

**CMA JUNE-2019 EXAMINATION  
STRATEGIC LEVEL  
SUBJECT: F3. FINANCIAL STRATEGY**

Time Allocated: Three hours

Total Marks: 100

**Instructions to Candidates**

There are three sections (that is A, B & C) in this paper. You are required to answer ALL questions.

Answers should be properly structured, relevant and computations need to be shown wherever necessary.

You are strongly advised to carefully read ALL the question requirements before attempting the question concerned (that is all parts and/or sub-questions).

ALL answers must be written in the answer book. Answers written on the question paper will not be submitted for marking.

Start answering each question from a fresh sheet. Your answers should be clearly numbered with the sub-question number then ruled off, so that the markers know which sub-question you are answering.

Section	No of questions in the Section	No of sub-questions in the Section	Marks allocation
A	01	08	20%
B	01	05	40%
C	02	02	40%

**TURN OVER**

**SECTION A – 20 MARKS**

This section consists of 1 question and 8 sub-questions.

You are advised to spend no longer than 36 minutes on this section. Section will carry 20 marks and one sub-question will carry 2.5 marks each.

**Question No. 01**

- (a) Evaluate the following statement “Financial managers should not focus on the current stock value because doing so will lead to an overemphasis on short-term profits at the expense of long-term profits”  
**(2 ½ Marks)**
- (b) Next year a security will yield \$90 with a probability of  $\frac{1}{2}$  and \$110 with a probability of  $\frac{1}{2}$ . An investor is willing to pay \$80 for this asset today. The risk-free interest rate is 15%.  
(i) Is this investor a risk seeker or a risk averter?  
(ii) What is the risk premium?  
**(2 ½ Marks)**
- (c) “Following the investment process allows investors to identify an optimal portfolio and stick with it indefinitely.” Do you agree with this statement? Why or why not?  
**(2 ½ Marks)**
- (d) People Pharmaceutical is planning for Tk. 5 million in capital expenditures next year. People’s target capital structure consists of 60% debt and 40% equity. If net income for the next year is Tk. 3 million and People follows a residual distribution policy with all distributions as dividends, what will be its dividend payout ratio?  
**(2 ½ Marks)**
- (e) “If the yield to maturity is zero, no matter what the maturity is, the par value of the bond must be equal to its market value.” Evaluate this statement. Is there a specific type of bond for which this is true?  
**(2 ½ Marks)**
- (f) A company has current liabilities of Tk. 800 million, and its current ratio is 2.5. If this firm’s quick ratio is 2, how much inventory does it have?  
**(2 ½ Marks)**
- (g) “If the yield curve is flat, then all forward rates must be equal to zero.” Evaluate this statement. Demonstrate your answer with a numerical example.  
**(2 ½ Marks)**
- (h) A company’s 6% irredeemable preference shares of Tk. 10 each have a market price of Tk. 6.5. The company is paying corporate tax at a rate of 30%. What is the cost of preference share capital?  
**(2 ½ Marks)**

**END OF SECTION A**

**SECTION B Starts on page 3**

**SECTION B– 40 MARKS**

This section consists of 1 question and 5 sub-questions.

You are advised to spend no longer than 14.4 minutes on each sub-question in this section. Section will carry 40 marks and one sub-question will carry 8 marks each.

**Question No. 02**

- (a) Noodles McSpirkle is a crackpot who has developed an asset pricing model. Like generally accepted pricing models, Noodles' model predicts a relationship between risk and expected return. However, Noodles' model uses something called Zarumba (represented by the variable  $Z$  in Noodles' writings) as a risk measure. No one but Noodles understands how to calculate Zarumba, but Noodles claims to have proven that, for any stock,  $E(R) = 3Z$ . The following table provides data for five stocks, including actual return, Zarumba, and beta.

Stock	Zarumba	Beta	Actual Return
A	0.08	2.00	32.0%
B	0.24	1.75	32.0
C	0.07	1.20	24.0
D	0.04	0.50	12.0
E	0.03	0.25	8.5

