Depreciation Accounting ,AS-6

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Fundamentals Of Accounting

Learning Objectives

After studying the chapter, you will be able to:

- Grasp the meaning and nature of depreciation.
- Determine the amount of depreciation from the total value of the fixed assets and its useful life.
- Understand various methods depreciation

Depreciation

Depreciation

- is a measure of 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 is allocated so as to charge a fair proportion of the depreciable amount in each accounting period during the expected useful life of the asset. Depreciation includes amortisation of assets whose useful life is predetermined

Depreciable Assets

Depreciable Assets are those which

(i) are expected to be used during more than one accounting period; and

(ii) have a limited useful life; and

(iii) are held by an enterprise for use in the production or supply of goods and services for rental to other or for administrative purposes and not for the purpose of sale in the ordinary course of business.

OBJECTIVES – Depreciation

(1) *Correct income measurement:* Depreciation should be charged for proper estimation of periodic profit or loss.

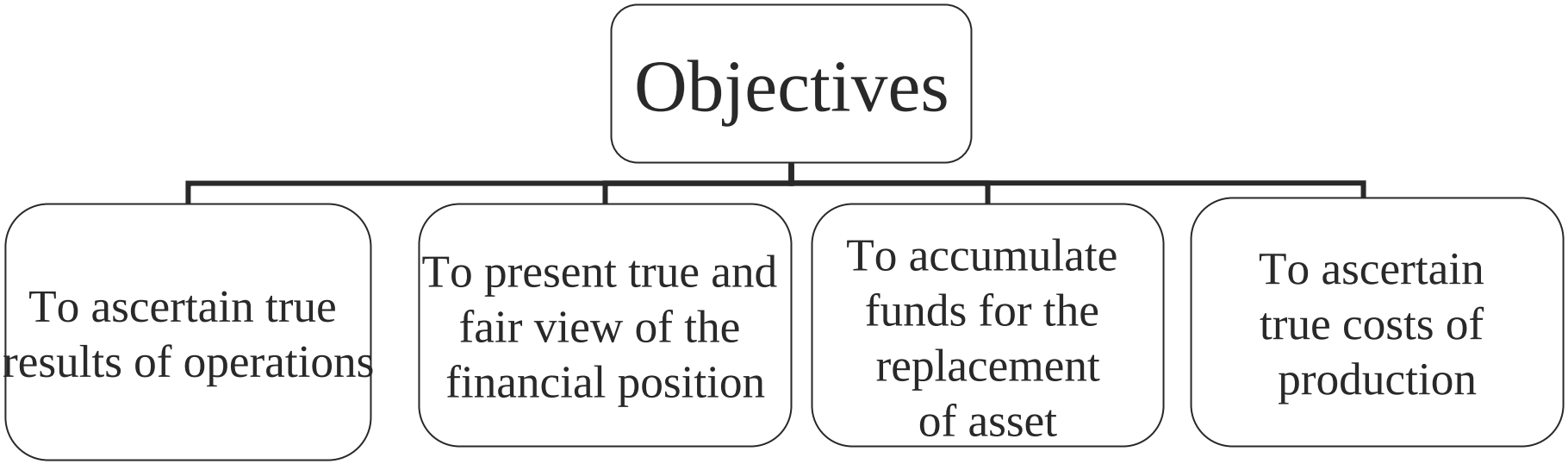
(2) *True position statement:* Value of the fixed assets should be adjusted for depreciation charged in order to depict the actual financial position

Continued:

(3) *Funds for replacement:* Generation of adequate funds in the hands of the business for replacement of the asset at the end of its useful life.

(4) *Ascertainment of true cost of production:* For ascertaining the cost of the production, it is necessary to charge depreciation as an item of cost of production.

