ZAIN ACADEMY PRESENTS
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Secret to Success is to
"Always Strive for Excellence"

CERTIFIED MANAGEMENT ACCOUNTANT (CMA), US - PART 2

A guide that summarizes all the key concepts required in a finance professional

MUHAMMAD ZAIN

بسم الله الرحمن الرحيم

In the Name of Allāh, the Most Gracious, the Most Merciful

CERTIFIED MANAGEMENT ACCOUNTANT (CMA), US

PART 2 – FINANCIAL DECISION MAKING

STUDY NOTES

EFFECTIVE TILL 31 DECEMBER 2019

MUHAMMAD ZAIN

CPA, CMA, CIA

FOUNDER OF ZAIN ACADEMY

Clifton Block 5, Karachi, Pakistan
Call (US & Canada): + 1 646 979 0865
Call (Pakistan & International): + 92 311 222 4261
Whatsapp (Messaging & Call): +92 311 222 4261
Hangouts: zainacademy.us@gmail.com
Email: help@zainacademy.us
Web: www.zainacademy.us

About the Mentor

Muhammad Zain has passed Uniform Certified Public Accountant **(CPA)** exams from American Institute of Certified Public Accountants (AICPA), US in February 2018, Certified Management Accountant **(CMA)** exams from Institute of Management Accountants (IMA), US and Certified Internal Auditor **(CIA)** exams from Institute of Internal Auditors (IIA), US in March 2014. He has completed his Masters of Business Administration **(MBA)** in March 2010 from University of Karachi, Pakistan. He earned his Bachelors of Commerce **(BCOM)** from the same University in November 2007.

He has working experience of more than 10 years which includes five years of Public Accounting experience of working in EY Ford Rhodes, Pakistan – a member firm of Ernst & Young Global Limited (big4) and more than 5 years of working experience in Industry in managerial capacity.

He founded **Zain Academy** in 27 February2017 with the mission ***"Knowledge for ALL"*** and objective to *"disseminate education for all candidates who wish to change the landscape of our working environment, believe in continuous education and strive for the best."*

Readers are welcomed to contact him for ***online interactive sessions*** for any part of CPA, CMA or CIA.

13 September 2018

Dear **CMAs**,

السلام عليكم

peace be upon you

It is my great honor to present you the 2ND edition of **Certified Management Accountant (CMA) – Part 2 – Financial Decision Making** Study Notes.

These Study Notes are not copyrighted and are universally accessible to all. You are permitted to use these notes and distribute them to the other candidates as well.

I have tried to keep the materials simple, clear and concise. I welcome feedback from the potential readers. These materials are relevant till 31 December 2019. However, please do check the Facebook page https://www.facebook.com/zainacademy for updates. Extreme care is required when rendering professional advice to clients.

Readers are encouraged to provide a review / feedback on the materials on https://www.facebook.com/zainacademy/reviews/. This review will help prospective candidates to benefit from improvements in the materials.

I dedicate this work to my parents who have always believed in my abilities and guided me through the toughest of times.

May the **ALLAH**, **Creator of the Heavens and Earths** bless you **ALL** in this Life and in particular the Life Hereafter as well.

With Love and Care,

Muhammad Zain
CPA, CMA, CIA

INDEX

SECTION A – Financial Statement Analysis 6

SECTION B – Corporate Finance 15

SECTION C – Decision Analysis 33

SECTION D – Risk Management 46

SECTION E – Investment Decisions 51

SECTION F – Professional Ethics 62

SECTION A – Financial Statement Analysis (Weightage 25%)

S.No	Questions	Answers
1.	What are the **five classifications of ratios**?	• **Liquidity ratios**, which measure the sufficiency of the firm's cash resources to meet its short-term cash obligations. • **Leverage, capital structure, solvency and earnings coverage ratios**, which evaluate the firm's ability to satisfy its debt and obligations for other fixed financing charges such as operating leases by looking at the mix of its financing sources and its historical earnings. • **Activity ratios**, which provide information on a firm's ability to manage efficiently its current assets (accounts receivable and inventory) and current liabilities (accounts payable). • **Profitability analysis**, which measures the firm's profit in relation to its total revenue or the amount of net income from each dollar of sales and its return on invested assets. • **Market ratios and earnings per share analysis**, or **shareholder ratios**, which describe the firm's financial condition in terms of amounts per share of stock.
2.	How is operating income calculated?	Sales or service revenues − Cost of goods sold (COGS) = **Gross profit** − Selling, general, and administrative expenses = **Operating income**
3.	How is EBIT calculated?	Operating income + Interest and dividend income +/− Non-operating gains/(losses) +/− G/L from operations of discontinued Component X including G/L on disposal of $XXXX (**before** tax) = **Earnings Before Interest and Taxes (EBIT)**
4.	What is **EBITDA**?	EBITDA stands for earnings before interest, taxes, depreciation and amortization. EBIT (earnings before interest and taxes) includes deductions for depreciation and amortization expensed. Therefore, EBITDA is EBIT plus depreciation and amortization expense, to "add back" the depreciation and amortization. EBITDA is used to analyze a company's earnings before interest and taxes as well as before the non-cash charges of depreciation and amortization.
5.	How is EBT calculated?	Earnings Before Interest and Taxes (EBIT) − Interest expense = **Earnings Before Taxes (EBT)**
6.	What is a vertical common-size financial statement?	A simple vertical common-size financial statement covers one year's operating results and expresses each component as a percentage of a total.

		For example, fixed assets will not be stated as a dollar amount but rather will be stated as a percentage of total assets. Each expense item will be stated as a percentage of total revenue.
7.	What is horizontal trend series analysis?	Horizontal trend analysis is used to evaluate trends for a single business over a period of several years. The first year is the base year, and amounts for subsequent years are presented not as dollar amounts but as percentages of the base year amount, with the base year assigned a value of 100%, or 100.
8.	How is working capital calculated?	Current Assets − Current Liabilities = **Working Capital**
9.	How is the current ratio calculated?	Current Assets Current Liabilities
10.	How is the quick ratio calculated?	Cash + Net Receivables + Marketable Securities Current Liabilities
11.	How is the cash ratio calculated?	Cash & Cash Equivalents + Marketable Securities Current Liabilities
12.	How is the cash flow ratio calculated?	Operating Cash Flow Period-End Current Liabilities
13.	How is the net working capital ratio calculated?	Net Working Capital Total Assets
14.	What is financial leverage?	The use of debt to increase earnings.
15.	How is the financial leverage ratio calculated?	Total Assets Total Equity
16.	How is the degree of financial leverage calculated?	% [of future] Change in Net Income % [of future] Change in EBIT (Earnings Before Interest and Taxes)
17.	What is operating leverage?	Operating leverage measures the use of fixed operating costs to generate greater operating profit.
18.	How is the degree of operating leverage calculated?	% [of future] Change in EBIT % [of future] Change in Sales
19.	What does degree of total leverage measure?	Degree of total leverage expresses the degree to which a company uses fixed costs in its operations as well as the degree to which the company uses fixed rate financing in its capital structure.
20.	How is the degree of total leverage calculated?	% [of future] Change in Net Income % [of future] Change in Sales

21.	How is the debt to equity ratio calculated?	Total Liability Total Equity
22.	How is the long-term debt to equity ratio calculated?	Total Debt – Current Liabilities Total Equity
23.	How is the debt to total assets ratio calculated?	Total Liabilities Total Assets
24.	How is the times interest earned ratio calculated?	Earnings before Interest and Taxes (EBIT) Interest Expense
25.	How is the fixed charge coverage ratio calculated?	Earnings Before Fixed Charges and Taxes Fixed Charges
26.	How is the cash flow to fixed charges ratio calculated?	Adjusted Operating Cash Flow Fixed Charges
27.	How is the accounts receivable turnover ratio calculated?	Net Annual Credit Sales Average Gross Accounts Receivable
28.	How is the number of days receivables held ratio calculated?	365 Receivables Turnover
29.	How is the inventory turnover ratio calculated?	Annual Cost of Goods Sold Average Inventory
30.	How is the days sales in inventory ratio calculated?	365 Inventory Turnover
31.	How is the accounts payable turnover ratio calculated?	Annual Credit Purchases Average Accounts Payable
32.	How is the days purchases in payables ratio calculated?	365 Accounts Payable Turnover
33.	How is the operating cycle calculated?	Days Sales in Inventory + Days Sales in Receivables = Operating Cycle
34.	How is the cash cycle calculated?	Days Sales in Inventory + Days Sales in Receivables – Days Purchases in Payables = Cash Cycle
35.	How is the total asset turnover ratio calculated?	Sales Average Total Assets

36.	How is the fixed asset turnover ratio calculated?	<u>Sales</u> Average Net Property, Plant, and Equipment
37.	How is profit margin calculated?	<u>Net Income after Interest and Taxes</u> Net Sales
38.	How is book value per share calculated?	<u>Total Stockholders' Equity – Preferred Equity</u> Number of Common Shares Outstanding
39.	How is the market-to-book ratio calculated?	<u>Market Price per Share</u> Book Value per Share
40.	What are basic earnings per share and diluted earnings per share?	• **Basic earnings per share (BEPS)** is the earnings per share for all common shares that were actually outstanding during the period. • **Diluted earnings per share (DEPS)** is the earnings per share that would have resulted if all potentially issuable and dilutive common shares had been issued on the first day of the period (or, if issued during the period, on the date of issue).
41.	How is BEPS calculated?	<u>Income Available to Common Stockholders (IAC)</u> Weighted-Average Number of Common Shares Outstanding (WANCSO)
42.	How is income available to common shareholders calculated?	Net Income – Noncumulative preferred dividends **DECLARED** (whether or not paid) and/or – Cumulative preferred dividends **EARNED** (whether or not declared) = **Income Available to Common Stockholders (IAC)**
43.	How are shares issued during the year treated in calculating WANCSO?	They are considered outstanding only for the time after they are issued.
44.	How are shares reacquired during the year treated in calculating WANCSO?	They are considered outstanding only for the time period **before** they are reacquired.
45.	How are shares issued as part of a stock split during the year treated in calculating WANCSO?	They are considered to be outstanding for the entire year in which they are issued. Additionally, they are considered to have been outstanding from January 1 of the first year presented. This will require a recalculation of EPS for those previous periods.
46.	How are shares issued as part of a stock dividend during the year treated in calculating WANCSO?	They are considered to be outstanding for the entire year in which they are issued. Additionally, they are considered to have been outstanding from January 1 of the first year presented. This will require a recalculation of EPS for those previous periods.

	What are the three steps to determine the impact of options and warrants on DEPS?	1) Assume that all the options or warrants were exercised on January 1. 2) Take the cash from the exercise and assume that the company purchases back from the market as many shares as possible at the **average price** for the year. 3) Net the shares issued (#1) and shares repurchased (#2) to determine net shares issued. **Note**: If the exercise price is higher than the average market price the option or warrant is antidilutive and not included in DEPS.
47.	How is the EPS Effect calculated for convertible bonds?	Interest on the Bonds × (1 – Tax Rate) # of Shares the Bonds are Converted Into
48.	How is the EPS Effect calculated for convertible preferred shares?	Dividends Earned (if cumulative) **and/or** Declared (if noncumulative) # of Shares the Preferred Shares are Converted Into
49.	How is the price/earnings ratio calculated?	Market Price per Common Share Basic Earnings per Share (annual)
50.	How is the price/EBITDA ratio calculated?	Market Price per Common Share EBITDA per Share
51.	How is earnings yield calculated?	Basic Earnings Per Share (annual) Current Market Price Per Common Share
52.	How is the dividend yield calculated?	Annual Dividends Per Common Share Current Market Price Per Share
53.	How is the dividend payout ratio calculated?	Annual Dividends Per Common Share Basic Earnings Per Share
54.	How is shareholder return calculated?	(Ending Stock Price – Beginning Stock Price) + Annual Dividends Per Share Beginning Stock Price
55.	How is gross profit margin calculated?	Gross Profit Net Sales
56.	How is operating profit margin percentage calculated?	Operating Income Net Sales
57.	How is net profit margin percentage calculated?	Net Income Net Sales

58.	How is EBITDA margin calculated?	EBITDA / Net Sales
59.	How is return on assets calculated?	Net Income / Average Total Assets
60.	How is return on equity calculated?	Net Income / Average Total Equity
61.	How is return on common equity calculated?	Net Income – Preferred Dividends / Average Book Value of Common Equity
62.	How is return on assets calculated?	Net Income / Average Total Assets
63.	What are four factors that can impact the calculation of income?	1) Accounting estimates 2) Accounting methods 3) Incentives for disclosure 4) Diversity among users
64.	How is the sustainable growth rate calculated?	Return on Common Equity × (1 – Dividend Payout Ratio)
65.	How are transactions denominated in foreign currency accounted for?	1) On the date the transaction is entered into, it is recorded using the exchange rate on that date. 2) At the end of each reporting period the value of the receivable or payable is adjusted to the current value using the exchange rate at that date. 3) When the transaction is settled, it is adjusted to the current value using the exchange rate on that date.
66.	Where is the gain or loss on a foreign currency denominated transaction reported?	It is reported on the income statement in the period it occurs as a non-operating gain or loss.
67.	What are the three currencies potentially involved in a foreign subsidiary?	1) The **currency of record** is the currency the foreign entity uses to keep its books. 2) The **functional currency** is the currency of the primary economic environment in which the foreign entity operates. It is the currency in which the entity generates and expends cash. 3) The **reporting currency** is the currency used in the financial statements of the foreign entity.
68.	When is a remeasurement required?	Remeasurement must be done prior to consolidation when the foreign entity's currency of record is different from its functional currency.
69.	When is a translation done?	A translation is done when the financial statements of the subsidiary are in a functional currency that is not the US Dollar.

