FINA 0025 –Financial Management

Question 1
All other things being equal, which one of the following bonds will have the greatest volatility?
a. 15-year, 15% coupon bond.
b. 5-year, 10% coupon bond.
c. 15-year, 10% coupon bond.
d. 5-year, 15% coupon bond.

Question 2
Consider two Treasury bills, each with a face value of $100,000 and maturing in 180 and 90 days, respectively. Assume the yield is 6% p.a. What are their prices today? What happens to T-bill prices as they approach maturity?

Question 3
Consider a zero coupon bond which matures in 5 years with a face value of $1,000
a) If the bond has a yield to maturity of 8% what price should it be selling for today?
b) Suppose interest rates change suddenly and the price of these bonds rises to $700. What has happened to the yield to maturity of the bonds and why?

Question 4
Consider a bond which pays an annual coupon rate of 10% with 5 years to maturity and a face value of $1,000
    a)   If the bond has a yield to maturity of 8% what price should it be selling for today?
b) What will its price be when there is one year left to maturity and interest rates do not change during this time?
c) What will the bond's price be immediately before maturity?
d) What is the bond's price if this were a zero coupon bond?

Question 5
Consider two bonds each with an annual coupon rate of 10% and face value of $1,000. Bond A matures in 2 years and Bond B matures in 20 years. Assume both bonds have a yield to maturity of 10% p.a. What happens to the price of these bonds when market interest rates change unexpectedly to 6%, 8%, 12% and 14%?

Question 6
The price and dividend per share for OzCo Ltd next period are expected to be $5.00 and $0.50, respectively. If the expected return on these shares is 10% p.a. what is OzCo's current stock price? If the current price changes to $4.80 what has happened to the expected return on these shares? Why?

Question 7
Assume that year 0 is the end of 2004. Telstra Ltd is expected to pay annual dividends of $0.26 in 2005 (year 1). Assume that this dividend grows at an annual rate of 5% in the foreseeable future and investors require a return of 10% p.a.
a) Estimate Telstra's stock price today
b) What is Telstra's price expected to be at the end of 2005?

c) Based on Telstra's current price of $4.75, what is the constant dividend growth rate implied?
d) How sensitive is the price estimate to different assumptions regarding the growth in dividends over time?
e) How sensitive is the price estimate to different assumptions regarding the required rate of return?

Question 8
Telstra's earnings per share in 2005 is expected to be $0.343. Its dividend payout ratio is expected to be 75.8%.
Assume that these earnings per share are expected to grow at 5% and the required return on Telstra's shares is 10% p.a.
Estimate the following
a) The firm's current price
b) The firm's P/E ratio

Question 9
If interest rates in all maturities increase by one percent the price of the shorter maturity bond and the longer maturity bond will rise by the same percentage. True or False?

Question 10
You have a $1000 par 5% coupon (nominal rate) US Treasury bond with 7 years remaining in its life. Coupons are paid semiannually and the next coupon payment is exactly six months away. The market interest rate is 6% (nominal rate with semiannual compounding). What is the current price of this bond?

Question 11
Price a zero coupon bond with a face amount of $1000 maturing in 7 years. Assume that the nominal interest rate is 6% and interest is compounded semiannually.

Question 12
Explain how the price of a bond changes as the bond approaches its maturity date

Question 13
If the dividends of ABC Plc are forecast to grow at 10%, 7% and 6% over the next three years and at 3% in perpetuity in the following years, the total dividend paid by the company last year was £2m, and that number of outstanding shares was 3 million. What value would you expect to be the current value of each individual share if the cost of equity is 15%.

Question 14
A key input for the Gordon Model is the expected growth rate in dividends over the long term. How, if at all, would you factor in the following considerations in estimating this growth rate?
a) There is an increase in the inflation rate.
b) The economy in which the firm operates is growing very quickly.
c) The growth potential of industry in which the firm operates is very high.
d) The current management of the firm is of very high quality.

Question 15
Consider the following two bond issues:
Bond A: 5% 15-year bond

Bond B: 5% 30-year bond
Neither bond has an embedded option. Both bonds are trading in the market at the same yield.
Which bond will fluctuate *more* in price when interest rates change? Why?

Question 16
Given the information in the first and third columns, complete the table in the second and fourth columns.

Quoted Price	Price per $1 of par value	Par value	Dollar price
96 ¼		$1,000	
102 7/8		$5,000	
109 9/16		$10.000	
68 11/32		$100,000	

Question 17
You are the winner of the reality TV show Financial Survivor and have been offered the following alternative prices. Assuming that the interest rate appropriate for valuing the different alternatives is 8% p.a. and all cash flows occur at the end of each year, which alternative would you choose?

a) $1,000,000 now
b) $250,000 per year for the next five years
c) $1,500,000 at the end of year five
d) $500,000 at the end of year one and $600,000 at the end of year two.

