ACCOUNTING AND FINANCE

LEVEL-III

Based On June 2021, Curriculum Version 2

Module Title: Performing Financial Calculations
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Table of Content

Introduction of the module

This module covers the knowledge, skills and attitudes required to understand basic knowledge and awareness of performing financial calculation as they apply to interest, annuity for real computing of the business environments.

This module covers

- Obtain data and resources for financial calculations.
- Select appropriate methods and carry out financial calculations
- Check calculations and record outcomes

Learning objectives of the Module:

At the end of this session, the students will able to:

- Assess and obtain data and resources for financial calculations.
- Screen appropriate methods and carry out financial calculations
- Check calculations and record outcomes

Module Instruction

For effective use this modules trainees are expected to follow the following module

Instructions:

1. Read the information written in each unit
2. Accomplish the Self-checks at the end of each unit
3 .Perform Operation Sheets which were provided at the end of units
4. Read the identified references book for Examples and exercise

UNIT ONE: Obtain data and resources for financial calculations

This unit is developed to provide you the necessary information regarding the following content coverage and topics:

- Obtain and verifying Input data
- Determine and confirming outcomes of calculations
- Acquire relevant resources and equipment
- Develop Simple spreadsheets

This unit will also assist you to customer attain the stated objective. Specifically, upon completion of this learning guide line, you will be able to:

- Understand and Obtain verifying Input data
- Assess and determining confirming outcomes of calculations
- Understand Acquire relevant resources and equipment
- Develop Simple spreadsheets

1.1 Obtaining and verifying Input data

1.1.1 Definition of data

Data is a collection of facts, such as numbers, words, measurements, observations or just descriptions of things. Qualitative vs Quantitative.

Data is the base of all operations in statistics. So let us learn more about data collection, primary data, secondary data, and a few other important terms.

Input data enter data into a form of computer software or computer system. Input data monthly on to the management information systems to provide an overview of how each facet of the social enterprise is performing.

Financial data are the set of documents prepared by the business organization at the end of the accounting period which includes the summary of the accounting data for that period and information. These data should be accurate and should be based on facts. There are two different sources of collecting financial data.

Client records: is the record that used to adequate transaction of customer for proper relevant documents performing different activates.

A. **Enterprise tables and associated documentation:** This document is vital for business enterprise for sake of preparation of real documents for business enterprise.
B. **industry and government data and statistics such as:**
    - ✓ **tax tables**

Before considering about tax every individual has deals about the meaning of tax

Tax: Are a mandatory payment or charge collected by local, state, and national governments from individuals or businesses to cover the costs of general government services, goods, and activities.

Use of tax table for business

Companies are use of tax table for the following purpose.

- To determine the amount of tax owed
- To understand of easily ways of business in computing time and save time
- To computing of tax in easy ways

- ✓ **compound interest tables**

Compound interest is an interest accumulated on the principal and interest together over a given time period. The interest accumulated on a principal over a period of time is also accounted under the principal. Further, the interest calculation for the next time period is on the accumulated principal value. Compound interest is the new method of calculation of interest used for all financial and business transactions across the world. The power of compounding can easily be understood, when we observe the compound interest values accumulated across successive time periods.

- ✓ **loan calculators**

A loan is a financial product that allows a user to access a fixed amount of money at the outset of the transaction, with the condition that this amount, plus the agreed interest, is returned within a specified period. The loan is repaid in regular installments.

- ✓ **depreciation factors**

The monetary value of an asset decreases over time due to use, wear and tear or obsolescence. This decrease is measured as depreciation.

Depreciation, i.e. a decrease in an asset's value, may be caused by a number of other factors as well such as unfavorable market conditions, etc. Machinery, equipment, currency are some examples of assets that are likely to depreciate over a specific period of time. Opposite of depreciation is appreciation which is increase in the value of an asset over a period of time.

1.1.2 Factors affecting deprecation

Different factors such as cost, scrap value, estimated life of assets etc. affect the amount of depreciation. Following are the important factors which should be considered for determining the amount of depreciation.

A. Cost of Assets

The cost of asset include the purchase price, less any trade discount plus all the costs essential to bring the asset to a usable condition. In other word, the total cost of asset includes from purchase price to the installation.

B. Estimated Scrap Value

Scrap value refers to the value estimated to be realized after the expiry of the useful working life of the asset. This is also known as residual value or salvage value. Depreciation should be determined after deducting the estimated scrap value from the cost of asset.

C. Estimated Useful Life

An asset cannot work forever. Every asset has a certain working and useful life. The longer the working life, the amount of depreciation will be lower and vice versa. Therefore, the useful life of an asset is generally to be taken in terms of asset's expected use. This estimated useful life of asset determines the rate or the amount of depreciation.

D. Legal Provisions

The amount of depreciation also depends upon the statutory and legal provisions prescribing the admissible rate of depreciation on fixed assets

1.2 Determine and confirming outcomes of calculations

Workplace calculations are vital elements of business for performing real aspects the following basic concepts.

A. basic loan calculations

This loan calculation is used for installment basis as well as personal loan for the base financial aspects of company.

B. compound interest

Compound interest is the interest calculated on the principal and the interest accumulated over the previous period. It is different from simple interest, where interest is not added to the principal while calculating the interest during the next period. In Mathematics, compound interest is usually denoted by C.I.

Compound interest finds its usage in most of the transactions in the banking and finance sectors and other areas. Some of its applications are:

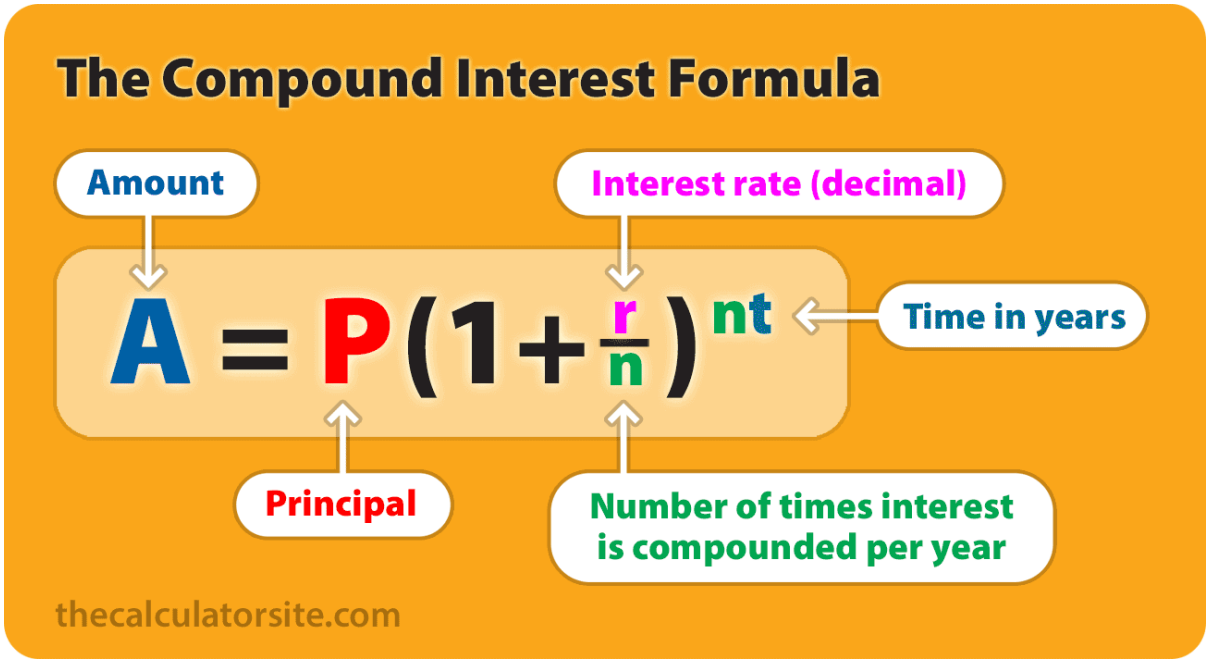

Figure 1.1 formula of compound interest

Calculation	Formula
Calculate future value of principal+interest (A)	A = P(1 + r/n)^nt
Annual compound interest formula (1x compound per year)	A = P(1 + r)^t
Quarterly compound interest formula	A = P(1 + r/4)^4t
Monthly compound interest formula	A = P(1 + r/12)^12t
Daily compound interest formula	A = P(1 + r/365)^365t
Calculate principal (P) based upon future value	P = A / (1 + r/n)^nt
Calculate interest rate as a percentage (R)	R = n[(A/P)^(1/nt)-1] × 100
Calculate time factor (how long it takes to reach a target figure) (t)	t = ln(A/P) / n[ln(1 + r/n)]

Where:

A = future value of the investment/loan

P = principal amount

r = annual interest rate (decimal)

R = annual interest rate (percentage)

n = number of times interest is compounded per year

t = time in years

^ = to the power of

ln = the natural logarithm

C. Goods and Services Tax calculations

This tax rate is imposed by the government for computing tax specifically for indirect tax for real because of this types of tax is imposed most of time for sale or purchase goods and service**.**

Example:

- ✓ **Value added tax**
- ✓ **Custom duty**
- ✓ **Turn over tax**
- ✓ **Excise tax**

D. inflation effects

Inflation is the percentage change in the value of the Wholesale Price Index (WPI) on a year-on year basis.

The following are the effect of inflation.

✓ **Lost Purchasing Power**

The most obvious impact of inflation is the loss of purchasing power. As purchasing power erodes, many feel the impacts on their budget. But those on a low income or fixed income often feel the pinch the most.

As inflation takes hold, it's important to monitor how well your income keeps pace with the changes. If it's within your power, negotiate for a raise or switch up your income streams to keep up with rising costs.

✓ **Higher Interest Rates**

The Federal Reserve has a relatively limited toolkit to tame inflation. And the option they turn to first is usually raising interest rates. As the Fed pushes interest rates higher, it gets more expensive to borrow money. Since the average consumer takes advantage of borrowing to make major purchases, like a home or vehicle, a reality, this has a big impact on households across the country. If you have any debt with a variable interest rate, you'll face higher costs tied to the higher interest rates.

✓ **Higher Prices**

When everything is more expensive, wallets are pinched. After all, it's impossible to go without the basics

such as food or electricity. But with rising costs, it can become more difficult to make ends meet.

The older and lower income wage earners are the first to feel the bite of higher prices. But eventually, it works its way up the income chain and begins to threaten companies or even entire industries.

✓ **Economic Growth Slows**

As inflation runs rampant, the Fed tightens its monetary policy. With the money supply drying up, credit becomes more expensive and credit requirements tighten.

E. mark up and break even

Refers to the value that a player added to the cost price of product. The mark up added to the cost price usually equals retail price.

F. Simple interest: the types of computing of interest only original principal amount of money.

I=PRT where as

I=interest

P=principal

R=interest rate

T=time period

For example

Assume that worku Aytnew Company borrowed money in Dashen bank Br 6,000,000 for three years in interest rate of 10 percent. Required, interest and amount at end of 3rd years.

Given

P=6,000,000

R=0.1 T=3 years Required I and A?

Sol

I=PRT =6,000,000*0.1*3=1,800,000 Br

Amount =principal +interest =6,000,000+1,800,000=**7,800,000**

F. straight-line deprecation

The **straight-line method** considers depreciation a **function of time rather than a function of usage**.

Companies widely use this method because of its simplicity. The straight-line procedure is often the most conceptually appropriate, too. When creeping obsolescence is the primary reason for a limited service life, the decline in usefulness may be constant from period to period. Stanley computes the depreciation charge for the crane as follows.

Assume that ABC company purchase of office equipment Br 500,000 at Br salvage value 50,000 in estimated useful life 5 years, what is the depreciation expense each year.

__Cost – salvage___ =Depreciation charge

Estimated service life

$500,000 - $50,000 = $90,000

The major objection to the straight-line method is that it rests on two tenuous assumptions:

(1) The asset's economic usefulness is the same each year, and

(2) The repair and maintenance expense is essentially the same each period.

1.3 Acquiring relevant resources and equipment

Relevant resource means a person appointed by college on behalf of network whose role is control use of computing resource allocated to his/her duties.

Need of relevant resource

- To plan of activity
- To control of over allocation of resource
- To utilization of resource
- To setting arrangement of resource in proper arrangement

Resource and equipment should be includes:

- computers
- financial services software
- spreadsheets
- on-line special purpose calculators

1.4 Developing Simple spreadsheets

Developing spread sheet the major relevant issue for business enterprise for performing the company operation in the business for real aspects business by computerize applications as we as in manual system for critical arrangement for the plan day to day operation.

Self-check -One

Part I: True or False Questions

Instruction Read the following sentences carefully and writes TRUE if the statement is correct or FALSE if the statement is not correct on the space provided before each question number:

1. Deprecation is refers to periodic cost expiration of all fixed asset at end of each years.
2. Simple interest is computed by using only original principal amount of money.
3. As inflation runs rampant, the Fed tightens its monetary policy.
4. When inflation increase the growth of economy is decline of business enterprise.
5. Straight line method is the method of computing of deprecation the same in each year.

Part II: Short answer

1. List and explain the factors of deprecation?
2. Why people need relevant resource?
3. What is straight line method of computing of deprecation?
4. What is the difference between compound and simple interest ?

Answer sheet for writing essay

1._____

_____

2._____

_____

3._____

_____

4_____

_____

.

UNIT TWO: Select appropriate methods and carry out financial calculations

This unit is developed to provide you the necessary information regarding the following content coverage and topics:

- Using hand held calculators
- Perform calculations
- Re-checking data used in calculations
- mathematical techniques for calculating interest
- mathematical techniques for calculating break-even point
- Mathematical techniques for calculating annuity
- accounting treatment of Non- interest bearing note
- Understanding financial services legislation and statutory requirements

This unit will also assist you to customer attain the stated objective. Specifically, upon completion of this learning guide line, you will be able to:

- Assess hand held calculators
- Computing calculations
- Re-checking data used in calculations
- Apply mathematical techniques for calculating interest
- Apply mathematical techniques for calculating break-even point
- Apply Mathematical techniques for calculating annuity
- Demonstrate accounting treatment of Non- interest bearing note
- Understand financial services legislation and statutory requirements

2.1 using hand held calculators

2.1.1 Hand held

calculator

Used to computing the matmahtices proof of the number in adjusting the financial aspects for accounting treatments. Financial analysis is a method used to evaluate the viability of a proposed project by assessing the value of net cash flows that result from its implementation. Such appraisals are routinely carried out in the private sector by companies to assess whether investment projects are commercially profitable.