SUMMARY

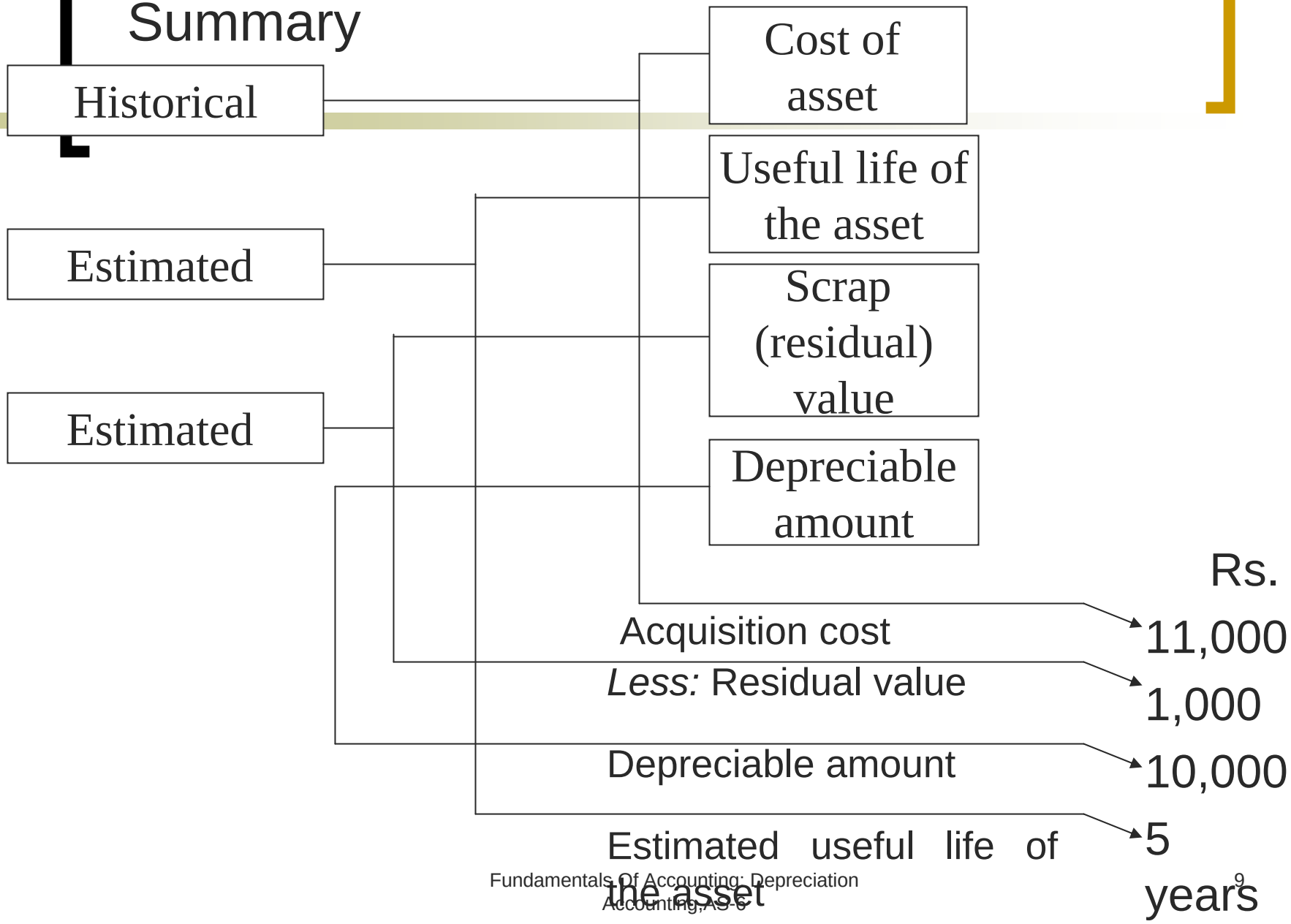

Objectives
To ascertain true results of operations
To present true and fair view of the financial position
To accumulate funds for the replacement of asset
To ascertain true costs of production

Factors in the measurement

Estimation of exact amount of depreciation is not easy. Generally following factors are taken into consideration for calculation of depreciation.

