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Course title : MANAGEMENT ACCOUNTING

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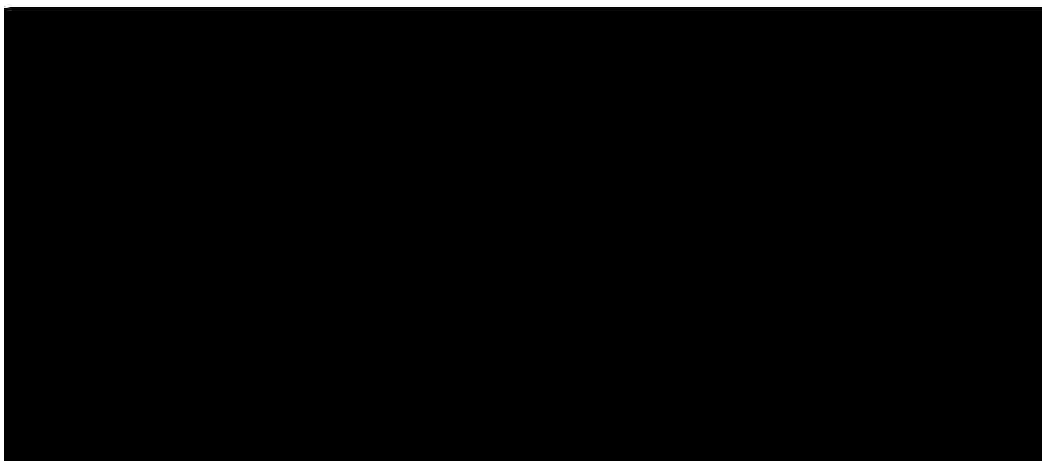

Course title: Management Accounting
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~~Ans: Ans:~~
Ans: to the Q.N (1)

(1) The concept of time value

The time value of money means that a sum of money is worth more now than the same sum of money in the future. The principle of the time value of money means that it can grow only through investing so a delayed investment is a lost opportunity. The time value of money is the concept that a sum of money is worth more now than the same sum will be at a future date due to its ear-

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mings potential in the interim. The time value of money is a core principle of finance. A sum of money in the hand has greater value than the same sum to be paid in the future. —

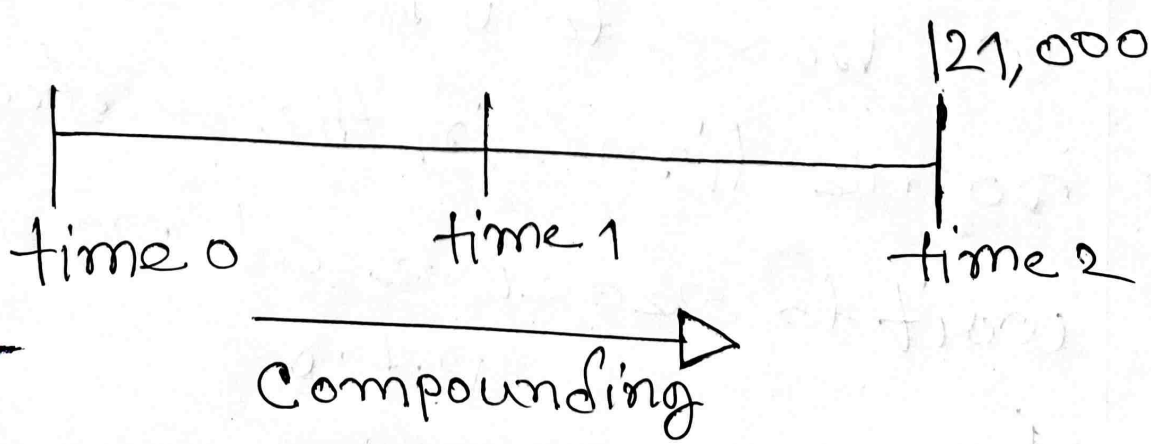
Investors prefer to receive money today rather than the same amount of money in the future because a sum of money, one invested, grows over time. For example, money deposited into a savings account earns interest. Over time, the interest is add-

to the principal, earning more interest. That's the power of compounding interest. If money is not invested, the value of the money erodes over time.

