

DEPRECIATIONMethods of Depreciation**(i) Straight line method / original cost method / fixed installment method :**

Under this method, every year a fixed amount of depreciation is written off from the cost of the assets. Hence both rate as well as amount of depreciation remains the same. Depreciation is charged on the original cost of the asset. This method assumes that the particular asset generates equal utility during the lifetime. This method is suitable in case of leases and the assets having insignificant repairs and maintenance expenditure..

Formulas :

1. Amount of depreciation = $\frac{\text{Historical cost} - \text{Scrap Value}}{\text{Estimated useful life}}$
per annum
2. Rate of Depreciation = $\frac{\text{Amount of Depreciation per annum}}{\text{Historical cost}} \times 100$
3. Accumulated Depreciation = $\frac{(\text{Depreciable amount} \times \text{Expired Life})}{\text{Total Life}}$
OR Depreciation p.a. \times Expired life
4. Written Down Value = $\frac{(\text{Depreciable amount} \times \text{Remaining Life})}{\text{Total Life}} + \text{Scrap Value}$
OR (Depreciation p.a. \times Remaining Life) + Scrap Value
OR Historical cost – Accumulated Depreciation
5. Historical cost = Written Down Value + Accumulated Depreciation
6. **IF THE RATE OF DEPRECIATION IS GIVEN IN THE QUESTION, IGNORE SCRAP VALUE.**

(ii) Written Down Value Method / Reducing Balance Method / Diminishing Balance Method :

Under this method, rate of depreciation remains the same but the amount of depreciation goes on reducing year after year. Depreciation is charged on the written down value of the asset. This method spreads the burden of depreciation almost equally over the profit and loss account over the life of the asset. In other words, the total charge to revenue is uniform as the depreciation is high when the repairs are negligible and as the repairs increase, the burden of depreciation becomes lesser and lesser.

Formulas :

1. Rate of depreciation = $(1 - \sqrt[n]{\frac{\text{Residual Value}}{\text{Historical cost}}}) \times 100$
2. Written Down Value = Historical cost X (100-Rate of Dep. p.a.) for given no. of years / period
3. Historical cost = $\frac{\text{Written Down Value}}{(100-\text{Rate of Dep. p.a.}) \text{ for given no. of years / period}}$
OR Written Down Value + Accumulated Depreciation
4. Accumulated Depreciation = Historical cost – Written Down Value
5. Depreciation for particular year = Historical cost X (100-Rate of Dep. p.a.) for given no. of years preceding the given year X % Dep.

Accounting entries under Straight line method and Written Down Value Method :

Direct method for recording depreciation:

1. Purchase of asset (including installation expenses) :

Assets A/c	Dr.	XX	
To Cash / Bank / Party A/c			XX

2. Depreciation charged :

Depreciation A/c	Dr.	XX	
To Asset A/c			XX

3. Depreciation transferred to Profit and Loss Account :

Profit and Loss A/c	Dr.	XX	
To Depreciation A/c			XX

4. When the asset is sold out :

Cash / Bank / Party A/c	Dr.	XX	
To Asset A/c			XX

(Difference to be transferred to Profit / Loss on sale of asset A/c or P/L A/c)

Indirect method / Provision for depreciation A/c method :

Under this method, Asset account appears at **cost**. Depreciation is recorded in a separate account called “Provision for depreciation A/c”. the opening balance in asset account is the original cost of the existing assets whereas the opening balance in provision for depreciation account is accumulated depreciation on the existing assets. The difference between the two opening balances is WDV.

1. Purchase of asset (including installation expenses) :

Assets A/c	Dr.	XX	
To Cash / Bank / Party A/c			XX

2. Depreciation charged :

Depreciation A/c	Dr.	XX	
To Provision for Depreciation A/c			XX

3. Depreciation transferred to Profit and Loss Account :

Profit and Loss A/c	Dr.	XX	
To Depreciation A/c			XX

4. When the asset is sold out (without opening Asset Disposal Account) :

Cash / Bank / Party A/c	Dr.	XX	(Amount received)
Provision for depreciation A/c	Dr.	XX	(Accumulated Depreciation on asset sold)
To Asset A/c		XX	(Original cost of asset sold)

(Difference to be transferred to Profit / Loss on sale of asset A/c or P/L A/c)

OR

When the asset is sold out (Opening Asset Disposal Account) :

- Transfer the original cost of the asset sold from asset A/c to Asset Disposal A/c

Asset Disposal A/c	Dr.	XX	
To Asset A/c			XX

- Transfer accumulated depreciation from Provision for Depreciation A/c to Asset Disposal A/c :

Provision for Depreciation A/c	Dr.	XX	
To Asset Disposal A/c			XX

- Record the sales proceeds :

Cash / Bank A/c	Dr.	XX	
To Asset Disposal A/c			XX

- Balancing figure will be transferred to Profit or Loss on sale of Asset A/c or P/L A/c.

