

**Bangladesh Open University**  
MBA Program  
Semester: 182 (4<sup>th</sup> Level)

Course: Business Research Methods

Due on: December 6, 2019

***Instructions for Assignment Submission***

1. Answer all questions in your own handwriting on A4 size white paper.
2. Fill-in the cover page (see page#8 of Semester Calendar) of your assignment with care.
3. Submit the assignment to the study centre coordinator or his delegate and ensure his/her signature on your Assignment Acknowledgement Form (see page#9 of Semester Calendar).
4. Don't make spiral binding. Instead, make soft binding.
5. Send a mail with your ID Number and Level to **mbacoordinator.bou@gmail.com** with subject "Add Me", if your e-mail address is not yet added to our e-mail list.
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**Questions**

1. (a) What do you mean by Business Research?  
(b) Distinguish between exploratory research, descriptive research and causal research.  
(c) Discuss major phases of business research process.
2. (a) Define knowledge management. What is its purpose within an organization?  
(b) What type of operational questions could a delivery firm like FedEx expect to automate with the company's decision support system?  
(c) What makes a decision support system successful?  
(d) What is data warehousing?
3. (a) Why is convenience sampling considered to be a non-statistical sampling method?  
(b) Explain the difference between stratified random sampling and cluster sampling.  
(c) Give the name of the kind of sampling that was most likely used in each of the following cases:
  - (i) Wall Street Journal poll of 2,000 people to determine the president's approval rating.
  - (ii) A poll taken of each of the General Motors (GM) dealerships in Ohio in December to determine an estimate of the average number of Chevrolets not yet sold by GM dealerships in the United States.
  - (iii) A quality-assurance procedure within a Frito-Lay manufacturing plant that tests every 1,000th bag of Fritos Corn Chips produced to make sure the bag is sealed properly.
  - (iv) A sampling technique in which a random sample from each of the tax brackets is obtained by the Internal Revenue Service to audit tax returns.

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4. (a) Why proper definition of research problem is essential to business research? Explain.  
 (b) Describe in brief the process of problem definition.  
 (c) What is a research proposal? Discuss the sections of a research proposal.
5. (a) A professor wishes to develop a numerical method for giving grades. He intends to base the grade on homework, two midterms, a project, and a final examination. He wishes the final exam to have the largest influence on the grade. He wants the project to have 10%, each midterm to have 20%, and the homework to have 10% of the influence on the semester grade.

(i) Determine the weights the professor should use to produce a weighted average for grading purposes.

(ii) For a student with the following grades during, the quarter, calculate a weighted average for the course:

Instrument	Final	Project	Midterm-1	Midterm-2	Homework
Percentage Grade	64	98	67	63	89

(iii) Calculate an (unweighted) average of these five scores and discuss why the weighted average would be preferable here.

- (b) Avalon Bagel provides take-out service for a variety of breakfast items. The following table shows the number of orders that have been recently placed grouped by the size of the order in dollars.

Size of Order	Number of orders
\$0 to under \$5	10
\$5 to under \$10	12
\$10 to under \$15	14
\$15 to under \$20	5
\$20 to under \$25	9

- (i) What is the approximate average order size for this sample?  
 (ii) What is the approximate variance for the order size for this sample?

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**Bangladesh Open University**  
**MBA Program**  
**Semester: 182 (4<sup>th</sup> Level)**

**Course: MBA: Business Research Methods**

**Due on: January 31, 2020**

**(Answer all the questions in your own handwriting on A4 size white pages)**

1.
  - (a) What do you mean by Hypothesis testing?
  - (b) Define: Null hypothesis and alternative hypothesis.
  - (c) Write down the steps to be performed for hypothesis test.
  - (d) What is the significance of understanding of confidence intervals?
  - (e) A business research class with 110 students recently had an exam. The mean exam score was a 78.3 and the standard deviation of the exam score was 7.2. What is the probability that a random sample of 32 exams has an average score more than 80?
  
