

Write your name on the cover of the test booklet and nowhere else. Enclose this sheet with the booklet. Failure to follow these directions will cost you 1 point. The test has 240 points (to be scaled up to 250 points) and is scheduled to take 120 minutes. Therefore, expect to spend 1 minute for every 2 points. For example, a 12-point question should take 6 minutes. I cannot give extra time because there is an exam after yours.

For all calculator questions, tell me what you typed into the calculator.

$$PV = PMT * \left[\frac{1 - \frac{1}{(1 + (r/m))^{mN}}}{r/m} \right] + \frac{FV}{(1 + (r/m))^{mN}} \quad V_b = \frac{INT}{m} \sum_{t=1}^{mN} \left(\frac{1}{1 + \frac{r_b}{m}} \right)^t + \frac{M}{\left(1 + \frac{r_b}{m}\right)^{mN}}$$

$$i_{bey} = \left(\frac{P_f - P_0}{P_0} \right) \left(\frac{365}{h} \right) \quad EAR = \left(1 + \frac{i_{bey}}{365/h} \right)^{365/h} - 1$$

1) (6 points each) Define THREE of the following terms.

- A) FICO score
- B) Office of Thrift Supervision (OTS)
- C) NCUSIF
- D) Investment banks
- E) Section 20 affiliate

2) (6 points each) Define THREE of the following terms.

- A) Over the counter (OTC)
- B) Maturity intermediation
- C) Fisher effect
- D) Liquidity risk premium
- E) Commercial paper

3) (12 points) For EITHER a *muni* OR a *STRIP*, explain what that is and why somebody would want to own that rather than other bonds.

4) (12 points) Answer EITHER Part A OR Part B.

- A) Explain the difference between the bond effective yield (i_{bey}) and the effective annual rate (EAR).
- B) Would convertible bonds or non-convertible bonds yield a higher return (assuming you do not convert the convertible bond)? Explain your logic.

5) (14 points) Answer EITHER Part A OR Part B.

- A) Suppose a bond has a face value of \$10,000, coupon rate of 4%, with semi-annual payments, and a maturity date of 5 years from today. If it is currently selling for \$10,020, then what is the approximate annual return you will earn?
- B) Suppose a bond has a face value of \$10,000, coupon rate of 4%, with semi-annual payments, and a maturity date of 5 years from today. If you want 4.2%, then what is the maximum price you are willing to pay?

6) (16 points) Answer EITHER Part A OR Part B.

A) The *current ratio* is $(\text{current assets})/(\text{current liabilities})$. In the book's example, that was 1.38 times. What are *current assets* and *current liabilities*? What is the reason we look at this ratio? Is a bigger number generally better or worse? Explain your logic.

B) The *number of days in inventory* is calculated as $(\text{inventory} \times 365)/(\text{cost of goods sold})$ and in the example in the book is 54.21 days. What is that measuring? Is a bigger number generally better or worse? Explain your logic.

7) (18 points) Answer EITHER Part A OR Part B.

A) Draw a yield curve which would indicate that interest rates are forecast to not change in the future. Explain how you know that shows constant interest rates.

B) Draw the supply and demand for loanable funds. Illustrate the effects of an increase in the inflation rate. Explain why the curve(s) moved as drawn.

8) (18 points) Answer EITHER Part A OR Part B.

A) For ONE of the forms of *market efficiency*, state what it says. Do you believe it? Explain your logic.

B) For ONE of the versions of *interest rate parity* (IRP), state what it says and explain why it may hold. (There are two versions of IRP, but we only discussed one of them.)

9) (18 points) Answer EITHER Part A OR Part B.

A) Draw the diagram for the intrinsic value and the price of a call option with an exercise price of \$8/share. Explain how you determined where the two lines are.

B) Draw the potential payoff for the issuer of a call option with an exercise price of \$20/share and an option price of \$1.20. Explain how you determined what the line looks like. What is the issuer hoping will happen to the stock price? Explain your logic.

10) (18 points) Answer EITHER Part A OR Part B.

A) When regulators do a *financial stress test* they put the bank's assets and liabilities through different scenarios like interest rate changes, a large number of defaults on loans, and a large number of withdrawals. For ONE of those three, what test do you think they are using? Explain your logic and how that test measures the risk.

B) Explain the difference between *purchased liquidity management* and *stored liquidity management*. Give an example of a case when you would want to use purchased liquidity management rather than stored liquidity management. Explain your logic.

11) (18 points) Answer EITHER Part A OR Part B.

A) When doing the repricing (funding gap) model, they talk about *risk sensitive* assets and liabilities. What would make an asset risk sensitive? Explain your logic. What is the biggest drawback of this definition? Explain your logic.

B) Explain how the liquidity index is calculated. What one weakness of this method of testing a bank's liquidity risk?

12) (20 points) Answer EITHER Part A OR Part B.

A) Off-balance sheet activity showed up multiple times in this course. Give an example of an off-balance sheet activity which could result in a liability for the bank. Explain how it could result in a liability for the bank. Why would a bank want to do something like that which could create a liability?

B) We discussed several laws. For one of the laws we discussed, tell me what it did and whether you

thought it was a good law or not. Explain your logic. Some of the laws we discussed were the McFadden Act, Glass-Steagall Act, Riegle-Neal Interstate Branching Efficiency Act of 1994, 2010 Wall Street Reform & Consumer Protection Act, and other laws.

13) (20 points) Answer EITHER Part A OR Part B.

A) Suppose you want to take a \$200,000 mortgage. The mortgage is 30 years and the interest rate is 6.0%. If you pay 1.8 points, then the interest rate is 4.8%. How much are your payments if you do not pay the points? How much are the payments if you pay the points? Is it worthwhile to pay the points? BRIEFLY explain what you did.

B) Suppose you want to take a \$200,000 mortgage. The interest rate is 4.8%. How much are your payments if it you take a 30-year mortgage? How much are your payments if it you take a 15-year mortgage? Why isn't the latter one half of the former?

14) (20 points) Answer EITHER Part A OR Part B.

A) What led to the financial meltdown of 2008? Obviously, many people are to blame, but who do you think is the most to blame? Explain your logic.

B) What led to the Savings & Loan Crisis of the 1980s? Obviously, many people are to blame, but who do you think is the most to blame? Explain your logic.

