

## **QUESTION 10**

**Scenario:** "The ABC Company"

**Task:** "Investment Decision"

**Text:** "Investment Decision"

Scenario: ABC Company is considering the purchase of a new machine. The machine will cost \$100,000 and will have a useful life of 5 years. The machine will generate annual cash flows of \$25,000. The company's cost of capital is 10%. The machine will be depreciated using the straight-line method. The company's tax rate is 30%.

**Answer:** "Investment Decision"

### **How do you calculate the Net Present Value (NPV) of the investment?**

Answer: The NPV is calculated by discounting the cash flows at the company's cost of capital and subtracting the initial investment.

- 1. Calculate the annual cash flows: \$25,000
- 2. Calculate the present value of the cash flows: \$25,000 / (1 + 0.10)^1 + \$25,000 / (1 + 0.10)^2 + \$25,000 / (1 + 0.10)^3 + \$25,000 / (1 + 0.10)^4 + \$25,000 / (1 + 0.10)^5 = \$100,000
- 3. Subtract the initial investment: \$100,000 - \$100,000 = \$0

Answer: "Investment Decision"

**How do you calculate the Internal Rate of Return (IRR) of the investment?** The IRR is the discount rate that makes the NPV of the investment equal to zero.

Answer: "Investment Decision"

**How do you calculate the Payback Period of the investment?** The payback period is the time it takes for the investment to pay for itself.

Answer: "Investment Decision"

**How do you calculate the Profitability Index (PI) of the investment?** The PI is the ratio of the NPV to the initial investment.

**Answer:**

- 1. Calculate the NPV: \$0

**Answer:**

- 1. Calculate the IRR: 10%

**Answer:**

- 1. Calculate the PI: 1.0