2.
  - (a) The average battery life of the iPhone is reported to be 6.0 hours by Apple. Assume that the standard deviation for the battery life for this cell phone is 30 minutes. A random sample of 50 iPhones had an average battery life of 5.7 hours. Use a 90% confidence interval to test the validity of Apple's claim?
  - (b) A survey by Harris Interactive reported that 35% of college students prefer digital textbooks over traditional print textbooks. State University would like to confirm these results. A random sample of 125 students was asked their textbook preference and a total of 37 preferred the digital format. Use a 95% confidence interval to validate the Harris Interactive findings.
  
3.
  - (a) “The standard error of the difference between two means describes the variation in the difference between two sample means.” Do you agree? Explain.
  - (b) The management of the Green Bay Packers football team would like to test the hypothesis that the average price of a ticket is less than \$225 on the secondary market. A random sample of 40 customers paid an average of \$207 for their ticket. Assume that the standard deviation of the price of tickets for Packers games is \$43. The Green Bay Packers would like to set  $\alpha = 0.01$ . Use the critical value approach to test this hypothesis.
  - (c) The management of the Green Bay Packers football team would like to test the hypothesis that the average price of a ticket is less than \$225 on the secondary market. A random sample of 40 customers paid an average of \$207 for their ticket. Assume that the standard deviation of the price of tickets for Packers games is \$43. The Green Bay Packers would like to set  $\alpha = 0.01$ . Use the  $p$ -value approach to test this hypothesis?

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- (d) Traveler's Insurance would like to test the hypothesis that the average number of miles driven per month by a male teenage driver exceeds the average number of miles driven per month by a female teenage driver by more than 50 miles. The following data summarizes the sample statistics for the miles driven per month by each gender. Assume that the population variances are equal.

	Male	Female
Sample mean	685	580
Sample size	13	16
Sample standard deviation	130	120

Define Population 1 as male drivers and Population 2 as female drivers and use the critical value approach to test this hypothesis with  $\alpha = 0.05$ .

4. (a) "Analysis of variance compares the variance *between* samples to the variance *within* those samples to determine if means of populations are different." Explain.
- (b) "When the *F*-test statistic is greater than the critical *F*-score for ANOVA, the correct conclusion is to fail to reject the null hypothesis?" Explain.
- (c) The following data show the download speed in megabytes per second for a random sample of Smartphone users in three cities using four different networks.

Carrier	Locations		
	New York	Washington	San Francisco
AT&T	35	14	14
Sprint	12	7	8
T-Mobile	19	11	9
Verizon	30	12	9

Perform a randomized block ANOVA using  $\alpha = 0.05$  to test if a difference exists in average download speed between these three cities.

5. (a) What are the statistical application in chi square tests?
- (b) When the chi-square test statistic is greater than the chi-square critical value when comparing two or more population proportions, we fail to reject the null hypothesis? Do you agree? Explain.
- (c) How will you calculate the degree of freedom?
- (d) Dave is a photographer who sells his prints at Jersey Art during the summer months on consignment. Dave sells three different size prints during the months of June, July, and August. The following contingency table shows the number of prints sold each month last summer.

Month	Print Sizes		
	11x14	13x19	16x20
June	3	12	5
July	18	17	15
August	10	20	0

Perform a hypothesis test to determine if the print size and the month that it was sold are independent variables using  $\alpha = 0.01$ .

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6.
  - (a) What is a report?
  - (b) Explain different parts of an analytical research report.
  - (c) State the methods of writing reference regarding (i) Books, (ii) Journals, (iii) Unpublished dissertation (iv) Thesis.

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**Bangladesh Open University**  
**MBA Program**  
**Semester 182 (4<sup>th</sup> Level)**