Financial analyses are also relevant for the public sector, particularly where there is output to be sold and charges imposed e.g. light urban rail, water charges. A financial analysis allows for an assessment of the budgetary impact of projects by looking at the pattern of project related cash flows. Financial analyses are particularly important for appraising large projects with complex financing structures and for assessing the net return of projects developed by commercial semi-state companies. Nevertheless, any sponsoring agency must be able to quantify the financial cash flows associated with any spending proposals.

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Important of hand held calculator

- Used to save time or time management
- Reduce of cost by effective arrangement of calculator
- Used to understanding of the world interims of technology
- Proof of commuting difficult No in easy ways.

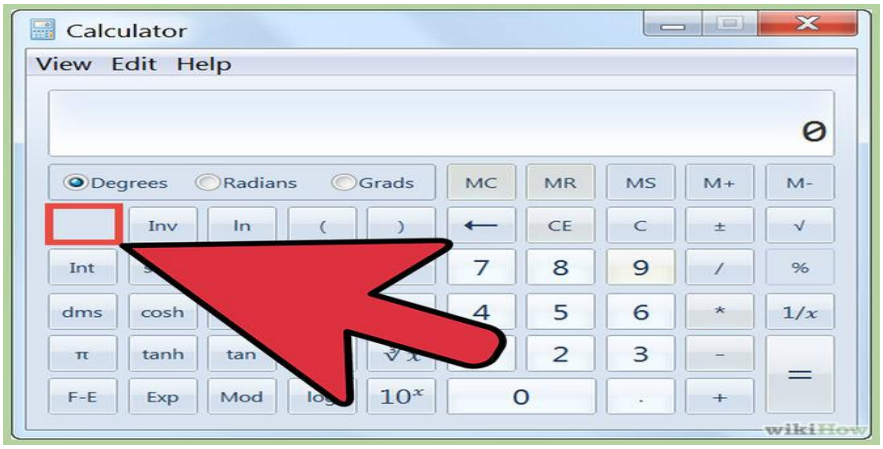

Figure: 2.1 hand held calculator

2.2Performing calculations

Calculation is something that you think about and work out mathematically. Calculation is the process of working something out mathematically.

The process of using information you already have and adding, taking away, multiplying, or dividing numbers to judge the number or amount of something

You can perform the following basic mathematical operations: **addition, subtraction, multiplication, division, calculating powers, and calculating square roots**.

Financial analysis is a method used to evaluate the viability of a proposed project by assessing the value of net cash flows that result from its implementation. Such appraisals are routinely carried out in the private sector by companies to assess whether investment projects are commercially profitable.

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Methods to carry out financial calculations

Finance charges are applied to credit card balances that aren't paid before the grace period. Different credit cards calculate finance charges in different ways. To find out how your creditor calculates your charge, look on the back of a recent billing statement. You should find an explanation there.

Below are six ways finance charges can be calculated. Click on the links for a more detailed explanation including example of how the charge works.

1) Adjusted Balance

The adjusted balance method uses the balance at the beginning of the billing cycle and subtracts any payments you made. Purchases are not included in the balance. This is the least expensive method of calculating finance charges.

2) Average Daily Balance

The average daily balance method uses the average of your balance during the billing cycle. Each day's balance is added together and divided by the number of days in the billing cycle this is the most common way finance charges are calculated.

The Company averages your daily balance. For instance, if you charged $100 on the first day of June and charged an additional $200 on the 16th, your average daily balance would be $200. That number times roughly one-twelfth your annual percentage rate, or APR, equals your monthly finance charge. Interest may be calculated on a daily or monthly basis.

3) Daily Balance

The daily balance method uses the balance each day of your billing cycle. Each day's balance is multiplied by the daily rate and added together.

The Company calculates the actual balance you carried each day of your billing cycle and multiplies it by roughly 1/365th of your APR and adds it together.

4) Double Billing Cycle

The double billing cycle uses the average daily balance of the current and previous billing cycles. This is the most expensive way finance charges are calculated. Fortunately for credit cardholders, the double billing cycle

method of calculating finance charges is now against the law.

A credit card practice where the consumer is charged interest on debt already paid. Here's how it works: A cardholder begins a billing cycle with a zero balance and charges $500 on a credit card. They make an on-time payment of $450. With double-cycle billing, they would be charged interest on the $500 -- instead of the $50 still owed -- in the next billing cycle.

5) Ending Balance

The ending balance method uses your beginning balance minus payments plus charges made during the billing cycle. The number of days in the billing cycle doesn't affect the amount of the finance charge.

6) Previous Balance

The previous balance method uses the balance at the beginning of the billing cycle which is also the ending balance of the last billing cycle. No payments or charges are included. The number of days in the billing cycle doesn't affect the amount of the finance charge.

Calculate Financial Ratios of Performance

Financial ratios allow you to break down your company's financial statements and see how it is performing from different angles. Whether you are creating a proposal for new investors, seeking bank financing or want compare your company to another, financial ratios provide a way to simplify a lot of financial information quickly. There are many performance related ratios, but several are commonly analyzed and discussed among business owners and potential investors.

Current Ratio

$$CurrentRatio = \frac{Currentassets}{CurrentLiabilities}$$

e.g. Assume, the manager of your organization come up with the following data

Current Assets = Br.200000

Current Liabilities = Br 100000

It means based on the CR analysis the current assets of your organization can cover a current liability as large as two times the size of your organization’s current liability.

$$\frac{CA}{CL} = CR = \frac{200{,}000}{100{,}000} = 2times$$

Use the current ratio to assess your company's ability to meet its financial obligations. Calculate the ratio by dividing the current assets by the current liabilities; both these figures are from the balance sheet. Assets and liabilities are "current" if they are receivable or payable within one year. A current ratio of two or higher shows your current assets can likely cover current liabilities as they come due.

Quick Ratio

The quick ratio excludes any shares your company may have issued from the current assets, providing a more stringent view of your company's ability to meet short-term financial obligations. Calculate the quick ratio by subtracting the value of outstanding shares from current assets, and dividing the result by current liabilities. To get the value of outstanding shares, multiply the number of shares outstanding by the share price. If you are unsure of the share price, instead deduct inventories from the current assets to create an alternative measure of the quick ratio. A ratio of one or higher is considered financially healthy.

$$\text{Quick, or acid test, ratio} = \frac{\text{Current Assets - Inventories}}{\text{Current liability}}$$

E.g. Assume that same manager of yours come up with inventory of stock worth of Br 100,000 in addition to the previous data. So you would have computed for him the quick ratio as;

CA - Br. 200,000

Less: Inventories Br.100, 000

Quick Assets= Br. 100,000

Current assets - inventories = Quick Assets

Current liabilities - Br.100000

$$\text{Quick Ratio} = \frac{100{,}000}{100{,}000}$$

= 1 time

Return on Assets

Use ROA to determine how much profit is being generated for each dollar your company has in assets. Divide the net profit by net assets, and multiply by 100 to compute the ROA. Find net profit on the income statement, and use the balance sheet to compute net assets by taking total assets minus total liabilities. The higher the ratio, the more efficiently your company is generating profits from its resources. New businesses take time to produce profits and utilize assets; therefore the trend in the figure year-over-year is often considered more important than a single calculation.

