

CHAPTER 5

Depreciation

Meaning and Definition

The term depreciation refers to fall in the value or utility of fixed assets which are used in operations over the definite period of years. In other words, depreciation is the process of spreading the cost of fixed assets over the number of years during which benefit of the asset is received. The fall in value or utility of fixed assets due to so many causes like wear and tear, decay, effluxion of time or obsolescence, replacement, breakdown, fall in market value etc.

According to the Institute of Chartered Accountant of India, “Depreciation is the measure of the wearing out, consumption or other loss of value of a depreciable asset arising from use, effluxion of time or obsolescence through technology and market changes.

Depreciation, Depletion and Amortization

In order to correct measuring of depreciation it is essential to know the conceptual meaning of depreciation, depletion and amortization.

Depreciation: Depreciation is treated as a revenue loss which is recorded when expired utility fixed assets such as plant and machinery, building and equipment etc.

Depletion: The term depletion refers to measure the rate of exhaustion of the natural resources or assets such as mines, iron ore, oil wells, quarries etc. While comparing with depreciation, depletion is generally applied in the case of natural resources to ascertain the rate of physical shrinkage but in the case of depreciation is used to measure the fall in the value or utility of fixed assets such as plant and machinery and other general assets.

Amortization: The term Amortization is applied in the case of intangible assets such as patents, copyrights, goodwill, trade marks etc., Amortization is used to measure the reduction in value of intangible assets.

Obsolescence: Obsolescence means a reduction of usefulness of assets due to technological changes, improved production methods, change in market demand for the product or service output of the asset or legal or other restrictions.

Purpose of Charging Depreciation

The following are the purpose of charging depreciation of fixed assets:

- (1) To ascertain in the true profit of the business.
- (2) To show the true presentation of financial position.
- (3) To provide fund for replacement of assets.
- (4) To show the assets at its reasonable value in the balance sheet.

Factors Affecting the Amount of Depreciation

The following factors are to be considered while charging the amount of depreciation :

- (1) The original cost of the asset.
- (2) The useful life of the asset.
- (3) Estimated scrap or residual value of the asset at the end of its life.
- (4) Selecting an appropriate method of depreciation.

Methods of Charging Depreciation

The following are the various methods applied for measuring allocation of depreciation cost :

- (1) Straight Line Method
- (2) Written Down Value Method
- (3) Annuity Method
- (4) Sinking Fund Method
- (5) Revaluation or Appraisal Method
- (6) Insurance Policy Method
- (7) Depletion Method
- (8) Sum of the Digits Method
- (9) Machine Hour Rate Method

(1) Straight Line Method

This method is also termed as Constant Charge Method. Under this method, depreciation is charged for every year will be the constant amount throughout the life of the asset. Accordingly depreciation is calculated by deducting the scrap value from the original cost of an asset and the balance is divided by the number of years estimated as the life of the asset. The following formula for calculating the periodic depreciation charge is :

$$\text{Depreciation} = \frac{\text{Original Cost of Asset} - \text{Scrap Value}}{\text{Estimated Life of Asset}}$$

(or)

$$\text{Depreciation} = \frac{C - S}{N}$$

Where
 D = Depreciation Rate
 C = Original Cost of Asset
 S = Salvage or Scrap Value
 N = Estimated Useful Life

Illustration: 1

From the following information you are required to calculate depreciation rate :

Cost of the Machine	Rs. 30,000
Erection Charges	Rs. 3,000
Estimated useful life	10 years
Estimated Scarp Value	Rs. 3000

Solution:

Calculation of depreciation rate for every year :

$$\begin{aligned}
 \text{Depreciation} &= \frac{\text{Original Cost of Asset} - \text{Scrap Value}}{\text{Estimated Life of an Asset}} \\
 &= \frac{\text{Rs. 33,000} - \text{Rs. 3,000}}{10} = \frac{\text{Rs. 30,000}}{10} = \text{Rs. 3,000}
 \end{aligned}$$

Thus, the amount of depreciation would be Rs. 3,000 for every year.

Merits

- (1) Simple and easy to calculate.
- (2) Original cost of asset reduced up to Scrap Value at the end of estimated life.
- (3) Estimated useful life of the asset can be estimated under this method.

Demerits

- (1) It does not consider intensity of use of assets.
- (2) It ignores any additions or opportunity cost while calculating depreciations.
- (3) It ignores effective utilization of fixed assets, it becomes difficult to calculate correct depreciation rate.
- (4) Under the assumption of constant charges of maintenance of assets it is impossible to calculate true depreciation.

Illustration: 2

A company charges depreciation on plant and machinery under constant charge method @ 25% per annum. On 1st January, 2000 Machinery was Purchased for Rs. 1,00,000 is estimated to have a life of four years.

From the above information, you are required to prepare a Machinery account.

Solution:

Dr. Machinery Account			Cr.		
Date	Particulars	Amount Rs.	Date	Particulars	Amount Rs.
2000 Jan. 1	To Bank A/c	1,00,000	2000 Dec. 31	By Depreciation 25% on Rs.1,00,000	25,000
			"	By Balance c/d	75,000
		1,00,000			1,00,000
2001 Jan. 1	To Balance b/d	75,000	2001 Dec. 31	By Depreciation 25% on Rs.1,00,000	25,000
			"	By Balance c/d	50,000
		75,000			75,000
2002 Jan. 1	To Balance b/d	50,000	2002 Dec. 31	By Depreciation 25% on Rs.1,00,000	25,000
			"	By Balance c/d	25,000
		50,000			50,000
2003 Jan. 1	To Balance b/d	25,000	2003 Dec. 31	By Depreciation 25% on Rs.1,00,000	25,000
		25,000			25,000

Illustration: 3

On 1st January, 2000, a firm purchased Ist January, 2001 and on Ist July 2003 to the value of Rs. 28,500 and Rs. 25,200. Residual values being Rs. 1,500 and Rs. 1,200 respectively. You are required to prepare a Machinery Account for the first four years if depreciation is written off according to Straight Line Method assuming that the estimated Working life of the asset is 10 years and its Scrap Value Rs. 15,000 at the end of its life.