70.	Where do the gains or losses from remeasurement and translation get reported?	Gains or losses from remeasurement are recognized on the income statement. Gains or losses from translation are reported in accumulated other comprehensive income.
71.	What are two methods to adjust financial statements to remove the effect of inflation?	1) Constant dollar accounting (also called general price-level) 2) Current cost accounting
72.	What is off-balance sheet financing?	Any form of funding that avoids placing owners' equity, liabilities, or assets on a firm's balance sheet.
73.	What are four common ways of off-balance sheet financing?	1) Operating leases to finance acquisition of assets 2) Special-purpose entities, or SPEs, now called variable interest entities 3) Sale of receivables, also called factoring 4) Joint ventures, in which two or more “parent” companies agree to share capital, technology, human resources, risks, and rewards in the formation of a new entity to be managed under their shared control.
74.	What are some of the common **changes or corrections** to **financial statements**?	• A change in an accounting **principle**, in other words, a change from one Generally Accepted Accounting Principle to another Generally Accepted Accounting Principle; • A change in **reporting entity**, such as changes in entities included in combined financial statements or other consolidation changes; • A **correction of an error**, such as a mathematical mistake, a mistake in applying a principle, and other errors; or • A change in accounting **estimate**, such as a change in estimated warranty costs.
75.	What are the three methods of accounting for changes or corrections?	1) Retrospective application 2) Restatement 3) Prospective adjustment
76.	What is a change in accounting principle, and how are such changes accounted for?	A change in accounting principle is a change from one accepted GAAP principle to another accepted GAAP principle. These changes are accounted for using **retrospective application**.
77.	What is a change in reporting entity and how is it accounted for?	A change in reporting entity can occur if consolidated financial statements are prepared in place of separate statements for each individual entity or if a change takes place in the subsidiaries or companies that are included in the consolidation. A change in reporting entity is accounted for **retrospectively**.
78.	What is a correction of error and how is it accounted for?	Errors can result from mathematical mistakes, mistakes in applying an accounting principle, oversight, or misuse of facts. Errors are corrected using **restatement**.
79.	What are changes in accounting estimates and how are they accounted for?	Changes in estimates are a change in any estimate used in accounting. Examples include a change in the bad debt percentage, the useful life

		of an asset, or a warranty expense estimate. These changes are considered normal, recurring changes and adjustments. Changes in estimates are treated **prospectively**.
80.	What are accounting profit and economic profit?	• **Accounting profit** is the profit that is calculated on the income statement as revenues minus explicit costs. These are the costs for which the company actually has to make a payment to another party. • **Economic profit** is the amount by which total revenue exceeds the **total economic costs** of the company, which include all of the firm's explicit costs plus the relevant implicit (opportunity) costs.
81.	What are the three determinants of earnings quality?	1) The company's business environment. 2) Its selection and application of accounting principles. 3) The character of its management.
82.	What are the determinants of earnings persistence?	1) Earnings variability 2) Earnings trend 3) Management incentives 4) Earnings management
83.	How is a **gain or loss** from **re-measurement** reported?	A re-measurement gain or loss is reported on the income statement in the continuing operations section.
84.	How is a **gain or loss** from **translation** reported?	Translation gains and losses are recognized directly in stockholders' equity as a component of accumulated other comprehensive income on the translated balance sheet.
85.	How is DEPS **calculated**?	1. Calculate BEPS. 2. Calculate the EPS Effect of warrants and options. 3. If warrants or options are dilutive, add their effect to WANCSO and calculate Intermediate DEPS. 4. Calculate the EPS Effect of convertible bonds or convertible preferred shares. 5. Rank the EPS Effects from convertible securities, from the most dilutive to the least dilutive. 6. In the correct order from the most dilutive to the least dilutive, add the effect of each convertible security to both IAC and WANCSO to calculate Intermediate DEPS for each security until reaching a security that is antidilutive. 7. Calculate the final Diluted EPS.
86.	How is the **effective tax rate** calculated?	The effective tax rate is calculated as income tax expense divided by income from continuing operations before income taxes.
87.	How is the **sustainable growth rate calculated**?	**Sustainable Growth Rate = Return on Common Equity Sustainable × (1 - Dividend Payout Ratio)**
88.	What are **activity ratios**?	Activity ratios provide information about a firm's ability to efficiently manage its resources—specifically its current assets, accounts receivable and inventory—and its ability to effectively manage its accounts payable.

89.	What are **comparative financial statements**?	Comparative financial statements state each item of the financial statement not as a numerical amount, but rather as a percentage of a relevant base amount.
90.	What are the **advantages** of **successfully using financial leverage**?	• When the interest expense paid on the debt capital is less than the return earned from the investment of the debt capital (in other words, less than return on assets), the excess return benefits the equity investors. • Interest paid is tax-deductible, and its tax deductibility effectively reduces interest as an expense.
91.	What is solvency?	Solvency is the ability of the company to pay its long-term obligations as they come due. In contrast to liquidity, which is the ability to pay short-term obligations, solvency is the ability to pay long-term obligations.
92.	What is the **functional currency**?	The functional currency is the currency of the primary economic environment in which the foreign entity operates. It is the currency in which the entity generates cash and expends cash.

SECTION B – Corporate Finance (Weightage 20%)

S.No	Questions	Answers
1.	What is return?	Return is income received by an investor on an investment.
2.	What is the rate of return and how is it calculated?	Rate of return is the return expressed as a percentage of the principal amount invested. Return Received for **One Year's** Investment **Average** Balance of Amount Invested
3.	What is interest rate risk?	The risk that the value of an investment will change over time as a result of changes in the market rate of interest.
4.	What is reinvestment rate risk?	The risk that money invested in an instrument that matures cannot be reinvested in another investment that will provide the same, or a higher, level of return.
5.	What is purchasing power risk?	The risk that the purchasing power of a fixed amount of money will decline as the result of an increase in the general price level (inflation).
6.	What is liquidity risk?	The possibility that an investment cannot be sold (converted into cash) for its market value. Whenever an investment must be discounted significantly in order to be sold, the investment has a high level of liquidity risk.
7.	What is foreign exchange risk?	The risk that a transaction denominated in a foreign currency will be impacted negatively by changes in the exchange rate.
8.	What is credit risk?	Credit risk, also known as default risk, is the risk that a borrower of money will not be able to pay the interest and repay the principal on a debt as it becomes due.
9.	What is political risk?	The risk that something will happen in a country that will cause an investment's value to change or even become worthless.
10.	What are some examples of **political risks**?	• Expropriation • War • Blockage of fund transfers • Inconvertible currency • Government bureaucracy, regulations, and taxes • Corruption • Attitude of consumers • Foreign country's business culture
11.	What is business risk?	The variability of a firm's earnings before interest and taxes (EBIT).
12.	What is total risk?	Total risk is the risk of a **single asset** taken by itself and not balanced against the risks of any other investments. Total risk is defined as the variability of the asset's relative expected returns and is also sometimes called **standalone risk.**

13.	What is unsystematic risk?	Risk that is specific to a particular company or to the industry in which the company operates.
14.	What is systematic risk?	Systematic risk is any risk that could affect **all** investments.
15.	What is market risk?	Market risk is risk inherent in an investment that is traded on a market simply because it is traded on a market and is subject to market movements. Market risk is a systematic risk.
16.	What is **foreign exchange risk**?	Foreign exchange risk is the risk that a transaction denominated in a foreign currency will be impacted negatively by changes in the exchange rate.
17.	What is **industry risk**?	Industry risk is risk that is specific to a particular industry.
18.	What is interest rate risk?	Interest rate risk (sometimes called **price risk**) is the risk that the value of the investment will change over time as a result of changes in the market rate of interest.
19.	What is **inventory** financing?	In inventory financing the creditor buys and retains title to the inventory. The debtor then acts as his trustee in the selling of the inventory and also assumes the risk of loss of the inventory.
20.	What is industry risk?	Risk that is specific to a particular industry.
21.	What is the **capital asset pricing model (CAPM)**?	The capital asset pricing model (CAPM) uses the security or portfolio's risk and the market rate of return to calculate the investors' required return. The theory behind the CAPM is that **investors will price investments so that the expected return on a security or a portfolio will be equal to the risk-free rate plus a risk premium** proportional to the risk, or "beta," for that investment.
22.	What is beta in the CAPM formula?	A measurement of the systematic risk of a security or a portfolio.
23.	What is the capital asset pricing model formula?	**$R = R_F + \beta(R_M - R_F)$** R = Investors' required rate of return R_F = Risk-free rate of return β = Beta coefficient R_M = Market's required rate of return
24.	What is a portfolio?	A collection of assets that are managed as a group.
25.	What is the idea behind diversification?	Diversification combines securities in ways that reduce risk. Different types of investments often change in market value in opposite directions, so when one asset's market price decreases, another asset's market price might increase to offset the loss.
26.	What is asset allocation?	The process of selecting assets for a portfolio to achieve the best risk/return tradeoff possible.
27.	What does the coefficient of correlation measure?	The coefficient of correlation measures the relationship between two variables. It expresses how closely connected, or correlated, the two variables are and the extent to which a change in one variable has historically resulted in a change in the other.
28.	What are the sources of external funds?	1) Long-term debt 2) Preferred stock

		3) Common stock
29.	How is the yield of a debt security calculated?	Yield of a Treasury security of the same term + Default premium + Liquidity premium +/− Premium or Discount for tax status +/− Premium or Discount for special provisions = **Yield of debt security**
30.	How is a yield curve prepared?	By graphing the rates and terms for each security.
31.	What are the shapes of the yield curve?	1) Upsloping (normal) 2) Downsloping 3) Flat 4) Humped
32.	What are the four theories used to explain the slope of the yield curve?	1) Pure (Unbiased) Expectations Theory 2) Liquidity Premium (Preference) Theory 3) Segmented Markets Theory 4) Preferred Habitat (Composite) Theory
33.	Under the pure expectations theory, what determines the yield curve?	The yield curve is determined exclusively by expectations in the market of future short-term interest rates.
34.	Under the liquidity premium theory, what determines the yield curve?	The yield curve is determined by: 1) The market's expectations for future interest rates. 2) A liquidity premium for holding a less-liquid security. The liquidity premium increases as the term gets longer.
35.	Under the segmented markets theory, what determines the yield curve?	Because the cash needs of different groups and investors vary, each group chooses securities that meet their forecasted cash needs and not because of expected future interest rates. Interest rates for each maturity term are determined by the interplay of supply and demand for that term.
36.	What is the preferred habitat theory?	Preferred habitat theory is a hybrid theory, or a compromise, that agrees with parts of the segmented markets theory and parts of the pure expectations theory.
37.	What are uses of the yield curve?	1) Forecasting interest rates 2) Forecasting recessions 3) Making investment decisions 4) Making financing decisions
38.	What are the **advantages** of issuing bonds?	• The bond issuer has no loss of control or ownership. • The total cost of the bonds is limited and known because the interest rate that is used to calculate the cash paid for interest is constant throughout the life of the bond. • Bonds have an advantage over stock, because the interest that is paid on the bonds is tax-deductible as an expense of the business. • If the bonds are callable, or otherwise can be retired early, the company has the flexibility to eliminate the interest payment if there is no longer a need for the

		financing or if cheaper alternative sources of financing become available.
39.	What are restrictive covenants?	Covenants are a means for the bondholders to protect their investment by increasing the likelihood that they will receive their scheduled interest payments and the repayment of their principal on the maturity date. They limit the actions that the issuer of the bond can undertake that may be harmful to the creditor.
40.	How is the selling price of a bond calculated?	Bonds are valued and sold at the **present value** of all of the future cash payments that the company will make, including the interest payments and the final principal repayment, discounted at the market rate of interest for bonds of similar terms and risk.
41.	What are the **disadvantages** of issuing bonds?	• Interest is fixed and required. • The issuing company assumes increased risk because of the chance of default on the debt. • As the level of debt grows, the interest rate on the next loan or bond and the return required by not only the debt holders but also the company's shareholders will increase. • The maturity of the debt will result in a large cash payment that needs to be made at one time in the future, unless the firm is able to refinance it with another bond issue. • The terms of a bond issue may include restrictive terms and covenants that must be adhered to by the issuer.
42.	What are convertible bonds?	Convertible bonds can be converted by the bondholder into a stated number of shares of the issuer's common stock at any time during the bond's life.
43.	What are debenture bonds and mortgage bonds?	• **Debenture bonds** are unsecured, meaning they are not backed by any specific asset as collateral. • **Mortgage bonds** have a specific asset or assets pledged as collateral for the loan.
44.	What are subordinated debentures and income bonds?	• **Subordinated debentures** are bonds that will not have the first claim to the assets of the company in case of a bankruptcy because these bonds are subordinated (inferior) to other debts that the company has. • **Income bonds** pay interest only if the company achieves a certain level of income.
45.	What are serial bonds and zero-coupon bonds?	• **Serial bonds** are bonds issued with varying maturity dates so that some of the bonds mature each year. • **Zero-coupon bonds** do not pay any interest, but they sell at a price significantly less than their face value.

46.	What are participating bonds and indexed bonds?	• **Participating bonds** can participate in dividends (the distributions of profits) of the company during a period of high profits. • **Indexed bonds** have an interest rate that is indexed to some other measure, such as a price index or a general economic indicator. Instead of paying a fixed interest rate, they pay a variable interest rate.
47.	What is a discount and when does it arise?	If the selling price is less than the face value, the bond is selling at a **discount**. The difference between the face value of the bond and its market value is the discount. A bond sells at a discount when the market rate of interest is higher than the interest rate that is stated on the bond.
48.	What is a premium and when does it arise?	If the selling price is more than the face value, the bond is selling at a **premium**. The difference between the market price of the bond and the face value of the bond is the amount of the premium. A bond sells at a premium when the market rate of interest is lower than the interest rate that is stated on the bond.
49.	What does duration measure and how is it calculated?	Duration is the amount by which an individual fixed income security will vary in value with changes in interest rates. It is calculated as the weighted average of the times until the receipt of both interest and principal, weighted according to the proportion of the total present value of the bond represented by the present value of each cash flow to be received.
50.	How is the modified duration calculated?	$\frac{\text{Duration}}{1 + \text{Yield to Maturity}}$
51.	What are the common rights and expectations of common shareholders?	1) The right to vote 2) The right to receive dividends, if a dividend is declared 3) The right to buy new shares if the shareholder has preemptive rights 4) The right to share in the distribution of residual assets
52.	What are the **advantages** of issuing **common stock**?	• Common stock does not have a fixed payment that must be made to the holders. • Shares do not mature and do not require a future repayment of the principle. • Common stock provides the firm with greater flexibility in its financial structure because it does not have an obligation to make interest payments or repay principal. • The issuance of shares brings additional capital into the firm, thereby lowering its debt to equity ratio and the perceived riskiness of its capital structure.

