Multiple Choice (32 questions, 2.5 points each; 80 points total). Clearly indicate (by circling) the ONE BEST response to each of the following questions.

1. The marginal propensity to consume ($mpc$) measures:
   a. The fraction of income consumed.
   b. The level of autonomous expenditures.
   c. The level of induced expenditures.
   d. The change in expenditures for a one-dollar change in income.

2. If __________ exceeds __________, eventually the aggregate supply curve will shift up and eliminate the inflationary gap.
   a. Potential output; aggregate demand
   b. Aggregate demand; potential output
   c. Aggregate supply; aggregate demand
   d. Aggregate demand, aggregate supply

3. The multiplier process works because when expenditures don’t equal production:
   a. Expenditures adjust.
   b. Prices adjust.
   c. Output and income adjust.
   d. Interest rates adjust.

4. The __________ occurs when individuals attempt to save more but in doing so spend less, causing equilibrium income to decrease.
   a. Multiplier effect.
   b. Paradox of thrift.
   c. Liquidity trap.
   d. Saving dilemma.

5. If autonomous expenditures are $250, income is $750 and the marginal propensity to consume is 1/3, then total (planned) expenditures according to the expenditure function will be:
   a. $250.
   b. $500.
   c. $750.
   d. $1,500.

6. Increases in aggregate demand are most likely to produce higher output and higher prices in the:
   a. Keynesian range.
   b. Classical range.
   c. Intermediate range.
   d. Long run.
Table 1

<table>
<thead>
<tr>
<th>Income</th>
<th>Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0</td>
<td>$500</td>
</tr>
<tr>
<td>1,000</td>
<td>900</td>
</tr>
<tr>
<td>2,000</td>
<td>1300</td>
</tr>
<tr>
<td>3,000</td>
<td>1700</td>
</tr>
<tr>
<td>4,000</td>
<td>2100</td>
</tr>
<tr>
<td>5,000</td>
<td>2500</td>
</tr>
</tbody>
</table>

7. The expenditure function that reflects Table 1 is:
   a. $AE = 500 + 0.4Y$
   b. $AE = 0.4Y$.
   c. $Y = 500 + 0.4AE$.
   d. $Y = 0.4AE$

8. In Table 1 above, if income is $2,000, induced expenditures are:
   a. $400$.
   b. $500$.
   c. $800$.
   d. $1,300$.

9. In Table 1, the marginal propensity to consume is:
   a. $500$.
   b. $2,500$.
   c. $0.4$.
   d. $0.6$.

10. If an economy is at its potential output, an expansionary monetary policy will cause output to:
   a. Fall in the short run and in the long run.
   b. Rise in the short run but not in the long run.
   c. Rise in the long run but not in the short run.
   d. Rise in the short run and in the long run.

11. The amount by which autonomous expenditures must be multiplied to determine equilibrium income is:
   a. the $mpc$.
   b. $1 / mpc$.
   c. $1 / (1 – mpc)$.
   d. $1 / (mpc – 1)$.

12. Which of the following fiscal policies would increase aggregate demand the most?
   a. Lower taxes and higher government spending.
   b. Lower taxes and lower government spending.
   c. Higher taxes and lower government spending.
   d. Higher taxes and higher government spending.
13. The multiplier model provides numerical estimates of how __________ changes in response to changes in __________.
   a. Equilibrium output; the price level
   b. Equilibrium output; aggregate expenditures
   c. The price level; aggregate expenditures
   d. The price level; equilibrium output

14. Refer to the figure at the top of the page. The graphical representation of \( \text{AE} = 1000 + 0.5Y \) is shown by which curve?
   a. A
   b. B
   c. C
   d. D

15. If the \( mps \) is 0.25, the multiplier is:
   a. 0.75.
   b. 1.33.
   c. 3.33.
   d. 4.00.

16. If a family’s expenditures increase from $26,000 to $30,000 per year when its income increases from $32,000 to $37,500, its autonomous expenditures:
   a. Do not change.
   b. Equal $4,000.
   c. Increase by $5,500.
   d. Change by an amount that cannot be determined without more information.
17. For levels of income to the right of the point where the expenditure function intersects the aggregate production line:
   a. Inventories are falling.
   b. Inventories are constant.
   c. Inventories are rising.
   d. The economy is in equilibrium.

18. If a family’s expenditures from increase $26,000 to $30,000 per year when its income increases from $32,000 to $37,5000, its induced expenditures:
   a. Do not change.
   b. Equal $4,000.
   c. Increase by $4,000.
   d. Change by an amount that cannot be determined without more information.

19. According to the multiplier model, if the $mpc$ is 0.60, a $50 billion upward shift in autonomous expenditures will cause equilibrium income to increase by:
   a. $30 billion.
   b. $50 billion.
   c. $80 billion.
   d. $125 billion.