Solution:

Calculation of depreciation for every year:

$$\text{Depreciation} = \frac{\text{Original Cost of Asset} - \text{Scrap Value}}{\text{Estimated Life of an Asset}}$$

$$\begin{aligned} \text{I year Depreciation (Original Cost of Asset)} &= \frac{\text{Rs.1,65,000} - \text{Rs.15,000}}{10} \\ &= \frac{\text{Rs.1,50,000}}{10} \quad \text{Rs.15,000 P.A.} \end{aligned}$$

$$\begin{aligned} \text{II year Depreciation (for additional Value of Asset)} &= \frac{\text{Rs.28,500} - \text{Rs.1,500}}{10} \end{aligned}$$

$$\frac{\text{Rs. 27,000}}{10} = \text{Rs. 2,700 P.A.}$$

$$\text{III year Depreciation (for additional Value of Asset)} = \frac{\text{Rs. 25,200} - \text{Rs. 1,200}}{10}$$

$$\frac{\text{Rs. 24,000}}{10} = \text{Rs. 2,400 P.A.}$$

Dr.			Machinery Account			Cr.		
Date	Particulars	Amount Rs.	Date	Particulars	Amount Rs.			
2000 Jan. 1	To Bank A/c (for original Cost of machine)	1,65,000	2000 Dec. 31	By Depreciation By Balance c/d	15,000 1,50,000			
		1,65,000						1,65,000
2001 Jan. 1	To Balance b/d	1,50,000	2001 Dec. 31	By Depreciation (Original Machine) By Depreciation (for additional Machine)	15,000 2,700			
	To Bank A/c (Additional Cost of machine) By Balance c/d	28,500 1,60,800						1,78,500
		1,78,500						1,78,500
2002 Jan. 1	To Balance b/d	1,60,800	2002 Dec. 31	By Depreciation By Depreciation (Additional Cost of Machine) By Balance c/d	15,000 2,700 1,43,100			
		1,60,800						1,60,800
2003 Jan. 1	To Balance b/d To Bank A/c (Additional Cost of Machine)	1,43,100 25,200	2003 Dec. 31	By Depreciation (for Original Cost Machine) By Depreciation (for additional Cost Machine) By Depreciation (for additional Machine) By Balance c/d	15,000 2,700 1,200 1,49,400			
		1,68,300						1,68,300
2004 Jan. 1	To Balance b/d	1,49,400						

Note: Depreciation Calculated for additional cost of machine of Rs. 25,200 is only six months for Rs. 1,200.

(2) Written-Down Value Method (WDV)

This method is also known as Fixed Percentage On Declining Base Method (or) Reducing Installment Method. Under this method depreciation is charged at fixed rate on the reducing balance (i.e., Cost less depreciation) every year. Accordingly the amount of depreciation gradually reducing every year.

The depreciation charge in the initial period is high and depreciation charge in the later period is low and negligible amount in the later period of the asset. The following formula used for computing depreciation rate under Written-Down Value Method.

$$r = I - n \sqrt[n]{\frac{S}{C}} \times 100 = \left[I - \frac{S}{C} \right]^{\frac{1}{n}} \times 100$$

Where ,

- R = Rate of Depreciation
- S = Estimated Scrap Value
- N = Estimated Life of the Asset
- C = Original Cost of the Machine or Asset

Illustration: 4

From the following information you are required to calculate depreciation rate under WDV Method.

Cost of the Machine	Rs. 10,000
Estimated Useful Life	3 years
Estimated Scrap or Salvage Value	Rs. 1,000

Solution:

Calculation of Depreciation Rate Under Declining Base Method

$$r = I - n \sqrt[n]{\frac{S}{C}} \times 100$$

Where

- R = Rate of Depreciation
- S = Scrap Value
- C = Cost of the Machine
- n = Estimated Useful Life

$$r = I - 3 \sqrt[3]{\frac{1,000}{10,000}}$$

$$r = I - \left[\frac{1}{10} \right]^{\frac{1}{3}} = \left[n \sqrt[n]{\frac{S}{C}} \text{ is the same as } \left[\frac{S}{C} \right]^{\frac{1}{n}} \right]$$

$$r = I - \frac{1}{\frac{1}{10^3}} = I - \frac{1}{2.154} = I - 464 = 0.536$$

$$\begin{aligned}\text{Rate of Depreciation} &= 0.536 \times 100 = 53.6 \% \\ \text{Amount of Depreciation} &= 10,000 \times \frac{53.6}{100} = \text{Rs. } 5,360\end{aligned}$$

Illustration: 5

From the following information you are required to calculate depreciation rate for two years under Written Down Value Method:

Original Cost of the Machine	Rs. 30,000
Erection Charges	Rs. 3,000
Estimated Useful Life	10 years
Estimated Scrap Value	Rs. 3,000

Depreciation to be charged at 10% on the WDV Method.

Solution:

Calculation of Depreciation charges under Written Down Value Method.

Original Cost of the Machine	33,000
<i>Less : Salvage Value at the end</i>	<u>3,000</u>
	30,000
Depreciation for the First year at 10% of Rs. 10,000	<u>3,000</u>
	27,000
Depreciation for the Second year at 10% of Rs. 9,000	<u>2,700</u>
	<u>24,300</u>

Merits

- (1) This method is accepted by Income Tax Authorities.
- (2) Impact of obsolescence will be reduced at minimum level.
- (3) Fresh calculation is not required when additions are made.
- (4) Under this method the depreciation amount is gradually decreasing and it will affect the smoothing out of periodic profit.

Demerits

- (1) Residual Value of the asset cannot be correctly estimated.
- (2) It ignores interest on investment on opportunity cost which will lead to difficulty while determining the rate of depreciation.
- (3) It is difficult to ascertain the true profit because revenue contribution of the asset are not constant.
- (4) The original cost of the asset cannot be brought down to zero.

Illustration: 6

On 1st January 2001, Hindustan Ltd. purchased machinery for Rs. 12,00,000 and on 30th June 2002, one more machine of worth Rs. 2,00,000. On 31st March 2003, one of the original machinery which had cost Rs. 50,000 was found to have become obsolete and was sold as scrap for Rs. 7,000. It was replaced on that date by a new machine costing Rs. 80,000. Depreciation is to be provided @ 15% p.a. on written down value (WDV) Method. Accounts are closed on 31st December every year. Show machinery account for 3 years.

Solution:**Machinery Account**

<i>Date</i>	<i>Particulars</i>	<i>Amount Rs.</i>	<i>Date</i>	<i>Particulars</i>	<i>Amount Rs.</i>
2001 Jan. 1	To Bank A/c	12,00,000	2001 Dec. 31	By Depreciation	1,80,000
			"	By Balance c/d	10,20,000
		12,00,000			12,00,000
2002 Jan. 1	To Balance b/d	10,20,000	2002 Dec. 31	By Depreciation	1,68,000
June. 30	To Bank A/c	2,00,000	"	By Balance c/d	10,52,000
		12,20,000			12,20,000
2003 Jan. 1	To Balance b/d	10,52,000	2003 Dec. 31	By Bank (Sale)	7,000
Mar. 31	To Bank A/c	80,000	"	By Depreciation	1,350
			"	By P & L A/c Loss	27,770
			"	By Depreciation (1,52,380 + 9,000)	1,61,380
				By Balance c/d	9,34,500
		11,32,000			11,32,000
2004 Jan. 1	To Balance b/d	9,34,500			

Illustration: 7

On 1st April 2000, Machinery was purchased by Modi Ltd., for Rs. 1,00,000. The rate of depreciation was charged at 20% under diminishing balance method. Show the machinery account for four years from 2000 to 2004.