Question 18
You have finally decided to start saving for your dream home and wish to have $50,000 for a down payment at the end of year five. Assume that you will start saving at the end of year 1 until the end of year 5 and that you are able to earn a return of 8% p.a. (interest compounded annually) on your savings. The equal amounts you would need to save over this five-year period is <u>closest</u> to:

a) $5,236
b) $8,523
c) $10,000
d) $11,096

Question 19
Your friend is considering investing $10,000 at the end of every year in a bank account paying 8% p.a. with interest compounded quarterly. The lump sum amount he will have accumulated at the end of five years is <u>closest</u> to:

a) $39,672
b) 39,927
c) $58,666
d) $58,951

Question 20 through 22 are based on the following information
Six years ago you borrowed $250,000 for a ten year period at an interest rate of 12% p.a. with interest compounded on a monthly basis. Assume that you have been making regular annual payments on your loans over this time period.

Question 20
The monthly payment that you are making on this loan is **closest** to:

a) $2,083.33
b) $2,500.00
c) $3,586.77
d) $3,687.17

Question 21
Suppose you now wish to repay in full the amount outstanding on this loan. The total amount you need to repay now is **closest** to:

a) $130,731
b) 136,204
c) $183,465
d) $196,894

Question 22
The effective annual interest rate that you are paying on this loan is **closest** to:

a) 1.00%
b) 12.00%
c) 12.55%
d) 12.68%

Question 23
You have obtained the following (incomplete) information for ABA Ltd's stock

Current market price	$30.00
Current dividends per share	?
Current dividend yield	4.0%
Current earnings per share	?
Current P/E ratio	?
Current retention ratio	60.0%

Based on the above information, ABA Ltd's current P/E ratio is **closest** to:

a) 1.00
b) 1.5
c) 10.00
d) 15.00

Question 24
FYI Ltd has been experiencing considerable growth over the past few years. As a result, market analysts expect that the firm will not pay a dividend for the next four years. The firm is then expected to pay a dividend of $1.00 at the end of year 5, which analysts expect to grow at an annual rate of 5% into the foreseeable future. Investors require a return of 15% p.a. on stocks in FYI's risk class. Based on this information, the most investors should be willing to pay for FYI's stock is **closest** to:

a) $4.97
b) $5.72
c) $6.00
d) $10.00

Question 25
Anne Investa's portfolio is formed by placing half her funds in the riskfree asset and the remainder in the market portfolio. Which of the following statements are false?

I. The portfolio is inefficient because only half the funds are invested in the market portfolio.
II. The portfolio will lie to the right of the market portfolio on the capital market line.
III. The portfolio's standard deviation will be half the standard deviation of the market portfolio.

a) I and II only
b) I and Iii only
c) II and III only
d) I, II and III

Question 26
OLO Ltd issued coupon paying bonds a few years back that now have 4 years remaining to maturity. The bonds have been paying a coupon rate of 10% per annum on a face value of $1,000 and are currently trading at their face value. Since the company has been experiencing some difficulty in meeting its interest obligations, it has been able to renegotiate the terms of agreement of these bonds. Under the new agreement, the company will be able to defer (that is, not pay) each of the **remaining** coupon payments until the bonds mature. However, the company will have to pay a penalty of 10% per annum on **each** coupon payment that is deferred until maturity. If the price of these bonds remains unchanged, their yield to maturity is:

a) 10.0%
b) 11.6%
c) 26.4%
d) None of the above

Question 27
You have $10,000 available for investing in the following three securities and you wish to form a portfolio offering an expected return of 10%. The following (incomplete) information is available to you:

Security	Expected Return	Percent of Funds Invested	Variances and Covariances		
			Security A	Security B	Security C
A	8.0%	50.0%	0.040		
B	10.0%	?	0.015	0.250	
C	15.0%	?	0.030	0.060	0.090

Based on the above information, the portfolio's return variance is **closest** to:

a) 0.024
b) 0.054
c) 0.095
d) 0.232

Question 28
If the returns of securities A and B are perfectly positively correlated, the variance of a two security portfolio consisting of A and B can be written as:

I. $W_A^2\sigma_A^2 + W_B^2\sigma_B^2 + 2W_AW_B\sigma_{AB}$

II. $W_A^2\sigma_A^2 + W_B^2\sigma_B^2 + 2W_AW_B\sigma_A\sigma_B$

III. $\left(W_A\sigma_A + W_B\sigma_B\right)^2$

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

Question 29
The cash flow probability distribution for WHT Ltd. Shares next year is as follows.

State of the Economy	Probability	Price	Dividends
Boom	0.25	$6.50	$1.50
Normal	0.50	$6.00	$1.00
Recession	0.25	$4.00	$0.00

Note that the prices above are ex-dividends prices. If WHT Ltd's shares are currently selling for $5.00, then the standard deviation of returns is **closest** to:

a) 3.7%
b) 9.0%
c) 19.2%
d) 30.0%