

Victoria University of Bangladesh

Final Assessment

Fall Semester - 2022

BBA Program

Course code : FIN - 329

Course title : Financial Management

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Answer to the question No 4

Answer:

Required balance to deposit are as follows.

Given that,

$$FV = \$ 5,00,000$$

$$N = 8 \text{ years}$$

$$i = 8\%$$

$$= 0.08$$

$$(PV_0) = ?$$

We know

$$(PV_0) = \frac{FV_n}{(1+i)^n}$$

$$= \frac{\$ 5,00,000}{(1+0.08)^8}$$

$$= \frac{\$ 5,00,000}{1.850}$$

$$= \$ 270,270.27$$

So, Mr. Jinpi ^{has} wants to get deposit
\$ 270,270.27 to get \$ 5,00,000
in future.

Answer to the question No 3

Solution;

Given,

Current Dividend

$$(D_0) = \$1$$

$$(g_5) = 30\%$$

$$(g_a) = 10\%$$

$$k = 16\%$$

$$(P_0) = ?$$

We know,

$$\text{Expected Dividend } (D_n) = D_0(1+g)$$

Expected dividend for 1st year

$$\begin{aligned} D_1 &= D_0(1+g) \\ &= \$1(1+0.30) \\ &= \$1.30 \end{aligned}$$

P.T.O

Expected dividend for 2nd year

$$\begin{aligned} D_2 &= D_1(1+g) \\ &= \$1.30(1+0.30) \\ &= \$1.69 \end{aligned}$$

Expected dividend for 3rd year

$$\begin{aligned} D_3 &= D_2(1+g) \\ &= \$1.69(1+0.30) \\ &= \$2.19 \end{aligned}$$

Expected dividend for 4th year

$$\begin{aligned} D_4 &= D_3(1+g) \\ &= \$2.19(1+0.30) \\ &= \$2.84 \end{aligned}$$

Expected dividend for 5th year

$$\begin{aligned} D_5 &= D_4(1+g) \\ &= \$2.84(1+0.30) \\ &= \$3.69 \end{aligned}$$

P.T.O

Expected dividend for beyond years

$$\begin{aligned}D_6 &= D_5 (1+0.10) \\ &= \$3.69(1+0.10) \\ &= \$4.05\end{aligned}$$

$$\begin{aligned}\text{Now, } (P_5) &= \frac{D_6}{k-g} \\ &= \frac{\$4.05}{.16 - .10} \\ &= \underline{\underline{\$67.5}}\end{aligned}$$

We know that,

$$\begin{aligned}(P_0) &= \sum_{n=1,2,3}^n \frac{D_n}{(1+k)^n} + \frac{P_n}{(1+k)^n} \\ &= \frac{\$1.30}{(1+.16)^1} + \frac{\$1.69}{(1+.16)^2} + \frac{\$2.19}{(1+.16)^3} + \frac{\$2.84}{(1+.16)^4} \\ &\quad + \frac{\$3.69}{(1+.16)^5} + \frac{\$67.5}{(1+.16)^5} \\ &= \$1.12 + \$1.26 + \$1.40 + \$1.56 + \$1.75 \\ &\quad + \$32.14 \\ &= \underline{\underline{\$39.23}} \quad \text{Answer:}\end{aligned}$$

Answer to the question No: 2

Short Notes :

ARR : The accounting rate of return (ARR) formula is helpful in determining the annual percentage rate of return of a project.

ARR is calculated as average annual profit / initial investment. ARR is commonly used when considering multiple projects, as it provides the expected rate of return from each project.

Short Notes

ROI = Return on Investment (ROI)

is a popular profitability metric used to evaluate how well an investment has performed. ROI

is expressed as a percentage and

is calculated by dividing an

investment's net profit (or loss)

by its initial cost or outlay.

Short Notes :

PBP = pay back period is the time period required to recover the investment made in project. Thus, PBP measures the number of years to pay back the original outlay from cash inflows generated by an investment proposal. If the amount of cash inflow are different, it is known as uneven cash flow.

Short Notes :

IRR : The internal rate of return (IRR) is a metric used in financial analysis to estimate the profitability of potential investment.

IRR is a discount rate that makes the net present value (NPV) of all cash flows equal to zero in a discounted cash flow analysis. IRR calculations rely on the same formula as NPV does.

Short Notes :

NVP : Net present value (NPV) is a financial metric that seeks to capture the total value of an investment opportunity. The idea behind NPV is to project all of the future cash inflows and outflows associated with an investment, discount all those future cash flows to the present day, and then add them together.

Answer to the question No : 1

The concept of time value of money :

Time value of money is the concept that money today is worth more than money tomorrow. That is because money today can be used, invested, or grown, therefore, \$1 earned today is not the same as \$1 earned one year from now because the money earned today can generate interest, unrealized gains or unreal losses. The time value of money can also be used to make decisions about retirement planning, mortgage payment and insurance. The time value of money is important in retirement planning because it can help you decide how much money to save now in order to have the same amount of money when you retire.

The techniques used in time value of money : All time value of money problems involve two fundamental techniques : compounding and discounting.

Compounding and discounting is a process used to compare dollars in our pocket today versus dollars we have to wait to receive at some time in future.

Compounding is about moving money forward in time, it's the process of determining the future value of an investment made today and/or the future value of a series equal payments made over time (periodic payments).

Most people immediately understand the concept of compound growth.
If you invest \$100,000 today and
P-t-D

earn 10% annually, then your initial investment will grow to some figure larger than the original amount invested.

Discounting is about moving backward in time. It's the process of determining the present value of money to be received in the future (as a lump sum and/or as periodic payments). Present value is determined by applying a discount rate (opportunity cost) to the sums of money to be received in the future.

When solving for the future value of money set aside today, we compound our investment at a particular rate of interest. When solving for the present value of future cash flows,
P.t.0

The problem is one of discounting, rather than growing and the required expected return acts as the discount rate. In other words, discounting is merely the inverse of growing.