Solution :**Under Diminishing Balance Method****Machinery Account**

<i>Date</i>	<i>Particulars</i>	<i>Amount Rs.</i>	<i>Date</i>	<i>Particulars</i>	<i>Amount Rs.</i>
2000 Aprl.	To Bank A/c	1,00,000	2001 Mar. 31	By Depreciation (20% on Rs. 1,00,000)	20,000
			"	By Balance c/d	80,000
		1,00,000			1,00,000
2001 Aprl. 1	To Balance b/d	80,000	2001 Mar. 31	By Depreciation (20% on Rs.80,000)	16,000
			"	By Balance c/d	64,000
		80,000			80,000

2002 Apr. 1	To Balance b/d	64,000	2002 Mar. 31	By Depreciation (20% on Rs. 64,000)	12,800
			"	By Balance c/d	51,200
		64,000			64,000
2003 Apr. 1	To Balance b/d	51,200	2004 Mar. 31	By Depreciation (20% on Rs. 51,200)	10,240
			"	By Balance c/d	40,960
		51,200			51,200
2004 Apr. 1	To Balance b/d	40,960			

(3) Annuity Method

This method is most suitable for a firm where capital is invested in the least hold properties. Under this method, while calculating the amount of depreciation, a fixed amount of depreciation is charged for every year of the estimated useful life of the asset in such a way that at a fixed rate of interest is calculated on the same amount had been invested in some other form of capital investment. In other words, depreciation is charged for every year refers to interest losing or reduction in the original cost of the fixed assets. Under the annuity method where the loss of interest is due to the investment made in the form of an asset is considered while calculating the depreciation. The amount of depreciation is calculated with the help of an Annuity Table.

Illustration: 8

A firm purchases a lease for 5 years for Rs. 40,000. It decides to write off depreciation on the Annuity Method charging the rate of interest at 5% per annum. The annuity table shows that annual amount necessary to write off Re.1 for 5 years at 5% is 0.230975.

Solution:

Dr.		Lease Account		Cr.	
Particulars	Amount Rs.	Particulars	Amount Rs.		
To Cash A/c	40,000.00	By Depreciation A/c	9,239.00		
To Interest A/c	2,000.00	By Balance c/d	32,761.00		
	42,000.00		42,000.00		
To Balance b/d	32,761.00	By Depreciation A/c	9,239.00		
To Interest A/c	1,638.05	By Balance c/d	25,160.05		
	34,399.05		34,399.05		
To Balance b/d	25,160.05	By Depreciation A/c	9,239.00		
To Interest A/c	1,258.00	By Balance c/d	17,179.05		
	26,418.05		26,418.05		
To Balance b/d	17,179.05	By Depreciation A/c	9,239.00		
To Interest A/c	858.95	By Balance c/d	8,799.00		
	18,038.00		18,038.00		
To Balance b/d	8,799.00	By Depreciation A/c	9,239.00		
To Interest A/c	440.00		9,239.00		
	9,239.00		9,239.00		

Illustration: 9

On 1st April 2001, a firm purchased a three year lease of premises for Rs.10,000 and it was decided to depreciate the lease by annuity method calculating interest at 5 per cent per annum. Show the lease hold property account for 3 years. The annuity table shows that annual amount necessary to write off Re.1 for 3 years at 5% is 0.367208.

Solution :**Machinery Account**

<i>Date</i>	<i>Particulars</i>	<i>Amount Rs.</i>	<i>Date</i>	<i>Particulars</i>	<i>Amount Rs.</i>
2000 Apr. 1 Mar.31	To Cash A/c To Interest A/c	1,0000 500	2001 Mar. 31 "	By Depreciation A/c By Balance c/d	3,672.08 6,827.92
		10,500			10,500
2001 Apr.1 Mar.31	To Balance b/d To Interest A/c	6,827.92 341.40	2001 Mar.31 "	By Depreciation By Balance c/d	3,672.08 3,497.24
		7169.32			7,169.32
2002 Apr. 1 Mar.31	To Balance b/d To Interest A/c	3,497.32 174.84	2001 Mar. 31	By Depreciation	3,672.08
		3672.08			3,672.08

Note : The annual depreciation is calculated as = $0.367208 \times 10,000 = \text{Rs.}3672.08$

(4) Sinking Fund Method

Like the Annuity Method, the amount of depreciation is charged with the help of Sinking Fund Table. Under this method an amount equal to the amount written off as depreciation is invested in outside securities in order to facilitate to replace the asset at the expiry useful life of the asset. In other words, the amount of depreciation charged is debited to depreciation account and an equal amount is credited to Sinking Fund Account. At the estimated expiry useful life of the asset, the amount of depreciation each year is invested in easily realizable securities which can be readily available for the replacement of the asset.

Journal Entries Under this Method: The following are the journal entries recorded under this method:

First Year**(1) When the asset is purchased:**

Asset Account	Dr.	* * *	
To Bank Account			* * *

(2) For Providing depreciation at the end of first year:

Depreciation Account	Dr.	* * *	
To Sinking Fund Account			* * *

(3) For investing the amount:

Sinking Fund Investment Account	Dr.	* * *	
To Bank Account			* * *

Subsequent Years**(1) For Receipt of Interest on Investment:**

Bank Account	Dr.	* * *	
To Sinking Fund Account			* * *

(2) For Transferring Interest to Sinking Fund:

Interest on Sinking Fund Account	Dr.	* * *	
To Sinking Fund Account			* * *

(3) For Providing Depreciation:

Depreciation Account	Dr.	* * *	
To Sinking Fund Account			* * *

(4) For Investing the Amount:

Sinking Fund Investment Account	Dr.	* * *	
To Bank Account			* * *

Last Years**(1) For Receipt of Interest on Investment:**

Bank Account	Dr.	* * *	
To Sinking Fund Account			* * *

(2) For Transferring Interest to Sinking Fund Account:

Interest on Sinking Fund Account	Dr.	* * *	
To Sinking Fund Account			* * *

(3) For Providing Depreciation:

Depreciation Account	Dr.	* * *	
To Sinking Fund Investment Account			* * *

(4) For Sale of Investment:

Bank Account	Dr.	* * *	
To Sinking Fund Investment Account			* * *

(5) For Transferring Profit and Sale of Investment:

Sinking Fund Investment Account	Dr.	* * *	
To Sinking Fund Account			* * *

(6) For Transferring Loss on Sale of Investment:

Sinking Fund Account	Dr.	***	
To Sinking Fund Investment Account			***

(7) For Closing the Asset Account by Transferring Balance of Sinking Fund Account to Asset Account:

Sinking Fund Account	Dr.	***	
To Asset Account			***

Illustration: 10

A company purchased a machinery on January 1 1998 for a sum of Rs. 1,00,000 for a useful life of 5 years. It is decided to provide for the replacement of machinery at the end of 5 years by setting up a depreciation fund. It is expected that the investment will fetch interest at 5%. Sinking fund table shows that Re.0.180975 if invested yearly at 5% p.a. produces Re. 1 at the end of 5th year. It is also estimated that the machinery will have a scrap value of Rs. 16,000. On 31st December 2002, the investment was sold for Rs. 65,000. On 1st January 2004, the new machinery was purchased for Rs. 1,20,000. The scrap of the old machinery realizes Rs. 17,000.

