**MULTIPLE CHOICE QUESTIONS: (20 points)**

**Choose the one alternative that best answers the question.**

1. Suppose a country has 10 million people, of whom 8 million are working age. Of these 8 million, 5 million have jobs. Of the remainder: 1 million are actively searching for jobs; 1 million would like jobs but are not searching; and 1 million do not want jobs at all. The official unemployment rate is

1. 0.1
2. 0.125
3. 0.143
4. 0.167
5. 0.28

2. A firm's value added equals

1. its revenue minus all of its costs.
2. its revenue minus its wages.
3. its revenue minus its wages and profit.
4. its revenue minus its cost of intermediate goods.
5. none of the above

3. Suppose all the nominal variables are the same, if the expected inflation rate rises, the real PDV will

1. fall.
2. rise.
3. remain unchanged.
4. none of the above

4. Suppose that the recent fall of Silicon Valley Bank makes bank managers in all the other banks want to hold a higher fraction of deposit as reserve. This will cause:

1. an increase in the monetary base (H)
2. a reduction in H and a reduction in the money multiplier
3. an increase in the money multiplier
4. a reduction in the money multiplier

5. If the central bank wants to cut the federal funds rate, it can:

1. increase the reserve requirement for banks.
2. sell bonds in the market for bonds.
3. buy bonds in the market for bonds.
4. increase the discount rate.
5. none of the above.

**SHORT-ANSWER QUESTIONS:**

**Question 6: Goods Market and Fiscal Policy (25 points)**

*Consider an economy with the following behavior equations*

*i is the nominal interest rate set by the central bank and G is government spending.*

*Assume that is between 0 and 1, and.*

1. Solve for equilibrium output. (5 points)
2. Solve for taxes in equilibrium. (5 points)

*Suppose that the government starts with a balanced budget (G=T) and that there is a drop in .*

1. How should the government adjust its spending G in order to keep the budget balanced? Does this government spending adjustment counteract or reinforce the effect of the drop in on output? Explain your answers in words. (10 points)
2. After the adjustment of government spending G that rebalances the budget, what happens to the equilibrium private saving? (5 points)

**Question 7: Bank Crisis and Monetary Policy (25 points)**

*Suppose that an economy is described by the following equations*

*The current GDP deflator is 2. The public holds 20% of the money in currency and the rest in checkable deposits. The average reserve ratio of the commercial banks is 25%.*

1. Derive the equilibrium output as a function of the nominal interest rate (IS relation).
2. Suppose the nominal interest rate target is 5%. Compute the monetary base that can achieve the interest rate target.

*Suppose there is a banking crisis which makes the average reserve ratio of the commercial banks increase from 25% to 30%.*

1. Suppose that the central bank wants to restore the equilibrium nominal interest rate back to its target 5%, how much should the new monetary base be?

*Suppose due to the same banking crisis, the risk premium x also increases from 5% to 15%.*

1. Calculate the new monetary base that is necessary for the central bank to keep the nominal interest rate unchanged from its 5% target.

**Question 8: Bond price and yield (30 points)**

*Consider two types of bonds: a 2-year bond and a 3-year bond.*

*Both types have face value equal to $100.*

*The current risk free one-year interest rate is 4% and the risk premium is 5%.*

*The market expects the central bank to cut risk-free one-year interest rate to 3% next year and 2% the year after.*

1. What should be the current price for the 2-year bond? (10 points)
2. What should be the current price for the 3-year bond? (10 points)
3. What is the current yield to the 3-year bond? (10 points)