E.g. your firm earned a net income of Br.10, 000 last year. And you want to assess the return you got from the assets utilized during the period. Total assets at the last date of the year totaled Br.100, 000. You can asses the return on assets of your firm as;

$$ROA = \frac{NI}{\text{Total Assets}}$$

$$= \frac{Br.10,000}{Br.100,000} = 10\%$$

Asset Turnover

Asset turnover, or sales-to-asset ratio, shows how efficiently your company is converting its assets into sales. Find your company's sales on the income statement and divide it by total assets from the balance sheet. The higher the ratio the better; a reading of one or higher indicates the company is generating more than $1 in sales for each $1 in assets. New start-ups may take time to generate significant sales, therefore track the quarterly or yearly trend of the figure. A rising asset turnover ratio over time shows assets are being utilized more effectively.

$$\text{Total assets turnover ratio} = \frac{\text{Sales}}{\text{Total Assets}}$$

Return on Equity

ROE tells you how well your company is using shareholder's equity -- potentially your own equity -- to generate profits. Take net income from the income statement and divide it by the shareholder's equity from the balance sheet to attain ROE. The ratio is tracked over time -- computing the figure quarterly or yearly -- to see

if return on equity is increasing or decreasing. An increasing ROE is preferable as it shows the company is more efficiently using shareholder's equity to produce profits. Business owners typically want to maximize ROE to sustain or attract investors.

$$\text{Return on Common Equity} = \text{ROE} = \frac{\text{Net income}}{\text{Common Equity}}$$

Given

Net income=10,000 owner equity=20,000 return owner equity=10,000/20,000=0.5

2.3 Re-checking data used in calculations

Data usage is how much data your phone uploads or downloads using mobile data. To make sure that you're not using too much data on your data plan, you can check and change your data usage.

Obtain data and resources for financial calculations

- ✓ Obtain and verify **Input data** as relevant for **workplace calculations**

Input data are:

- ✓ Client records
- ✓ Enterprise tables and associated documentation
- ✓ Industry and government data and statistics such as:

Workplace calculations

- ✓ Basic loan calculations
- ✓ Compound interest
- ✓ Credit interest
- ✓ Goods and Services Tax calculations
- ✓ Inflation effects
- ✓ Mark up and break even

- ✓ Simple interest
- ✓ Straight-line deprecation

2.4Apply mathematical techniques for calculating interest

Interest is the price paid for the use of a sum of money over a period of time. It is a fee paid for the use of another's money, just rent is paid for the use of another's house. A savings institution (Banks) pay interest to depositors on the money in the savings account since the institutions have use of those funds while they are on deposit. On the other hand, a borrower pays interest to a lending agent (bank or individual) for use of the agent's fund over the term of the loan.

Interest is usually computed as percentage of the principal over a given period of time. This is called **interest rate**. Interest rate specifies the rate at which interest accumulates per year through out the term of the loan. The original sum of money that is lent or invested/ borrowed is called the **principal.**

Interests are of two types: simple interest and compound interest. In the first part of this unit we shall explore these two concepts.

2.4.1 Simple Interest

If interest is paid on the initial amount of money invested or borrowed only and not on subsequently accrued interest, it is called **simple interest**. The sum of the original amount (principal) and the total interest is the **future amount or maturity value or in short amount**. Simple interest generally used only on short-term loans or investments –often of duration less than one year. Simple interest is given by the following formula.

I = part ….. (1)

Where: I = Simple interest

P = principal amount

r = Annual simple interest rat

t = time in years, for which the interest is paid

If any three of the four variables are given, you can solve for the fourth (unknown variable) and their relationship is as follows:

Amount (A) = P + I

= P + Part. factor out the common term P

= P (1 + rt)..... (2)

$$P = I/rt \text{ or } P = \frac{A}{1+rt} \quad \ldots\ldots\ldots\ldots\ldots(3)$$

r = I/pt .....(4)

t = I/pr .....(5)

Example: Ato Kassahun wanted to buy TV which costs Br. 10, 000. He was short of cash and went to Commercial Bank of Ethiopia (CBE) and borrowed the required sum of money for 9 months atan annual interest rate of 6%. Find the total simple interest and the maturity value of the loan.

Solution:

p = Br. 10,000

t** = 9 months = 9/12 = ¾ year

r = 6% per year = 0.06

I = ? A = ?

Interest (I) = Prt

= 10, 000 x 0.06 x ¾

= Br. 450

A = P + I

= P (1 + rt)

= 10, 000 (1 + 0.06 x ¾)

= 10, 000 x 1.045

= Br. 10, 450

The total amount which will have to be repaid to CBE at the end of the 9th month is Br. 10, 450 (the original borrowed amount plus Br. 450 Interest).

Note: It is essential that the time period t and r be consistent with each other. That is if r is expressed as a percentage per year, t also should be expressed in number of years (number of months divided by 12 if time is given as a number of months). If time is given as a number of days, then $t = \frac{No.ofdays}{360\,days}$. this approach is known as **ordinary interest**

year method which uses a 360 day years, whereas if we use 365 days years the approach is called **exact time method**.

Example 2

How long will it take if Br. 10, 000 is invested at 5% simple interest to double in value?

Given: p = Br.10, 000 I = prt

r = 10% = 0.10

A = Br.20, 000 (2 x 10, 000) $t = I^*/pr$

$t = ?$ $= \dfrac{10{,}000}{10{,}000(0.10)}$

= 10 Years

I* = Amount (A) – principal (p)

= 20, 000 – 10, 000

= 10,000

Therefore it will take 20 years for the principal (Br. 10, 000) to double itself in value if it is invested at 10% annual interest rate.

2.4.2 Compound Interest

If the interest, which is due, is added to the principal at the end of each interest period (such as a month, quarter, and year), then this interest as well as the principal will earn interest during the next period. In such a case, the interest is said to be **compounded**. The result of compounding interest is that starting with the second compounding period, the account earns interest on interest in addition to earning interest on principal during the next payment period. Interest paid on interest reinvested is called **compound interest**.

The sum of the original principal and all the interest earned is the **compound amount**. The difference between the compound amount and the original principal is the compound interest.

The compound interest method is generally used in long-term borrowing unlike that of the simple interest used only for short-term borrowings. The time interval between successive conversions of interest into principal is called the **interest period,** or **conversion period**, or **Compounding period**, and may be any convenient length of time. The interest rate is usually quoted as an annual rate and must be converted to appropriate rate per conversion period for computational purposes. Hence, the rate per compound period (i) is found by dividing the annualnominal rate (r) by the number of compounding periods per year (m):

$$i = r/m$$

Example if r = 12%, i is calculated as follows:

Conversion period (m)	Rate per compound period (i)
1. Annually (once a year)	= r/1 = 0.12/1 = 0.12
2. Semi annually (every 6 months)	i = r/2 = 0.12/2 = 0.06
3. Quarterly (every 3 months)	i = r/4 = 0.12/4 = 0.03
4. Monthly	i = r/12 = 0.12/12 = 0.01

Example 1

Assume that Br. 10, 000 is deposited in an account that pays interest of 12% per year, compounded quarterly. What are the compound amount and compound interest at the end of one year?