Course: Corporate Finance

Due on: December 6, 2019

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**Questions**

1. (a) What is Corporate finance? Explain why the goal of financial management is to maximize shareholders wealth instead of maximize profit.  
 (b) Why an agency relationship exists in the corporate form of organization? In this context, what kind of problems can arise? How it can be solved?
2. (a) Define cash budget. What is the main purpose of cash budget?  
 (b) The Sun company has an ROE of 13.1% and a payout ratio of 37%.  
 i) What is the company's sustainable growth rate?  
 ii) Can the company's actual growth rate be different from its sustainable growth rate? Why or why not?  
 iii) How can the company increase its sustainable growth rate?
3. (a) What is option? Why are options purchased or sold?  
 (b) Differentiate between lease and loan.  
 (c) High electricity costs have made Farmer Corporations chicken-plucking machine economically worthless. Only two machines are available to replace it. The international plucking machine (IPM) model is available only on a lease basis. The lease payments will be Tk.65,000 for five years, due at the end of each year. This machine will save Farmer Tk.15,000 per year through reductions in electricity costs. As an alternative, farmer can purchase a more energy-efficient machine from Basic Machine Corporations (BMC) for Tk.330,000. This machine will save Tk.25,000 per year in electricity costs. A local bank has offered to finance the machine with a Tk.330,000 loan. The interest rate on the loan will be 11.3 percent on the remaining balance and will require five annual principal payments of Tk.66,000. Farmer has a target debt-to-asset ratio of 67 percent. Farmer is in the 34 percent tax bracket. After five years, both machines will be worthless. The machine will be depreciated on a straight-line basis.

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- i) Should Farmer lease the IPM machine or purchase the more efficient BMC machine?
- ii) Does your answer depend on the form of financing for direct purchase?
- iii) How much debt is displaced by this lease?

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**শুন্ অৱ বিজ্ঞেয়**  
**Bangladesh Open University**  
**MBA Program**  
**Semester 182 (4<sup>th</sup> Level)**

Course: Corporate Finance

Due on: January 31, 2020

(Answer all the questions in own handwriting on A4 size white pages)

1. (a) What is stock purchase warrant? Why are warrants issued?
- (b) Mahmud Corporation recently issued Tk. 3 million worth of 8% convertible debentures. Each convertible bond has a face value of Tk. 1000. Each convertible bond can be converted into 22 shares of common stock anytime before maturity. The stock price is Tk. 38, and the market value of each bond is Tk. 1080.
  - i. What is the conversion ratio?
  - ii. What is the conversion price?
  - iii. What is the conversion premium?
  - iv. What is the conversion value?
- (c) Hossain Pen Company has an outstanding issue of convertible bonds with a Tk 1,000 par value. These are convertible into 51 shares of common stock. They have a 9.4 per cent coupon and a 13-year maturity. The interest rate on a straight bond of similar risk is eight per cent.
  - i. Calculate the straight value of the bond.
  - ii. Calculate the conversion value of the bond when the market price of the stock is Tk. 32/share.
  - iii. What is the least you would expect the bond to sell for at a market price of common stock of Tk. 18/share?
2. (a) What is Merger? Why firms are interested to go for Merger and Acquisition? Describe each motive.
- (b) Appollo Corporation is considering a merger with the Marco Company. Marco is a publicly traded company, and its current beta is 1.30. Marco has been barely profitable, so it has paid an average of only 20% in taxes during the last several years. In addition, it uses little debt, having a debt ratio of just 25%. If the acquisition were made, Appollo would operate Marco as a separate, wholly owned subsidiary. Appollo would pay taxes on a consolidated basis, and the tax rate would therefore increase to 35%. Appollo also would increase the debt capitalization in the Marco subsidiary to 40% of assets, which would increase its beta to 1.47. Appollo's acquisition department estimates that Marco, if acquired, would produce the following net cash flows to Appollo's shareholders :

Year	Net Cash flows (Tk.)
1	600,000
2	620,000
3	750,000
4	250,000
5 and beyond	Constant growth at 6%

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These cash flows include all acquisition effects. The market risk premium is 6%.  
The risk-free rate is 8%.

- (i) What discount rate should be used to discount the estimated cash flows?
  - (ii) What is the take value of Marco to Appollo?
3. (a) What is the difference between liquidation and reorganization?
- (b) What is prepackaged bankruptcy? What is the main benefit of prepackaged bankruptcy?
- (c) Discuss the absolute priority rule?

