployment can be affected by government spending changes.

d. None of the above

15. Which of the following is the best description of the relationship between the income expenditure model, the IS/LM model and the AD/AS model?

a. The income expenditure model and the IS/LM model are inconsistent with the AD/AS model

b. The income expenditure model may be interpreted as a special case of the IS/LM model where interest rates are fixed whereas the IS/LM model may be interpreted as a special case of the AD/AS model where prices are fixed above the market clearing level so that output is determined by demand.

c. There is no logical relationship between the models.
d. The models are all identical.