Solution

P = Br. 10, 000

r = 12%

t = 1 year

m = No. of conversion periods = 4 times per quarter. This means interest will be computed at the end of each three month period and added in to the principal.

i = r/m 12%/4 = 3%

In general, if **p** is the principal earning interest compounded **m** times a year at an annual rate of**r**, then (by repeated use of the simple interest formula, using i = r/m, the rate per period, the amount **A**

at the end of each period is:

(1) $A = p(1 + i)$… .....compound amount at the end of first period.

If we are interested in determining the compound amount after two periods, it may be computed using the equation:

(2) Compound amount = Compound amount + Interest earned during after two periods after one period the 2nd period

$A = p(1 + i) + [P(1 + i)](i)$

Factoring P and (1 + i) from both terms of the right side of the equation gives us:

$A = P(1 + i)(1 + i)$

$= P(1 + i)^2$

(3) Compound amount = Compound amount + Interest earned
after three periods after two period during the 3rd period

$A = P(1 + i)^2 + [P (1 + i)^2] (i)$

Factor out p and $(1 + i)^2$ from the terms on the right side of the equation and it gives you:

$A = P (1 + i)^2 (1 + i)$

$= P (1 + i)^3$

(4) Compound amount
after n^{th} period $= P (1 + i)^n$

The compound amount formulas developed so far are summarized below:

1. Compound amount after one period = $p (1 + i)^1$
2. Compound amount after two periods = $p (1 + i)^2$
3. Compound amount after three periods = $p (1 + i)^3$
4. Compound amount after n^{th} periods = $p (1 + i)^n$

$A = P (1 + i)^n$ ……* Compound amount formula.

Where: A = amount (future value) at the end of n periods.

P = Principal (present value)

i = r/m = Rate per compounding period.

n = mt = total number of conversion periods

t = total number of years

m = number of compounding/ conversion periods per Year

r = annual nominal rate of interest

Now let us solve the above problem.

$A = 10, 000 (1.03)^1$ = Br. 10, 300… .....1^{st} quarter

$A = [10, 000 (1.03)] (1.03) = 10, 000 (1.03)^2 = 10, 609$ ..... 2^{nd} quarter.

$A = [10, 000 (1.03)^2] (1.03) = 10, 000 (1.03)^3 = 10, 927.27$.....$3^{rd}$ quarter.

$A = [(10, 000) (1.03)^3] (1.03) = 10, 000 (1.03)^4 = 11, 255.088$ ..... 4^{th} quarter.

In general, the compound amount can be found by multiplying the principal by $(1 + i)^n$. So for the above problem the amount at the end of the year, using the general formula, is equal to:

$A = P (1 + i)^n$ $\quad\quad$ $n = mt = 4 \times 1 = 4$

$= 10, 000 (1.03)^4$ $\quad\quad$ $i = r/m = 12\%/4 = 3\%$

= Br. 11, 255.088

Compound Interest = Compound amount – original principal

= 11, 225.088 – 10, 000

= Br. 1, 255.088

2.5 Applying mathematical techniques for calculating break-even point

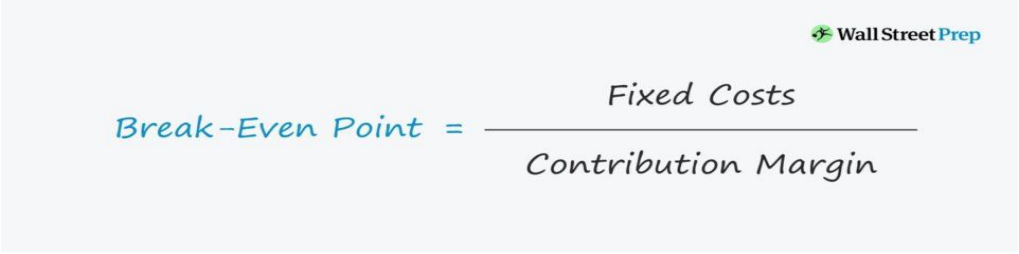
Break-even point in units use the formula: **Break-Even point (units) = Fixed Costs ÷ (Sales price per unit – Variable costs per unit)** or in sales dollars using the formula: Break-Even point (sales dollars) = Fixed Costs ÷ Contribution Margin

The **break-even point** is a critical number that must be analyzed within a business. It's the point where sales and expenses are the same or when the sales of a company are enough to cover the expenses of the business. While being at the break-even point does not allow for an income for the business, it does mean the company is able to pay all of the expenses without going in debt or having to close its

The break-even point (break-even price) for a trade or investment is determined by comparing the market price of an asset to the original cost; the break-even point is reached when the two prices are equal.

In corporate accounting, the break-even point formula is determined by dividing the total fixed costs associated with production by the revenue per individual unit minus the variable costs per unit. In this case, fixed costs refer to those which do not change depending upon the number of units sold. Put differently, the break-even point is the production level at which total revenues for product equal total expenses.

Break Even Point is the necessary level of output for a company's revenue to be equal to its total costs – or said differently, the inflection point at which a company begins to generate a profit.



Break-Even Point Formula

To calculate the break-even point, there are specific numbers that are needed: sales and costs. Costs include fixed costs and variable costs. **Fixed costs** are expenses that remain relatively

the same and don't change based on production or sales volume. Examples of fixed costs include rent or mortgage expenses, equipment expenses and capital expenditures. **Variable costs** are not consistent and change based on production output or a change in sales volume. Examples of variable costs include wages, utilities, commissions and marketing. Variable costs are flexible and can go up and down every month based on business activities. Cost of Goods Sold (COGS) is considered a variable cost because the amount will vary based on the quantity of products produced and the cost of the materials used to manufacture products.

The break-even point formula is very straightforward and easy to calculate. It simply depends on what you're trying to calculate: the break-even point in units or the break-even point in dollars. First, we need to look at the break-even point in units.

Break-Even Point in Units = Fixed Costs / (Price of Product - Variable Costs)

Example 1

Let's look at an example where we can figure out the break-even point in units. Jane has just opened her own gourmet soda shop and is looking at her projected costs for the end of the first fiscal quarter, trying to determine what her break-even point is. Let's say her fixed costs for this first quarter, which include kegs, vats, delivery trucks, and the rent for the storefront, total out to $20,000, and her variable costs have been calculated to be $1.50 per unit, or in her case, per bottle of soda. She plans on charging approximately $2.00 a bottle, which she'll sell in six-packs. How many units will she have to sell to break even?

Let's break this down with our equation:

Break-Even Point in Units = Fixed Costs / (Price of Product - Variable Costs Per Unit)

Break-Even Point in Units = $20,000 / ($2.00 - $1.50)

Break-Even Point in Units = $20,000 / ($0.50)

Break-Even Point in Units = 40,000 units

There are a few basic break-even point formulas to help you calculate break-even point for your business. One is based on the number of units of product sold and the other is based on points in sales dollars. Here is how to calculate break-even point:

Calculate a break-even point based on units: Divide fixed costs by the revenue per unit minus the variable cost per unit. The fixed costs are those that do not change no matter how

many units are sold. The revenue is the price for which you're selling the product minus the variable costs, like labor and materials.