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 the future. Wait to receive at some time

Before we dive into specific time value of money examples let's first review these basic building

compounding: is about moving money forwards in time. It's the process of determining the future value of an investment made today and/or the future value of a series of equal payments made over time



most people immediately understand the concept of compound growth. If you invest $100,000 today and earn 10% annually, then your initial investment will grow to some figure larger than the original amount invested. For example, in the illustration above $100000 invested at time 0 and grows at a 10% rate to $121,000 at time. We'll go over the details of this calculation later, but for now just focus on the intuition. The initial investment compounds because it earns interest

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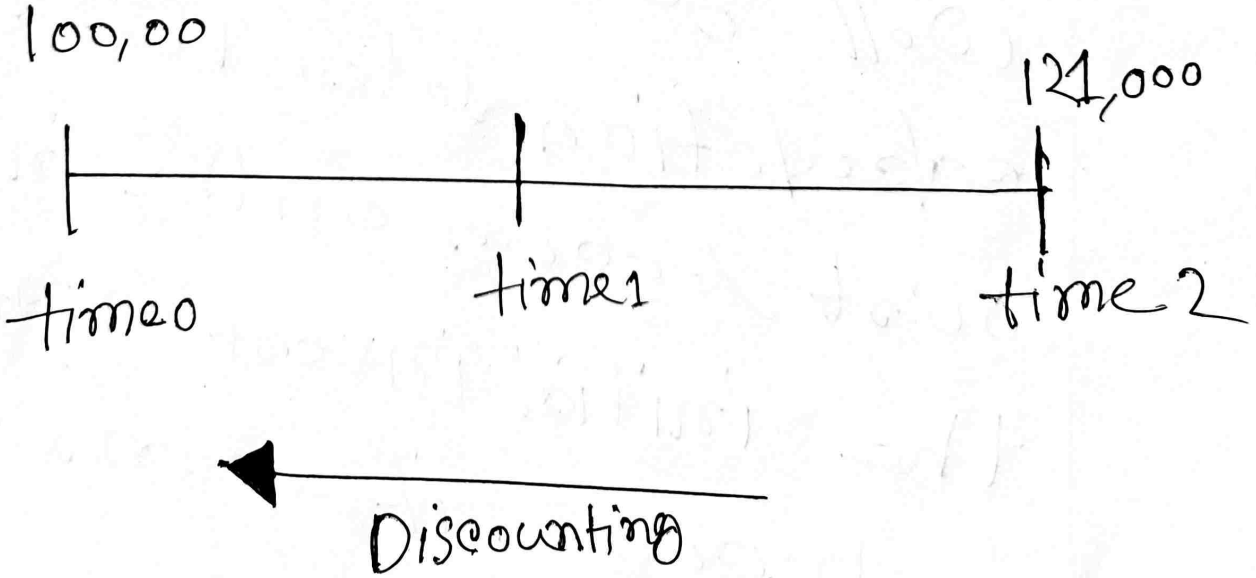
Discounting is about moving money backwards in time. It's the process of determining the present value of money to be received in the future as a lump sum or on an periodic payments. Present value is determined by applying a discount rate opportunity cost to the sum of money to be received in the future.



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, 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 them.

The time value of money timeline

time value of money problems can always be visualized using a simple horizontal or vertical timeline. when you're first

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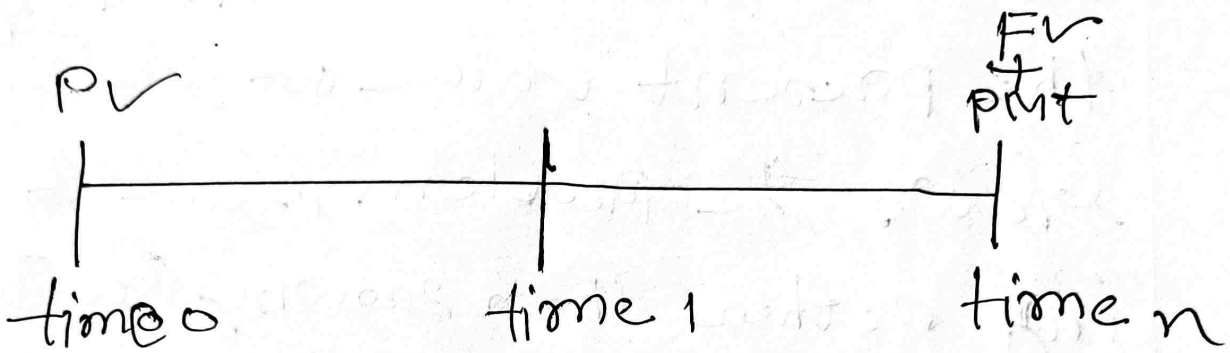
Before learning how to solve time value of money problems, it's often helpful to draw the 3 components