53.	What are the **four important dates** in the process of **paying a dividend**?	• The **declaration date** is the date when the directors of the corporation vote and approve the payment of a dividend. • The **date of record** is the date set by the company when it will determine which shareholders are eligible for the dividend and which are not. • The **ex-dividend date** is important to shareholders who either buy or sell shares in the days immediately preceding the date of record because time is required to process stock trades. • The **payment date** is the day on which the dividend is actually distributed to the shareholders.
54.	How is preferred stock similar to bonds?	• Preferred stockholders usually **do not vote.** • Preferred stock usually pays a **fixed annual payment in the form of a dividend**. • Preferred shareholders **receive preference over common shareholders in an asset distribution**. • Preferred stockholders generally **receive dividends before common stockholders**. • Often, preferred stocks are issued with **bond-like features** such as callability, convertibility, and so forth.
55.	How is preferred stock similar to common stock?	• **Not paying preferred dividends** during times of financial distress **does not breach a contract** and cannot result in bankruptcy proceedings. • Preferred dividends are **paid after interest and taxes**. • In the event of asset distribution in a liquidation, **preferred shareholders are junior to bondholders** and other creditors.
56.	What are cumulative dividends?	Dividends that are **earned** every period. If they are not declared and paid in a specific period, the earned dividend accumulates. Before common dividends may be paid, all cumulative dividends that have accumulated must be paid.
57.	How is preferred or common stock with no dividend valued using the zero growth dividend model?	Annual Dividend Investors' Required Rate of Return
58.	How is common stock valued using the dividend growth model?	*Next* Annual Dividend Investors' Required Rate of Return – Annual Future Growth Rate of the Dividend
59.	How is common stock valued using dividends and expected sales price?	$\frac{D_1 + P_1}{1 + R}$ P_1 = the expected price of the stock at the end of one year D_1 = the *next* annual dividend to be paid **R** = the investors' required rate of return

60.	How is a stock that does **not** pay a dividend valued?	$\frac{E_1}{R - G}$ **E_1** = the next year's earnings per share **R** = the investors' required rate of return **G** = the annual expected % growth in earnings
61.	How is the value of a share calculated when the dividend is expected to grow for a number of years and then remain constant?	The valuation is done in two stages: 1) The value of the dividends during the growth stage is the present value of the dividends during that period. 2) The present value of the dividends after the growth period is calculated using the constant dividend growth model and added to #1.
62.	What is the value of a stock right when it is selling rights-on?	$\frac{P_o - P_n}{r + 1}$ P_o = The value of a share with the rights attached P_n = The subscription (sales) price of a share r = The number of rights needed to buy a new share
63.	What is the value of a stock right when it is selling ex-rights?	(Market value of the stock, ex-rights – Subscription Price) Number of Rights needed to Buy One New Share
64.	What is a forward contract?	An over-the-counter agreement between two parties to buy or sell an asset at a certain time in the future for a certain price.
65.	What are the long and short positions in a forward contract?	• The party that has agreed to **buy** (as a protection against a possible **increasing** price of the underlying asset) has a **long position.** • The party that has agreed to **sell** (as a protection against a possible **declining** price of the underlying asset) has a **short position.**
66.	How is a futures contract different than a forward contract?	• Futures contracts are traded on exchanges. • Futures contracts are standardized. • Forward contracts are settled by the contracting parties on the expiration date by completing the buy-sell transaction of the commodity. However, usually buyers and sellers of futures contracts simply offset their positions by the delivery date.
67.	What are the two types of futures?	1) Commodity futures 2) Financial futures
68.	What are interest rate swaps?	Contracts between two parties that agree to trade payment streams, specifically interest payments on debts. The most common form involves one payment at a fixed rate and one at a floating (or variable) rate pegged to some market rate of interest that changes whenever the market rate changes.
69.	What is a stock option?	An option to purchase or sell a specific security at a future date and at a specified price.

70.	What is a call option and what is a put option?	• A **call option** gives the buyer of the call option the right (but not the obligation) to **buy** the underlying security at the strike price (the exercise price) from the seller of the option. • A **put option** gives the buyer of the put option the right (but not the obligation) to **sell** the underlying security at the strike price to the seller of the option.
71.	Who are the investor and the writer in an option?	The investor makes an opening purchase and the investor is in the long position. The writer makes an opening sale and the writer is in the short position.
72.	When are call and put options "in the money?"	Call options are "in the money" when the exercise price is lower than the market price of the asset because the owner of the call can purchase the asset for less than the market value. Put options are "in the money" when the exercise price is higher than the market price because the holder of the put can sell the asset for a price higher than the market price.
73.	How can an option position be exited?	1) Exercising the option 2) Offsetting the option 3) Letting the option expire
74.	How is the total value of the option determined?	Intrinsic value (the amount "in the money") + Extrinsic value (time value) **= Total Option Premium**
75.	How are options used as hedging strategies?	A protective put is used to protect against the decline in the value of the asset. A protective call is used to protect against an increase in the value of the asset.
76.	How is the weighted average cost of capital calculated?	<u>Total Costs of Financing</u> Total Amount of Financing The current market value of the total financing should be used, not the historical cost that is used for accounting purposes.
77.	How is the cost of debt calculated?	$\mathbf{C_d = C\,(1 - t)}$ C_d = Cost of debt after tax C = Cost of debt before tax (using the effective interest rate, not the stated interest rate) on issuance of new debt t = Marginal tax rate
78.	How is the cost of preferred stock calculated?	<u>Annual Cash Flow Per Share in the Form of Dividends</u> Current Market Price of Preferred Stock
79.	How is the cost of newly-issued preferred stock calculated?	<u>**D**</u> $\mathbf{P_n}$ D = Yearly dividend per share P_n = Net proceeds per share of issue (selling price minus issuance costs per share)

80.	How is the cost of retained earnings calculated using the dividend growth model?	**$(D_1 / P_0) + G$** D_1 = The next annual dividend to be paid per share P_0 = Common stock price per share today G = The annual expected % growth in dividends
81.	How is the **price of stock calculated** under the **Dividend Growth model**?	Next Annual Dividend ÷ (Investors' Required Rate of Return – Annual Future Growth Rate of the Dividend)
82.	How is the **price of stock calculated** under the **Zero Growth Dividend model**?	Annual Dividend ÷ Investors' Required Rate of Return
83.	How is the cost of retained earnings calculated using CAPM?	**$R = R_F + \beta(R_M - R_F)$** R = Investors' required rate of return (cost of RE) R_F = Risk-free rate of return β = Beta coefficient R_M = Market's required rate of return
84.	How is the cost of newly issued common stock calculated?	**$(D_1 / P_n) + G$** D_1 = The next annual dividend to be paid per share P_n = Net proceeds from the issuance of the share G = The annual expected % growth in dividends
85.	What is the marginal cost of capital?	The cost of new sources of capital for the company.
86.	What are term loans?	Term loans are loans that mature in more than one year. They are usually used to purchase fixed assets such as equipment, but they can also be used for other longer-term purposes.
87.	What are benefits of lease financing?	1) The convenience of short-term leases 2) 100% financing at fixed rates 3) Protection against obsolescence 4) Tax deductibility of operating lease payments
88.	What are the limitations of lease financing?	1) Cost 2) Loss of depreciation, other deductions, and salvage value 3) Lack of flexibility if the lease is non-cancelable
89.	What three roles does an investment bank play in an IPO?	1) It helps its customer to design the deal and the securities. 2) It underwrites it, or buys the new issue. 3) It then markets the issue to the public.
90.	In market efficiency, what information is used to conduct technical analysis?	**Past patterns in prices and trading volume**. Because this information is available to all investors, it is difficult for an investor to use this information to generate an abnormal return.

91.	In market efficiency, what information is used to conduct fundamental analysis?	**All other published information, other than past patterns in prices and trading volume.** Because this information is available to all investors, it is difficult for an investor to use this information to generate an abnormal return.
92.	In market efficiency, what information may be used to generate an abnormal return?	**Private or inside information.** Even though trading on inside information is illegal, it still happens.
93.	What are the three forms of market efficiency?	1) Weak-form efficiency 2) Semi-strong-form efficiency 3) Strong-form efficiency
94.	What information does the weak-form efficiency take into account?	**Weak-form efficiency** says that market prices of securities reflect all **historical** information including price movements and trading volume. Therefore, investors will not be able to "beat the market" by basing their analysis and strategy solely on past price movements.
95.	What information does the semi-strong-form efficiency take into account?	**Semi-strong-form efficiency** says that security prices reflect not only historical price and trading volume information, but also all other published information. An efficient market will adjust immediately to earnings announcements and other information released by a company or any information that could affect a company.
96.	What information does the strong-form efficiency take into account?	**Strong-form efficiency** suggests that security prices reflect **all** possible information, including the private information known only to insiders. The strong-form hypothesis assumes that even insider trading will not result in abnormal returns for insiders who trade on the information, because the information they have is already reflected in the stock's price.
97.	What are the **internal sources** of permanent financing?	Internal funds are available from profits the company generates but does not distribute to the stockholders (i.e. retained earnings).
98.	What is a **conservative working capital policy**?	A company that adopts a conservative working capital policy seeks to minimize liquidity risk by increasing the amount of working capital that it holds. As a result, the company gives up the potentially higher returns available from using the additional working capital to acquire long-term assets, but it is in a safer position with respect to liquidity and possible insolvency because of the greater amount of working capital.
99.	What are examples of anomalies in financial markets?	1) The small firm effect 2) Investors may respond slowly to new information 3) Extreme events
100.	What are different forms of dividends?	1) Cash dividends 2) Scrip dividends (payable at a later date) 3) Property dividends

		4) Stock dividends 5) Liquidating dividends (return **of** capital)
101.	What are the dates involved in the dividend payment process?	1) Declaration date 2) Date of record 3) Ex-dividend date 4) Payment date
102.	What is the Baumol Cash Management Model **formula**?	OC = √2bT ÷ i Where: OC = The optimal level of marketable securities to convert to cash b = Fixed cost per transaction T = Total demand for cash for the period i = Interest rate for marketable securities, or the opportunity cost lost by holding cash instead of marketable securities
103.	What is the effect of a stock split?	The immediate effect of a stock split is minimal. The total value and the equity of the company do not change, nor does the aggregate market value of what an individual shareholder owns. Additionally, the percentage of the company that each individual shareholder owns does not change.
104.	What are reasons for a company to purchase treasury shares?	1) To reduce the number of shares outstanding so the earnings per share will increase, which may lead to an increased market price for the stock. 2) To reduce the supply of the shares on the market, which may increase the market price of the company's shares. 3) As an investment if the company thinks its shares are undervalued. 4) To use the shares for a stock dividend, to re-sell them, or to re-issue them as share-based payment.
105.	How is working capital calculated?	Current assets − Current liabilities = Working capital
106.	What are temporary and permanent working capital?	The minimum amount of working capital maintained at all times to support the firm's day-to-day sales and activities is called **permanent working capital**, and the increases that occur from time to time are called **temporary working capital**.
107.	What questions help determine how much cash a company should hold?	1) The **amount of cash** needed in the near future. 2) The **amount of risk** a company is willing to take with respect to solvency. 3) The **other short-term assets** that the company holds. 4) The **available return on other short-term investments**. 5) At what point the company is in its **operating cycle**.

108.	What is the EOQ **calculated**?	EOQ = √2aD ÷ k Where: a = Variable cost of placing an order D = Demand in units for a given period k = Carrying cost of one unit for the same time period used for D
109.	What are the reasons for holding cash?	1) As a **medium of exchange**. 2) As a **precautionary measure**. 3) For **speculation**. 4) As a **compensating balance**.
110.	What is the operating cycle?	The average number of days inventory is held before it is sold plus the average number of days accounts receivable remain outstanding before being collected. It represents the total number of days the firm has funds invested in working capital.
111.	What is the cash conversion cycle?	The operating cycle minus the average age of accounts payable. The cash conversion cycle represents the number of days from the time the firm pays for the inventory until it receives cash from the sale of the inventory.
112.	How can a company speed up its cash collections?	• Invoices should be mailed as soon as possible. • Credit payment terms should encourage prompt payment. • Use EDI and EFT. • Accept credit cards. • Use a lockbox system.
113.	How can a company slow its cash disbursements?	• Pay as close to the deadline as possible. • Use zero-balance checking accounts.
114.	What is the formula to calculate the cost of **not** taking a cash discount to pay credit early?	360 × Discount % Total Period for Payment 100% − Discount % − Period of Discounted Payment
115.	What are the two models for marketable securities management?	1) Baumol cash management model 2) Miller-Orr cash management model
116.	What are the **six assumptions** made by the EOQ model?	1. The same quantity is ordered each time an order is placed. 2. The annual demand for the item is known and constant. 3. The unit ordering and carrying costs are assumed to be known and constant throughout the period. 4. Purchase order lead time—the time between placing an order and its receipt—is known and is constant. 5. Purchasing cost per unit is not affected by the quantity ordered, which makes purchasing costs irrelevant since they will be the same for all units acquired.

