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**Answer any 4 questions from the following: (4x10=40)**

**1) What Is Time Value? Explain Present value basics.**

**2) Define Capital Budgeting. Write in brief on Features/characteristics of investment decisions.**

**3) What is known as Risk and Return? What is risk and return pay off?**

**4) As an investor how would you calculate total return? Explain with proper examples.**

**5) What is cost of capital? Significance and Components of Cost of Capital-Describe them.**

**6) Define Working Capital. Describe Nature and Importance of Working Capital Management. 7) Write shorts notes (any 2): Financial management, Risk, Return, Investment, Time value of money, Credit Period, Changes in Price Level.
8) Explain various Financial Institutions in Bangladesh. What is known as Mid term financing?**

**Answer to the question no. 1**

 **The concept of time value :**

The time value of money is a crucial concept in financial decision-making. It is used in various financial calculations, such as net present value (NPV), internal rate of return (IRR), bond pricing, and investment valuation. Understanding the time value of money helps financial managers make informed decisions about investments, financing, and other financial activities. It's a way to compare cash flows that occur at different points in time on a consistent basis. The time value of money is a fundamental concept in finance that recognizes the idea that a certain amount of money today is worth more than the same amount of money in the future. This is based on the principle that money can earn interest or have the potential to generate returns over time.

There are several key components of the time value of money:

1. **Future Value (FV):** This concept refers to the value of a sum of money at a specific point in the future, assuming a certain rate of interest or return. The formula for future value is:

FV=PV×(1+r)nFV=PV×(1+r)n

Where:

* + FVFV is the future value,
	+ PVPV is the present value,
	+ rr is the interest rate per period, and
	+ nn is the number of periods.
1. **Present Value (PV):** Present value is the current worth of a sum of money to be received or paid in the future, discounted at a certain rate. The formula for present value is the reverse of the future value formula:

PV=FV(1+r)nPV=(1+r)nFV​

This formula is used to calculate what a future cash flow is worth in today's terms.

1. **Discounting:** The process of finding present value involves discounting future cash flows. The discounting factor is based on the interest rate or discount rate. The higher the discount rate, the lower the present value.
2. **Compounding:** This is the process of earning interest on both the initial principal and the accumulated interest from previous periods. Compounding allows money to grow exponentially over time.
3. **Opportunity Cost:** The time value of money also considers the concept of opportunity cost, which is the potential benefit that could be obtained from using the money in an alternative way.

**Present value basics**: Present value is a financial concept that is used to evaluate the current worth of a sum of money that is to be received or paid in the future. The idea behind present value is rooted in the time value of money, which acknowledges that the value of money can change over time due to factors such as interest rates and inflation.

Here are the basic components and principles of present value:

1. **Time Value of Money:**
	* Present value is based on the principle that a specific amount of money today is worth more than the same amount in the future.
	* This is because money has the potential to earn interest or generate returns over time.
2. **Discounting:**
	* To calculate present value, future cash flows are discounted back to their current value using a discount rate.
	* The discount rate represents the rate of return required to compensate for the time value of money.
3. **Formula for Present Value:**
	* The basic formula for present value is:

PV=FV(1+r)nPV=(1+r)nFV​

Where:

* + - PVPV is the present value,
		- FVFV is the future value,
		- rr is the discount rate, and
		- nn is the number of periods.
1. **Significance in Decision-Making:**
	* Present value is essential in financial decision-making, as it helps in comparing the value of cash flows occurring at different points in time.
	* It allows individuals and businesses to assess the current value of future cash inflows or outflows, aiding in investment and financing decisions.
2. **Net Present Value (NPV):**
	* NPV is a common application of present value. It involves calculating the present value of future cash inflows and subtracting the present value of future cash outflows.
	* A positive NPV indicates that an investment is expected to generate value, while a negative NPV suggests a potential loss.
3. **Risk and Opportunity Cost:**
	* The discount rate used in present value calculations reflects the risk and opportunity cost associated with an investment.
	* A higher discount rate implies higher risk or a higher opportunity cost.

In summary, present value is a foundational concept in finance used to determine the current value of future cash flows. It provides a framework for assessing the attractiveness of investments, evaluating financing options, and making informed financial decisions. The formula for present value and the understanding of discounting are key tools in applying this concept.