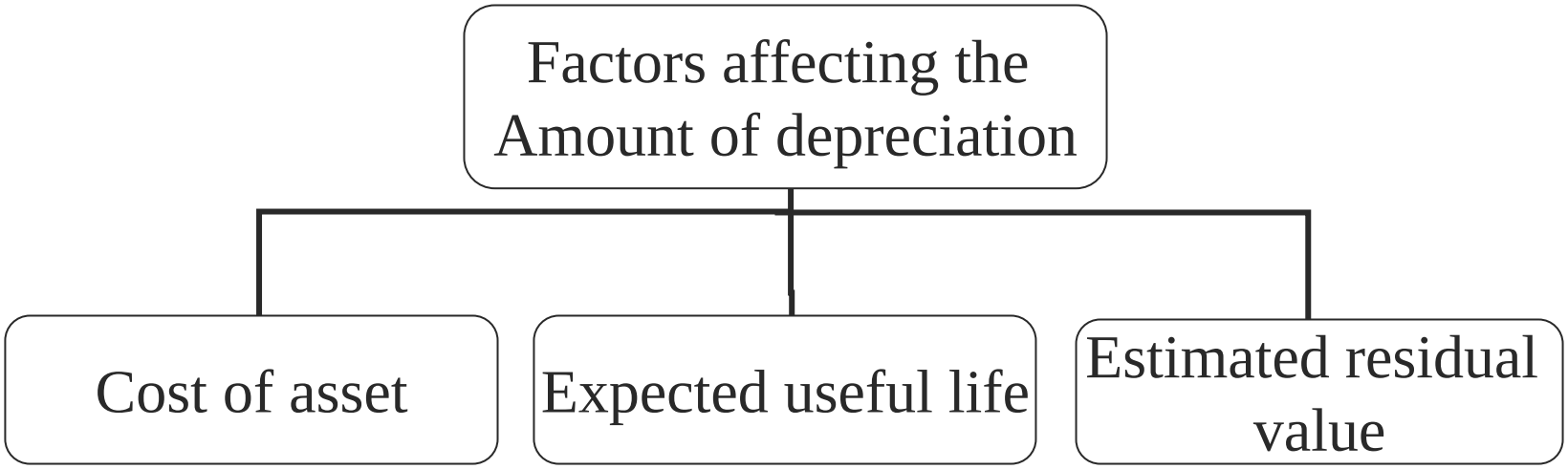
1. Cost of asset including expenses for installation, commissioning, trial run etc.
2. Estimated useful life of the asset.
3. Estimated scrap value (if any) at the end of useful life of the asset.

Summary


Historical
Estimated
Estimated
Cost of asset
Useful life of the asset
Scrap (residual) value
Depreciable amount
Rs.
Acquisition cost
11,000
Less: Residual value
1,000
Depreciable amount
10,000
Estimated useful life of the asset
5 years

SUMMARY

$$\text{Depreciation} = \frac{\text{Depreciable Amount}}{\text{Estimated useful life}}$$



Straight Line Method

Straight Line Depreciation $= \frac{\text{Cost of Asset} - \text{Scrap Value}}{\text{Useful life}}$

Straight Line Depreciation Rate $= \frac{\text{Straight Line Depreciation} \times 100}{\text{Cost of Asset}}$

Written Down Value Method

$$1 - \sqrt[n]{\frac{\text{Residual Value}}{\text{Cost of asset}}} \times 100$$

where, n = useful life

Accounting Entries under Straight Line and Reducing Balance Methods :

There are two alternative approaches for recording accounting entries for depreciation

First Alternative

A provision for depreciation account is opened to accumulate the balance of depreciation and the assets are carried historical cost.

Accounting entry

Profit and Loss Account ----------Dr.

To Provision for Depreciation Account

Second Alternative

Amount of Depreciation is credited to the Asset Account every year and the Asset Account is carried at historical cost less depreciation.

Accounting entries:

Depreciation Account ----------Dr.