		6. There are no stockout costs included in the EOQ model because it is assumed that demand can be determined and planned for.
117.	What is the Miller-Orr cash management model?	The Miller-Orr Model establishes a corridor and an optimal target cash balance about which the cash balance fluctuates until it reaches the upper or lower limit of the corridor. Whenever the upper limit of cash is reached, the company buys marketable securities in order to bring the cash balance down to the target balance again. If the lower limit is reached, the company sells marketable securities to bring the cash balance up to the target level.
118.	What elements make up the credit policy of a company?	1) Credit standards – who the company gives credit to 2) Credit terms 3) Collection efforts
119.	What are the categories of costs of holding inventory?	1) Purchasing costs 2) Ordering costs 3) Carrying costs 4) Stockout costs 5) Inventory shrinkage
120.	What is inventory lead time?	The amount of time a company must wait to receive the next shipment of inventory after it places an order. The longer the lead time is, the greater is the company's risk of stockouts while it is waiting to receive the order.
121.	What is safety stock and what impacts the level of safety stock a company needs?	Safety stock is the amount of inventory that the company plans to have on hand when the next shipment of inventory is due to arrive. The amount of safety stock that a company needs to hold will be affected by: • The variability of the lead time. • The variability of the demand for the product. • The cost of a stockout.
122.	What is the reorder point?	The reorder point is the level of remaining inventory that indicates when the company needs to place the order for inventory. Expected demand during the lead time + Amount of safety stock = **Reorder point**
123.	What are forms of short-term financing?	1) Trade credit 2) Short-term commercial bank loans 3) Factoring of receivables
124.	What is factoring of receivables?	When a company factors its receivables, it transfers title to its receivables by selling them to the factor. Factoring receivables is a very common practice in many countries as it enables a company to immediately receive cash from its receivables and use this money for other purposes. The factor then collects the

		cash from the company's customers as its repayment for the money advanced to the selling company.
125.	What is factoring **with** and **without** recourse?	If the receivables are transferred **without** recourse, the company selling its receivables has transferred all risk of non-collection to the factor, and the factor cannot require the company to reimburse it for receivables that turn out to be uncollectible. If the receivables are transferred **with** recourse, however, the company selling the receivables retains the risk of non-collection and must reimburse the factor for any receivables that are not collected.
126.	How is the effective interest rate calculated when there is a compensating balance?	Annualized interest paid on full amount borrowed – Annualized interest received on cash deposited to meet compensating balance requirement, if any Amount of the Loan – Additional amount required to be kept on deposit to meet the compensating balance requirement
127.	How is the effective interest rate calculated when there is discounted interest?	Interest on the Principal Amount of the Loan Principal Amount – Interest "Withheld"
128.	How is the **effective interest rate calculated** on loans requiring a **compensating balance**?	(Annualized interest paid on full amount borrowed – Annualized interest received on cash deposited to meet compensating balance requirement, if any) ÷ (Amount of the Loan – Additional amount required to be kept on deposit to meet the compensating balance requirement)
129.	What are some of the **good reasons** for a **business combination**?	1. Economies of scale 2. Complementary resources 3. Surplus funds 4. Sales enhancement 5. Management improvements 6. Communication to the market 7. Tax reasons 8. Financial leverage
130.	What are some of the **questionable reasons** for a **business combination**?	• Diversification • Increased earnings per share • Lower financing costs
131.	How is the cash received calculated when factoring receivables?	Face value of the accounts receivable – Factoring fee (a % of the face value of the receivables) – Factor's holdback for merchandise = **Funds available before estimated interest charge** – Estimated interest charge = **Proceeds to the seller**

132.	What are other secured sources of financing?	• Revolving line of credit • Warehouse financing • Inventory financing • Transaction loan • Chattel mortgage
133.	What are other unsecured sources of financing?	• Trade credit • Repurchase agreement • Accrued expenses • Lines of credit • Commercial paper • Banker's acceptances
134.	What are different types of business combinations?	1) Merger 2) Consolidation 3) Acquisition of common stock 4) Acquisition of assets
135.	What are different types of mergers?	Mergers that take place between or among firms in the same line of business, such as bank mergers, are called **horizontal mergers**. When companies at different stages of production and distribution of a product merge, the merger is called a **vertical merger**.
136.	What are good reasons for business combinations?	1) Economies of scale 2) Complementary resources 3) Surplus funds 4) Sales enhancements 5) Management improvements 6) Communication to the markets 7) Tax reasons 8) Financial leverage
137.	What are questionable reasons for business combinations?	1) Diversification 2) Increased earnings per share 3) Lower financing costs
138.	What are some pre-offer takeover defenses?	1) Staggered election of board members 2) Supermajority merger approval provisions 3) Fair merger price provisions 4) Golden parachutes 5) Poison pills 6) Poison puts 7) Restricted voting rights
139.	What are some post-offer takeover defenses?	1) Stock efforts 2) Pacman defense (or reverse tender) 3) White knight defense 4) Lockup provisions 5) Leveraged recapitalization or restructuring 6) Crown jewel transfer

		7) Going private or leveraged buyouts
140.	What is a divestment and what are ways it can be done?	Divestment is the process of selling or otherwise disposing of an asset. It can be done through: 1) Voluntary corporate liquidation 2) Partial sell-off of assets 3) Corporate spin-off 4) Equity carve-out 5) Tracking stock
141.	What two chapters of the bankruptcy code are most often used in the United States?	• Chapter 11, which deals with the **reorganization** of the enterprise. • Chapter 7, which deals with **liquidation**.
142.	What is the discounted cash flow approach to valuing a business?	The discounted cash flow approach, or income approach, involves determining the present value of the future cash flows of the company to be valued. The value of the company is the present value of the expected future cash flows generated by it, discounted at the investor's required rate of return.
143.	How are free cash flows calculated for use in the discounted cash flow approach to business valuation?	EBIT (1 − tax rate) − (Capital Expenditures − Depreciation) + Non-Cash Working Capital decrease OR − Non-Cash Working Capital increase = **Free Cash Flow**
144.	What are the benefits of a multinational company to its home country?	• Higher profits and therefore higher taxes collected in the home country. • An MNC may bring in positive balances of trade through its exports. • An MNC may also bring other businesses into the country as supporting businesses to the MNC.
145.	What are the benefits of a multinational company to its host country?	• Jobs created. • The investment of capital and technology into the country. • Possibly an improved balance of trade resulting from the exports of the MNC. • The presence of one MNC may cause other MNCs to come to the host country as well.
146.	What are some of the benefits of foreign direct investment for the investing company?	• New sources of demand and to enter profitable markets • Monopolistic advantages • Reaction to trade restrictions • International diversification • Economies of scale • Availability of lower-cost foreign factors of production • Availability of foreign technology • To take advantage of exchange rate movements

147.	What are some of the risks of foreign direct investment for the investing company?	• Country risk • Political risk • Financial risk • Exchange rate risk
148.	What are the different ways in which exchange rates may be determined?	1) Floating exchange rate 2) Fixed exchange rate 3) Managed float exchange rates 4) Pegged exchange rate
149.	What factors impact the supply and demand of currencies, and therefore the exchange rates?	1) Relative inflation 2) Relative interest rates 3) Relative income levels 4) Expectations of future exchange rates 5) Government controls
150.	What are some ways for a company to manage its foreign exchange rate risk?	1) Natural hedges (minimize or eliminate transactions in foreign currencies) 2) Operational hedges (balancing monetary assets and liabilities in a foreign currency) 3) International financing hedges 4) Currency market hedges (forward and future contracts, currency options, and currency swaps)
151.	How is the percentage of discount or premium in the forward market calculated?	Froward rate – Spot rate x Number of forward Spot Rate periods in a year
152.	How is the effective interest rate on a foreign currency loan calculated?	**R_f = $(1 + I_f) \times (1 + E_f) - 1$** **$R_f$** = The effective financing rate **I_f** = The interest rate of the foreign currency loan **E_f** = The percentage change in the foreign currency unit against the U.S. dollar
153.	What mechanisms are available for international payments?	• Prepayment by wire transfer or check in either U.S. Dollars or foreign currency • Documentary collection by sight draft or time draft • Open account • Consignment • Credit card • Countertrade or barter
154.	What methods are available for financing international trade transactions?	• Letters of credit • Accounts receivable financing • Cross-border factoring • Bankers' acceptances • Working capital financing • Forfaiting (medium-term capital goods financing)
155.	How does the Fed **control the money supply**?	The Fed controls the money supply primarily through open market operations. The Federal Open Market Committee (FOMC) sets the target interest rate. The Fed then conducts open market operations, which involve buying and selling

		government securities on the open market, to cause the interest rate to adjust to the target.
156.	How does the **tax position** of a firm **affect managing marketable securities**?	If a company has any loss carryforwards available from previous periods (losses that could not be deducted on previous tax returns), the company may be more willing to take on higher-return investments, because there is no tax effect on them. However, a company that is paying taxes on any returns may choose lower return investments and be content with the reduced risk on them.
157.	How is factoring of receivables **calculated**?	Face value of the accounts receivable − Factoring fee (a percentage of the face value of the receivables) − Factor's holdback for merchandise returns (a percentage of the face value of the receivables) = Funds deposited to the seller's account with the factor − Interest expense = Cash available to the seller to withdraw
158.	How is **interest charged calculated** using **simple interest**?	Interest Charged = (Principal × Annual Interest Rate) ÷ (360 or 365 × # of Days Outstanding)

SECTION C – Decision Analysis (Weightage 20%)

S.No	Questions	Answers
1.	What is CVP used for and what does it analyze?	CVP, also known as **breakeven analysis**, is used primarily for short-run decision-making. CVP analysis examines **the relationship among revenue, costs, and profits**.
2.	What are the assumptions of CVP analysis?	• All costs are either variable or fixed costs. • Total costs and total revenues are predictable and linear. • Fixed costs remain constant over the relevant range. • Unit variable costs remain constant over the relevant range. • The unit selling price and sales mix remain constant. • Finished goods and work-in-process inventory do not change significantly. • The time value of money is ignored.
3.	In terms of CVP analysis, what are **risk** and **uncertainty**?	**Risk** relates to the probability that an outcome has been predicted correctly. If the probability of an event occurring is close to 100%, there is less risk than if the event has a low probability of occurring. **Uncertainty** occurs when there is no basis to draw a conclusion one way or the other.
4.	How is unit contribution margin calculated?	Selling Price per Unit – Variable Costs per Unit = **Unit Contribution Margin**
5.	How is contribution margin ratio calculated?	Unit Contribution Margin / Unit Selling Price **or** Total Contribution Margin / Total Revenue
6.	How is the **breakeven point in number of units** calculated?	BEP in Units = Total Fixed Costs ÷ Unit Contribution Margin
7.	How is the **breakeven point in revenue** calculated?	BEP in Revenue = Total Fixed Costs ÷ Contribution Margin Ratio
8.	How is a fixed dollar amount of required profit treated in CVP analysis?	A fixed dollar amount of required profit is treated as an additional fixed cost in the standard breakeven point formula. Total Fixed Cost + Target **Pre**-Tax Profit / Contribution Margin Per Unit
9.	How is a percent of sales required profit treated in CVP analysis?	A percent of sales required profit is treated as another variable cost in the calculation of contribution. Selling price – Variable cost per unit – Target **pre**-tax net income per unit = **Adjusted contribution margin per unit**

10.	How is the profit point calculated with a percent of sales profit requirement?	Target **Volume** = Total Fixed Cost / Adjusted Contribution Margin Per Unit Target **Revenue** = Total Fixed Cost / Adjusted Contribution Margin Ratio
11.	How is the breakeven point calculated when the company sells more than one product?	Fixed costs is divided by the **weighted average unit contribution margin** for the product mix as a whole, not for each individual product. The contribution is calculated for a standard basket of goods and the breakeven point is calculated for the number of baskets, rather than individual units.
12.	How does a **change in the sales mix** affect the **breakeven point** (all other things being equal)?	• If the product(s) with **higher** contribution margins increase in proportion to those with lower contribution margins, operating income will increase and the breakeven point in number of units and amount of revenue will **decrease**. The mix will have become more beneficial. • If the product(s) with **lower** contribution margins increase in proportion to those with higher contribution margins, operating income will decrease and the breakeven point in number of units and revenue will **increase**. The mix will have become less beneficial.
13.	How are **margin of safety** and the **margin of safety ratio calculated**?	**Margin of Safety = Planned Sales – Breakeven Sales** The margin of safety ratio is the margin of safety expressed as a percentage of planned sales: **Margin of Safety Ratio = Margin of Safety ÷ Planned Sales**
14.	In marginal analysis, what are **relevant revenues** and **relevant costs**?	Relevant revenues and relevant costs are those expected **future** revenues and costs that **differ among alternatives**. Only relevant revenues and costs need to be considered in the decision-making process.
15.	How are decisions made when choosing between two cost options?	The two cost formulas are set equal to each other. The quantity that solves the equation is the breakeven quantity. If the expected level of sales will be higher than the breakeven quantity, the company should select the option with more fixed costs. If the expected level of sales will be lower than the breakeven quantity, the company should select the option with more variable costs.
16.	What are marginal revenue and marginal cost?	Marginal revenue is the revenue that is received from selling one more unit. Marginal cost is the cost incurred to produce one more unit.
17.	What are **differential** revenues and costs?	Differential revenues and costs are those that differ between two alternatives.
18.	What are **incremental** revenue and costs?	Incremental revenues and costs are incurred additionally as a result of an activity.
19.	What is a sunk cost?	A cost for which the money has already been spent and cannot be recovered.

		Sunk costs are **not relevant** to decision-making because they are past costs that cannot be changed regardless of any decisions made for the future.
20.	How is the maximum price to pay in a make-or-buy decision calculated?	Total Internal Production Costs – Unavoidable Fixed and Variable Costs = **Maximum Price to Pay**
21.	What impacts the price to charge in a special order situation?	1) Direct costs of production 2) Level of operating capacity
22.	What price should a company charge for a special order when they have excess capacity?	If a factory is operating at less than full capacity and has enough unused capacity to produce the special order, the company should accept the special order if the price is greater than the avoidable (direct) costs of production.
23.	What price should a company charge for a special order when they do not have excess capacity?	1) Direct costs of production, plus 2) Lost contribution from the order that they will no longer be able to produce if the company produces the special order
24.	What are the three steps in making a disinvestment decision?	1) **Identify all unavoidable fixed costs** that are allocated to or incurred by the segment that would continue even if the segment were terminated. 2) **Identify all unavoidable variable costs** that would continue even if the segment were terminated. 3) **Identify all avoidable costs**, both fixed and variable, that will be incurred only if the segment continues to operate and compare this to the **revenue generated by the segment**.
25.	What is the law of diminishing returns?	As the amount of a resource put into the production process increases, the increase in total production resulting from each additional unit of input decreases.
26.	What are marginal product, marginal revenue product, and marginal resource cost?	• Marginal product is the **additional output** that is produced from adding one additional unit of input. • Marginal revenue product is the **change in total revenue** that arises from using one additional unit of a resource. • Marginal resource cost is the **change in the total cost** that results from using one additional unit of a resource.
27.	What are the three "C"s of pricing?	1) Customer demand 2) Competitors' prices 3) Costs
28.	What is the law of demand?	The law of demand states that the price of a product or service is inversely (negatively) related to the quantity demanded. As the price declines, the quantity demanded increases; as the price increases, the quantity demanded declines.
29.	What is price elasticity of demand?	The price elasticity of the demand for a product determines how much effect a price increase or decrease will have on the quantity demanded of that product.