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**Bangladesh Open University**  
**MBA Program**  
**Semester: 182 (4<sup>th</sup> Level)**

**Course: Investment Analysis and Portfolio Management**

**Due on: December 6, 2019**

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**Questions**

1. (a) Define investment. Give an example of a liquid investment and an illiquid investment. Discuss why you consider each of them to be liquid or illiquid.  
 (b) Assume that the consensus required rate of return on common stocks is 14 percent. In addition, you read in Fortune that the expected rate of inflation is 5 percent and the estimated long-term real growth rate of the economy is 3 percent. What interest rate would you expect on U.S. government T-bills? What is the approximate risk premium for common stocks implied by these data?  
 (c) Discuss the determinants of required rate of return.
2. (a) Draw a properly labeled graph of the Markowitz efficient frontier. Describe the efficient frontier in exact terms. Discuss the concept of dominant portfolios, and show an example of one on your graph.  
 (b) The standard deviation of Shamrock Corp. stock is 19 percent. The standard deviation of Cara Co. stock is 14 percent. The covariance between these two stocks is 100. What is the correlation between Shamrock and Cara stock?  
 (c) Given two assets with the following characteristics:  
 $E(R_1)=0.12, \sigma_1 = 0.04; E(R_2)=0.16, \sigma_2 = 0.06$   
 Assume that  $r_{1, 2} = -1.00$ . What is the weight that would yield a zero variance for the portfolio?
3. It is widely believed that changes in certain macroeconomic variables may directly affect performance of an equity portfolio. As the chief investment officer of a hedge fund employing a global macro-oriented investment strategy, you often consider how various macroeconomic events might impact your security selection decisions and portfolio performance. Briefly explain how each of the following economic factors would affect portfolio risk and return: (a) industrial production, (b) inflation, (c) risk premium, (d) term structure, (e) aggregate consumption, and (f) oil prices.

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4.
  - (a) Find at least three sources of historical information on nominal and real GDP. Find two sources of an annual estimate of nominal GDP.
  - (b) It is estimated that next year hourly wage rates will increase by 7 percent and productivity will increase by 5 percent. What would you expect to happen to unit labor cost?
  - (c) Several studies have examined the difference in risk for alternative industries during a specified time period. Describe the results of these studies, and discuss their implications for industry analysis.

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**Bangladesh Open University**  
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**Semester: 182 (4<sup>th</sup> Level)**

**Course: Investment Analysis and Portfolio Management**

**Due on: January 31, 2020**

**(Answer all the questions in own handwriting on A4 size white pages)**

1. (a) Discuss about the basic features of bonds that affect their risk, return, and value.
- (b) Calculate the Macaulay duration of an 8 percent, \$1,000 par bond that matures in three years if the bond's YTM is 10 percent and interest is paid semiannually.
  - i. Calculate this bond's modified duration.
  - ii. Assuming the bond's YTM goes from 10 percent to 9.5 percent, calculate an estimate of the price change.
- (c) What is meant by an interest rate anticipation strategy? Explain how it involves in forecast economy.
2. (a) Technical analysts believe that one can use past price changes to predict future price changes. How do they justify this belief?
- (b) Explain the reasoning behind a support level and a resistance level.
- (c) Assume the following daily closings for the Dow Jones Industrial Average:

Day	DJIA	Day	DJIA
1	13,010	7	13,220
2	13,100	8	13,130
3	13,165	9	13,250
4	13,080	10	13,315
5	13,070	11	13,240
6	13,150	12	13,310

- i. Calculate a four-day moving average for Days 4 through 12.
- ii. Assume that the index on Day 13 closes at 13,300. Would this signal a buy or sell decision?
- 3 The Sharpe and Treynor performance measures both calculate a portfolio's average excess return per unit of risk. Under what circumstances would it make sense to use both measures to compare the performance of a given set of portfolios? What additional information is provided by a comparison of the rankings achieved using the two measures?
4. **Case Study**  
 You are evaluating various investment opportunities currently available and you have calculated expected returns and standard deviations for five different well-diversified portfolios of risky assets:

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Portfolio	Expected Return	Standard Deviation
Q	7.8%	10.5%
R	10.0	14
S	4.6	5
T	11.6	11.5
U	6.2	7.5

Using only the data shown in the preceding table:

- For each portfolio, calculate the risk premium per unit of risk that you expect to receive ( $[E(R) - RFR]/\sigma$ ). Assume that the risk-free rate is 3.0 percent.
- Using your computations in Part a, explain which of these five portfolios is most likely to be the market portfolio. Use your calculations to draw the capital market line (CML).
- If you are only willing to make an investment with  $\sigma = 7.0\%$ , is it possible for you to earn a return of 7.0 percent?
- What is the minimum level of risk that would be necessary for an investment to earn 7.0 percent? What is the composition of the portfolio along the CML that will generate that expected return?
- Suppose you are now willing to make an investment with  $\sigma = 18.2\%$ . What would be the investment proportions in the riskless asset and the market portfolio for this portfolio? What is the expected return for this portfolio?