To Asset Account

Profit and Loss Account----------Dr.

To Depreciation Account

Sum of years digits method

Annual Depreciation =

$$\frac{\text{No. of years (including the present year) of remaining life of the asset}}{\text{Total of all digits of the life of the asset (in years)}}$$

Illustration

M/s Raj & Co. purchased a machine for Rs. 1,00,000. Estimated useful life and scrap value were 10 years and Rs. 12,000 respectively.

Calculate depreciation using sum of years digit method.

Solution

Total of digits = 10 + 9 + 8 -------- + 1

= 55

Depreciation for 1st Year = $\frac{10 \text{ X } 88000}{55}$

= 16,000

Production Units Method

$$\text{Amount of depreciation} = \frac{\text{Depreciable Amount X Production during the period}}{\text{Estimated total production}}$$

ILLUSTRATION

A machine purchased for Rs. 2,00,000.

Life 10 years.

Scrap Value is Rs. 20,000.

Expected to produce 1,50,000 units during its life time.

Expected production during life is as follows:

Contd:

Year	Production
1-3	20,000 units p.a.
4-7	15,000 units p.a.
8-10	10,000 units p.a.

Determine value of depreciation each year using production of units method.

Solution

Annual Depreciation =

1-3 $\frac{20{,}000 \text{ X } 88{,}000}{1{,}50{,}000} = 24{,}000$

4-7 $\frac{15{,}000 \text{ X } 88{,}000}{1{,}50{,}000} = 18{,}000$

8-10 $\frac{10{,}000 \text{ X } 88{,}000}{1{,}50{,}000} = 12{,}000$

Illustration

Jain Bros. acquired a machine on 1st July, 2004 at a cost of Rs. 14,000 and spent Rs. 1,000 on its installation. The firm writes off depreciation at 10% of the original cost every year. The books are closed on 31st December every year. Show the Machinery Account and Depreciation Account for the year 2004-2005.

Solution

As per Straight Line Method

Machinery Account

Dr. 2004		Rs.	2004		Cr. Rs.
July 1	To Bank	14,000	Dec.31	By Depreciation A/c	750
July 1	To Bank – Installation Expenses	1,000		10% on Rs. 15,000 for 6 months	14,250
		15,000	Dec.31	By Balance c/d	15,000

Continued

2005			2005		
Jan.1	To Balance b / d	14,250	Dec. 31	By Depr. A/c 10% on Rs. 15,000	1,500
					12,750
		14,250	Dec. 31	By Balance c / d	14,250

Illustration

Jain Bros. acquired a machine on 1st July, 2004 at a cost of Rs. 14,000 and spent Rs. 1,000 on its installation. The firm writes off depreciation at 10% every year. The books are closed on 31st December every year. Show the Machinery Account and calculation of depreciation on diminishing balance method for the year 2004-2005

Solution

As per Reducing Balance Method

2004		Rs.	2004		Rs.
July 1	To Bank	14,000	Dec.31	By Depreciation A/c	750
	To Bank	1,000	Dec.31		14,250
		15,000		By Balance c/d	15,000
2005			2005		
Jan. 1	To Balance b/d	14,250	Dec.31	By Depreciation A/c	1,425
			Dec.31		12,825
		14,250		By Balance c/d	14,250

Illustration

A firm purchased on 1st January, 2005 certain machinery for Rs. 58,200 and spent Rs. 1,800 on its erection. On July 1, 2005 another machinery for Rs. 20,000 was acquired. On 1st July, 2006 the machinery purchased on 1st January, 2005 having become obsolete was auctioned for Rs. 38,600 and on the same date fresh machinery was purchased at a cost of Rs. 40,000

Solution

Depreciation was provided for annually on 31st December at the rate of 10 per cent on written down value. Prepare machinery account.