30.	How is price elasticity of demand calculated using the percentage method?	Percentage Change in Quantity Demanded Percentage Change in Price **or** %ΔQ %ΔP
31.	How is the **price elasticity of demand** calculated under the **midpoint formula**?	(Q2 – Q1) / [(Q2 + Q1) / 2] (P2 – P1) / [(P2 + P1) / 2] Where: Q1 and Q2 = First and second quantity point P1 and P2 = First and second price point
32.	What are the meanings of different elasticity of demand values?	$E_d=0$ Perfectly inelastic $E_d<1$ Relatively inelastic $E_d=1$ Unitary elasticity $E_d>1$ Relatively elastic
33.	How does elasticity of demand impact total revenue?	Total revenue will **increase** if the price of an elastic good is decreased or if the price of an inelastic good is increased.
34.	What is the law of supply?	The law of supply states that, in the short run, the price of a good or service and the quantity supplied are positively correlated. As the price of a good or service increases, producers are willing to supply more of it to the market, causing an increase in the total quantity supplied.
35.	What is the point of market equilibrium?	Market equilibrium is the point where the demand curve intersects with the supply curve. At the equilibrium point, anyone who wants to sell a good at the market price and anyone who wants to buy a good at the market price will be able to do so.
36.	What are the characteristics of a perfectly competitive market?	• There are **many** independent buyers and sellers. • **Customers are indifferent** as to which supplier they buy from. • The market is for a **standardized product** or products. • There are **no barriers** restricting firms from entering or exiting the market. • **Perfect information** exists in the market. • There is **no non-price competition**.
37.	How is the price set in the short-term in a perfectly competitive market?	The short-run equilibrium price for a firm in a perfectly competitive market is the market price. A perfectly competitive firm is a price taker, meaning that it is unable to impact the price of the market.
38.	How are prices set under **perfect competition**?	Sellers in a perfectly competitive market can sell as much of their product as they want to at the market price, but they must sell at the market price. If they try to charge more than the market price, they will sell nothing. If they drop their price below the market price, they can still sell as much of their product as they want to. But if they drop their price below the market price, their total revenue will be lower than it could have been, because they could have sold the exact same amount

		at the market price and earned more total revenue. Therefore, pricing decisions for a firm in a perfectly competitive market are easy—the perfectly competitive firm is a price taker and simply sells at the market price.
39.	What are the characteristics of a monopoly?	1) One **single firm**; the market is for a **unique product** or products with no close substitutes. 2) **Barriers to entry** such as patents or extremely high capital investment requirements restrict firms from entering the market.
40.	How are **prices and output different** under a **monopoly** than in **perfect competition**?	In a monopoly, the firm **produces less than the ideal output level**. Compared with a perfectly competitive market, **prices will be higher** and **output levels lower** in a monopoly market. Additionally, **options are limited to consumers** as there is only one supplier of the product in the market.
41.	How are prices set in a **monopoly**?	A monopoly has control over the price it charges, in contrast to the perfectly competitive firm that must sell its product at the market price. However, even though the monopolist has control over the price it charges, it cannot increase prices and expect to sell the same amount of product. The monopolist faces a downward sloping demand curve, and when it increases its prices, it sells fewer units. Similarly, when it decreases its prices, it will sell more units.
42.	How are prices set in **monopolistic competition**?	In a monopolistically competitive market, many firms are operating in the market and they do not collude with one another in setting prices. The products produced by the various firms are similar but not identical. There are differences among them. The firms in the market have some limited control over their prices because of the differences in their products. One firm can charge more than another one because of offering more features, and so forth. A firm in monopolistic competition must also drop its price in order to sell additional units, although this is mitigated somewhat by the product differentiation.
43.	At what point do monopolistic firms produce?	Monopolies determine the quantity to produce in the **same manner as firms in perfect competition**: they will produce as many units as they can sell until the marginal cost of production exceeds the marginal revenue from selling one more unit. Monopoly quantity is determined at the point where **MR=MC**.
44.	How is price set in a monopoly?	After the monopolistic firm determines the quantity it will produce, at the intersection of its marginal revenue and marginal cost lines on the graph, it extends the quantity line on the graph up to the demand curve to determine the maximum selling price for that number of units.
45.	What are the characteristics of monopolistic competition?	1) **Many non-collusive firms** operate within the market. 2) The market is for a product or products that **can be differentiated.** 3) **Minimal barriers exist** to restrict firms from entering the market. 4) Member firms have only **limited control over price**. 5) There is a considerable amount of **non-price competition**.
46.	How are prices set in an **oligopoly**?	In an oligopoly, only a few firms are operating in the market and each company will consider the impact of its actions on its competitors and the reaction that it expects from its competitors. A price decrease by

		one company will usually be matched by others' price decreases, but a price increase by one company will usually not be followed by the other companies.
47.	What type of demand curve exists in a monopolistic competition market?	The demand curve of a monopolistically competitive firm is **highly elastic**, meaning that the quantity demanded changes by a larger percentage than an associated change in the price.
48.	What are the characteristics of oligopoly?	1) Only a **few firms operate in the market** and each is affected by the decisions of the others. 2) The market has either **standardized** or **differentiated products**. 3) **Prices may be rigid** due to the firms' interdependence. 4) **Significant natural or created barriers** to entry may exist. 5) **Demand is static in the short term**, or growth opportunities are limited.
49.	What type of demand curve is in an oligopoly?	Oligopolies have a kinked demand curve because a **price decrease by one company will usually be matched** by the competitors, but a **price increase by one company will usually not be followed** by the competitors. Prices usually do not change much in an oligopoly.
50.	What are the **product mix pricing strategies**?	• **Product-line pricing** – A company generally creates product lines rather than single products. Each successive item in the line offers more features and costs more. • **Optional-product (feature) pricing** – Optional products, features and services can be offered along with the main product, such as a personal computer with a minimum amount of memory and speed advertised at a low price with optional upgrades available. • **Captive-product pricing** – Captive pricing is being used when a product requires the use of additional or "captive products" along with it, such as a low-priced razor that requires high-priced replacement blades. • **By-product pricing** – By-products should be priced at as high a price as possible, but the manufacturer should accept any price that is higher than the cost of storing and delivering them to the purchaser. Whatever the manufacturer can receive from the sale of the by-product reduces the cost of the main product, and some by-products can even be profitable in themselves. • **Product-bundle pricing** – Product bundling occurs when a seller bundles products, features or services together and offers the bundle at a price that is lower than the price of the items if purchased individually.
51.	What are the **competition-based approaches** to pricing?	• **Going-rate pricing** is based almost entirely on competitor's prices, but it does not mean that the company charges the same price as its competitors. • **Bidding** involves each company submitting a bit that is based on how it thinks its competitors will bid rather than on its

		costs. The company tries to bid low enough to get the business without going so low as to make the contract unprofitable. At the same time, it wants to get as much as possible for the contract, so it doesn't want to underprice it. • **Target costing** begins with the selling price, based on customer demand and prices charged by the competition. Once the selling price has been determined, the firm then figures out how to produce the product at a cost that permits an adequate profit.
52.	What are two **new product pricing strategies**?	1. **Market penetration pricing**: When a company wants to penetrate a market quickly and maximize its market share with a new product, it may set a low initial price with the expectation that high sales volume will result. The goal is to win market share, stimulate market growth, and discourage competition. 2. **Market skimming**: A company unveiling a new technology may set an initial high price to "skim" the market by attracting purchasers who cannot wait for the "newest thing." When the initial excitement passes, sales slow down, and competitors enter the new market, the company lowers the price to attract the next group of price-sensitive customers. This is often followed by further lowering of the price, thereby skimming maximum revenues from the various market segments.
53.	What are the **four categories** in the **BCG Growth-Share Matrix**?	• A **star** is in an industry that has a high market growth rate, and the product has a high share of the market. A star generates a lot of cash because it has a high share of its market. • A **question mark** is a product in an industry with a high market growth rate, but the product has a low share of the market. Because the market is growing rapidly, the question mark's sales are also growing rapidly, so it will consume a lot of cash for investment. However, because of its low market share, it does not generate much cash. • A **cash cow** is in an industry with a low market growth rate, but the product has a high share of the market. Cash cows are in mature markets in which the growth rate has slowed, but they are market leaders. • A **dog** is in a mature industry with a low market growth rate, and it has a low share of the market. A dog does not consume much cash, but it does not generate much cash, either. It is usually barely breaking even.
54.	What are the six steps in setting a pricing policy?	1) Select the pricing objective 2) Estimate demand 3) Estimate costs 4) Analyze competitors, costs, and offers 5) Determine the pricing method

		6) Set the price
55.	What are the price floor and price ceiling?	• The **price floor** is product cost. • The **price ceiling** is customers' perception of the product's value.
56.	What are the cost-based pricing approaches?	1) Cost-plus pricing 2) Markup pricing 3) Break-even pricing 4) Target profit pricing
57.	What are value-based pricing approaches?	1) Everyday low pricing 2) High-low pricing
58.	How does **pricing change** through the **stages of the product life cycle**?	• **Introduction Stage**: Pricing at this stage is usually the highest as early adopters buy the product and the company has a goal of recovering its development costs as quickly as possible. • **Growth Stage**: Prices are usually decreased to be competitive in the market, though if the product is extremely popular, prices may be maintained at a high level. • **Maturity Stage**: Prices begin to decrease while at the same time promotion costs increase, leading to lower profits. • **Decline Stage**: The price will probably be cut at this point because the companies left in the market are trying to reach as many consumers as possible.
59.	What are five price adjustment strategies?	1) Cash (or sales) discounts 2) Volume discount pricing 3) Seasonal discounts 4) Trade discounts 5) Allowances
60.	What are **make-or-buy decisions** and how is the **maximum price to pay** calculated??	Make-or-buy decisions are often framed in the context of whether the company should produce something itself or buy it from outside. In these decisions, as with all other decisions, the only costs that need to be considered are the relevant costs. These relevant costs are the costs that are different between the two options and usually consist of the variable costs and avoidable fixed costs. **Maximum Price to Pay = Total Internal Production Costs – Unavoidable Costs (Fixed and Variable)**
61.	What are the reasons that **cost-plus** and **markup pricing persist despite their drawbacks**?	• Sellers can be more confident about their costs than about demand for their product. If the price is tied to the cost, then they do not need to make pricing adjustments to reflect changes in demand. • If all of the companies in an industry use the same pricing method, prices are similar and price competition is minimized. • Many decision-makers believe that cost-plus and markup pricing are fair ways to set prices, because the sellers earn a fair return on their investments while not increasing their prices in response to an increase in demand.

62.	What are the **steps** to determining **expected value**?	1. Identify the possible outcomes and assign a probability to each possible outcome. All of the probabilities must be between 0 and 1 and must total to 1. 2. Multiply each quantitative outcome by its assigned probability. 3. Sum the results of step #2 above. The sum of the results will be the **expected value**, which will be a weighted average of the possible outcomes, using each outcome's probability as its weight.
63.	What are the **three cost-based approaches** to pricing?	1. In **cost-plus pricing**, the company determines its costs and then adds a standard monetary amount of profit to the cost to determine the price. 2. In **markup pricing**, the company starts with the item cost and adds a standard markup percentage, using either **markup on cost** or **markup on selling price**. 3. In **break-even pricing** and **target profit pricing**, the company determines a price at which it will break even or make a target profit.
64.	What are the **three major influences** on price?	1. **Customers**. Customers' desire for the product and their willingness to pay for it constitutes demand. When a product is in high demand, its supply becomes limited and the price is driven up. 2. **Competitors**. Market comparables, or the prices charged by competitors for substitute products, affect the demand as well as the price a company can charge for its product. If a competitor's price is significantly below the market price, demand for the output of a company in the same market will be decreased. The company may be forced to lower its price to stay in business. 3. **Costs**. Costs of production affect supply. The lower the cost is, the higher the profit is, and the more product the company will be willing to supply. In managing their costs the company needs to try to reduce and eliminate all of the costs that do not add value to the final product.
65.	What are the two approaches to **setting long-run prices**?	1. The **market-based approach** focuses on what the customers want and how competitors will react to what the company does. **Target pricing** is based on knowledge of customer perception of the value of the product or services. Once the target price has been established, the target cost per unit must be determined. The target cost per unit is the estimated long-run cost per unit that will enable the company to earn its target operating income per unit when selling at the target price. **2.** The **cost-based approach** focuses on what it costs to manufacture the product and the price necessary to both recoup the company's investment and achieve a desired return on its investment. A company using **cost plus target**

		(desired) rate of return calculates the cost of production and then adds a markup of an amount that will result in a target rate of return on investment. The amount of the markup will generally be a percentage of the cost of production. A target percentage markup over cost is determined, and the price is based on the full cost per unit to manufacture the product, plus the markup.
66.	What are **value-based** approaches to pricing?	Value-based pricing (also called buyer-based pricing) bases prices on buyers' perceptions of the value of the product instead of on the seller's cost. Value-based pricing is the reverse of cost-based pricing. There are also a few specific types of value-based pricing, including: • Everyday low pricing is used to charge an everyday low price with few temporary price reductions. • High-low pricing involves charging high everyday prices but offering frequent discounts and sales.
67.	What is a **cartel**?	A cartel is a group of firms that create a formal, written agreement that governs how much each member will produce and charge. The objective of a cartel is to limit competitive forces within a market. The cartel can assign certain regions over which each firm will have exclusive operating control, thus giving each individual cartel firm monopoly power. If output is limited so as to create a shortage at the current price, the cartel's actions have the same effect as fixing the price.
68.	What is a **cost driver**?	A cost driver is a characteristic of an activity that affects costs, such as a given level of activity or volume over a given time span. A change in the level of activity or volume affects the level of that cost object's total costs.
69.	What is a **cost object**?	A cost object is any item or activity for which we can measure the costs. It answers the question, "The cost of what?"
70.	What is a **joint production process**?	A joint production process results when the same production process (and therefore the cost of that same production process) yields more than one product. The products of a joint manufacturing process may have value at the splitoff point, and they may also have greater value if processed further as separate products. The decision needs to be made as to whether they will be sold at the splitoff point, or whether they will be processed further and then sold.
71.	What is a semi-fixed cost?	A **semi-fixed cost**, also called a **step cost**, is fixed over a given, small range of activity, and above that level of activity, the cost suddenly jumps. It stays fixed again for a while at the higher range of activity, and when the activity moves out of that range, it jumps again. A semi-fixed cost moves upward in a step fashion, staying at a certain level over a small range and then moving to the next level quickly.
72.	What is a semi-variable cost?	A semi-variable cost has both a fixed component and a variable component. A basic fixed amount must be paid regardless of activity,

		even if there is no activity, and added to the fixed amount is an amount that varies with activity.
73.	What is an **explicit cost**?	An explicit cost is a cost that can be identified and accounted for. Explicit costs represent obvious cash outflows from a business.
74.	What is an **implicit cost**?	An implicit cost does not clearly show up in the accounting records, but it is there. An opportunity cost is an implicit cost.
75.	What is an imputed cost?	An imputed cost is one that does not show up in the accounting records and is not a cash outlay, but it represents a cost that must be considered in decision-making. An opportunity cost is a type of imputed cost.
76.	What is **cost allocation**?	**Cost allocation** is the process of assigning costs **other than direct costs** to cost objects according to some predetermined formula or allocation base.
77.	What is **cost tracing**?	**Cost tracing** means assigning **direct costs** to a particular cost object. Direct costs (also called traceable costs) are costs that are **incurred specifically because of that cost object**. If it were not for that cost object, the direct cost would not have been incurred.
78.	What is **dumping**?	Dumping a product occurs when a company sets the price of the product artificially low and then sells it in another country. Though this may not be illegal, it is unethical and will often lead to retaliatory tariffs and taxes by the country in which the product was dumped.
79.	What is **peak-load pricing**?	Peak-load pricing involves charging a higher price for the same product or service at times when demand is the greatest and a lower price at times when demand is lowest.
80.	What are **sell or process further decisions** and **when does this situation arise**?	If the decision is between selling the product “as-is” or processing it further, presumably in order to sell it for a higher price, the decision is based on the incremental operating income that is attainable beyond the “as-is” point. This kind of situation may be encountered when dealing with a joint production process or obsolete inventory.
81.	What are some examples of **cost objects**?	• A product • A batch of like units • A customer order • A contract • A product line • A process • A department • A division • A project • A strategic goal
82.	What are some **price adjustment strategies**?	• **Cash discounts** are offered to buyers who pay their invoices within a certain, usually short, period. • **Volume discount pricing** rewards customers who purchase in large volumes by offering them a discounted price. • **Seasonal discounts** are price reductions to buyers for purchasing products or services out of season, when sales are generally low.