Show the Journal entries and give the machinery account, depreciation fund account; depreciation fund investment account and the new machinery account.

Solution:

The amount to be charged to the profit and loss A/c has been arrived as follows:

	<i>Rs.</i>
Original Cost of the Machinery	1,00,000
Less : Estimated Scrap Value	16,000
Depreciation on the plant for its whole life	<u>84,000</u>

The amount to be charged to the Profit and Loss A/c	= Rs. 84,000 x 0.180975
	= Rs. 15,201.90 (or)
	= Rs. 15,202

Journal Entries

<i>Date</i>	<i>Particulars</i>	<i>L.F.</i>	<i>Debit Rs.</i>	<i>Credit Rs.</i>
1998 Jan.1	Machinery A/c Dr. To Bank A/c (Being the purchase of Machinery)		1,00,000	1,00,000
Dec.31	Depreciation A/c Dr. To Depreciation Fund A/c (Being annual depreciation as per sinking fund table)		15,202	15,202
Dec.31	Depreciation Fund Investment A/c Dr. To Bank a/c (Being investment purchased from depreciation fund)		15,502	15,502

Dec.31	Profit and Loss A/c To Depreciation A/c (Being depreciation charged from Profit and Loss A/c)	Dr.	15,502	15,502
1999 Dec. 31	Bank A/c To Depreciation Fund A/c (Being interest received @ 5% on Rs. 15,202)	Dr.	760	760
Dec. 31	Depreciation A/c To Depreciation Fund A/c (Being annual depreciation as per sinking fund table)	Dr.	15,502	15,202
Dec. 31	Depreciation Fund Investment A/c To Bank A/c (Being the purchase of investment)	Dr.	15,962	15,962
Dec. 31	Profit and Loss A/c To Depreciation A/c (Being depreciation charged from	Dr.	15,962	15,962
2000 Dec.31	Bank A/c To Depreciation Fund A/c (Being interest received @ 5% on Rs. 31,164)	Dr.	1,558	1,558
Dec.31	Depreciation A/c To Depreciation Fund A/c (Being annual depreciation as per sinking fund table)	Dr.	15,202	15,202
Dec.31	Depreciation Fund Investment A/c To Bank A/c (Being the purchase of investment) 15,202 + 1,558)	Dr.	16,760	16,760
Dec.31	Profit and Loss A/c To Depreciation A/c (Being depreciation charged from	Dr.	16,760	16,760
2001 Dec. 31	Bank A/c To Depreciation Fund A/c (Being interest received @ 5% on Rs. 47,924)	Dr.	2,396	2,396
Dec. 31	Depreciation A/c To Depreciation Fund A/c (Being annual depreciation as per sinking fund table)	Dr.	15,202	15,202
Dec.31	Depreciation Fund Investment A/c To Bank A/c (Being the purchase of investment) (15,202 + 2,396)	Dr.	17,598	17,598
Dec. 31	Profit and Loss A/c To Depreciation A/c (Being depreciation charged from, P & L A/c)	Dr.	17,598	17,598
2002 Dec.31	Bank A/c To Depreciation Fund A/c (Being interest receive @ 5% on Rs. 65,522)	Dr.	3,726	3,726

Dec.31	Depreciation A/c To Depreciation Fund A/c (Being annual depreciation as per sinking fund table)	Dr.	15,202	15,202
Dec. 31	Bank A/c To Depreciation Fund Investment (Being the sale investments)	Dr.	65,000	65,000
Dec. 31	Depreciation Fund A/c To Depreciation Fund Investment A/c (Being the loss on sale of investment transferred to depreciation fund A/c (65,522 – 65,000))	Dr.	522	522
Dec.31	Depreciation Fund A/c To Machinery A/c (Amount of Machinery written off by transfer to depreciation fund A/c)	Dr.	1,00,000	1,00,000
Dec.31	Profit and Loss A/c To Depreciation Fund A/c (Being balance left in depreciation fund a/c transferred to P & L A/c)	Dr.	478	478
2003 Jan. 1	New Machinery A/c To Bank A/c (Being the purchase of new machinery)	Dr.	1,20,000	1,20,000

Dr. Machinery Account Cr.

Date	Particulars	Amount Rs.	Date	Particulars	Amount Rs.
1998 Jan.1	To Bank A/c	1,00,000	1998 Dec. 31	By Balance c/d	1,00,000
		1,00,000			1,00,000
1999 Jan. 1	To Balance b/d	1,00,000	1999 Dec. 31	By Balance c/d	1,00,000
		1,00,000			1,00,000
2000 Jan.1	To Balance A/c	1,00,000	2000 Dec.31	By Balance c/d	1,00,000
		1,00,000			1,00,000
2001 Jan.1	To Balance A/c	1,00,000	2001 Dec.31	By Balance c/d	1,00,000
		1,00,000			1,00,000
2002 Jan.1	To Balance b/d	1,00,000	2002 Dec.31	By Depreciation Fund A/c	83,478
Dec.31	To P & L A/c (Profit)	478	"	By Bank (Scrap Sold)	17,000
		1,00,478			1,00,478

Dr. Depreciation Fund Account Cr.

<i>Date</i>	<i>Particulars</i>	<i>Amount Rs.</i>	<i>Date</i>	<i>Particulars</i>	<i>Amount Rs.</i>
1998 Dec.31	To Balance c/d	15,502	1998 Dec. 31	By Profit & Loss A/c	15,502
		15,502			15,502
1999 Dec.31	To Balance c/d	31,164	1999 Jan.1	By Balance b/d	15,502
Mar.31	To Interest A/c		Dec.31	By Bank (Interest)	760
		31,164	Dec.31	By Profit & Loss A/c	15,502
					31,164
2000 Dec.31	To Balance c/d	47,924	2000 Jan.1	By Balance b/d	31,164
		47,924	Dec.31	By Bank (Interest)	1,558
			" 31	By Profit & Loss A/c	15,202
					47,924
2001 Dec.31	To Balance c/d	65,522	2001 Jan.1	By Balance b/d	47,294
		65,522	Dec.31	By Bank (Interest)	2,396
			" 31	By Profit & Loss A/c	15,202
					65,522
2002 Dec.31	To Depreciation Fund Investment A/c (loss on sale of investment)	522	2002 Jan.1	By Balance b/d	65,522
Dec.31	To Machinery A/c (accumulated depreciation)	83,478	Dec.31	By Bank (Interest)	3,276
		84,000	" 31	By Profit & Loss A/c	15,202
					84,000

Dr. Machinery Account Cr.

<i>Date</i>	<i>Particulars</i>	<i>Amount Rs.</i>	<i>Date</i>	<i>Particulars</i>	<i>Amount Rs.</i>
2003 Jan.1	To Bank A/c	1,20,000			

Dr. Depreciation Fund Investment Account Cr.