**Answer to the question no. 2**

Capital budgeting is a strategic financial planning process used by companies to evaluate potential major investments or expenditures. It involves analyzing and selecting investment projects that are expected to yield returns over an extended period. The goal of capital budgeting is to allocate financial resources to projects that will maximize the value of the firm. It’s a a critical process that enables organizations to make informed investment decisions, allocate resources efficiently, and maximize long-term shareholder value. It involves a thorough analysis of potential projects, consideration of time value of money, risk assessment, and a structured decision-making process.

**The characteristics of investment decisions** : The characteristics of investment decisions encompass various aspects that guide the decision-making process. Here are some key characteristics:

1. **Long-Term Commitment:**

Investments typically involve a long-term commitment of financial resources. Whether it's in capital projects, research and development, or acquiring assets, the impact and returns are often realized over an extended period.

1. **Risk and Uncertainty:**

Investment decisions are associated with varying degrees of risk and uncertainty. Future cash flows, market conditions, and other variables may not be certain. Risk assessment and management play a crucial role in making informed investment decisions.

1. **Irreversibility:**

Many investments are irreversible or involve high costs to reverse. Once a decision is made and resources are committed, it may not be easy or cost-effective to undo the investment. This underscores the importance of thorough analysis before making decisions.

1. **Objective of Wealth Maximization:**

The primary objective of investment decisions is often to maximize shareholder wealth. This is achieved by selecting projects that are expected to generate positive net present value (NPV) or have a higher internal rate of return (IRR) compared to the cost of capital.

1. **Time Value of Money:**

Investment decisions take into account the time value of money. Future cash flows are discounted to their present value to reflect the opportunity cost of tying up capital and to make meaningful comparisons between different investment options.

1. **Opportunity Cost:**

Choosing one investment over another involves considering the opportunity cost — the potential benefits foregone by not choosing the next best alternative. This emphasizes the need to evaluate various investment options and select the most promising one.

1. **Strategic Alignment:**

Investment decisions should align with the overall strategic goals and objectives of the organization. Whether it's expanding into new markets, developing new products, or improving existing processes, investments should support the long-term strategy.

1. **Flexibility and Adaptability:**

The business environment is dynamic, and investment decisions should be flexible and adaptable to changes in market conditions, technology, or regulatory requirements. This includes the ability to modify or abandon projects if circumstances warrant.

1. **Diversification:**

Diversification is a consideration in investment decisions. Spreading investments across different assets or projects can help mitigate risks and enhance overall portfolio performance.

1. **Social and Environmental Considerations:**

Increasingly, investment decisions also take into account social and environmental factors. Companies may evaluate the social and environmental impact of their investments to align with corporate responsibility and sustainability goals.

1. **Capital Budgeting Techniques:**

Various capital budgeting techniques, such as NPV, IRR, payback period, and profitability index, are used to evaluate and compare investment projects. Each technique provides a different perspective on the investment's viability.

To conclude, investment decisions are characterized by their long-term nature, associated risks, irreversible commitment of resources, and the need for aligning with strategic objectives. The time value of money, opportunity cost, and the use of sophisticated financial tools are integral components of the decision-making process. Successful investment decisions contribute to the overall financial health and growth of a business.

**Answer to the question no. 3**

"**Risk and return**" is a fundamental concept in the world of finance that captures the delicate balance between the potential for financial loss (risk) and the potential for financial gain (return). It's a dynamic relationship that guides investment decisions and portfolio management.

**Risk:** Risk, in financial terms, embodies the uncertainty or variability associated with the returns of an investment or financial decision. It comes in various forms, such as market risk, credit risk, liquidity risk, operational risk, and political or regulatory risk. Investors navigate these uncertainties in the pursuit of financial objectives.

**Return:** Return is the measure of gains or losses made on an investment relative to the amount invested. It includes capital gains from an increase in the market value of an asset, dividends distributed by a company to its shareholders, and interest earned from interest-bearing investments like bonds or savings accounts.

**Risk-Return Tradeoff:** The risk-return tradeoff encapsulates the principle that as the level of risk increases, so does the potential for return. Different investments offer varying levels of risk and return; for instance, stocks are generally considered riskier than bonds but also carry the potential for higher returns.