(iii) Sum of years digit method :

It is a variation of “Reducing Balance Method”. Under this method, the amount of depreciation is calculated as under :

Depreciable amt. X total of the digits (including current year) of remaining life of asset

Totals of all the digits of the life of the assets

$$\text{Total of all the digits of the life of asset} = \frac{n(n+1)}{2}$$

Where n = life of asset in years

(iv) Annuity Method :

Under this method, not only the cost of the asset but also the element of interest lost on capital outlay, i.e., the opportunity cost, is written off over the life of the asset. It assumes that the amount laid out in acquiring the asset, if invested elsewhere, would have earned interest which must be considered as the part of cost of asset. The total cost (**capital outlay + interest element**) is written off over the life of the asset referring to the annuity table. Since interest is calculated on the original cost / Opening

WDV of the asset, amount of **interest decreases year after year**. However, the amount of **depreciation** remains the **constant**.

This method is suitable for writing off long term leases which involve a considerable capital outlay.

Journal entries :

1. Purchase of asset (including installation expenses) :

Assets A/c	Dr.	XX	
To Cash / Bank / Party A/c			XX

2. Interest charged at the year end :

Assets A/c	Dr.	XX	
To Interest A/c			XX

3. Depreciation charged at the year end :

Depreciation A/c	Dr.	XX	
To Provision for Depreciation A/c			XX

4. Depreciation transferred to Profit and Loss Account :

Profit and Loss A/c	Dr.	XX	
To Depreciation A/c			XX

5. Interest transferred to Profit and Loss Account :

Interest A/c	Dr.	XX	
To Profit and Loss A/c			XX

6. When the asset is sold out :

Cash / Bank / Party A/c	Dr.	XX	
To Asset A/c			XX

(Difference to be transferred to Profit / Loss on sale of asset A/c or P/L A/c)

(v) Sinking Fund Method / Depreciation Fund Method :

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Under this method, **Asset account is shown at cost**. Depreciation is credited to a separate Account called “Sinking Fund Account OR Depreciation Fund Account”. The amount set aside as depreciation is invested normally in readily saleable Government securities. **Interest** is earned on investments which is credited to **Sinking Fund Account**. At the time of replacement of the asset, the securities are sold out and the funds are made available to replace the asset.

The amount of annual depreciation is ascertained from sinking fund table.

Journal entries :

1st year

1. Purchase of asset (including installation expenses) :

Assets A/c	Dr.	XX	
To Cash / Bank / Party A/c			XX

2. Depreciation charged at the year end :

Depreciation A/c	Dr.	XX	
To Sinking Fund A/c			XX

3. Sinking Fund Investments purchased :

Sinking Fund Investments A/c	Dr.	XX	
To Bank A/c			XX

2nd and subsequent year

4. Interest on sinking fund investment received :

Bank A/c	Dr.	XX	
To interest on Sinking Fund Investment A/c			XX

5. Interest on Sinking Fund Investment transferred to Sinking Fund A/c :

Interest on Sinking Fund Investment A/c	Dr.	XX	
To Sinking Fund A/c			XX

6. Depreciation charged at the year end :

Depreciation A/c	Dr.	XX	
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To Sinking Fund A/c			XX
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7. Sinking Fund Investments purchased :

Sinking Fund Investments A/c	Dr.	XX	
To Bank A/c			XX

Last year**8. Interest on sinking fund investment received :**

Bank A/c	Dr.	XX	
To interest on Sinking Fund Investment A/c			XX

9. Interest on Sinking Fund Investment transferred to Sinking Fund A/c :

Interest on Sinking Fund Investment A/c	Dr.	XX	
To Sinking Fund A/c			XX

10. Depreciation charged at the year end :

Depreciation A/c	Dr.	XX	
To Sinking Fund A/c			XX

11. Investments sold :

Bank A/c	Dr.	XX	
To Sinking Fund Investment A/c			XX

(Profit or loss on sale transferred to Sinking Fund A/c)

12. Asset Account closed and transferred to Sinking Fund A/c :

Sinking Fund A/c	Dr.	XX	
To Asset A/c			XX

13. Balancing figure in Sinking Fund A/c :

If Dr. side is more than Credit side

Profit and Loss A/c	Dr.	XX	
To Sinking Fund A/c			XX

If Credit side is more than Debit side

Sinking Fund A/c	Dr.	XX
To General Reserve A/c		XX

(vi) Machine Hour Method :

Where the life of the asset is limited to the actual running hours of each machine, Machine Hour Method is used.

$$\text{Amount of depreciation per hour} = \frac{\text{Depreciable amount}}{\text{Total life in hours}}$$

(vii) Production Unit Method :

Where the life of the asset is limited to the actual No. of units produced by each machine, Production Unit Method is used.

$$\text{Amount of depreciation per unit Produced} = \frac{\text{Depreciable amount}}{\text{Total life in units}}$$

(viii) Depletion Method :

This method is used in mines, quarries etc. containing only a certain quantity of product.

Where the life of the asset is limited to the actual No. of units produced by each machine, Production Unit Method is used.

$$\text{Amount of depreciation per unit extracted} = \frac{\text{Depreciable amount}}{\text{Total Quantity}}$$

Change in the method of Depreciation :

- (i) Calculate depreciation on existing assets as per old method upto the year preceding the year of change (upto the current year if current year's depreciation has already been provided).
- (ii) Calculate depreciation on existing assets as per new method upto the year preceding the year of change (upto the current year if current year's depreciation has already been provided).
- (iii) Difference Between (i) and (ii) above Debited or Credited to Profit and Loss Account