<i>Date</i>	<i>Particulars</i>	<i>Amount Rs.</i>	<i>Date</i>	<i>Particulars</i>	<i>Amount Rs.</i>
1998 Dec.31	To Bank A/c	15,202	1998 Dec.31	By Balance c/d	15,202
		15,202			15,202
1999 Jan.1	To Balance b/d	15,202	1999 Mar.31	By Balance c/d	31,164
Mar.3	To Bank (15202 + 760)	15,962			31,164
		31,164			
2000 Jan.1	To Balance b/d	31,164	2000 Mar.31	By Balance c/d	47,924
Mar.31	To Bank (15202+1558)	16,760			47,924
		47,924			

2001 Jan.1	To Balance b/d	47,924	2001 Mar.31	By Balance c/d	65,522
Mar.31	To Bank (15202+2396)	17,598			
		65,522			65,522
2002 Jan.1	To Balance b/d	65,522	2002 Mar.31	By Bank A/c	65,000
				By Depreciation Fund A/c	522
		65,522		(loss on sale of investment)	
					65,522

Illustration: 11

Mr. Sharma brought a plant on 1.1.2001 for a sum of Rs. 2,00,000 having useful life of 3 years. The estimated Scrap Value of machine is Rs. 20,000. Depreciation is calculated on the basis of Sinking Fund Method. The Sinking Fund Investments are expected to earn interest @ 5 % P.A. Sinking Fund Table shows that Re. 0.317208 if invested yearly at 5% P.A. produces Re.1 at the end of 3 years. The investments are sold at the end of 3rd year for a sum of Rs. 1,50,000. A new plant is purchased for Rs. 2,30,000 on 1.1.2004. The scrap of the old Plant sold for Rs. 15,000, you are required to prepare the necessary accounts in the books of James.

Dr. Plant Account Cr.

Date	Particulars	Amount Rs.	Date	Particulars	Amount Rs.
2001 Jan.1	To Bank A/c	2,00,000	2001 31 st Dec.	By Balance c/d	2,00,000
		2,00,000			2,00,000
2001 Jan.1	To Balance b/d	2,00,000	2001 31 st Dec.	By Balance c/d	2,00,000
		2,00,000			2,00,000
2001 Jan.1	To Balance b/d	2,00,000	2003 Dec.31	By Depreciation Fund Account	1,50,000
			Dec.31	By Bank A/c (scrap sold)	15,000
			Dec.31	By Profit & Loss A/c (Loss)	35,000
		2,00,000			2,00,000

Dr. New Plant Account Cr.

Date	Particulars	Amount Rs.	Date	Particulars	Amount Rs.
2004 Jan.1	To Bank A/c	2,30,000			

Dr. Sinking Fund Account Cr.

Date	Particulars	Amount Rs.	Date	Particulars	Amount Rs.
2001 Dec.31	To Balance c/d	57,097	2001 Dec. 31	By Profit & Loss A/c	57,097
		57,097			57,097
2002 Dec.31	To Balance c/d	1,17,049	2002 Jan.1	By Balance b/d	57,097
		1,17,049	Dec.31	By Bank (Interest 5%)	2,855
			Dec.31	By Profit & Loss A/c	57,097
					1,17,049
2003 Dec.31	To Depreciation Fund Investment A/c (loss on sale of investment)	30,000	2003 Jan.1	By Balance b/d	1,17,049
			Dec.31	By Bank (Interest 5%)	5,854
Dec.31	To Plant A/c (Accumulated Depreciation)	1,50,000	Dec.31	By Profit & Loss A/c	57,097
		1,80,000			1,80,000

Dr. Sinking Fund Investment Account Cr.

Date	Particulars	Amount Rs.	Date	Particulars	Amount Rs.
2001 Dec.31	To Bank A/c	57,097	2001 Dec.31	By Balance c/d	57,097
		57,097			57,097
2002 Jan.1	To Balance b/d	57,097	2002 Dec.31	By Balance c/d	2,00,000
Dec.31	To Bank A/c (57097 + 2855)	59,952			1,17,049
		1,17,049			
2003 Jan.1	To Balance b/d	1,17,049	2003 Dec.31	By Bank A/c	1,50,000
Dec.31	To Bank A/c (57097 + 5854)	62,951	Dec.31	By Depreciation Fund A/c (Loss on sale of Investment)	30,000
		1,80,000			1,80,000

Working Notes

The amount charged to the Profit and Loss Account calculated is as follows :

		Rs.
Original cost of the plant	=	2,00,000
Less : Estimated Scrap Value	=	20,000
Depreciation on the plant for its whole life	=	1,80,000
The amount charged to the Profit and Loss Account	=	1,80,000 x 0.317208
	=	Rs. 57097.44
The Amount Charged to the Profit and Loss Account is	=	Rs. 57097.44

(5) Revaluation Method

This method is specially designed to revalue the assets in the case of livestock, loose tools, patents etc. This method also termed as Appraisal Method. The calculation of depreciation of these assets is valued at the end of the accounting year by comparing the opening value of the asset of the additional if any, the difference is treated as depreciation.

Illustration: 12

From the following particulars you are required to calculate depreciation of Loose Tools under Revaluation Method and Prepare a Loose Tools Account. The Loose Tool is estimated as follows :

	<u>2001</u>	<u>2002</u>	<u>2003</u>
Loose Tools Ist Jan.	50,000	12,000	24,000
Loose Tools revalued on 31 Dec.	25,000	32,000	40,000

Solution:

Dr.			Loose Tools Account			Cr.		
Date	Particulars	Amount Rs.	Date	Particulars	Amount Rs.			
2001 1 st Jan.	To Bank A/c	50,000	2001 Dec.31 st	By Depreciation (Balancing Figure)	25,000			
			Dec.31 st	By Balance c/d	25,000			
		50,000			50,000			
2002 1 st Jan.	To Balance b/d	25,000	2002 Dec.31 st	By Depreciation (Balance Figure)	5,000			
1 st Jan.	To Bank A/c	12,000	Dec.31 st	By Balance c/d	32,000			
		37,000			37,000			
2003 1 st Jan.	To Balance b/d	32,000	2003 Dec.31 st	By Depreciation (Balance Figure)	16,000			
1 st Jan.	To Bank A/c	24,000	Dec.31 st	By Balance c/d	40,000			
		56,000			56,000			
2004 Jan.1	To Balance b/d	40,000						

(6) Insurance Policy Method

Under this method an asset to be replaced by taking required amount of insurance policy from an Insurance Company. A fixed premium is paid which is equal to the amount of depreciation for every year. At the end of the agreed sum, i.e., on the maturity of the policy, the amount will be used for replacing the existing assets.