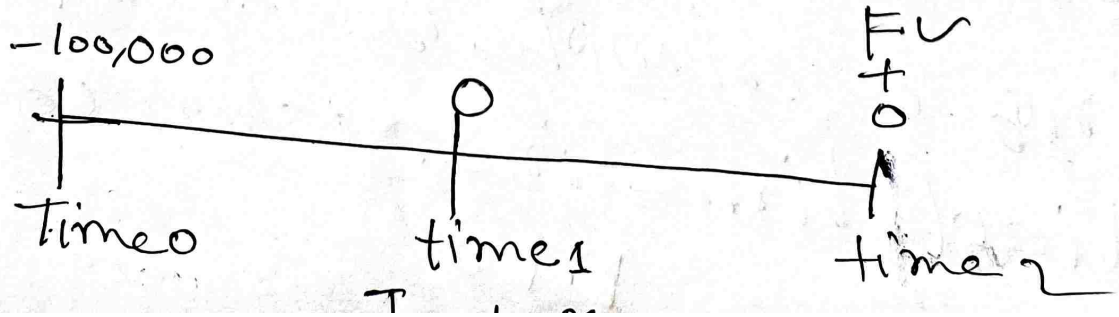
I =

As shown above the 3 components of all time value of money problem can be illustrated on a simple horizontal timeline.

time	Money
0	PV
1	pmt
n	pmt + FV

I =

Here's a time line for the example compounding problem above showing the known com



Ans to the Q.no (2)

EAR: EAR stands for effective Annual Rate, which is a measure of the true annual cost of borrowing or the true annual yield of an investment. It takes into account the effect of compounding, which occurs when interest is earned on both the principal and accumulated interest over time. The EAR is a more accurate reflection of the true cost of borr-

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or the true yield of an investment compared to the nominal interest rate.

The effective annual interest rate is an interest rate that reflects the real-world rate of return on an investment or savings account, as well as the true rate that you owe on a loan or a credit card. The earliest incorporates the impact of compounding interest over time. This accounting called the effect

Discounting: Discounting is the process of determining the present value of a payment or a stream of payments that is to be received in the future. Given the time value of money, a dollar is worth more today than it would be worth tomorrow. Discounting is the primary factor used in pricing a stream of tomorrow's cash flows.

For Example: The coupon payments known in a regular

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bond are discounted by a certain interest rate and added together with the discounted par value to determine the bond's current values. From business perspective, an asset has no value unless it can produce cash flows in the future. Stocks pay dividends. Bonds pay interest and projects provide investors with incremental projects provide future cash flows. The value of those future cash flows

Compounding: Compounding is the process in which an asset's earnings from either capital gains or interest are reinvested to generate additional earnings over time. This growth, calculated using exponential functions, occurs because the investment will generate earnings from both its initial principal and the accumulated earnings from preceding periods. Compounding therefore differs from linear growth only

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The principal earns interest each period.

* Compounding is the process whereby interest is credited to and existing principal amount as well as to interest already paid.

* Compounding thus can be construed as interest on interest. The effect of which is to magnify returns to interest over time the so-called miracle of compounding.

Annuity: An annuity is a series of equal payments made at equal intervals during a period of time. In other words, it is a system of making or receiving payments where the payment amount and time Period between payments is equal

* Immediate annuities.
* Fixed annuities.
* Variable annuities.
* Deferred annuities.

In vestment, an annuity is a series of payments made at

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equal intervals. Examples of annuities are regular deposits to a savings account, monthly home mortgage payments, monthly insurance payments and pension payments. Annuities can be classified by the frequency of payment dates. An annuity is a contract an insurance company generally purchases for future income in retirement. Annuity means a regular payment stream of equal amount

Amortization Schedule:

An amortization schedule is a table that provides both loan and payment details for a reducing term loan. Details typically include the original loan amount, the loan balance at each payment, the interest rate, the amortization period, the total payment amount, and the proportion of each payment that is made up of interest vs principal. Amortization schedules can be ex

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ily generated using several bu
microsoft excel function.

In general, amortization schedu
are provided to borrowers by bank
or other financial institutions
when credit is extended so the
borrowers understand the repay
ment structure.

Ans:- to the Q.N (2)

Solution

Future value = $P_v(1+i)^n$

Where,

Present value (P_v) = $5,00,000

interest rate (i) = 8% = .08

The number of years (n) = 10 years

Future value (F_v) = $50,00,000(1+0.08)^{10}$

= $5,00,000(1.08)^{10}$

= $500,000 X 1.967

= $983841.67

So,

So, after 10 years of investment at 8% interest, Mr. Jinpio investment would be worth $9,83,841.67

Ans: to the Q.no-4

Solution:

$$\text{Payback period (PBP)} = \frac{\text{C.F.(initial investment)}}{\text{CF+(cash flows)}}$$

Given,

For company A:

initial investment (CF_0) = $ 300,000

cash flows (CF_+) = $ 100,000

$$\text{Payback period (PBP)} = \frac{\$\ 300,000}{\$\ 100,000}$$

$$= 3 \text{ years}$$

For company B:

initial investment (CF_0) = $400,000

cash flows (CF_+) = $ 1,05,000

$$\text{Payback period (PBP)} = \frac{\$\ 400,000}{\$\ 1,05,000}$$

$$= 3.8 \text{ years}$$