THE UNIVERSITY OF MELBOURNE

Department of Finance
FNCE10002 Principles of Finance
Semester 1, 2019
Feedback Assignment

A. Instructions

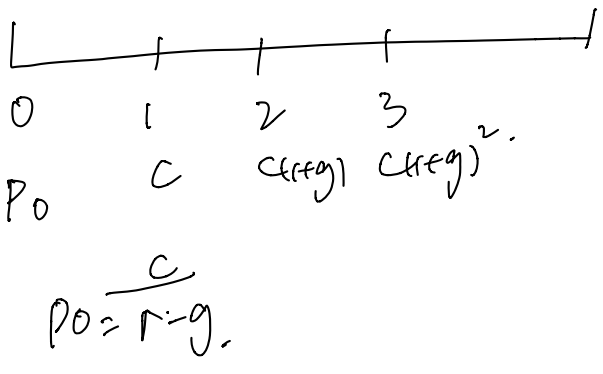
1. This individual assignment consists of 14 multiple choice questions and is worth 10% of your overall grade. It covers material from weeks 1 through 4. Besides providing you with continuing feedback on your performance in this subject, this assignment is designed to help you prepare for the mid semester exam.

2. This is an individual assignment so you may not discuss it with fellow students or collaborate with them. Also, please do not ask your tutor, the online tutor, pit stop tutors or me for hints and/or suggestions on the assignment.

3. All questions are equally-weighted and responses to these are to be entered online via *Assignment* link on the LMS.

4. Your responses need to be entered between 8:00 am on Wednesday, April 3 and 10:00 pm on Friday, April 5. Online access to the assignment will **only** be available during this period and failure to enter your answers during that period will result in a zero mark being recorded for this assignment.

5. You need to make sure that you have worked through the assignment questions and that you have your answers available for input in the online version of the assignment. Note also that once you access the assignment via the LMS you will have **one hour** to enter your responses to all questions. The system will not allow you to exit and re-enter the assignment portal. Realistically speaking, it should not take you more than around ten minutes to enter your answers. Please make sure that you save your responses before logging out of the LMS!



B. Assignment Questions

1. Your friend is considering investing $5,000 at the end of every quarter in an investment fund that is expected to earn an interest rate of 8% per annum. The first contribution will be made at the end of the first quarter. If the interest rate earned is compounded on a monthly basis, the total amount she will have accumulated at the end of ten years will be **closest** to:

a) $228,338.
b) $289,731.
c) $302,886.
d) $351,855.

2. Ten years ago, your friend's mum wrote an Indian-Italian fusion cookbook which has become a global bestseller. She has been receiving annual royalties based on revenues reported by the publisher. These revenues started at $1 million in the first year and grew steadily by 5% per year. Her royalty rate has been 15% of the revenues. Recently, she hired an auditor who discovered that the publisher had been under-reporting the revenues. The book had actually earned 10% more in annual revenues than had been reported on her royalty statements. Assuming the publisher pays an interest rate of 4% p.a. on missed annual payments, the money owed by the publisher is **closest** to:

a) $136,888.
b) $150,634.
c) $222,976.
d) $245,367.

3. Digem Mines is considering investing $75,000 in a mine that will produce $15,000 worth of ore in the first year. As the ore closest to the surface is removed it will become more difficult to extract the ore. As a result, the value of the ore that is mined will decline at a rate of 7% per year forever. If the appropriate interest rate for valuing this investment is 5%, the net present value of this mining operation today is **closest** to:

a) $50,000.
b) $125,000.
c) $139,286.
d) The net present value cannot be calculated.

4. Your friend has just taken out a 10-year loan for $200,000 from BOA Bank at a stated interest rate of 10% p.a. with interest compounded quarterly. She intends to make equal, quarterly payments on the loan over its duration with the first payment scheduled at the end of the first quarter. Assuming end-of-the-quarter cash flows, the principal repaid in the third quarter will be **closest** to:

a) $3,041.
b) $3,117.
c) $4,850.
d) $4,926.

5. Four years ago, your friend took out a 10-year loan for $200,000 from BOA Bank at a stated interest rate of 10% p.a. with interest compounded quarterly. She has been making equal, quarterly payments on the loan during this time and now wishes to repay the loan in full. The amount that she needs to repay the bank today is **closest** to:

a) $72,524.
b) $104,012.
c) $142,494.
d) $187,678.