Dr. 2005		Rs.	2005		Cr. Rs.
Jan. 1	To Bank	58,200	Dec. 31	By Depreciation A/c	7,000
Jan. 1	To Bank-erection charges	1,800		By Balance c/d	73,000
July 1	To Bank	20,000			
		80,000			80,000

Solution

2006			2006		
Jan.1	To Balance b/d	73,000	July 1	By Depreciation on sold machine	2,700
July 1	To Bank	40,000		By Bank	38,600
				By Profit and Loss A/c	12,700
			Dec. 31	By Depreciation	3,900
				By Balance c/d	55,100
		1,13,000			1,13,000

Book Value of Machines

	Machine I Rs.	Machine II Rs.	Machine III Rs.
Cost	60,000	20,000	40,000
Depreciation for 2005	6,000	1,000	
Written down value	54,000	19,000	
Depreciation for 2006	2,700	1,900	2,000
Written down value	51,300	17,100	38,000
Sale Proceeds	38,600		
Loss on Sale	12,700		

Illustration

A firm purchased on 1st January, 2003 certain machinery for Rs. 52,380 and spent Rs. 1,620 on its erection. On January 1, 2003 another machinery for Rs. 19,000 was acquired. On 1st July, 2004 the machinery purchased on 1st January, 2003 having become obsolete was auctioned for Rs. 28,600 and on the same date fresh machinery was purchased at a cost of Rs. 40,000.

Continued

Depreciation was provided for annually on 31st December at the rate of 10 per cent on written down value. In 2005, however, the firm changed this method of providing depreciation and adopted the method of providing 5 per cent per annum depreciation on the original cost of the machinery with retrospective effect.

Solution

2003		Rs.	2003		Rs.
Jan. 1	To Bank	52,380	Dec. 31	By Depreciation A/c	7,300
Jan. 1	To Bank-erection	1,620		By Balance c/d	65,700
July 1	To Bank	19,000			
2004		73,000			73,000
			2004		
Jan.1	To Balance b/d	65,700	July 1	By Depreciation	2,430
		40,000		By Bank	28,600
July 1	To Bank			By Profit & Loss A/c	17,570
			Dec. 31	By Depreciation A/c	3,710
				By Balance c/d	53,390
		1,05,700			1,05,700

Continued

2005			2005		
Jan. 1	To Balance b/d	53,390	Dec. 31	By Depreciation A/c	2,950
	To Profit and Loss A/c			By Balance c/d	53,150
	(Excess Dep. written back)	2,710			56,100

Working Notes

(1) Book Value of Machines

	Machine I Rs.	Machine II Rs.	Machine III Rs.
Cost	54,000	19,000	40,000
Depreciation for 2003	5,400	1,900	
Written down value	48,600	17,100	
Depreciation for 2004	2,430	1,710	2,000
Written down value	46,170	15,390	38,000

Continued

Sale Proceeds in 2005	28,600		
Loss on Sale	17,570		

(2) Written down value on the basis of 5% depreciation on straight line basis as at 31st Dec., 2004.

Working Notes

	MachineI Rs.	Machine II Rs.	
Cost	19,000	40,000	
Depreciation for 2 years	1,900	1,000	
Depreciation for ½ year	17,100	39,000	
Total			Rs. 56,100

Illustration

M/s. Mayur & Co. purchased a machine on 1.1.2000 for Rs. 20,00,000. Estimated useful life was 10 years and scrap value at the end was expected to be Rs. 2,00,000. On 1.1.2005, the written down value of the machine was revalued to be up by 20%, useful life was re-estimated as 13 years and scrap value as Rs. 2,80,000. The company follows reducing

Solution

Balance method of charging depreciation. Show Machinery Account and Provision for Depreciation Account for the year ended 31.12.2005.