- (i) For each stock, calculate the expected return according to Noodles' model and the CAPM. The expected return on the market is 20%, and the risk-free rate is 4%.
- (ii) For each stock, use both pricing models to determine whether or not the stock earned an abnormal return.
- (b) Omega Company is considering a project that will result in initial after-tax cash savings of Tk. 3.5 million at the end of the first year, and these savings will grow at a rate of 4 percent per year indefinitely. The firm has a target debt-equity ratio of 0.55, a cost of equity of 13 percent, and an after-tax cost of debt of 5.5 percent. The cost-saving proposal is somewhat riskier than the usual projects the firm undertakes; management uses the subjective approach and applies an adjustment factor of +2 percent to the cost of capital for such risky projects.
- Required:** Under what circumstances should Omega take on the project?
- (c) The Marico Company is financed entirely with equity. The company is considering a loan of Tk. 1.8 million. The loan will be repaid in equal installments over the next two years, and it has an interest rate of 8 percent. The company's tax rate is 35 percent. According to Modigliani and Miller (MM) proposition I with taxes, calculate the increase in the value of the company after the loan.
- (d) Super Sonics Entertainment is considering buying a machine that costs Tk. 540,000. The machine will be depreciated over five years by the straight-line method and will be worthless at that time. The company can lease the machine with year-end payments of Tk. 145,000. The company can issue bonds at a 9 percent interest rate. If the corporate tax rate is 35 percent, should the company buy or lease?
- (e) The Confidence Company is attempting to establish a current asset policy. Fixed assets are Tk. 600,000 and the firm plans to maintain a 50% debt-to-assets ratio. Confidence has no operating current liabilities. The interest rate is 10% on all debt. Three alternative current asset policies are under consideration: 40%, 50% and 60% of projected sales. The company expects to earn 15% before interest and taxes on sales of Tk. 3 million. Confidence's effective tax rate is 40%.

**Required:** What is the expected return on equity under each asset policy?

**[(8 Marks × 5 Questions) = 40 Marks]**

**END OF SECTION B**

**SECTION C Starts on the page 4**

**Section C- 40 Marks**

This section consists of 2 questions.

You are advised to spend no longer than 36 minutes on each question in this section. Section will carry 40 marks and allocation of marks for each sub-question is indicated next to the sub-question.

**Question No. 03**

Consider two firms, With and Without, that have identical assets that generate identical cash flows. Without is an all-equity firm, with 1 million shares outstanding that trade for a price of \$24 per share. With has 2 million shares outstanding and \$12 million dollars in debt at an interest rate of 5%.

- (i) According to MM Proposition 1, calculate the stock price for With.
- (ii) Assume that MM's perfect capital market conditions are met and that you can borrow and lend at the same 5% rate as With. You have \$5000 of your own money to invest and you plan on buying Without stock. Using homemade leverage, how much do you need to borrow in your margin account so that the payoff of your margined purchase of Without stock will be the same as a \$5000 investment in With stock?
- (iii) Assume that MM's perfect capital market conditions are met and that you can borrow and lend at the same 5% rate as With. You have \$5000 of your own money to invest and you plan on buying Without stock. Using homemade leverage you borrow enough in your margin account so that the payoff of your margined purchase of Without stock will be the same as a \$5000 investment in with stock. Determine the number of shares of Without stock you require to purchase.
- (iv) Assume that MM's perfect capital market conditions are met and that you can borrow and lend at the same 5% rate as With. You have \$5000 of your own money to invest and you plan on buying With stock. Using homemade (un)leverage, how much do you need to invest at the risk-free rate so that the payoff of your account will be the same as a \$5000 investment in Without stock?
- (v) Assume that MM's perfect capital market conditions are met and that you can borrow and lend at the same 5% rate as With. You have \$5000 of your own money to invest and you plan on buying With stock. Using homemade (un)leverage you invest enough at the risk-free rate so that the payoff of your account will be the same as a \$5000 investment in Without stock? Identify the number of shares of With stock you require to purchase.

**[Marks: (4+4+4+4+4) = 20]**

**Question No. 04**

Inca Inc. operated and licensed others to operate quick-service restaurants under the name Pedro's. The menu featured chiliburgers, along with a limited selection of Mexican foods. The walls of each restaurant were decorated with the exploits of Mexican heroes.

The first Pedro's was opened in Santa Fe, New Mexico, on June 9, 2003. Ten years later there were 298 restaurants in operation in 27 states, of which 111 were operated by the company and 187 by franchisees. In addition, 4 restaurants were under construction by the company, and 64 by franchisees. A balance sheet as of June 30, 2013, is included in Figure 1.

**SECTION C Continues on page 5**

Each Pedro's restaurant was built to the same specifications for exterior style and interior décor. The buildings, constructed of yellow brick, were located on sites of approximately one acre. The parking lots, depending on the exact size and shape of the land, were designed for 30 to 35 cars. The standard restaurant contained about 1,900 square feet, seated 81 persons, and included a pickup window for drive-through service.

Locations were chosen in heavily populated areas, since success depend-ed upon serving a large number of customers.

All of the restaurants offered the same menu. Three sizes of chiliburgers were featured: the Gaucho (quarter pound), the Soldado (half pound), and the Matador (three-quarter pound). The names were integrated into the company's advertising. On television each commercial gave special attention to one of the three themes.