20. If an increase in autonomous expenditure of $300 results in an increase in equilibrium income of $750, the multiplier is:
   a. 0.4.
   b. 1.5.
   c. 2.5.
   d. 5.0.

21. In the multiplier model, if the $mpc$ is 0.4, then the multiplier is:
   a. 0.60.
   b. 1.67.
   c. 4.00.
   d. 40.0.

22. In the multiplier model, a change in autonomous expenditures produces a larger change in equilibrium income because:
   a. As saving levels increase, a greater pool of loanable funds is available for investment spending by businesses.
   b. Increases in income cause a succession of spending and production increases by many businesses and individuals.
   c. Increases in income cause tax revenues to increase, thereby stimulating increases in government spending levels.
   d. All expenditures are autonomous.
23. Suppose policy makers do not know what potential output is but do know that unemployment is increasing fairly rapidly. Based on this information, policy makers are most likely to conclude that the economy is:
   a. In the Keynesian range.
   b. In the intermediate range.
   c. In the Classical range.
   d. At potential output.

24. Refer to the graph at the top of the page. If the mpc were to change to 0.50, equilibrium real income would be:
   a. Greater than $600.
   b. $600.
   c. Less than $600.
   d. Indeterminate (you cannot say for sure without more information).

25. England’s Prime Minister Tony Blair wants to increase his country’s income by 2,000. His finance minister tells him that the mpc is 0.95. The government should increase its spending by:
   a. 100.
   b. 200.
   c. 1900.
   d. 2000.

26. If the mpc is 0.9 and autonomous expenditures are $2000, then the multiplier equation implies that total equilibrium expenditures in the economy will be:
   a. $1,800.
   b. $2,000.
   c. $2,222.
   d. $20,000.
27. If the \( mpc = .8 \) and equilibrium income is $300 billion more than potential income, the multiplier model predicts that potential income can be attained by __________ government spending by __________ billion.
   a. Increasing; by $300.
   b. Decreasing; by $60.
   c. Decreasing; by $240.
   d. Decreasing; by $300.

28. Suppose autonomous expenditures equal 1,500 and the \( mpc \) is 0.9. Now suppose the \( mpc \) falls to 0.8. Using the multiplier equation, we know that equilibrium income will:
   a. Decrease by 150.
   b. Increase by 1,350.
   c. Decrease by 1,350.
   d. Decrease by 7,500.

29. If a family’s expenditures increase from $30,000 to $36,000 per year when its income increases from $35,000 to $44,000 its \( mpc \) is:
   a. $5,000.
   b. $7,500.
   c. 0.80.
   d. 0.67.

30. What is the purpose of contractionary fiscal policy?
   a. To reduce both aggregate demand and inflationary pressures.
   b. To decrease aggregate demand and increase interest rates.
   c. To increase aggregate demand and reduce unemployment.
   d. To increase both aggregate demand and equilibrium income.

31. The multiplier in Singapore is 5 and there is an inflationary gap of 250. Singapore should:
   a. Decrease autonomous spending by 50.
   b. Decrease autonomous spending by 250.
   c. Decrease autonomous spending by 1250.
   d. Increase autonomous spending by 250.

32. Given \( AE = 3000 + (2/3)Y \), equilibrium income will be:
   a. $3,000.
   b. $4,500.
   c. $9,000.
   d. $30,000.

Short Answer Questions Are On the Next Page!
Short Answer (20 points total). A full credit answer can fit in the space provided under each question. If you need more space, please use the back of the page and make it clear that your answer is “continued on back of page.”

Each of the following questions use the expenditure function: $AE = 800 + .9Y$

For any questions that ask you to calculate something, you must show any formulas that you use, and how you calculated your final answer. This refers to questions, 1, 2, and 4 below.

1. (4 points) Calculate the value of the multiplier. (Remember to show any formulas you use!)

2. (4 points) Calculate the equilibrium level of output. (Remember to show any formulas you use!)
3. (8 points) Suppose that potential output is 10,000. Using this information, and the level of equilibrium output calculated for question 2 above, draw a carefully labeled graph showing this situation. Your graph should show the AD, AS, and potential output curves (and not any other curves). Be sure to label the current equilibrium (using numbers on the graph to indicate the equilibrium from question 2, as well as potential output), and any inflationary or recessionary gap that exists. (You must specifically say whether the current situation is an inflationary or recessionary gap, as well as showing this gap on your graph).

4. (4 points) Suppose the government wants to change spending (G) to eliminate the inflationary/recessionary gap that exists. By how much should they change G to eliminate this gap? Be clear about whether you are recommending an increase or decrease in government spending, and how much. (Remember to show any formulas you need).

BONUS (1 extra credit point; you do not need to explain how you arrived at this answer). Suppose the government wanted to eliminate the inflationary/recessionary gap by a change in personal income taxes instead of a change in government spending. Would the change in taxes have to be greater than, less than, or the same as the change in government spending?