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**Bangladesh Open University**  
**MBA Program**  
**Semester: 182 (4<sup>th</sup> Level)**

**Course: Bank Management and Financial Services**

**Due on: December 6, 2019**

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**Questions**

1. (a) What is a bank? What different kinds of services do banks offer the public today? What services do their closest competitors offer? Explain.
- (b) How have banking and the financial services market changed in recent years? What powerful forces are shaping financial markets and institutions today in Bangladesh? Which of these forces do you think will continue into the future in the context of Bangladesh?
- (c) You recently graduated from college with a business degree and accepted a position at a major corporation earning more than you could have ever dreamed. You want to (1) open a checking account for transaction purposes, (2) open a savings account for emergencies, (3) invest in an equity mutual fund for that far-off future called retirement, (4) see if you can find more affordable auto insurance, and (5) borrow funds to buy a condo given your uncle said he was so proud of your grades that he wanted to give you \$20,000 for a down payment. (Is life good or what?) Make five lists of the financial service firms that could provide you each of these services.
2. (a) To what different kinds of risk are banks and their financial-service competitors subjected today?
- (b) The following information is for Blue Sky National Bank:

Interest income	\$2,200
Interest expense	\$1,400
Total assets	\$45,000
Securities losses or gains	\$21
Earning assets	\$40,000
Total liabilities	\$38,000
Taxes paid	\$16
Shares of Common Stock outstanding	5,000
Noninterest income	\$800
Noninterest expense	\$900

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Provision for loan losses            \$100

Calculate:

- (i) ROE (ii) ROA (iii) Net interest margin (iv) Earning per share (v) Net noninterest margin and (vi) Net operating margin

(c) Paintbrush Hills State Bank has just submitted its Report of Condition and Report of Income to its principal supervisory agency. The bank reported net income before taxes and securities transactions of \$29 million and taxes \$8 million. If its total operating revenues were \$650 million, its total assets \$1.75 billion, and its equity capital \$170 million, determine the following for Paintbrush Hills:

- (i) Tax management efficiency ratio.
- (ii) Expense control efficiency ratio.
- (iii) Asset management efficiency ratio.
- (iv) Funds management efficiency ratio.
- (v) ROE.

3. (a) What do the following terms mean: Asset management? Liability management? Funds management?
- (b) What is duration? How can you tell you are fully hedged using duration gap analysis?
- (c) Commerce National Bank holds assets and liabilities whose average duration and dollar amount are shown as below:

Asset and Liability Items	Avg. Duration	Dollar Amount
Dollar Amount Investment-grade bonds	8 years	\$60 million
Commercial loans	3.6 years	\$320 mill.
Consumer loans	4.5 years	\$140 mill.
Deposits	1.1 years	\$490 mill.
Non-deposit borrowings	0.1 years	\$20 mill.

What is the dollar-weighted duration of the bank's asset portfolio and liability portfolio? What is the duration gap?

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**Bangladesh Open University**  
**MBA Program**