Break-Even Point (Units) = Fixed Costs ÷ (Revenue per Unit – Variable Cost per Unit)

When determining a break-even point based on sales dollars: Divide the fixed costs by the contribution margin. The contribution margin is determined by subtracting the variable costs from the price of a product. This amount is then used to cover the fixed costs.

Break-Even Point (sales dollars) = Fixed Costs ÷ Contribution Margin

Contribution Margin = Price of Product – Variable Costs

- **Fixed costs:** As noted above, fixed costs are not affected by the number of items sold, such as rent paid for storefronts or production facilities, computers, and software. Fixed costs also include fees paid for services like graphic design, advertising, and public relations.
- **Contribution margin:** The contribution margin is calculated by subtracting an item's variable costs from the selling price. So if you're selling a product for $100 and the cost of materials and labor is $40, then the contribution margin is $60. This $60 is then used to cover the fixed costs, and if there is any money left after that, it's your net profit.
- **Contribution margin ratio:** This figure, usually expressed as a percentage, is calculated by subtracting your fixed costs from your contribution margin. From there, you can determine what you need to do to break even points.

Break-even analysis

A break-even analysis allows you to determine your break-even point. But this isn't the end of your calculations. Once you crunch the numbers, you might find that you have to sell a lot more products than you realized to break even.

At this point, you need to ask yourself whether your current plan is realistic, or whether you need to raise prices, find a way to cut costs, or both. You should also consider whether your products will be successful in the market. Just because the break-even analysis determines the number of products you need to sell, there's no guarantee that they will.

Break-even analysis examples

A break-even analysis isn't just useful for startup planning. Here are some ways that businesses can use it in their daily operations and planning.

Prices: If your analysis shows that your current price is too low to enable you to break even in your desired timeframe, then you might want to raise the item's cost. Make sure to check the cost of comparable items, though, so you're not price setting yourself out of the market.

Materials: Are the cost of materials and labor unsustainable? Research how you can maintain your desired level of quality while lowering your costs.

New products: Before you launch a new product, take into account both the new variable costs as well as the fixed ones, like design and promotion fees.

- **Planning:** When you know exactly how much you need to make, it's easier to set longer-term goals. For example, if you want to expand your business and move into a larger space with higher rent, you can determine how much more you need to sell to cover new fixed costs.

Example 2

Assume a company has $1 million in fixed costs and a gross margin of 37%. Its break-even point is $2.7 million ($1 million / 0.37). In this break-even point example, the company must generate $2.7 million in revenue to cover its fixed and variable costs. If it generates more sales, the company will have a profit.

Example 3

His accounting costs are as follows, for the first month the product will be in production:

Fixed Costs = $2,000 (total, for the month)

Variable Costs = .40 (per can produced)

Sales Price = $1.50 (a can)

2.6Applying Mathematical techniques for calculating annuity

2.6.1Annuity

An **annuity** is simply a series of future cash payments that occur at a regular interval. The payments can be different amounts, but must occur regularly - usually monthly, quarterly, or annually.

How you build your retirement funds and cash value (accumulation) and then convert those funds into guaranteed income (distributions) will depend on the type of annuity you purchase.

Types of annuity

1. **Ordinary annuity:**

- ✓ **An ordinary annuity is a series of regular payments made at the end of each period, such as monthly or quarterly**
- ✓ **The payment made at end of the month or the year**
- ✓ Consistent quarterly stock dividends are one example of an ordinary annuity

Type of ordinary annuity

A. Present value ordinary annuity:

Present Value of an Ordinary Annuity Example

The present value formula for an ordinary annuity takes into account three variables. They are as follows:

PMT = the period cash payment

r = the interest rate per period

n = the total number of periods

Given these variables, the present value of an ordinary annuity is:

Present Value = PMT x ((1 - (1 + r) ^ -n) / r)

For example, if an ordinary annuity pays $50,000 per year for five years and the interest rate is 7%, the present value would be:

Present Value = $50,000 x ((1 - (1 + 0.07) ^ -5) / 0.07) = $205,010

B. Future value ordinary annuity:

The formula for the future value of an ordinary annuity is F = P * ([1 + I]^N - 1)/I,

Where P is the payment amount.

I is equal to the interest (discount) rate.

N is the number of payments (the "^" means N is an exponent).

F is the future value of the annuity.

Example of the Future Value of an Ordinary Annuity

The treasurer of ABC International expects to invest $100,000 of the firm's funds in a long-term investment vehicle at the end of each year for the next five years. He expects that the company will earn 7% interest that will compound annually. The value that these payments should have at the end of the five-year period is calculated as:

$$P = \$100,000 [((1 + .07)5 - 1) / .07]$$

$$P = \$575,074$$

As another example, what if the interest on the investment compounded monthly instead of annually, and the amount invested were $8,000 at the end of month? The calculation is:

- ✓ $P = \$8,000 [((1 + .005833)60 - 1) / .005833]$
- ✓ $P = \$572,737$

2. **Annuity due:** Annuity due is **an annuity whose payment is due immediately at the beginning of each period**.

Annuity due can be contrasted with an ordinary annuity where payments are made at the end of each period.

A common example of an annuity due payment is rent paid at the beginning of each month.

Type of annuity due

A. **Present value annuity due:** he present value of an annuity due is used to derive the current value of a series of cash payments that are expected to be made on predetermined future dates and in predetermined amounts.

The calculation is usually made to decide if you should take a lump sum payment now, or to instead receive a series of cash payments in the future (as may be offered if you win a lottery).

The present value calculation is made with a discount rate, which roughly equates to the current rate of return on an investment. The higher the discount rate, the lower the present

value of an annuity will be. Conversely, a low discount rate equates to a higher present value for an annuity.

The formula for calculating the present value of an annuity due (where payments occur at the *beginning* of a period) is:

$$\mathbf{P = (PMT\ [(1 - (1 / (1 + r)n)) / r]) \times (1+r)}$$

Where:

P = the present value of the annuity stream to be paid in the future

PMT = the amount of each annuity payment

r = the interest rate

n = the number of periods over which payments are made

Example of the Present Value of an Annuity Due

Suppose Xyz Company invested 2,000,000 in interest rate of 10% per year for the next four years the required PVAD

B. Future value annuity due:- future value of annuity due is value of amount to be received in future where each payment is made at the beginning of each period and the formula for calculating it is the amount of each annuity payment multiplied by rate of interest into number of periods minus one which is divided by rate of interest and whole is multiplied by one plus rate of interest.

Future Value of Annuity Due Formula

Mathematically, it is represented as,

- $\mathbf{FVA_{Due} = P * [(1 + r)^n - 1] * (1 + r) / r}$

Where FVA_{Due} = Future value of an annuity due

- P = Periodic payment
- n = Number of periods
- r = Effective rate of interest

Examples

Let us take the example of John Doe, who plans to deposit $5,000 at the beginning of each year for the next seven years to save enough money for his daughter's education. Determine the amount that John Doe will have at the end of seven years. Please note that the ongoing rate of interest in the market is 5

2.7 Demonstrating accounting treatment of Non- interest bearing note

Non-interest bearing note is a debt for which there is no documented requirement for the borrower to pay the lender any rate of interest. If such a note were to be resold to a third party, the debt would be sold at a discount to its face value, so that the third party purchaser would eventually realize a gain when it was redeemed by the borrower at its face value.