**Diversification:** Diversification is a strategic approach to manage risk by spreading investments across different assets or asset classes. The idea is to reduce portfolio risk without sacrificing potential returns. It's a risk management technique that embraces the concept of not putting all eggs in one basket.

**Risk Tolerance:** Individuals and investors differ in their capacity to endure fluctuations in the value of their investments, known as risk tolerance. This factor is influenced by personal considerations such as age, financial goals, and temperament.

**Risk Measurement:** To better understand and quantify risk, various metrics like standard deviation, beta, and Value at Risk (VaR) are employed. These metrics help investors assess the potential variability in returns and make informed decisions.

In essence, risk and return are intertwined elements in financial decision-making. Striking the right balance between them is a nuanced process, with investors seeking optimal outcomes based on their unique financial goals and risk appetites.

**Risk and Return Payoff (Relationship):**

The payoff in the risk and return context refers to the outcomes or benefits that investors may realize based on their willingness to take on risk. It's about understanding that pursuing higher returns often involves accepting a higher level of risk.

**Higher Risk, Higher Potential Return:**

Investors who are willing to take on more risk may have the potential for higher returns. This is the "payoff" or potential reward for accepting a higher level of uncertainty.

**Lower Risk, Lower Potential Return:**

Conversely, lower-risk investments are associated with more stable returns but may offer lower overall returns. The payoff here is a more predictable investment with a reduced chance of significant loss.

In summary, the risk and return payoff refers to the relationship between the level of risk an investor is willing to take and the potential financial gains or losses associated with that level of risk. It's a dynamic consideration in investment decision-making, where individuals and institutions evaluate their risk tolerance in pursuit of financial objectives.

**Answer to the question no. 5**

The cost of capital is a fundamental concept in finance that represents the overall cost of financing a company's operations, projects, or investments. It is essentially the rate of return that a company is expected to generate to satisfy its investors or lenders. The cost of capital is a crucial factor in various financial decisions, including investment appraisal, capital budgeting, and determining the optimal capital structure.

Here are key components and aspects of the cost of capital:

1. **Components of Cost of Capital:**
	* **Debt Cost:** The cost associated with raising funds through debt, typically in the form of interest payments.
	* **Equity Cost:** The cost associated with raising funds through equity, representing the return required by equity investors (shareholders).
	* **Preferred Stock Cost:** If a company has preferred stock, the cost associated with it.
2. **Weighted Average Cost of Capital (WACC):**
	* WACC is a common measure that takes into account the proportion of each type of capital (debt, equity, preferred stock) in the company's capital structure.
	* The formula for WACC is: WACC=EV×Re+DV×Rd×(1−Tc)WACC=VE​×Re+VD​×Rd×(1−Tc) Where:
		+ EE is the market value of equity,
		+ VV is the total market value of equity and debt,
		+ ReRe is the cost of equity,
		+ DD is the market value of debt,
		+ RdRd is the cost of debt, and
		+ TcTc is the corporate tax rate.
3. **Cost of Equity:**

The cost of equity is the return that equity investors expect for taking on the risk of investing in a particular company. Common methods for estimating the cost of equity include the Dividend Discount Model (DDM) and the Capital Asset Pricing Model (CAPM).

1. **Cost of Debt:**

The cost of debt is the interest rate the company pays on its debt. It may include both explicit interest payments and implicit costs such as fees and other expenses associated with borrowing.

1. **Role in Capital Budgeting:**

The cost of capital is used as the discount rate in capital budgeting and investment appraisal. It represents the minimum rate of return a project must generate to be considered acceptable.

1. **Optimal Capital Structure:**

Companies strive to achieve an optimal capital structure, balancing the costs of debt and equity to minimize the overall cost of capital. This involves finding the right mix of financing that maximizes shareholder wealth.

1. **Market Conditions Impact:**

The cost of capital is influenced by market conditions, interest rates, and the company's risk profile. Changes in these factors can impact the cost of capital.

Understanding and accurately estimating the cost of capital is crucial for making sound financial decisions and evaluating the financial viability of projects and investments. It is a key metric for determining the hurdle rate or required rate of return for various financial activities within a company.