Sample Exam 2

Instructions: Read through the entire exam before you start writing. Pay careful attention to the number of points allocated to each question and use the points to allocate your time. Please make your answers clear, concise, and complete. Use graphs where you can; graphs are useful for illustrating and explaining your answer.

1. The table below shows four possible physical investment projects, the expected revenue from each project and the expected cost of each project. You may assume that each project, once completed, lasts only one year. Complete the table. What project is more profitable?

<table>
<thead>
<tr>
<th>Project</th>
<th>Revenue ($ millions)</th>
<th>Cost ($ millions)</th>
<th>Rate of Return %</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>$100</td>
<td>$80</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>$60</td>
<td>$50</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>$120</td>
<td>$125</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>$80</td>
<td>$40</td>
<td></td>
</tr>
</tbody>
</table>

2. In an open economy suppose that GDP is $12 trillion. Consumption is $8 trillion and government spending is $2 trillion. Taxes are $0.5 trillion. Exports are $1 trillion and Imports are $3 trillion.
   a. How much is private savings?
   b. What is the government budget balance?
   c. How much is national savings?
   d. How much is the net capital inflow?
   e. How much is investment spending?

3. People are optimistic about an improving economy in the future. Use the loanable funds model to explain what happens with investment spending. What is the effect on the interest rate?

4. David receives a tax refund of $800. He spends $600 and saves $200. What is David's marginal propensity to consume? What is his marginal propensity to save? In what way this increase in David’s disposable income will affect his consumption function?

5. Suppose that the consumption function is: \( C = 500 + 0.8 \times YD \) where \( YD \) is disposable income.
   a. What is the marginal propensity to save?
   b. If disposable income increases by $2000, by how much consumption will increase?
   c. Compute savings when disposable income is $1000.

6. The total expenditure schedule in Macroland begins with these initial levels (in billions of dollars): Income = 1,000; Consumption = 900; Investment = 200; Government = 300;
Net Exports = −100. If the MPC = 0.75 and income increases in increments of 200, find the equilibrium level of income. If full employment requires an income level of 2,000, what (if anything) should the government do?

7. A closed economy is characterized by the following equations

\[ C = 936 + 0.9 Y_d \]
\[ I = 1440 \]
\[ G = 1780 \]
\[ T = \frac{1}{3} Y \]

a. Find equilibrium disposable income
b. Find the equilibrium consumption
c. Find the equilibrium real GDP, Y.

8. The burst of the housing bubble in 2008 in US caused a decrease in households’ wealth. Using aggregate demand, short-run aggregate supply, and long-run aggregate supply curves explain the process by which this event will move the economy from one long-run economic equilibrium to another. Illustrate with diagrams. In each case, what are the short-run and long-run effects on the aggregate price level and aggregate output?

9. Suppose the economy is currently operating at an output level of $4,000 billion. Assume furthermore that potential output is $5,000 billion and the marginal propensity to consume is 0.75. To close the gap, government could increase its spending, i.e. increase in G or increase transfers in the form of an extension of unemployment benefits.

a. By how much government should increase G to close this recessionary gap?

b. Suppose that the chosen expansionary fiscal policy is an increase in transfers. By how much transfers should increase to close this recessionary gap?