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**JAIPURIA INSTITUTE OF MANAGEMENT, NOIDA**

**PGDM-SECTION B and D**

**SECOND TRIMESTER (Batch 2023-25)**

**END-TERM EXAMINATIONS, JANUARY 2024**

**Set-I (END TERM)**

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| Course Name | Corporate Finance | Course Code | **20202** |
| Max. Time | **2 hours** | Max. Marks | **40 MM** |
| **INSTRUCTIONS:** **All questions are mandatory.** **Its an open book exam. Students are allowed to bring text book only (Parrino, R., & Kidwell, 2017).** **Loose sheets or papers of any kind are strictly prohibited. Exchange of books in the Exam Hall is strictly prohibited. Violation of this rule may result in disqualification from the exam.****In Excel sheets, you must use a formula to enter a value in a cell. You can't use the Fx function.****Each student will answer on a different sheet of one Excel document and upload it with their name and roll number.** |

Q1. Imagine a company is evaluating two independent investment projects, Project P and Project Q, each with cash flows extending over 8 years. The required rate of return for the company is 11%.

Project P requires an initial investment of $500,000 and generates the following annual cash inflows: Year 1: $150,000, Year 2: $80,000, Year 3: $150,000, Year 4: $120,000, Year 5: $50,000, and so on for the remaining years.

Project Q has an initial investment of $450,000 and produces cash inflows as follows: Year 1: $170,000, Year 2 $80,000, Year 3 and 4: $100,000, Year 5= $40,000 and so on for the remaining years.

1. Estimate both the Internal Rate of Return (IRR) and Modified Internal Rate of Return (MIRR) for Projects P and Q.
2. Explain how IRR and MIRR might lead to different investment decisions in this scenario. and explain insights into why MIRR is considered a useful tool in capital budgeting decisions, particularly when evaluating projects with decremental cash flows.
3. Recommend which project should be accepted based on your analysis and justify your decision using both IRR and MIRR results. **(CLO 2; BT Level V; Marks:3 X3 =9)**

Q2. XYZ Corporation is exploring different capital structures to determine the optimal mix of debt and equity. The company has a current unlevered beta of 1.2, the risk-free rate is 3%, the market risk premium is 8%, and the corporate tax rate is 25%. The company uses a constant dividend model and plans to maintain a fixed dividend per share at $3. The cost of debt ranges between 5 to 10%.

a. Given a constant dividend per share of $3 and appropriate cost of debt, Determine the optimal capital structure that maximizes the company's share price and minimize Weighted Average Cost of Capital (WACC). Explain the rationale behind your chosen optimal capital structure. Consider the five different debt-to-asset ratios and provide a rationale for the chosen optimal capital structure.

b. Demonstrate the potential challenges and risks associated with implementing the chosen capital structure, considering both financial and non-financial factors. **(CLO 2; BT Level II, V; Marks: 2x4=8)**

Q3. Jan sold her house on December 31 and took an INR 10,000 mortgage as part of the payment. The 10-year mortgage has a 10% nominal interest rate, but it calls for semiannual payments beginning next June 30

a. Estimate the INR amount of each payment Jan receives?

b. Estimate how much interest and repayment of principal were included in the first payment? How do these values change for the second payment?

c. Analyse how much interest must Jan receive for the first year? Will her interest income be the same next year? If the payments are constant, why does the amount of interest income change over time? **(CLO 2; BT Level IV; Marks: 3 X 3=9)**

Q4. XYZ Corporation is preparing its income statement for the year 2021. The projected income statement (in thousands of dollars) is as follows:

| **Category** | **Amount** |
| --- | --- |
| Sales | $18,500 |
| Operating costs including depreciation | $14,200 |
| EBIT (Earnings Before Interest and Taxes) | $4,300 |
| Interest | $400 |
| EBT (Earnings Before Taxes) | $3,900 |
| Taxes (40%) | $1,560 |
| Net income | $2,340 |

Prior to reporting this income statement, the company wants to determine its annual dividend. The company has market value of equity of 21 million, and its stock trades at $35 per share.

a. The company decides to distribute 45% of net income as dividend in 2021, Estimate its per-share dividend in 2021?

b. If the company maintained same per share dividend in 2022 and distribute all its earning as dividend, Assess the ROE of the firm in 2022. Number of shares and price remained constant.

c. Explain might the company's decision regarding dividends be influenced by its long-term growth plans, such as significant expansions or research and development projects, and analyze what considerations should be taken into account in such scenarios?

d. If in 2021, company decides to repurchase 25% of its outstanding shares. Determine the new Earnings Per Share (EPS) and Price to earnings (P/E). Explain one potential interpretation of an increase or decrease in EPS resulting from a stock repurchase. **(****CLO 3; BT Level II, V, VI; Marks 4 X 2= 8)**

Q5. XYZ Electronics Inc. is a manufacturer of electronic gadgets. The company produces 2,000 gadgets per day at a cost of $20 per gadget for materials and labor. The production process takes 25 days to convert raw materials into finished gadgets. XYZ Electronics extends a credit period of 30 days to its customers, and the company typically pays its suppliers in 20 days. Estimate the operating cycle for XYZ Electronics Inc. **(CLO 3; BT Level V; Marks: 6)**