Accounting Entries**First Year and Subsequent Years****(1) When Premium paid in the beginning of the year:**

Depreciation Insurance Policy Account

Dr. * * *

To Bank Account

* * *

(2) When Depreciation provided at the end of the year:

Profit and Loss Account	Dr.	* * *	
To Depreciation Reserve Account			* * *

In the Last Year (In addition to above two entries):**(3) When Policy amount received from Insurance Company:**

Bank Account	Dr.	* * *	
To Depreciation Insurance Policy Account			* * *

(4) When Profit is made on Policy:

Depreciation Insurance Policy Account	Dr.	* * *	
To Depreciation Reserve Account			* * *

(5) When Closing down of Old Asset:

Depreciation Reserve Account	Dr.	* * *	
To Old Asset Account			* * *

(6) When Purchase of New Asset:

New Asset Account	Dr.	* * *	
To Bank Account			* * *

Illustration: 13

Misra Ltd. Purchased a machinery for Rs. 2,00,000 on 1st January 2000, and it is decided to make provision for replacement of the machinery by taking an Insurance policy for an annual premium of Rs. 64,000. After three years the machinery is to be replaced. You are required to prepare a Journal and show the ledger account of (a) Machinery Account (b) Depreciation fund Account and (c) Depreciation Insurance Policy Account.

Solution:**Journal**

Date	Particulars	L.F.	Debit Rs.	Credit Rs.
2000 Jan.1	Machinery Account Dr. To Bank Account (Being Machinery purchased for 3 years)		2,00,000	2,00,000
"	Depreciation Insurance Policy A/c Dr. To Bank A/c (Being insurance policy taken for replacement)		64,000	64,000
2000 Dec.31	Profit and Loss Account Dr. To Depreciation Fund A/c (Being charge of premium against profit)		64,000	64,000
2001 Jan.1	Depreciation Insurance Policy A/c Dr. To Bank Account (Being premium paid on machinery insurance policy)		64,000	64,000

2001 Dec.31	Profit and Loss Account To Depreciation Fund A/c (Being charge of premium against profit)	Dr.	64,000	64,000
2002 Jan.1	Depreciation Insurance Policy A/c To Bank Account (Being premium paid on machinery insurance policy)	Dr.	64,000	64,000
2002 Dec.31	Profit and Loss Account To Depreciation Fund A/c (Being charge of premium against profit)	Dr.	64,000	64,000
"	Depreciation Fund A/c To Machinery Account (Being closing down of old asset)	Dr.	2,00,000	2,00,000
"	Bank Account To Depreciation Fund Account (Being policy money received on maturity)	Dr.	2,00,000	2,00,000
"	Depreciation Insurance Policy A/c To Depreciation Fund A/c (Being transfer of policy account to depreciation fund A/c)	Dr.	8,000	8,000

Dr. Depreciation Fund Investment Account Cr.

Date	Particulars	Amount Rs.	Date	Particulars	Amount Rs.
2000 Dec.31	To Balance c/d	64,000	2000 Dec.31	By Profit & Loss A/c	64,000
		64,000			64,000
2001 Dec.31	To Balance c/d	1,28,000	2001 Jan. 1	By Balance b/d	64,000
		1,28,000	Dec.31	By Profit & Loss A/c	64,000
					1,28,000
2002 Dec.31	To Balance c/d	2,00,000	2002 Jan. 1	By Balance b/d	1,28,000
			Dec.31	By Profit & Loss A/c	64,000
			"	By Depreciation Insurance Policy A/c	8,000
				(Profit on the Realisation of Policy)	
		2,00,000			2,00,000
			2003 Jan.1	By Balance b/d	2,00,000

Dr. Depreciation Insurance Policy Account Cr.

<i>Date</i>	<i>Particulars</i>	<i>Amount Rs.</i>	<i>Date</i>	<i>Particulars</i>	<i>Amount Rs.</i>
2000 Jan.1	To Bank A/c	64,000	2000 Dec.31	By Balance c/d	64,000
		64,000			64,000
2001 Jan.1	To Balance b/d	64,000	2001 Dec.31	By Balance c/d	1,28,000
"	To Bank A/c	64,000			1,28,000
		1,28,000			
2002 Jan.1	To Balance b/d	1,28,000	2002 Dec.31	By Balance c/d	2,00,000
"	To Bank A/c	64,000			
Dec.31	To Depreciation Fund A/c (Profit on the Realisation of Policy)	8,000			
		2,00,000			2,00,000
2003 Jan.1	To Balance b/d	2,00,000			

Dr. Machinery Account Cr.

<i>Date</i>	<i>Particulars</i>	<i>Amount Rs.</i>	<i>Date</i>	<i>Particulars</i>	<i>Amount Rs.</i>
2000 Jan.1	To Bank A/c	2,00,000	2000 Dec.31	By Balance c/d	2,00,000
		2,00,000			2,00,000
2001 Jan.1	To Balance b/d	2,00,000	2001 Dec.31	By Balance c/d	2,00,000
		2,00,000			2,00,000
2002 Jan.1	To Balance b/d	2,00,000	2002 Dec.31	By Balance c/d	2,00,000
		2,00,000			2,00,000
2003 Jan.1	To Balance b/d	2,00,000			

Illustration: 14

On 1st Jan. 2001 Mrs. Murugan & Co. Purchases a lease for three years on payment of Rs. 1,00,000. And it is decided to make provision for its replacement by means of an insurance policy for Rs. 1,00,000. The annual premium is Rs. 30,000. On 1st Jan. 2004, the lease is renewed for further period of 3 years for Rs. 1,00,000. You are required to prepare the necessary ledger account.

Solution:**Dr. Lease Account Cr.**

<i>Date</i>	<i>Particulars</i>	<i>Amount Rs.</i>	<i>Date</i>	<i>Particulars</i>	<i>Amount Rs.</i>
2001 Jan.1	To Bank A/c	1,00,000	2001 Dec.31	By Balance c/d	1,00,000
		1,00,000			1,00,000
2002 Jan.1	To Balance b/d	1,00,000	2002 Dec.31	By Balance c/d	1,00,000
		1,00,000			1,00,000
2003 Jan.1	To Balance b/d	1,00,000	2003 Dec.31	By Depreciation A/c (Reserve A/c)	1,00,000
		1,00,000			1,00,000

Dr. Depreciation Reserve Account Cr.

<i>Date</i>	<i>Particulars</i>	<i>Amount Rs.</i>	<i>Date</i>	<i>Particulars</i>	<i>Amount Rs.</i>
2001 Dec.31	To Balance c/d	30,000	2001 Jan. 31	By Profit & Loss A/c	30,000
		30,000			30,000
2002 Dec.1	To Balance c/d	60,000	2002 Jan.1 Dec.31	By Balance b/d By Profit & Loss A/c	30,000 30,000
		60,000			60,000
2003 Dec.31	To Lease A/c	1,00,000	2003 Jan.1 Dec.31 Dec.31	By Balance b/d By Profit & Loss A/c By Depreciation Insurance Policy A/c	60,000 30,000 10,000
		1,00,000			1,00,000

Dr. Depreciation Insurance Policy Account Cr.