		• **Trade discounts** or **functional discounts** are offered by manufacturers to trade channel members who perform specific functions such as storing or record keeping. Under U.S. law, manufacturers must offer the same trade discounts to all members of each trade channel. • **Allowances** are another type of reduction from the basic price. A company might offer a **trade-in allowance** if the customer turns in an old item when purchasing a new one. Or a company might offer an **upgrade allowance** to purchasers who have previously purchased a competitor's product or service as an incentive to get them to switch. **Promotional allowances** are payments or price reductions offered by manufacturers or wholesalers to dealers or retailers to reward them for participating in promotional programs.
83.	How is **target pre-tax income** calculated?	Target pre-tax income = Target after-tax income ÷ (1 – tax rate)
84.	How is **target pre-tax net income needed per unit** calculated?	Target pre-tax net income needed per unit = (Required after-tax percentage of revenue × Sale price per unit) ÷ (1 – tax rate)
85.	How is **target sales revenue** calculated?	Target Sales Revenue = (Total Fixed Cost + Target Pre-Tax Income) ÷ Contribution Margin *Ratio*
86.	What are the stages of the product life-cycle?	1) Product development 2) Introduction 3) Growth 4) Maturity 5) Decline
87.	What are three strategies for a product in the decline stage?	1) Maintain 2) Harvest 3) Drop
88.	What are price discrimination and peak-load pricing?	• **Price discrimination** is the practice of charging different prices for the same product or service to different customers based on customer flexibility. • **Peak-load pricing** is the practice of charging different prices for the same product or service depending on the amount of demand at a given time.
89.	What are some forms of illegal pricing?	1) Predatory pricing 2) Anticompetitive pricing 3) Collusive pricing **4)** Dumping
90.	What is price discrimination?	Price discrimination is the practice of charging different prices for the same product to different customers.
91.	What is the **deterministic approach**?	Under the deterministic approach we simply **select the level of output or sales that is most likely** and use that number in the decision model. Use of the most likely volume is obviously easier than calculating an expected value, but it does not take into account any of the variables that exist in the determination of actual output.

92.	What is the **indifference point**?	Frequently, manufacturing can be done in more than one way. When there is a trade-off between high fixed costs/low variable costs and low fixed costs/high variable costs, the high fixed cost/low variable costs option will become more attractive as volume increases. Breakeven analysis can be used to find the level of sales and production where sales greater than that level will make the high fixed cost option more favorable, and sales below that level will make the low fixed-cost option more favorable. That level is called the **indifference point**, where the two options are equally favorable.

SECTION D – Risk Management (Weightage 10%)

S.No	Questions	Answers
1.	How is risk defined by the IMA's Statement on Management Accounting, SMA:ERMF?	A risk is any event or action that can keep an organization from achieving its objectives.
2.	What are the **four common categories** of risk?	1. **Strategic risks** include risks that are on a more global, or macro, level for the business. 2. **Operational risks** are risks that result from inadequate or failed internal processes, people or systems. 3. **Financial risks** are risks connected to the financial health of the company. **4. Hazard risk** is the type of risk that is can be insured against.
3.	What are the five steps in the risk management process?	1) Risk identification 2) Risk assessment 3) Risk prioritization 4) Response planning 5) Risk monitoring
4.	What two factors are used to assess exposure to risk?	1) Loss frequency or probability 2) Loss severity
5.	What are the four measures of potential loss?	1) Expected loss 2) Unexpected loss 3) Maximum probable loss 4) Maximum possible loss (also called extreme or catastrophic loss)
6.	What is expected loss?	The amount that management expects to lose to a given risk per year on average over a period of several years. Because the loss is expected, it should be included in the budget.
7.	What is unexpected loss?	The amount that could likely be lost to a risk event in a very bad year, in excess of the amount budgeted for the expected loss, up to the maximum probable loss. The business should reserve the unexpected loss amount as capital.
8.	What is the maximum probable loss?	The largest loss that can occur under foreseeable circumstances. Damage greater than the maximum probable loss could occur, but in the judgment of management, is very unlikely to occur.
9.	What is the maximum possible loss?	The worst-case scenario. It represents the greatest possible loss from a specific risk or event.
10.	What are **loss frequency** and **loss severity**?	**Loss frequency** or **probability** is the measurement of how often the loss occurs, on average. **Loss severity** measures how serious a loss is in terms of cost when it occurs.

11.	What are the **five responses** for risk?	1. **Avoiding the risk** is eliminating the risky event or item. Eliminating the risk might entail selling (or otherwise disposing of) a business unit or product line. 2. **Reducing (mitigating) the risk** recognizes that the risk will continue to exist but looks for ways to reduce the risk. 3. **Transferring (sharing) the risk** is transferring the risk of loss either partially or wholly to another organization. The primary example of transferred risk is the purchase of insurance. 4. **Retained risk, or risk retention**, is the portion of a risk not covered by insurance, such as a deductible amount that must be paid before any losses are reimbursed. A retained risk may also be a risk the firm chooses to self-insure against by not purchasing insurance to cover the risk at all but instead budgeting and paying for it out of its own funds 5. **Exploiting (or accepting) a risk**. Exploiting a risk is the strategic process by which a firm deliberately exposes itself to risk because its management believes they can take advantage of a situation and generate value for shareholders. Examples of exploiting or accepting risk are investing in an emerging geographic market that carries substantial political and economic risk or introducing a new high-technology product when the product's success in the market is not certain.
12.	What is risk appetite?	Risk appetite reflects the level of risk a company can optimally handle, given its capabilities and the expectation of its various stakeholders such as vendors and creditors.
13.	What is risk tolerance?	The amount of risk a company is actually prepared to bear, given a specific risk factor.
14.	What is Enterprise Risk Management (ERM)?	"Enterprise risk management is a process, effected by an entity's board of directors, management and other personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance regarding achievement of entity objectives." (Definition by COSO)
15.	What four categories of objectives does ERM help a company achieve?	1) Strategic 2) Operations 3) Reporting 4) Compliance
16.	What are the **main components** of an ERM system?	1. **The internal environment** is the atmosphere in the organization towards risk and risk management. 2. **Objective setting**. Before an effective ERM environment can be established, the organization's strategic objectives and goals for its operations,

		reporting and compliance activities must be determined and established. 3. **Event identification**. Events are the internal and external events that affect the organization's implementation of its ERM strategy or the achievement of its objectives. 4. **Risk assessment** is the core of COSO ERM. Risk assessment is the process of analyzing and considering risks from three perspectives: (1) the **likelihood** of the risk's occurring, (2) the **potential impact** of the event if it does occur, and (3) the **interrelationship** of the risks on a unit-by-unit or total organization basis. 5. **Risk response** is what the company decides to do in respect to each of the risks identified. Management must develop a response for each of its identified risks. 6. **Control activities** are all of the policies and procedures that are implemented to ensure that the risk responses are effectively carried out and implemented. 7. **Information and communication** refers to all of the relevant information that needs to be communicated to the appropriate person within a time frame that will allow that person to carry out their duties. Information and communication link together each of the other components. **8. Monitoring**. The system put in place needs to be monitored to ensure that it continues to be appropriate and properly operated. The monitoring component has overall responsibility for reviewing all of the other functions.
17.	What are the **benefits** of an ERM system?	• An alignment of the entity's strategy and its appetite for risk. • An improvement in risk response decisions. • A reduction in the number and impact of operational surprises and losses. • The identification and management of multiple and cross-enterprise risks. • An improved ability to seize (act on) opportunities that arise. • An improved utilization of capital and the resources of the company.
18.	What is residual risk?	SMA: ERMF defines residual risk as: "The level of risk that remains after management has taken action to mitigate the risk." Inherent risk – Activities of management to mitigate/address the risk

		= **Residual risk**
19.	What are some event identification techniques for ERM?	1) Event inventories 2) Internal analysis 3) Escalation or threshold triggers 4) Facilitated workshops or interviews 5) Process flow analysis 6) Leading event indicators 7) Loss event data methodologies
20.	What is capital adequacy?	A measurement used by bank regulators to assess whether a bank has sufficient capital compared to its liabilities.
21.	How is the capital adequacy ratio calculated?	Tier 1 Capital + Tier 2 Capital Risk Weighted Assets (RWA)
22.	What are **solvency**, **liquidity**, **reserves**, and **sufficient capital** in terms of capital adequacy?	• **Solvency** relates to the ability of the bank to pay its long-term obligations as they come due. • **Liquidity** relates to the ability of the bank to pay its short-term obligations as they come due. • **Reserves** are the amount of cash that the bank must keep on hand in order to be able to pay its depositors. • **Sufficient Capital** is whether or not the bank has sufficient capital to properly protect its depositors from default.
23.	What are some of the **benefits** of risk management?	• Increasing shareholder value because of the process of minimizing losses and maximizing opportunities. • Fewer disruptions to the operations of the business. • Better utilization of the resources of the organization. • Fewer shocks and unwelcome surprises. • Providing more confidence to employees, stakeholders and governing and regulatory bodies. • More effective strategic planning. • Better cost control. • Enables quick assessment and grasp of new opportunities. • Provides better and more complete contingency planning. • Improves the ability of the organization to meet objectives and achieve opportunities. • Enables quicker response to opportunities.
24.	What are some of the **quantitative risk assessment tools**?	• **Value at Risk (VaR)** measures the potential loss in value of a risky asset or event over a defined period for a given confidence interval. • **Cash Flow at Risk** measures the likelihood that cash flows will drop by more than a certain amount. • **Earnings at Risk** measures the confidence interval for a fall in earnings during the specific period.

		• **Earnings Distributions** is a graphical representation of the probability of a level of return and the level of return itself. • **Earnings per Share Distributions** is a graphical representation of the probability of the amount of earnings per share (EPS) and the likelihood of each level occurring. • **Benchmarking** can be used to compare the organization's risk profile and the impact of the risks it faces with those of similar companies.
25.	What is a **risk map**?	A risk map is a visual depiction of the relative risks. For each identified risk, the probability of the event happening on a scale of 1 to 9 is plotted on the x-axis, and the estimated impact of the loss if it occurs, on a scale of 1 to 9, is plotted on the y-axis. A risk map provides a visual way of identifying the risks that are both more likely to occur and that have a greater potential for loss should the event occur.
26.	What is **volatility**?	Volatility is something that impacts risk. By definition, volatility has to do with the consistency of results. If sales fluctuate greatly from day to day, there is great volatility in sales. Volatility increases risk because it increases uncertainty about the future, and there is a greater probability that the future results will be poor.

SECTION E – Investment Decisions (Weightage 15%)

S.No	Questions	Answers
1.	What are **relevant revenues, costs, or cash flows**?	Relevant revenues, costs, or cash flows **vary** with one course of action over another, and they are the important factors in a decision, because all **other** revenues, costs and cash flows are the same for all options. Relevant revenues, costs, or cash flows may be either **incremental** or **differential**.
2.	What are **Sunk Cost**?	A sunk cost is one that has already been incurred and therefore is **not a relevant cost**.
3.	What is a **Committed Cost**?	The company has already agreed to and committed itself to a committed cost, even if the invoicing or delivery of the product or service has not taken place.
4.	What is a **Common Cost**?	A common cost is shared by all of the available options or all divisions. Because it is the same for all options, it is **not relevant** and should not be taken into account in making a decision between any two different options.
5.	What is a **deferrable (discretionary)** cost?	A deferrable cost is one that can be deferred to future periods without creating a significant impact in the current period. Marketing and training are often considered deferrable costs.
6.	What is a **differential revenue, cost, or cash flow**?	A differential revenue or differential cost or differential cash flow is the difference in revenue, cost, or cash flow between two alternatives.
7.	What is a **fixed cost**?	A fixed cost remains constant over the specified level of activity (the **relevant range**).
8.	What is a **tax concession** or **relief**?	A tax concession or relief is a reduction in the tax rate that the company needs to pay (concession) or perhaps a period of time during which taxes do not need to be paid at all (relief). Tax concessions and relief can become very complicated issues when a company has investments in different countries or tax jurisdictions in the U.S.
9.	What is an **avoidable cost**?	An avoidable cost is one that can be avoided or eliminated by making a decision not to invest, or to cease investing.
10.	What is an **imputed cost**?	An imputed cost is an opportunity cost. An imputed, or opportunity, cost is the benefit that is given up as a result of using the company's resources elsewhere. It is the benefit of the next best option.
11.	What is an **incremental revenue, cost or cash flow**?	An incremental revenue or incremental cost or incremental cash flow is the additional revenue, cost, or cash flow from choosing an activity over not choosing any activity.
12.	What is an **opportunity cost**?	An opportunity cost is a **forgone alternative** that had to be dismissed in order to achieve a goal. Opportunity cost is the cost of the "**next best alternative**" or the "**next highest valued alternative**."
13.	What is the **objective** of using capital budgeting to **select projects**?	The objective of using capital budgeting to select projects is to maximize the value of its equity and thus maximize shareholder wealth.