Dr. 2005		Rs.	2005		Cr. Rs.
Jan. 1	To Balance b/d	20,00,000	Dec. 31	By Balance c/d	21,26,492
	To R. Res.	1,26,492			
		21,26,492			21,26,492

Continued

Provision for Depreciation Account

Dr. 2005		Rs.	2005		Cr. Rs.
Jan.1	To Balance c/d	14,56,480	Jan.1	By Balance b/d	13,67,538
			Dec.31	By P& L	88,942
		14,56,480			14,56,480

Working Notes

(1) 2000: Calculation of rate of WDV depreciation

$$= \left[1 - \sqrt[10]{\frac{2,00,000}{20,00,000}}\right] \times 100 \quad = 20.567$$

(2) Statement of Depreciation

		Rs.
1.1.2000	Cost of the mac.	20,00,000
31.12.2000	*Less:* Depr.	4,11,340

Continued

1.1.2001	W.D.V.	15,88,660
31.12.2001	Depreciation	3,26,740
1.1.2002	W.D.V.	12,61,920
31.12.2002	Depreciation	2,59,539
1.1.2003	W.D.V.	10,02,381
31.12.2003	Depreciation	2,06,160
1.1.2004	W.D.V.	7,96,221
31.12.2004	Depreciation	1,63,759

Continued

1.1.2005	W.D.V.	6,32,462
	Add : Upward Revaluation (20%)	1,26,492
		7,58,954
31.12.2005	Depreciation (11.719%* on Rs. 7,58,954)	88,942
1.1.2006	W.D.V.	6,70,012

Continued

(3) *2005 : Calculation of rate of WDV

$$= \left[1 - \sqrt[8]{\frac{2,80,000}{7,58,954}} \right] \times 100 = 11.719$$

MCQ 1

Amit Ltd. purchased a machine on 01.01.2003 for Rs. 1,20,000. Installation expenses were Rs. 10,000. Residual value after 5 years Rs. 5,000. On 01.07.2003, expenses for repairs were incurred to the extent of Rs. 2,000. Depreciation is provided @ 10% p.a. under written down value method. Depreciation for the 4th year =_____.

a. 25,000 b. 13,000

c. 10,530 d. 9,477

MCQ 2

Original cost = Rs. 1,26,000; Salvage value= Nil; Useful life = 6 years. Depreciation for the first year under sum of years digits method will be

(a) Rs. 6,000 (b) Rs. 12,000

(c) Rs. 18,000 (d) Rs. 36,000

MCQ 3

Obsolescence of a depreciable asset may be caused by

I. Technological

II. Improvement in production method.

III. Change in market demand for the product or service output.

IV. Legal or other restrictions.

(a) Only (I) above

(b) Both (I) and (II) above

(c) All (I), (II), (III) and (IV) above

(d) Only (IV) above

MCQ 4

Amit Ltd. purchased a machine on 01.01.2003 for Rs. 1,20,000. Installation expenses were Rs. 10,000. Residual value after 5 years Rs. 5,000. On 01.07.2003, expenses for repairs were incurred to the extent of Rs. 2,000. Depreciation is provided under straight line method. Depreciation rate= 10%. Annual Depreciation = _____

a.13,000 b. 17,000

c.21,000 d. 25,000

MCQ 5

Original cost = Rs. 1,26,000; Salvage value= Nil; Useful life = 6 years. Depreciation for the fourth year under sum of years digits method will be

(a) Rs. 6,000 (b) Rs. 12,000

(c) Rs. 18,000 (d) Rs. 24,000

MCQ 6

Amit Ltd. purchased a machine on 01.01.2003 for Rs. 1,20,000. Installation expenses were Rs. 10,000. Residual value after 5 years Rs. 5,000. On 01.07.2003, expenses for repairs were incurred to the extent of Rs. 2,000. Depreciation is provided under straight line method. Annual Depreciation = _____.

a. 13,000

b. 17,000

c. 21,000

d. 25,000

Continued

Which of the following statements is/are false?

I. The term ‘depreciation’, ‘depletion’ and’ amortization convey the same meaning.

II. Provision for depreciation a/c is debited when provision for depreciation a/c is created.

III The main purpose of charging the profit and loss a/c with the amount of depreciation is to spread the cost of an asset over its useful life for the purpose of income determination.