<i>Date</i>	<i>Particulars</i>	<i>Amount Rs.</i>	<i>Date</i>	<i>Particulars</i>	<i>Amount Rs.</i>
2001 Jan.1	To Bank Premium	30,000	2001 Dec.31 st	By Balance c/d	30,000
		30,000			30,000
2002 Jan.1 Jan.1	To Balance b/d To Bank Premium	30,000 30,000	2002 Jan.1	By Balance c/d	60,000
		60,000			60,000
2003 Jan.1 Jan.1 Dec.31	To Balance b/d To Bank Premium To Depreciation Reserve A/c (Profit Transferred)	60,000 30,000 10,000	2003 Dec.31 st	By Bank A/c	1,00,000
		1,00,000			1,00,000

Dr. Lease (New) Account			Cr.		
Date	Particulars	Amount Rs.	Date	Particulars	Amount Rs.
2001 Jan.1	To Bank A/c	1,00,000			

(7) Depletion Method

Depletion Method is mostly used for natural resources such as mines, quarries, oil and gas etc. from which certain quantity of the resources can be obtained on the basis of the availability of minerals. The quantity of output exhausts to reach a stage of depletion. The rate of depreciation is determined on the basis of the quantity obtained for every year. The formula is :

$$\text{Rate of Depreciation} = \frac{\text{Cost of Mines}}{\text{Estimated Minerals to be Extracted}}$$

$$\text{Depreciation} = \text{Annual Quantity} \times \text{Rate of Depreciation}$$

Illustration: 15

A mine was purchased for Rs. 20,00,000 on 1st Jan. 2000. And it was estimated content of being 1,00,000 tonnes. The actual quantity was 2001 – 20,000 tonnes, 2002 – 25,000 tonnes and 2003 – 30,000 tonnes. You are required to prepare a Mine Account using Depletion Method of depreciation for the above said years.

Solution:

Calculation for Rate of Depreciation

$$\begin{aligned} \text{Rate of Depreciation} &= \frac{\text{Cost of Mines}}{\text{Estimated Minerals to be Extracted}} \\ &= \frac{\text{Rs. 20,00,000}}{\text{Rs. 1,00,000}} = \text{Rs. 20 Per tone} \end{aligned}$$

$$\text{Rate of Depreciation} = \text{Rs. 20 Per tone.}$$

Dr. Mine Account			Cr.		
Date	Particulars	Amount Rs.	Date	Particulars	Amount Rs.
2001 Jan.1	To Bank A/c	20,00,000	2001 Dec.31	By Depreciation A/c (20,000 x 20)	4,00,000
			Dec.31	By Balance c/d	16,00,000
		20,00,000			20,00,000
2002 Jan.1	To Balance b/d	16,00,000	2002 Dec.31	By Depreciation A/c (25,000 x 20)	5,00,000
			Dec.31	By Balance c/d	11,00,000
		16,00,000			16,00,000

2003 Jan.1	To Balance b/d	11,00,000	2003 Dec.31	By Depreciation A/c (30,000 x 20)	6,00,000
			Dec.31	By Balance c/d	5,00,000
		11,00,000			11,00,000
2004 Jan.1	To Balance b/d	5,00,000			

(8) Sum of Years Digits (SYD) Method

This method also termed as SYD Method. The Sum of years Digits Method is designed on the basis of Written-Down Value Method. Under this method the amount of depreciation to be charged to the Profit and Loss Account goes on decreasing every year throughout the life of the asset. The formula for calculating the amount of depreciation is as follows :

$$\text{Rate of Depreciation} = \frac{\text{Remaining Life of the Asset (Including current year)}}{\text{Sum of all the digits of the life of the assets in years}} \times \text{Original Cost of the Asset}$$

Illustration: 16

A machine was purchased for a sum of Rs.20,000 having useful life of 3 years. From the above particulars, you are required to calculate depreciation under Sum of Years Digits Method.

Solution:

Calculation of Depreciation Under SYD Method :

$$\begin{aligned} \text{Rate of Depreciation} &= \frac{\text{Remaining Life of the Asset (Including current year)}}{\text{Sum of all the digits of the life of the assets in years}} \times \text{Original Cost of the Asset} \\ \text{I Year} &= \frac{3}{1 + 2 + 3} \times \text{Rs. 20,000} \\ &= \frac{3}{6} \times \text{Rs. 20,000} = \text{Rs.10,000} \\ \text{II Year} &= \frac{2}{6} \times \text{Rs. 20,000} = \text{Rs.6,667} \\ \text{III Year} &= \frac{1}{6} \times \text{Rs. 20,000} = \text{Rs.3,333.33} \end{aligned}$$

(9) Machine Hour Rate Method

This method is similar to the Depletion Method but instead of taking estimated available quantities in advance, the working life of the machine is estimated in terms of hours. The hourly rate of depreciation is determined by dividing the cost of the machine minus scrap value of the machine by the estimated total number of hours utilized every year.

Illustration: 17

A machine was purchased on 1st Jan. 2001 at a cost of Rs. 1,50,000, the cost of installation being Rs. 10,000. The estimated working life of the machine was 40,000 hours. During 2001 it was worked for 5,000 hours and during 2002 for 10,000 hours. You are required to prepare Machine Account for the above said years.

Solution:

Calculation of Machine Hour Rate :

$$\begin{aligned}
 \text{Machine Hour Rate} &= \frac{\text{Cost of the Machine}}{\text{Estimated Total Hours of Life}} \\
 &= \frac{\text{Rs. 1,50,000} + \text{Rs. 10,000}}{\text{Rs. 40,000}} \\
 &= \frac{\text{Rs. 1,60,000}}{\text{Rs. 40,000}} = \text{Rs. 4 Per hour.}
 \end{aligned}$$

Dr.			Machine Account			Cr.		
Date	Particulars	Amount Rs.	Date	Particulars	Amount Rs.			
2001 Jan.1	To Bank A/c (Rs.1,50,000 + 10,000)	1,60,000	2001 Dec.31	By Depreciation A/c (5000 hours x Rs.4)	20,000			
			Dec.31	By Balance c/d	1,40,000			
		1,60,000			1,60,000			
2002 Jan.1	To Balance b/d	1,40,000	2002 Dec.31	By Depreciation A/c (10,000 hrs x Rs.4)	40,000			
			Dec.31	By Balance c/d	1,00,000			
		1,40,000			1,40,000			
2003 Jan.1	To Balance b/d	1,00,000						

QUESTIONS

1. What do you understand by Depreciation?
2. Define Depletion and Amortization.
3. What are the purpose of charging depreciation?
4. Explain briefly the various methods of charging depreciation.
5. Write short notes on :
 - (a) Straight Line Method.
 - (b) Written - Down Value Method.
 - (c) Annuity Method.
 - (d) Insurance Policy Method.
 - (e) Depletion Method.
 - (f) Revaluation Method.
6. What do you understand by Sinking Fund Method? Explain it briefly.
7. Discuss the merits and demerits of Straight Line Method.
8. What do you understand by Machine Hour Rate method of depreciation?
9. What are the factors affecting the amount of depreciation?