14.	What are some of the **a** that can affect **capital budgeting decisions**?	• The investment might improve the quality of products and services offered. • The investment might shorten the time in which products and services can be produced and/or delivered to customers. • The investment might address consumer safety concerns. • The investment might be required because of government regulations or environmental protection concerns. • Worker safety might be improved by the investment. • The company's public relations—its image and prestige—might be impacted positively by the project. • The community where the firm operates could be served by the investment. • The owners and/or the management might simply want to make the investment.
15.	What are the annual **cash outflows** that may result from a new project?	1. **Another cash investment**. It is possible that a follow-up investment must be made after some period of time, or that there will be a capital investment that needs to be made with the equipment to maintain it after a certain number of years. These would both be treated as cash outflows for the amount that is paid in the year it is to be paid. **2.** **Further working capital investment**. The company may need another increase in its working capital later in the project's life. This additional increase is treated in the same manner is the increase in working capital at the start of the project, except it occurs in a later year.
16.	What are the **expected cash flows** at the **beginning** of a project?	1. The **initial investment** is the **cash** outflow that is used to purchase the new machinery or make the initial investment into the project. The initial investment includes any setup, testing or other related costs. 2. **Initial working capital investment** - working capital will increase incrementally by the amount of the increase in current assets (accounts receivable and inventory) minus the amount of increase in current liabilities (accounts payable) as a result of the new project. 3. **Cash received from the disposal of the old machine** if there is an old machine to be disposed of. Cash received from the disposal of the old machine is a cash inflow and therefore **reduces the initial investment** for the new machine.
17.	What are the **cash flows** that result from the **end of the project**?	1. **Cash received from the disposal of equipment**. The cash received from the sale of any assets (equipment, machines or the investment project itself) is a cash inflow in the final year of the project. 2. **Recovery of working capital**. The initial incremental investment in working capital and any subsequent

		investments in working capital are usually fully recouped at the end of the project. Whenever working capital is recovered, it is a cash inflow in that year with no tax effect.
18.	What are the **basic characteristics** of **relevant expected cash flows**?	• Use expected **cash flows**, not accounting income. • Use **operating**, not financing cash flows. • Expected cash flows must be determined on an **after-tax** basis. • Expected cash flows should be **incremental**; we analyze only the **difference** between expected cash flows with the project and those without the project. • Calculation of the depreciation tax shield is always based on the type of depreciation used for **tax purposes**; and **100% of the asset's cost is always depreciated**, regardless of what type of depreciation (for example, MACRS or straight line) is being used for tax purposes.
19.	What are the **basic principles** for **estimating after-tax incremental operating cash flows**?	• **Sunk costs** are ignored. • **Opportunity costs** should be included. • Requirements for **increased net working capital** (project-driven increases in current assets minus project-driven increases in current liabilities) should be considered as part of the initial investment. At the end of the project's life, the working capital investment is returned in the form of a cash inflow. • An additional increase in net working capital may be required midway through the project. If so, that is a cash outflow in the year it takes place, and both the initial increase and the additional increase in working capital are recovered at the end of the project. • If the required rate of return includes a **premium for inflation**, then expected cash flows must also be adjusted for inflation.
20.	What are the common cash flows in Year 0 in capital budgeting?	1) The initial investment 2) Initial working capital investment (treated as a cash outflow) 3) Cash received from the sale of old assets
21.	How is **expected cash flow** calculated in **capital budgeting analysis**?	All expected cash flows in a capital budgeting analysis are treated as though they are **received at the end of the year** to which they are assigned, even though in actuality, they will be received throughout the year. Therefore, if an exam question says that a particular cash flow is received at the beginning of a year, we treat it as if it is received at the end of the previous year for capital budgeting purposes.
22.	What are some of the **considerations** that can **affect capital budgeting analysis**?	• An unconventional project may start out with a cash **inflow**, followed by cash **outflows**. • An unconventional project may start out with a cash outflow but instead of the outflow being followed by several years of

		cash inflows, it may be followed by some years of cash inflows and some years of cash outflows. • A project may not be independent. An **independent project** does not depend on the acceptance of any other project or projects. However, an **interdependent** project, or **contingent** project depends upon the acceptance of one or more other projects, and therefore, we cannot consider any one of the interdependent projects in isolation. • Two or more projects may be **mutually exclusive and have different characteristics**. If projects are mutually exclusive, accepting one of them means not accepting the other or others. With mutually exclusive projects, we must determine which of the mutually exclusive options is better or best, even though the options may not be comparable in terms of scale, length or cash flow patterns. • Two or more projects being evaluated can be of different sizes, and that could cause their IRRs and their NPVs to provide conflicting information.
23.	What are some of the **market risks** that can **affect the cash flows of a project**?	• **Interest-rate risk** is the risk that the return on the investment will fluctuate due to a change in the interest rate over the life of the investment. This means that the longer the term of the investment, the higher the interest rate risk will be. • **Purchasing-power risk** is the risk that in the future, we will be able to buy less with the same amount of money due to a general increase in price levels. This is essentially the risk of inflation and, as discussed above, in our longer-term models, we will need to take this into account. • **Exchange-rate risk** is the risk a company faces as the result of changing foreign currency exchange rates.
24.	What are some of the **nonmarket risks** that can **affect the cash flows of a project**?	• A company's **portfolio risk** is the risk of its entire portfolio of investments. By proper diversification in the management of the portfolio, the company is able to reduce this risk. • The **liquidity risk** of a capital asset is the risk that the asset cannot be sold quickly enough for its market value. If an asset needs to be sold at a high discount in order to sell it quickly, that asset has a high liquidity risk. • The financing a company pursues for a project, which can cause its debt-to-equity ratio to either increase or decrease, could change the company's **financial risk** and risk to its shareholders. • The **business risk** for a firm is the risk of changes in earnings before interest or taxes when it has **no debt**. Business risk depends on a variety of factors, including the variability of demand, sales price, and the price of inputs as well as the amount of the company's operating leverage. The more

		stable all of these variables are, the less business risk a company will experience.
25.	How is the gain or loss on the disposal of the old asset calculated?	The difference between the cash received and the tax value of the asset. The gain or loss is a tax event and will increase, or decrease, the taxable income of the company. The tax effect of the gain or loss also changes the cash flow of the disposal of the old asset.
26.	What are the common cash flows during the project in capital budgeting?	1) Increased sales 2) Decreased operating expenses 3) Another capital investment (treated as a cash outflow) 4) Another working capital investment 5) Depreciation tax shield
27.	What is the **depreciation tax shield** and how is it **calculated**?	The calculated amount of tax-deductible depreciation will be a reduction of the company's taxable income, because depreciation expense is a tax-deductible expense. This tax reduction will not represent an actual cash inflow, but it reduces the cash outflow of the company for taxes. Therefore, the amount of tax savings that occurs as a result of the depreciation expense is treated as a cash inflow for capital budgeting purposes. The amount of tax savings that results from the depreciation is called the **depreciation tax shield**. It is calculated as: **Annual Depreciation as Calculated × Tax rate** Or to put it another way: **Full Cost of Asset × Annual Depreciation Rate × Tax Rate**
28.	What is the tax depreciation shield and how is the amount calculated?	The tax benefit that the company received from the tax depreciation of its fixed assets. Full Cost of Asset × Annual Depreciation Rate × Tax Rate = **Tax Depreciation Shield**
29.	What are the cash flows at the end of the project?	1) Cash received from the disposal of the equipment 2) Recovery of working capital (treated as a cash inflow)
30.	What are the five capital budgeting methods?	1) Payback period or payback method 2) Discounted payback period 3) Net present value 4) Internal rate of return 5) Accounting (or average) rate of return
31.	What is the payback method?	A method in which it is determined how long it takes for the **UN**discounted cash inflows of the project to equal the cash outflow of the project.

32.	What is the discounted payback method?	The **Discounted Payback Method** (also called the **breakeven time**) is an attempt to deal with the Payback Method's weakness of not considering time value of money concepts. The Discounted Payback Method uses the present value of cash flows instead of undiscounted cash flows to calculate the payback period. Each year's cash flow is discounted using an appropriate interest rate, usually the company's cost of capital, and then those discounted cash flows are used to calculate the payback period.
33.	What is the net present value method of capital budgeting?	All expected cash inflows and outflows are discounted to the beginning of the project, using the required rate of return. The NPV of an investment or project is the difference between the **present value of all future cash inflows** and the **present value of all (initial and future) cash outflows**, using the required rate of return.
34.	What discount rate should be used to calculate the NPV of a project?	The rate used should be the required rate of return, as determined by the company.
35.	What is the internal rate of return in capital budgeting?	The internal rate of return is the interest rate (that is, the discount rate) at which the present value of the project's expected cash inflows equals the present value of its expected cash outflows. In other words, the IRR is the **interest (discount) rate at which the NPV is equal to zero**.
36.	How is the IRR evaluated?	If the IRR is **higher** than the required rate of return for the project, the project is **acceptable**. If the IRR is ***lower*** than the required rate of return, the project is ***not acceptable*** and should not be considered further.
37.	What are the steps to calculate the IRR when the project cash inflows are equal?	1) Divide the net initial investment by the annual cash flow. The result will be a factor that represents the present value of an annuity. 2) Find that value on the PV of an Annuity factor table for the correct number of periods.
38.	What is **cost of capital**?	The cost of capital is the weighted average cost of interest on debt (net of tax) and the implicit and explicit cost of equity capital. The cost of capital is the minimum required rate of return for a project in order to not dilute (reduce) shareholders' interest. The cost of capital is often used as the discount rate in net present value calculations.
39.	What is **MACRS**?	MACRS (Modified Accelerated Costs Recovery System) is the most common type of depreciation that the U.S. tax laws require, although it is not the only acceptable method a company can use on its tax return. The U.S. Internal Revenue Service provides MACRS tables for use in calculating the amount of depreciation to take each year. The tables give the percentage of the original cost to be depreciated each year. There are several tables, each incorporating a given convention, and the half-year convention is the most commonly used. The

		percentages for the first and last year in the half-year convention table have already been adjusted to reflect one-half year's depreciation in those years. Therefore, when calculating annual depreciation amounts, the percentages should be used as given.
40.	What is meant by **tax basis** of an asset?	The tax basis of an asset is the asset's book value for tax purposes.
41.	What is the crossover rate?	The discount rate at which a manager is indifferent to two projects because their NPVs are the same.
42.	What do we **incorporate inflation** into capital budgeting?	Inflation can be incorporated into capital budgeting to address this anomaly. To do this, we need to consider real expected cash flow versus nominal expected cash flow; and real rate of return versus nominal rate of return. Real cash flow and real rate of return are what the cash flow and the rate of return would be in the future if there were no inflation. Nominal cash flow and nominal rate of return include an adjustment for inflation. For example, if the sale price did not change from one year to the next and the company sold the same number of units in both years, the real revenue from the sales would be the same in both years. But if an inflation rate is assumed, the sale price in the second year would be higher to account for the inflation, and nominal revenue from the second year would be greater than the nominal revenue from the first year.
43.	How is the accounting rate of return calculated?	Increase in Expected Annual Average After – Tax Accounting Net Income Net Initial Investment
44.	Which project should be selected when the NPV and IRR give different indications?	When a company has limited funds, it should invest to maximize its return. Therefore, projects with the highest NPV should be selected.
45.	How is the **risk-adjusted discount rate** calculated?	Risk-Adjusted Discount Rate = Weighted Average Cost of Capital + Risk Premium
46.	How is **real expected cash flow** calculated?	Real Expected Cash Flow = Nominal Cash Flow ÷ $(1 + \text{Inflation Rate})^n$
47.	What do the terms **nominal** and **real** mean in respect to inflation?	• **Nominal** cash flow and nominal rate of return include inflationary increases. • **Real** cash flow and real rate of return do not include inflationary increases.
48.	How is the **nominal rate of return** calculated?	Nominal Rate of Return = (1 + Real Rate of Return) × (1 + Inflation Rate) – 1
49.	How is the **real rate of return** calculated?	Real Rate of Return = [(1 + Nominal Rate) ÷ (1 + Inflation Rate)] – 1

50.	What is a **bailout payback**?	The Bailout Payback is a variation on the Payback Period method of capital budgeting and it is one method of quantifying a real option. The Bailout Payback Period is calculated in the same way as the Payback Period, but it incorporates a recognition that the project may be ended prematurely and the equipment sold.
51.	What are the **relevant cash flows** in incremental capital budgeting analysis?	• The amount the old machine could be sold for after tax if the new machine is purchased. • The amount the new machine can be sold for after tax at the end of its useful life. • The difference in the depreciation tax shield during the period when the old machine, if kept, would have been depreciated. • The loss of the salvage value at the end of the existing machine's life if the existing machine is sold now and the new machine is purchased, **if** the old machine would have been sold. • Any difference in after-tax operating cash flow that would result from the purchase of the new machine.
52.	What is a **decision tree**?	A decision tree is a means of determining the best course of action when there are several possible decision choices under a condition of risk. Decision trees are used with probabilities to determine and display the expected value of the payoff of a project that may involve making several decisions. A decision tree depicts the natural or logical progression of events. Depending on the decision made at each decision point, the probabilities of the potential payoffs of that decision can be calculated in order to develop an overall expected value for the whole project. The decision tree is helpful for solving complex problems because it breaks them down into a series of smaller problems.
53.	What are the **benefits of decision trees**?	• They are helpful when there is a series of conditional choices. • They show the impact of time on decisions. • They can model uncertainty. • They produce quantitative results. • They are flexible, examining the effects of predictors one at a time.
54.	What are the **shortcomings of decision trees**?	• All decision factors must be expressed quantitatively. Qualitative factors are difficult, if not impossible, to express and utilize. For instance, how can you communicate customer goodwill or community image in terms of dollars? • Decision trees can be a challenge to develop in a group setting. Because of the frequently subjective nature of the probabilities associated with decision trees, developing and reaching agreement on event probabilities may be difficult. • There can be a great number of possible outcomes in the model, and the decision tree can become extremely large.

		• All data developed from decision tree analysis must be subjected to the good judgment of the decision-maker(s).
55.	What are the **benefits of simulation**?	• Simulation is very flexible and can be used for a wide variety of problems. • It can be used for "what-if" types of situations, because it enables the study of the interactive effect of variables. • Simulation is easily understood, and thus management more readily accepts its results. • Many simulation models can be implemented without special software packages, because most spreadsheet packages provide useable add-ins. For more complex problems, simulation applications are available.
56.	What are the **limitations of simulation**?	• Simulation is not an optimization technique. It is a method that can predict how a system will operate when certain decisions are made for controllable inputs as well as when randomly generated values are used for the probabilistic inputs. • Simulation can be effective for designing a system that will provide good performance; but there is no guarantee that it will be the best possible performance. • The results will be only as accurate as the model that is used. A poorly developed model or a model that does not reflect reality will provide poor results and may even be misleading. • There is no way to test whether the assumptions and relationships used are correct without the passage of time.
57.	What are **real options**?	The real options approach is viewed as a problem of optimization of a real asset (a piece of equipment, a building, land, a project, etc.) under uncertainty, given the available options.
58.	What are some of the **problems** with the **IRR method**?	• **Reinvestment assumption**: if the cash inflows cannot be reinvested at the IRR, then the IRR that is calculated will not represent the true rate of return from the project. • **Multiple IRRs**: when a project has more than one change in annual cash flow direction, more than one IRR can be calculated, some of which may not be reasonable. • **Mutually exclusive projects**: when the sizes of the initial investments being considered are different, the Internal Rate of Return can be misleading. Since the IRR is a rate of return, a project with a smaller initial investment can show a higher IRR than a project requiring a larger initial investment, even though the project with the larger initial investment has a higher NPV.
59.	What are the **advantages** of the payback method?	• It is **simple** and easy to understand. • It can be useful for **preliminary screening** when there are many proposals.