The prospective franchisee signed a document that included the option of operating a specified number of Pedro's restaurants in a prescribed geographical area. Each new location required an initial payment of \$18,000. In addition, a royalty of 5 percent of gross sales was specified. It was also stipulated that franchisees must spend at least 2 percent of gross receipts on local advertising. Inca, Inc., believed that properly trained employees were the key to success. Therefore, managers and company trainees were required to attend a three-week program covering all aspects of company operations. More than 600 people were graduated from the school during 2009.

Inca, Inc., planned to begin construction on five new company-owned restaurants during 2014. The exact size of the buildings had not been determined, although the specific sites had already been selected.

**Figure 1**

INCA, INC.	
Balance Sheet	
As of June 30, 2013	
(in thousands)	
<b>Assets</b>	
Current assets:	
Cash.....	\$12,026
Accounts receivable .....	1,646
Inventory .....	512
Other current assets.....	<u>1,872</u>
Total current assets.....	16,056
Equipment and property:	
Buildings .....	10,208
Leasehold improvements .....	4,826
Restaurant equipment .....	11,630
Motor vehicles .....	1,188
Office equipment .....	464
Lease rights.....	<u>542</u>
Less: Accumulated depreciation.....	<u>3,104</u>
Total equipment and property.....	25,754
Land .....	10,606
Construction in progress .....	434
Other assets.....	<u>1,566</u>
<b>Total assets .....</b>	<b><u>\$54,416</u></b>

**SECTION C Continues on page 6**

Liabilities and Stockholders' Equity	
Current liabilities:	
Notes payable to banks .....	\$316
Accounts payable .....	3,846
Income taxes .....	1,754
Accrued liabilities.....	1,314
Current portion, term debt .....	<u>1,564</u>
Total current liabilities.....	8,794
Long-term debt, less current portion .....	17,742
Deferred:	
Income taxes.....	982
Franchise fees.....	<u>3,730</u>
	4,712
Stockholders' equity: .....	
Common stock, \$0.10 par .....	676
Capital in excess of stated value .....	9,726
Retained earnings .....	<u>12,766</u>
Total stockholders' equity .....	<u>23,168</u>
<b>Total liabilities and stockholders' equity</b>	<b><u>\$54,416</u></b>

Figure 2

**INCA, INC.**  
**Present Value of Cash Flows**  
**(in thousands)**

<i>Restaurant Size</i>	<i>Level of Demand</i>	<i>Outcomes (NPV)</i>
Standard	High (.40)	\$1,050
	Medium (.40)	630
	Low (.20)	(200)
Expanded	High (.40)	2,812
	Medium (.40)	740
	Low (.20)	(900)

Management believed that restaurants with a capacity of 144 persons would be more profitable than the present size of 81.

The company faced two choices: continuing with the smaller-size units or going to the larger size. The initial cost for five smaller restaurants was \$2.1 million, and it was \$3.7 million for five larger ones. Demand expectations over the years were 40 per cent for high demand, 40 per cent for medium demand, and 20 per cent for low demand. The net present values of cash flows for the two proposals are given in Figure 2.

John H. Porter had been president and chief executive officer of Inca, Inc., since July of 2005. Prior to that time he had worked for a competitor. He knew the decision concerning the size of new restaurants could be a major turning point for the company. Mr. Porter wondered if the potential higher returns for the larger units justified the increased risk. In any event, the strategy would have to be sold to the board of directors.

**SECTION C Continues on page 7**

**Required:**

1. Determine the expected value of the net present value for the standard-size restaurants. Use the data in Figure 2. To get the expected value, multiply the outcomes (NPV) times the appropriate probability (.40 for high demand, etc.). Do this for high demand, medium demand, and low demand, and sum to answer this question. Remember to state your final answer in thousands.
2. Follow the same procedure for the expanded-size restaurants to arrive at the expected value of the net present value.
3. Which alternate appears to be the more desirable?
4. Next, determine the standard deviation for the standard size restaurants. Remember to state your final answer in thousands. The standard deviation for the expanded-size restaurant is \$1,415,800.
5. Now determine the coefficient of variation for the two alternatives.
6. Based on the coefficient of variation, which of the two alternatives is more desirable? Comment on the relationship of your answer to question 3 and your answer to this question. What general principle is being demonstrated?
7. Assume, in addition to considering the building of five restaurants that are all standard or all expanded, Inca evaluates possible combinations of the two. The following values will apply for the expected values and the standard deviations.

	<b><i>Standard Deviation</i></b>	<b><i>Expected Value</i></b>
4 standard, 1 expanded .....	\$ 641,630	\$753,760
3 standard, 2 expanded .....	832,460	875,420
2 standard, 3 expanded .....	1,025,800	997,280
1 standard, 4 expanded .....	1,220,400	1,119,040

If the firm wishes to minimize risk, which of the six alternatives should it choose? (Refer to your answer to question 5 as well as this question.)

**[Marks: (3+3+2+3+3+3+3) = 20]**

**\*END OF THE EXAM PAPER\***