**Semester: 182 (4<sup>th</sup> Level)**

**Course: Bank Management and Financial Service**

**Due on: January 31, 2020**

**(Answer all the questions in own handwriting on A4 size white pages)**

1. (a) What are the principal types of loans made by banks? Explain.
- (b) What is the CAMELS rating and how is it used? What three major questions or issues must a lender consider in evaluating nearly all loan requests?
- (c) Suppose a business borrower projects that it will experience net profits of \$2.1 million, compared to \$2.7 million the previous year and will record depreciation and other noncash expenses amount of \$0.7 million this year versus \$0.6 million last year. What is this firm's projected cash flow for this year? Is the firm's cash flow rising or falling? What are the implications for a lending institution thinking of loaning money to this firm? Suppose sales revenue rises by \$0.5 million, costs of goods sold decreases by \$0.3 million, while cash tax payments increase by \$0.1 million and noncash expenses decrease by \$0.2 million. What happens to the firm's cash flow? What would the lender's likely reaction to these events?
- (d) Crockett Manufacturing and Service Company holds a sizeable inventory of dryers and washing machines, which it hopes to sell retail dealers over the next six months. These appliances have a total estimated market value currently of \$25 million. The firm also reports accounts receivable currently amounting to \$12,650,000. What is the minimum size loan or credit line Crockett is likely to receive from its principal lender? What is the maximum size loan or credit line Crockett is likely to receive?
2. (a) What are the essential differences among working capital loans, open credit lines, asset-based loans, term loans, revolving credit lines, interim financing, project loans, and acquisition loans?
- (b) Suppose a bank estimates that the marginal cost of raising loanable funds to make a \$10 million loan to one of its corporate customers is 4 percent, its non-funds operating costs to evaluate and offer this loan are 0.5 percent, the default-risk premium on the loan is 0.375 percent, a term-risk premium of 0.625 percent is to be added, and the bank's desired profit margin is 0.25 percent. What loan rate should be quoted this borrower? How much interest will the borrower pay in a year?
3. (a) What are the principal differences among asset liquidity management, liability management, and balanced liquidity management?
- (b) How does the sources and uses of funds approach help a manager estimate a financial institution's need for liquidity?
- (c) Suppose that a thrift institution's liquidity division estimates that it holds \$19 million in hot money deposits and other IOUs against which it will hold an 80 percent liquidity reserve, \$54 million in vulnerable funds against which it plans to hold a 25 percent reserve, and \$112 million in stable or core funds against which it will hold a 5 percent liquidity reserve. The thrift expects its loans to grow 8 percent annually; its loans currently stand at \$117 million, but have recently reached \$132 million. If reserve requirements on liabilities currently stand at 3 percent, what is this depository institution's total liquidity requirement?

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4. (a) Explain the current status and the prospect of E-Banking in Bangladesh.
- (b) What are fin-tech banks and what impact will they have on financial services? Explain.

<b>Book Reference</b>	<b>1. Commercial Bank Management</b> Peter S. Rose
	<b>2. Bank Management</b> Dr. A R khan

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**Bangladesh Open University**  
**MBA Program**  
**Semester: 182 (4<sup>th</sup> Level)**

**Course: Development of Financial Markets and Institutions**

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**Questions**

1. Suppose a bank enters a repurchase agreement in which it agrees to buy Treasury securities from a correspondent bank at a price of \$24,950,000, with the promise to buy them back at a price of \$25,000,000.
  - (a) Calculate the yield on the repo if it has a 7-day maturity.
  - (b) Calculate the yield on the repo if it has a 21-day maturity.
2. On October 5, 2004, you purchase a \$10,000 T-note that matures on August 15, 2015 (settlement occurs two days after purchase, so you receive actual ownership of the bond of October 7, 2004). The coupon rate on the T-note is 4.375 percent and the current price quoted on the bond is 105.08 (or 105.25% of the face value of the T-note). The last coupon payment, occurred on May 15, 2004 (145 days before settlement), and the next coupon payment will be paid on November 15, 2004 (41 days from settlement).
  - (a) Calculate the accrued interest due to the seller from the buyer at settlement.
  - (b) Calculate the dirty price of this transaction.
  - (c) Calculate the yield to maturity (based on the clean price) on the bond received on October 7, 2004, and maturing on August 15, 2015 (or in 10.8603 years).
3. What is the difference between bearer bonds and registered bonds?
4. What is a convertible bond? Is a convertible bond more or less attractive to a bond holder than a nonconvertible bond?
5. Hilton Hotels Corp. has a convertible bond issue outstanding. Each bond, with a face value of \$ 1,000, can be converted into common shares at a rate of 61.2983 shares of stock per \$1,000 face value bond (the conversion rate), or \$16.316 per share. Hilton's common stock is trading (on the NYSE) at \$15.90 per share and the bonds are trading at \$97.50.