		• It can be useful **when expected cash flows in later years of the project are uncertain**. Cash flow predictions for periods far in the future are less certain than predictions for 3 - 5 years ahead. • It is helpful for evaluating an investment **when the company desires to recoup its initial investment quickly**.
60.	What are the **disadvantages** of the payback method?	• It **ignores all cash flows beyond the payback period**. Therefore, a project that has large expected cash flows in the latter years of its life could be rejected in favor of a less profitable project that has a larger portion of its cash flows in its early years. • It **does not incorporate the time value of money**. Therefore, interest lost while the company waits to receive money is not considered at all. • It **ignores the cost of capital**, so the company could accept a project for which it will pay more for its capital than the project can return.
61.	How is a nominal rate of return converted to a real rate of return?	$\text{Real Rate of Return} = \frac{1 + \text{Nominal Rate}}{1 + \text{Inflation Rate}} - 1$
62.	What are the market risks in capital budgeting?	1) Interest-rate risk 2) Purchasing-power risk 3) Exchange-rate risk
63.	What are the nonmarket risks in capital budgeting?	1) Portfolio risk 2) Liquidity risk 3) Financial risk 4) Business risk
64.	What are the circles and boxes in a decision tree?	A circle represents a **probability node** (or chance node), in effect any condition that exists and cannot be controlled. At each probability node, the “tree” branches out, and the branch that is taken is a matter of probability or chance, not a matter that management can control through a decision. A box represents a **decision node**, the point at which a decision is to be made. At a decision node, the branch of the tree that is taken depends on specific decisions made by the company.
65.	How is the **risk-adjusted discount rate** calculated?	Risk-Adjusted Discount Rate = Weighted Average Cost of Capital + Risk Premium
66.	What are **probability nodes** and **decision nodes** in decision trees?	In a decision tree, a circle represents a **probability node** (also called a chance node), a state of nature over which we have no control, and a box represents a **decision node**, where a decision is to be made. At a probability node, the branch of the tree that is taken is a matter of probability or chance. These are **conditional probabilities** because they are dependent upon events that may or may not precede them. At a **decision node**, the branch of the tree that is taken depends on the decision made.

67.	How is the IRR found **if annual cash flows are *not* the same for every year of the project's life**?	When annual cash flows are not the same for every year of the project's life, the IRR can be found through trial and error by using different rates and then finding the rate for which the NPV is zero. This can be a very large mathematical calculation beyond the scope of the exam. The IRR can also be calculated using a financial calculator.
68.	How is the IRR found **if annual cash flows are the same for every year of the project's life**?	• First, divide the net initial investment by the annual cash flow amount. The result will be a factor that represents the present value of an annuity. • Then, go to a present value of an annuity factor table. Look at the line for the number of years of the project's life, and look along that line until you locate the factor on that line that is closest to the factor you just calculated. Follow that column up to the rate at the top of the column, and you will have a rate of return that is close to the internal rate of return of the project. • If necessary, you can then use that rate to interpolate a more accurate rate using some more advanced procedures beyond the scope of the exam.
69.	What are common real options?	1) The option to make follow-on investments if the immediate investment project succeeds. 2) The option to abandon a project. 3) The option to wait and learn more before investing. 4) The option to vary the inputs to the production process, the production methods, or the firm's output or product mix.
70.	What is **Monte Carlo simulation**?	Monte Carlo simulation can be used to develop an expected value when the situation is complex and the values cannot be expected to behave predictably. Monte Carlo simulation uses repeated random sampling and can develop probabilities of various scenarios coming to pass that can then be used to compute a result that approximates an expected value.

SECTION F – Professional Ethics (Weightage 10%)

S.No	Questions	Answers
1.	What are **ethics** and what are **business ethics**?	**Ethics** concerns the morality of activities and practices that are considered right or wrong, including the rules and values that give rise to those activities and practices. Thus, **business ethics** is a systematic study of morality as it is applied to the business world.
2.	What are the four Principles in the Code of Ethics?	1) Honesty 2) Fairness 3) Objectivity 4) Responsibility
3.	What are the IMA's **four overarching ethical principles**, and how are the principles **defined**?	**Honesty** means fairness and straightforwardness of conduct. It is the quality of being upright, having integrity, truthfulness, sincerity, frankness, and freedom from deceit or fraud. **Fairness** means acting in an impartial manner and being free from bias, dishonesty or injustice. It requires a person to be open-minded, tolerant and accepting. **Objectivity** means basing a judgment on an established set of criteria. It is the state of being unbiased, free from personal feelings or prejudice and basing analyses and decisions on the facts alone. **Responsibility** means doing what you say you will do when you say you will do it. It is the state of being answerable or accountable for something that is within one's own power, control or management. In an essay answer to an ethics question on the exam, if you mention any of the Principles, **you will need to be able to also define them**.
4.	Why is a code of ethics **important** to an organization?	• Senior management is forced to define and document its expectations to the rest of this organization. • The code of ethics provides a common standard and understanding of the company's definition of ethical behavior by creating a reference point for the company employees. • The reference point created by the code of ethics provides a framework for decision making in situations where an explicit company policy does not exist. • Creating a code of ethics fulfills the requirement for compliance with legislation in the United States. One section of the Sarbanes Oxley legislation—SOX 406—makes reference to a corporate code of conduct.
5.	Why is **ethics training important**?	Training is important to create awareness of the standards against which individual behavior will be measured. Management

		accountants should help to develop training programs that will promote the creation and maintenance of an ethical culture. Everyone, even senior management, should receive the training, because such training will help to deliver a standardized message across the organization. Examples of the topics to include in this training include: • Standards for interpersonal behavior within the company. • Prohibited business practices. • Dissemination and understanding of the company core values. • How to apply theoretical core values in real life situations. • Providing leadership regarding ethical behavior.
6.	What is the definition of Honesty?	Honesty means fairness and straightforwardness of conduct. It is the quality of being upright, having integrity, truthfulness, sincerity, frankness, and freedom from deceit or fraud.
7.	What is the definition of Fairness?	Fairness means acting in an impartial manner and being free from bias, dishonesty, or injustice. It requires a person to be open-minded, tolerant and accepting.
8.	What is the definition of Objectivity?	Objectivity means basing a judgment on an established set of criteria. It is the state of being unbiased, free from personal feelings or prejudice and basing analyses and decisions on the facts alone.
9.	What **responsibility** do members of the IMA have with respect to **competence**?	1. Maintain an appropriate level of professional expertise by continually developing knowledge and skills. 2. Perform professional duties in accordance with relevant laws, regulations, and technical standards. 3. Provide decision support information and recommendations that are accurate, clear, concise, and timely. 4. Recognize and communicate professional limitations or other constraints that would preclude responsible judgment or successful performance of an activity.
10.	What is the definition of Responsibility?	Responsibility means performing an act or a function completely and in a timely manner. It is the state of being answerable or accountable for something that is within one's own power, control, or management.
11.	What are the four Standards in the Code of Ethics?	1) Competence 2) Confidentiality 3) Integrity 4) Credibility
12.	What is the text of the Confidentiality section in the Code of Ethics?	1) Keep information confidential except when disclosure is authorized or legally required. 2) Inform all relevant parties regarding appropriate use of confidential information. Monitor to ensure compliance. 3) Refrain from using confidential information for unethical or illegal advantage.
13.	What is the text of the Integrity section in the Code of Ethics?	1) Mitigate actual conflicts of interest. Regularly communicate with business associates to avoid apparent conflicts of

		interest. Advise all parties of any potential conflicts of interest. 2) Refrain from engaging in any conduct that would prejudice carrying out duties ethically. 3) Abstain from engaging in or supporting any activity that might discredit the profession. 4) Contribute to a positive ethical culture and place integrity of the profession above personal interests.
14.	What is the purpose of a **confidential ethics helpline**?	The purpose of an ethics helpline is to provide counselors who can assist a caller in clarifying the issues and determining the proper course of action. Helplines such as these can help to maintain an ethical organizational culture over the long term under the types of stresses and strains that exist in the real world.
15.	What is the text of the Credibility section in the Code of Ethics?	1) Communicate information fairly and objectively. 2) Provide all relevant information that could reasonably be expected to influence an intended user's understanding of the reports, analyses, or recommendations. 3) Report any delays or deficiencies in information, timeliness, processing, or internal controls in conformance with organization policy and/or applicable law. 4) Communicate professional limitations or other constraints that would preclude responsible judgment or successful performance of an activity.
16.	What is the **Foreign Corrupt Practices Act (FCPA)**?	The FCPA prohibits payments to foreign officials, politicians, or political parties to obtain or renew business. Its scope includes payments made directly by an organization and also includes any actions to initiate payments by third parties to government officials. The FCPA also created the legal requirement that companies maintain complete, accurate, and reliable accounting records that represent, in all material aspects, the complete and true nature of business transactions. The FCPA applies to any individual, firm, officer, director, employee, or agent of a firm and any stockholder acting on behalf of a firm. Individuals and firms may also be penalized if they order, authorize, or assist someone else to violate the provisions of the FCPA.
17.	What courses of action should be taken when an organization does not have established policies for resolving ethical issues?	• The resolution process could include a discussion with the member's immediate supervisor. If the supervisor appears to be involved, the issue could be presented to the next level of management. • IMA offers an anonymous helpline for members to call. • The member should consider consulting their own attorney to learn any legal obligations, rights, and risks. • If resolution efforts are not successful, the member may want to consider dissociating from the organization.
18.	According to **Cressey**, what are the **three legs** of the "**fraud chair**?"	1. **Pressure**. The employee has a financial problem that he or she cannot share and cannot solve through legitimate means. 2. **Opportunity**. The employee sees a way to use his/her position of trust with an employer to solve the problem in

		secret and believes it can be done in such a way that there will be a low risk of getting caught because the crime will not be detected. 3. **Rationalization**. The employee needs to be able to justify the crime as an acceptable or justifiable act.
19.	What does **SOX Section 406 require**?	• It directed the SEC to issue rules requiring each issuer of securities to disclose in its periodic reports to the SEC whether or not it has adopted a code of ethics for senior financial officers and if not, why not. The requirement for the code of ethics for senior financial officers is applicable to the company's principal financial officer and comptroller or principal accounting officer, or persons performing similar functions. • Section 406 requires firms to disclose immediately by means of a Form 8-K filed with the SEC or by other electronic means any change in or waiver of its code of ethics for senior financial officers.
20.	What **factors** influence **unethical behavior** on an **individual level**?	On the individual level, the personal judgment of an employee often depends upon his or her personal life experiences, educational background and social status. All of these are different for everyone and as a result, each individual may react differently to the same situations.
21.	What **three tools** can be used to **identify process controls** related to **ethical or behavioral issues**?	• **Continual Process Improvement** involves the constant monitoring of business processes as a basis to learn from experience and to adapt to new situations before they create major problems. The goal for the management accountant is to help create a "learning organization" that provides the basis for the organization to manage the impact of changes to the organization. • **Business Process Reengineering** is the process of analyzing the individual activities of a process as a basis to determine the most effective way to fulfill the process. By using this approach the management accountant will understand the risks associated with each activity. This understanding provides the basis to predict how a reasonable person would behave in a certain circumstance. • **Quality Management** is based on the objective of preventing mistakes from occurring by identifying and evaluating risk situations in advance. Once risk situations are identified, the management accountant develops alternative strategies to avoid the risk situations. The goal is to identify situations where risks exist that will result in employee behavior that does not follow accepted norms of ethical behavior.
22.	What **two monitoring techniques** can help monitor the **status of controls**?	1. **Human Performance Feedback Loop** involves including ethics in the performance management process for individual employees. The approach is focused on the

		individual and is conducted openly between individuals and their immediate supervisors. Ideally the approach is built into company human resource management processes and employee performance is measured against specific goals to ensure that the company's ethical expectations of its employees are effective and understood. 2. **Survey Tools** involve submitting survey questions to the company's employees regarding the company's ethics policies and asking for anonymous written responses. In this approach the employee provides answers based upon standard choices. The entire employee population, or at least large portions, is involved. This involvement of employees gives senior management and the board of directors information about how well the organization's code of ethics is being understood and followed.
23.	What **factors** influence **unethical behavior** on an **organizational level**?	On the organizational level, organization-specific features such as management style, group dynamics, remuneration/promotion systems and practices, performance evaluation, budgeting and reporting processes as well as overall condition of the business are all important factors impacting the behavior of individuals in more or less significant ways. When companies are doing well and individuals are well compensated, they may have less desire to act in unethical ways because of the risk involved. However, when things in the company are bad or an individual has little to lose personally, they may have a greater inclination toward unethical behaviors.
24.	What **factors** influence **unethical behavior outside of the organization**?	Outside of the organization, external pressures and influences such as those of competitors, investors, partners, customers, governments (especially in a different country) and other stakeholders may compel individuals to compromise their ethical standards. A firm working in different countries or cultures may find it particularly difficult to have employees adhere to a single set of rules and reach consensus on what should be considered right or wrong as applied to business practices.
25.	What are the **three general principles** that should be included a company's **Code of Ethics**?	• Honest and ethical conduct. • Full, fair, accurate, timely and understandable disclosure in SEC filings. • Compliance with applicable governmental rules and regulations.
26.	What are the two provisions of the Foreign Corrupt Practices Act?	1) Anti-bribery provisions 2) Accounting provisions
27.	How does Section 406 of Sarbanes-Oxley define a code of ethics?	Standards that are reasonably necessary to promote: 1) Honest and ethical conduct, including ethical handling of actual or apparent conflicts of interest between personal and professional relationships;

		2) Full, fair, accurate, timely, and understandable disclosure in periodic reports required to be filed by the company with the SEC; and 3) Compliance with applicable governmental rules and regulations.
28.	What are the major provisions of the SMA *Values and Ethics*?	1) Values, Ethics, and Accounting 2) Defining and Developing the Organization's Behavioral Values 3) Leadership by Example 4) Ethics and Internal Controls 5) Converting Intent to Operational Reality 6) Measuring and Improving Ethical Compliance