6. The bonds of FDL Ltd have a maturity of 10 years and are currently selling at a premium to their face value. If the bond's market yield rises unexpectedly, what is *most likely* to happen to the price of the bonds?

a) The bonds will now sell at par.
b) The bonds will now sell at a discount.
c) The bonds will now sell at a premium.
d) One cannot say anything about the price of the bonds without additional information.

7. Daniel Singh is 35 years old and has decided to save $8,000 every year in an investment account earning an interest rate of 8% p.a. He will make his first deposit one year from today and the last deposit 30 years from today when he retires at age 65. During retirement, he plans to withdraw funds from the account at the end of each year (so his first withdrawal will be at age 66). Assume that he plans to live until he is 90 years old. The equal annual amount that Dan will be able to withdraw each year if he wants the funds to last until he is 90 years old is **closest** to:

a) $54,788.
b) $84,898.
c) $85,398.
d) $90,062.

8. You want to purchase a new car which costs $32,000. You decide to go with the car dealer's financing offer of 6% p.a. compounded monthly with monthly payments to be made over 60 months. Unfortunately, you can only afford monthly loan payments of $300. However, the dealer has allowed you to pay off the rest of the loan in a lump-sum payment at the end of the loan. The amount that you would need to pay to the dealer at the end of your loan's time horizon is **closest** to:

a) $14,000.
b) $15,518.
c) $16,482.
d) $22,232.

9. Which of the following statements are *most likely* to be **false**?

I. The effective annual interest rate will always be higher than the quoted (or annual percentage) interest rate.
II. If you were borrowing funds from a bank, and the quoted interest rate was 6% p.a., you would be better off if the bank used quarterly compounding rather than monthly compounding.
III. All else being the same, the present value of an ordinary annuity will be greater than the present value of an annuity due.

a) I and II only.
b) I and III only.

c) II and III only.
d) I, I and II and III.

10. The ordinary shares of WTH Ltd are expected to pay a dividend of $2.00 at the end of year 1 and market analysts expect this dividend to grow at 8% p.a. the following year, 7% p.a. the year after that, 6% p.a. the year after that, before stabilizing at 5% p.a. for the foreseeable future. If the expected return on these shares is 15% their price today should be **closest** to:

a) $14.70.
b) $21.00.
c) $23.60.
d) $25.70.

11. Market analysts expect the earnings per share of JLC Ltd to be $2.00 next year. The company has typically retained 60% of its earnings and this policy is expected to continue in the foreseeable future. Assume that investors require a return of 8% p.a. on this company and that its shares are currently trading at $40.00 per share. Based on this information, the implied annual growth rate of JLC's dividends (and earnings) is **closest** to:

a) 2.0%.
b) 3.0%.
c) 5.0%.
d) 6.0%.

12. JRN Ltd has just announced that it plans to cut its dividend from $2.50 to $1.50 per share and use the extra funds to expand its operations. Prior to this announcement, JRN's dividends were expected to grow at 4% per annum forever and JRN's shares were trading at $25.00 per share. With the new expansion, JRN's dividends are expected to grow at 8% per annum forever. Assuming that the required return on JRN's shares is unchanged by the expansion, the value of a share of JRN after the announcement will be **closest** to:

a) $10.70.
b) $18.75.
c) $25.00.
d) The price cannot be calculated without additional information.

13. Jungle Juice Ltd (JJL) is a young company that currently does not pay a dividend as the company retains all its earnings to finance its growth. Market analysts expect that at the end of year 5 the company will start paying a $1.50 dividend. They also expect this dividend to grow by 5% p.a. over the foreseeable future after that. The required return on the shares is 15%. Based on this information, JJL's share price today should be **closest** to:

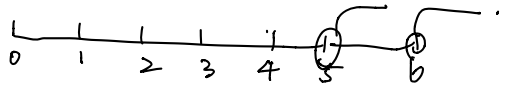
a) $7.83.
b) $8.58.
c) $15.00.
d) $15.75.

14. Jungle Juice Ltd (JJL) is a young company that currently does not pay a dividend as the company retains all its earnings to finance its growth. Market analysts expect that at the end of year 5 the company will start paying a $1.50 dividend. They also expect this dividend to grow by 5% p.a. over the foreseeable future after that. The required return on the shares is 15%. Based on this information, JJL's share price immediately after the first dividend is paid should be **closest** to:

a) $7.83.
b) $8.58.
c) $15.00.
d) $15.75.

d

year 5 g=5% p.a rE=15%.



$P_4 = \$15$

$P_5 = \frac{15 \cdot 0.15}{10\%} =$

2=0
$D_5 = \$1.5$ g=5% re=15%.

P5

$\frac{1.5 \times 1.05}{10\%}$