PRACTICAL PROBLEMS

(1) On 1st March 2003, a machinery was purchased by Govind for Rs. 1,00,000 and installation expenses of Rs. 10,000. On 1st June 2003 a new machine was purchased for a sum of Rs. 40,000. Assuming that rate of depreciation is @ 15% premium. You are required to prepare Machinery Account for 5 years under (1) Straight Line Method and (2) Diminishing Balance Method.

(2) On 1st Jan. 2003 A Ltd. Company purchased a lease for three years for Rs. 80,000. It is decided to provide write off depreciation on Annuity Method. Assuming that rate of depreciation is @ 5% P.A. Annuity Table shows that Re. 367208 at 5% rate of interest is required for an Annuity of Re.1 in three years.

[Ans : Balance for Rs. 27,978.40]

(3) You are asked to calculate the depreciation for the first three years under Sum of Years Digit Method. Mrs. Govind & Co. purchased an asset for Rs. 2,10,000. Estimated life of the asset is 6 years. The Scrap Value of an asset is estimated for Rs. 10,000.

[Ans : Balance at the end of third years Rs. 28571.41]

(4) Y Co. Ltd. purchased a lease of mine worth of Rs. 2,00,000 on 1st Jan. 2003. It is estimated that total quantity of output available in the mine is 50,000 tones. The annual output is as follows :

Year	Quantities
1999	8,000
2000	15,000
2001	12,000
2002	10,000

From the above information, you are required to prepare Mine Account using the Depletion Method of Depreciation.

(5) X Y Z Ltd. purchased a machine for Rs. 14,400 on 1st Jan. 2003. It is estimated that the Scrap Value of Rs. 3,400 at the end of ten years. Find out depreciation and written down value by equal installments of every year. And also you are required to calculate rate of depreciation and prepare Machinery Account for the above said years.

[Ans : Balance of Machinery A/c Rs. 11,100; Rate of Depreciation 7.64%]

(6) A Company purchased a lease worth of Rs. 60,000 on 1st Jan. 2000 for 3 years. It decided to provide for its replacement by means of Insurance policy for Rs. 60,000. The annual premium is Rs. 19,000. On 1st Jan. 2003 the lease is renewed for a further period of 3 years for Rs. 60,000. You are required to show the necessary ledger accounts.

[Ans : Lease A/c Balance at the end of 3rd year Rs. 60,000; Depreciation Reserve A/c Rs. 3,000; Depreciation Insurance Policy A/c Rs. 3000; (Profit transferred to Depreciation Reserve A/c)]

(7) A & B Ltd. purchased a lease for 3 years for Rs. 3,00,000. On 1st Jan. 2000 it decided to provide for its replacement by taking an insurance policy for Rs. 3,00,000. The annual premium was Rs. 95,000. On 1st Jan. 2003 the lease is renewed for a further period of 3 years for Rs. 3,00,000 show necessary accounts.

[Ans : Profit Rs. 15,000]

(8) Gowda & Co. purchased a machine for Rs. 2,00,000 on 1st Jan. 2000. The estimated useful life at 3 years with a Scrap Value Rs. 20,000. You are required to calculate depreciation charged from Profit and Loss Account by Sinking Fund Method. The Sinking Fund Table shows that 0.317208 at 5% P.A. will be in 3 years accumulate to Re.1.

[Ans : Depreciation Rs. 57097.44]

(9) Gupta Ltd. purchased a machine for sum of Rs. 9,000 on 1st April 2001 and it spend installation charge of Rs. 1000. Estimated total life of working hours will be 2000 hours. During 2001 it worked for 1600 hours and 2002 for 2400 hours. You are required to prepare Machinery Account for 2002 and 2003.

[Ans : Balance Rs. 8,000]

(10) Himalaya Ltd. purchased a lease worth of Rs. 2,00,000 on 1st Jan. 1999 for a term of 4 years. You find from Annuity tables that in order to write off lease on the Annuity Method at 6% P.A. interest, the amount to be written off annually works out to be Re. 0.288591 for every rupee. Prepare Lease A/c for 4 years.

[Ans : Balance at the end of 4th year is Rs.54452]

(11) A Company purchased an old lorry for Rs. 1,00,000 on 1st April 1996 and wrote off depreciation @ 15% on the diminishing value balance. At the end of 1996, it decided that the depreciation should be on the basis of 15% of the original cost from the very beginning and write off necessary amount in 1996. Assuming the company closes the books on 31st March, write up the lorry account up to the end of 2003.

[Ans: Balance Rs. 40,000; Excess depreciation to be written off for 1996-97 Rs. 6412.50]

(12) A Machinery was required on 1st January 2003 at a cost of Rs. 40,000. The life of the machinery was 5 years. It was decided to establish a depreciation fund to provide funds for replacement. Investments are expected to yield net 5% P.A. Sinking Fund Table shows that Rs. 1,80,975 invested annually at 5% provides Re.1 in five years. Prepare the necessary ledger accounts for all the five years, assuming that new machinery costs Rs. 43,000 on 1st January 2008.

(13) On 1st January 2002, Gupta Ltd. purchased machinery for Rs. 1,20,000 and on 30th June 2003, it acquired additional machinery at a cost of Rs. 20,000. On 31st March 2004 one of the original machines which had cost Rs. 5,000 was found to have become obsolete and was sold as scrap for Rs. 500. It was replaced by a new machine costing Rs. 8,000. Depreciation is provided at a rate of 15% on written down value method. Accounts are closed on 31st December every year. Prepare machinery account for 3 years.

(14) Rathasamy Ltd. bought one machine for Rs. 4,00,000 on 1st April 2003. The useful life was estimated at 3 years with a scrap value Rs. 40,000. Find out Depreciation charged from profit and loss account by sinking fund method. The sinking fund table shows that 0.317208 at 5% P.A. will be in 3 years accumulate to Re.1.

[Ans: Depreciation Rs.114194.88]

(15) A lease was purchased on 1.4.2004 for five years at a cost of Rs.50,000. It is proposed to depreciate the lease by Annuity method charging 5% interest. Show the lease account for 5 years and also the relevant entries in the profit and loss account. The reference of the annuity table shows that to depreciate Re.1 by annuity method over 5 years by charging interest @ 5 % one must write off a sum of Re.0.230975 every year.

[Ans: Annuity Depreciation Rs. 11549]

(16) A plant is purchased for Rs. 1,28,000. Depreciation is to be provided at 25% P.A. on written down value method. The turn in value of plant at the end of its economic life of 4 years.

(17) You are required to prepare the Machineries account in the books of Sharma & Co. for 3 years ending 31.12. 2003 from the following informations:

1. X machine was purchased on 1.4.2001 for Rs.40,000
2. Y machine was purchased on 1.4.2001 for Rs. 30,000
3. X machine was sold on 30.09.2002 for Rs. 35,000
4. R machine was purchased on 30.09.2003 for Rs. 40,000

All the machines are to be depreciated @ 10% on reducing balance method.

[Ans: Depreciation in 2001 Rs. 3,000; in 2002 Rs. 4,275; in 2003 Rs. 3,850; profit on sale Rs. 775; balance on 31.12.2003 Rs. 64,650]