If a non-interest bearing note is a bond, the issuer is selling the bond at a deep discount and committing to pay back the face value of the bond on its maturity date. This approach allows the issuer to avoid making periodic interest payments on the bond. Instead, all cash payment obligations by the issuer are concentrated at the maturity date of the bond.

The holder of a non-interest bearing note should recognize imputed interest income on the instrument.

The Accounting for Non-Interest Bearing Notes Payable

If you start a small business, it is unlikely that you will have the necessary capital to get the business running. Instead, you will have to find someone to either lend you money or invest in your business. If you find someone to lend you the money, you will have to record a note payable. If you do not have to make periodic interest payments, you classify the debt as a non-interest bearing note payable. Consult with a certified public accountant, or CPA, when preparing financial statements and tax returns.

Notes Payable

Notes payable are a formal agreement to repay a debt, explains Accounting Coach. Generally, you couple a note with periodic interest payments paid to the granter as compensation for lending the money. Bonds payable also represent obligations to repay a debt. However, bonds raise funds for the business from a pool of granters, while notes represent loans provided by one lender.

Recording Non-Interest Bearing Assets

When you initially record the note, you need to debit cash in the amount received for the note. A debit in accounting is one half of any entry recording a financial transaction. A debit increases assets and expenses, while it decreases revenue, net worth and liabilities accounts.

2.8Understanding financial services legislation and statutory requirements

Financial regulations are laws and rules that govern financial institutions. Regulations of financial institutions focus on providing stability to the financial system, fair competition, consumer protection, and prevention and reduction of financial crimes. By the mid-1970s, the global financial system witnessed market-oriented reforms that led to liberalization in the financial system, such as the reduction of interest rate controls, removal of investment restrictions on financial institutions and a line of business restrictions, and control on international capital movements.

The modern trend observed is that financial sector regulation is moving toward a greater cross-sector integration of financial supervision. In 1998, the adoption of the Basel Accord, which required international banks to attain an 8% capital adequacy ratio was a major significant milestone in banking regulations. The collapse of the global financial system that led to the global crisis can be attributed to the systemic failure of financial regulation. Basel I defined bank capital and bank capital ratio based on two-tier systems. The Basel II framework consisted of Part 1, the scope of application and three pillars, the first one being minimum capital requirements, the second one a supervisory review process, and the third pillar is market discipline. The Basel III framework prepared new capital and liquidity requirement

Self-check -two

Part I: True or False Questions

Instruction Read the following sentences carefully and writes TRUE if the statement is correct or FALSE if the statement is not correct on the space provided before each question number:

1. A note payable is an unconditional written promise to pay a specific sum of money to the creditor, on demand or on a defined future date
2. If interest is paid on the initial amount of money invested or borrowed only and not on subsequently accrued interest, it is called compound interest

3. The time interval between successive conversions of interest into principal is called the interest period, or conversion period
4. Asset turnover, or sales-to-asset ratio, shows how efficiently your company is converting its assets into sales.
5. Break Even Point is the necessary level of output for a company's revenue to be equal to its total costs – or said differently, the inflection point at which a company begins to generate a profit.

Part II: Short answer

1. What is annuity?
2. What is breakeven point?
3. How computing break even points?

Answer sheet for short answer

1._____
_____
2._____
_____
3._____
_____

UNIT Three: Check calculations and record outcomes

This unit is developed to provide you the necessary information regarding the following content coverage and topics:

- Check results
- Recording calculation results
- Storing worksheets and electronic files

This unit will also assist you to customer attain the stated objective. Specifically, upon completion of this learning guide line, you will be able to:

- Assess and Checking results
- Understand recording calculation results
- Storing worksheets and electronic files

3.1 Checking results

Mathematical terms financial result is defined as follows:

Financial performance is a subjective measure of how well a firm can use assets from its primary mode of business and generate revenues. The term is also used as a general measure of a firm's overall financial health over a given period.

Analysts and investors use financial performance to compare similar firms across the same industry or to compare industries or sectors in aggregate.

3.2 Recording calculation results

In order to check interest calculations

Instructions: First go through your bank statement line-by-line and place a check mark next to each item that is already recorded in your check book register -- both on your bank statement and next to the item in your checkbook.

Next, for each bank statement item that does not have a check mark next to it, record that amount into your check book register. The result will be your adjusted checkbook balance that you will enter into the first line of the checking account reconciliation calculator.

Next, in the fields provided below, enter the ending statement balance, all deposits in transit, and all withdrawals in transit, then click the "Reconcile Bank Account" button.

Mouse over the blue question marks for a further explanation of each entry field. More in-depth explanations can be found in the glossary of terms located beneath the Checking Account Reconciliation Calculator.

3.2.2 Recording interest calculation

Many businesses earn interest from money in savings accounts, money market accounts or certificates of deposit or other investment vehicles. You need to record any interest earned for the business in an Interest Income account, which will appear on the Income Statement.
Luckily you shouldn't have to calculate that interest. **Your bank statement will indicate the amount of interest earned**.
Example: 1

When you get the statement from the bank you find that your business account earned birr 25 in interest income. How would you record that transaction in the books?

Cash ---------- birr 25
Interest Income ----------birr 25

Example: 2

A businessman draws birr 1,000 from his line of credit with an 8% interest rate. Here is how to calculate interest he will pay each month that he has the loan (assume he pays the total interest due each month, which means the balance will stay constant each month).

Annual Interest = birr1, 000 × .08 = birr 80.00
Monthly Interest Due = 80/12 = birr 6.67

Here is the entry would look like:

Interest expense ----------80.00

Cash----------80.00

When we record annually

Interest expense----------6.67

Cash----------6.67

When we record monthly

Example 3 Assume the organization borrowed birr 2,000,000.00 for 10 years compound interest percentage of 8% record the transaction each year?

At the time of borrowing

Cash----------2,000,000.00

Loan----------2,000,000.00

1st year when the organization paid the Interest

Interest expense----------160,000.00

Cash----------160,000.00

2nd year Interest Expense ----------172,800.00

Cash ----------172,800.00

3rd year Interest Expense ----------186,624.00

Cash ----------186,624.00

And it continue as of the 10th year

3.2.3 Recording deprecation, depletions and Amortizations

- ✓ **A depreciation journal** entry is used at the end of each period to record the fixed asset or plant asset depreciation in the accounting system.

Unlike journal entries for normal business transactions, the deprecation journal entry does not actually record a business event. Instead, it records the passage of time and the use of an asset.

According to the matching principle, long-term assets or capital assets can't be expensed immediately when they are purchased because their useful life is longer than one year. This makes sense because the company will have a benefit from these assets in future years, so they should also realize expenses in futures that match the benefits. That is why capital assets must be capitalized and depreciated on a systematic and consistent basis.