***Note: Submit your assignment to the Coordinator of the Study Center you are attached with.***

- (a) Calculate the conversion value of each bond.
  - (b) Determine if it is currently profitable for bond holders to convert their bonds into shares of Hilton Hotel common stock?
6. Suppose you own 50,000 shares of common stock in a firm with 2.5 million total shares outstanding. The firm announces a plan to sell an additional 1 million shares through a rights offering. The market value of the stock is \$35 before the rights offering and the new shares are being offered to existing shareholders at a \$5 discount.
- (a) If you exercise your preemptive rights, how many of the new shares can you purchase?
  - (b) What is the market value of the stock after the rights offering?
  - (c) What is your total investment in the firm after the right offering? How is your investment split between original shares and new shares?
  - (d) If you decide not to exercise your preemptive rights, what is your investment in the firm after the rights offering? How is this split between old shares and rights?

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**শুভ্র অথ বিজ্ঞান**  
**Bangladesh Open University**  
**MBA Program**  
**Semester: 182 (4<sup>th</sup> Level)**

**Course: Development of Financial Markets and Institutions**

**Due on: January 31, 2020**

**(Answer all the questions in own handwriting on A4 size white pages)**

1. North Bank has been borrowing in the U.S. markets and lending abroad, thereby incurring foreign exchange risk. In a recent transaction, it issued a one-year \$2 million CD at 6% and is planning to fund a loan in British pounds at 8% for a 2 percent expected spread. The spot rate of British pounds for U.S. dollars is 1.45.
  - (a) However, new information now indicates that the British pound will depreciate such that the spot rate of British pounds for U.S. dollars is 1.47 by year end. What should the bank charge on the loan in order to maintain the 2% spread?
  - (b) The bank has an opportunity to hedge using one year forward contracts at 1.46 British pounds for U.S. dollars. What is the spread if the bank hedges its forward foreign exchange exposure?
  - (c) How should the loan rates be increased to maintain the 2% spread if the bank intends to hedge its exposure using the forward rates?
  
2. Citibank holds \$23 million in foreign exchange assets and \$18 million in foreign exchange liabilities. Citibank also conducted foreign currency trading activity in which it bought \$5 million in foreign exchange contracts and sold \$12 million in foreign exchange contracts.
  - (a) What is Citibank's net foreign assets?
  - (b) What is Citibank's net foreign exchange bought?
  - (c) What is Citibank's net foreign exposure?
  
3. The following table lists balance of payment current accounts for country A.
 

Current Accounts		
(i) Exports of goods, services, and income		\$168,953
(ii) Goods, adjusted, excluding military	\$92,543	
(iii) Services	45,689	
(iv) Income receipts on U.S. assets abroad	30,721	
(v) Imports of goods, services, and income		-150,936
(vi) Goods, adjusted excluding military	-84,107	
(vii) Services	-31,689	
(viii) Income payments on foreign assets in the United states	-35,140	
(ix) Unilateral transfers, net		-9,421

  - (a) What is country A's total current accounts?
  - (b) What is country A's balance on goods?
  - (c) What is country A's balance on services?
  - (d) What is country A's balance on investment income?

**Note: Submit your assignment to the Coordinator of the Study Center you are attached with.**

4. (a) What is a derivative security?  
 (b) What is the difference between a spot contract, a forward contract, and a futures contract?
  
5. Suppose you purchase a Treasury bond futures contract at a price of 95 percent of the face value, \$100,000.
  - (a) What is your obligation when you purchase this futures contract?
  - (b) Assume that the Treasury bond futures price falls to 94 percent. What is your loss or gain?
  - (c) Assume that the Treasury bond futures price rises to 97. What is your loss or gain?
  
6. A commercial bank has \$200 million of floating rate loans yielding the T-bill rate plus 2 percent. These loans are financed with \$200 million of fixed rate deposits costing 9 percent: A savings bank has \$200 million of mortgages with a fixed rate of 13 percent. They are financed with \$200 million in CDs with a variable rate of T-bill rate plus 3 percent.
  - (a) Discuss the type of interest rate risk each institution faces.
  - (b) Propose a swap that would result in each institution having the same type of asset and liability cash flows.
  - (c) Show that this swap would be acceptable to both parties.

<b>Book Reference</b>	<b>1. Financial Markets and Institutions</b> Jeff Madura
	<b>2. Financial Markets and Institutions</b> <b>A Modern Perspective</b> Anthony Saunders Marcia Millon Cornett

*Note: Submit your assignment to the Coordinator of the Study Center you are attached with.*