It's a common misconception that depreciation is a form of expensing a capital asset over many years. Depreciation is really the process of devaluing the capital asset over a period of time due to age and use. Depreciation and accumulated depreciation shows the current value or book value of the used asset.

The depreciation journal entry records depreciation expense as well as accumulated depreciation. Depreciation expense is debited for the current depreciation amount and accumulated depreciation is credited. The depreciation expense is then presented on the income statement as an operating expense and the accumulated depreciation is presented on the balance sheet as a contra capital asset account.

There are many different depreciation methods and rates, but we will use the straight-line deprecation method for this example. The straight-line depreciation method computes depreciation expense like this: depreciation expense = (asset purchase price – salvage value) / useful life.

Depreciation Journal Entry Example

Big John's Pizza, LLC bought a new pizza oven in cash at the beginning of this year for birr10,000. Big John, the owner, estimates that this oven will last about 10 years and probably won't be worth anything after 10 years. At the end of the year, Big John would record this depreciation journal entry.

At the time of purchase

Pizza oven ----------10,000.00

Cash----------10,000.00

Date	Account Name	Debit	Cridit
December 2015 G.c	Depreciation Expense -- Accumulated deprecation	1,000.00	 1,000.00

To record depreciation expense of the year.

It is also the same to the 2nd year also within strait-line methods, but when we use the other deprecation methods always 1st, 2nd and other year has different from year to year.

Depreciation for the year was calculated on the straight-line method. Since the oven had no salvage value, the depreciation expense for the year is simply birr 10,000 divided by 10 years or $1,000 per year

Amortization journal Plant and equipment assets are depreciated. Intangible assets are also depreciated but the term used is *amortization* instead of depreciation. **Amortization** is the systematic process of allocating the cost of intangible assets over their estimated useful lives. The straight-line method is usually used. Like PPE, useful life and residual value of intangible assets are estimated by management and must be reviewed annually for reasonableness. As well, any effects on amortization expense because of changes in estimates are accounted for prospectively. That is, prior accounting periods' expenses are not changed.

To demonstrate the accounting for intangibles, assume a patent is Purchased for $20,000 on April 1, 2015. The entry to record the purchase is:

2015 Apr. 1 Patent ----------20,000

Cash ----------20,000

To record the purchase of a patent as an intangible asset.

Assuming the patent will last 40 years with no residual value and the ½ year rule applies, amortization expense will be recorded at the December 31, 2015 year-end as:

2015 Dec. 31 Amortization Expense---------- 250

Patent---------- 250

To record patent amortization: (birr20, 000/40 yrs. = birr500 x ½ =birr250).

Notice that the Patent general ledger account is credited and not Accumulated Amortization. There is no accumulated amortization account maintained for intangible assets.

In other respects, impairment losses, and gains and losses on disposal of intangible assets are calculated and recorded in the same manner as for property, plant, and equipment.

Journalizing for Depletion Plant assets and natural resources are tangible assets used by a company to produce revenues. On the income statement, depreciation expense is recorded for plant assets and depletion expense is recorded for natural resources. On the balance sheet, accumulated depreciation appears with the related plant asset account and accumulated depletion appears with the related natural resource account.

Remember, the adjusting entry for depreciation, regardless of the method used to calculate depreciation was:

Depreciation Expense Debit

Accumulated Depreciation Credit

For natural resources we will use Depletion Expense and Accumulated Depletion and the units of production method for calculating depletion. The journal entry to record depletion would be similar to depreciation:

Debit

Depletion Expense

Accumulated Depletion Credit

Computing periodic depletion cost to compute depletion charges, companies usually use the units-of-production method. They divide total cost by the estimated number of units—tons, barrels, or board feet—that can be economically extracted from the property. This calculation provides a per-unit depletion cost.

For example, assume that in 2015 a company paid birr 650,000 for a tract of land containing ore deposits. The company spent birr 100,000 in exploration costs. The results indicated that

approximately 900,000 tons of ore can be removed economically from the land, after which the land will be worth birr 50,000. The company incurred costs of birr 200,000 to develop the site, including the cost of running power lines and building roads. Total cost subject to depletion is the net cost assignable to the natural resource plus the exploration and development costs. When the property is purchased, a journal entry assigns the purchase price to the two assets purchased—the natural resource and the land. The entry would be;

	Debit	**Credit**
Land	**50,000**	
Ore Deposits	**600,000**	
Cash		**650,000**

To record purchase of land and mine.

After the purchase, an entry debits all costs to develop the site (including exploration) to the natural resource account. The entry would be:

	Debit	**Credit**
Ore Deposits (birr 100,000 + birr 200,000)	**300,000**	
Cash		**300,000**

To record costs of exploration and development.

Under the units of production method, we use a 2-step process:

1. Calculate depletion cost per unit (Cost – salvage or residual value) / total amount expected to be used over its lifetime
2. Calculate depletion expense (units used this period x depletion per unit)

In some instances, companies buy only the right to extract the natural resource from someone else's land. When the land is not purchased, its residual value is irrelevant and should be ignored. If there is an obligation to restore the land to a usable condition, the firm adds these estimated restoration costs to the costs to develop the site.

In the example where the land was purchased, the total costs of the mineral deposits equal the cost of the site (birr 650,000) minus the residual value of land (birr 50,000) plus costs to develop the site (birr 300,000), or a total of birr 900,000. The unit (per ton) depletion charge is birr 1 (or birr 900,000 cost /900,000 tons). If 100,000 tons are mined in 2015, this entry records the depletion cost of birr 100,000 (birr 1 depletion per unit X 100,000 tons mined) for the period:

	Debit	**Credit**
Depletion Expense	**100,000**	
Accumulated Depletion—Ore Deposits		**100,000**
To record depletion for 2015.		

3.3 Storing worksheets and electronic files

3.3.1 Worksheets

A worksheet is a tool you can use to enter new financial data into your database make changes to existing data drill through levels of data, Perform calculations such as growing, spreading, and increasing data.

Worksheets allow you to view multiple slices of financial data from different perspectives. In addition, they allow you to *change* the values in data cells. You can enter data manually or have the software populate worksheet cells based on instructions that you provide.

Since worksheets enable you to enter, drill down, and perform calculations on data, they are essential for developing budgets, forecasts, and what-if analyses.

Worksheets let you view and manipulate financial data based on the financial data items, dimensions, and dimension values that are currently defined in your personal database. Administrators typically define these and other database objects and distribute them to users.
The worksheet window contains various elements that enable you to manipulate a worksheet's layout and format.
The following illustration shows a worksheet and its elements.

Self-check -three

Part I: True or False Questions

Instruction Read the following sentences carefully and writes TRUE if the statement is correct or FALSE if the statement is not correct on the space provided before each question number:

1. Long-term notes payable are to be measured initially at their fair value, which is calculated as the present value amount
2. Financial performance is a subjective measure of how well a firm can use assets from its primary mode of business and generate revenues
3. Worksheets permit you to work with *stored financial data items* only
4. A depreciation journal entry is used at the end of each period to record the fixed asset or plant asset depreciation in the accounting system.

Part II: Short answer

1. What is work sheet tool?

2. Write the advantage and disadvantage of financial result as a key performance indicator.

3. What are the components of work sheet?

Answer sheet for writing essay

1._____

_____

2._____

_____

3._____

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