(a) Only (I) above (b) Only (II) above

(c) Only (III) above (d) All (I) (II) and (III) above

MCQ 8

Original cost = Rs. 1,26,000. Salvage value = 6,000. Depreciation for 2nd year @ Units of Production Method, if units produced in 2nd year was 5,000 and total estimated production 50,000.

a. 10,800

b. 11,340

c. 12,600

d. 12,000

MCQ 9

The number of production or similar units expected to be obtained from the use of an asset by an enterprise is called as

(a) Unit life

(b) Useful life

(c) Production life

(d) Expected life

MCQ 10

Which of the following is not true with regard to fixed assets?

(a) They are acquired for using them in the conduct of business operations

(b) They are not meant for resale to earn profit

(c) They can easily be converted into cash

(d) Depreciation at specified rates is to be charged on most of the fixed assets

MCQ 11

Original cost = Rs. 1,26,000. Salvage value = 6,000. Useful Life = 6 years. Annual depreciation under SLM =

(a) 21,000 (b) 20,000

(c) 15,000 (d) 14,000

MCQ 12

Original cost = Rs. 1,26,000. Salvage value = 6,000. Depreciation for 2nd year @ 10% p.a. under WDV method =

(a) 10,800

(b) 11,340

(c) 15,000

(d) 14,000

MCQ 13

Which of the following expenses is not included in the acquisition cost of a plant and equipment ?

(a) Cost of site preparation

(b) Delivery and handling charges

(c) Installation costs

(d) Financing costs incurred subsequent to the period after plant and equipment is put to use.

MCQ 14

For charging depreciation, on which of the following assets, the depletion method is adopted?

(a) Plant & machinery

(b) Land & building

(c) Goodwill

(d) Wasting assets like mines and quarries

MCQ 15

If a concern proposes to discontinue its business from March 2005 and decides to dispose off all its assets within a period of 4 months, the Balance Sheet as on March 31, 2005 should indicate the assets at their

(a) Historical cost

(b) Net realizable value

(c) Cost less depreciation

(d) Cost price or market value, whichever is lower

MCQ 16

In the case of downward revaluation of an asset which is for the first time revalued, the account to be debited is

(a) Fixed Asset

(b) Revaluation Reserve

(c) Profit & Loss account

(d) General Reserve

MCQ 17

In which of the following methods, is the cost of the asset written off in equal proportion, during its useful economic life?

(a) Straight line method

(b) Written down value method

(c) Units-of-production method

(d) Sum-of-the-years'-digits method

MCQ 18

The portion of the acquisition cost of the asset, yet to be allocated is known as

(a) Written down value

(b) Accumulated value

(c) Realisable value

(d) Salvage value

MCQ 19

Original Cost = Rs. 1,00,000. Life = 5 years. Expected salvage value = Rs. 2,000

(i) Depreciation for 3rd year as per straight line method is

a. Rs. 12,800 b. Rs. 19,600

c. Rs. 20,000 d. Rs. 20,400

(ii) rate of depreciation p.a. = _____

a. 20.0% b. 19.8%

c. 19.6% d. 19.4%

MCQ 20

On April 01,2004 the debit balance of the machinery account of A Ltd. was Rs. 5,67,000. The machine was purchased on April 01, 2002. The company charged depreciation at the rate of 10% per annum under diminishing balance method. On October 01, 2004, the company acquired a new machine at a cost of Rs. 60,000 and incurred Rs. 6,000 for installation of the new machine. The company decided to change the system of providing depreciation

Continued

From the diminishing balance method to the straight-line method with retrospective effect from April 01,2002. The rate of depreciation will remain the same. The company decided to make necessary adjustments in respect of depreciation due to the change in the method in the year 2004-2005.

Continued

(i) Cost of machinery on 01.04.2002 = ____

a. Rs. 5,67,000 b. Rs. 6,30,000

c. Rs. 7,00,000 d. Rs. 7,77,778

(ii) Depreciation provided in 2002-03 = _____

a. Rs. 56,700 b. Rs. 63,000

c. Rs. 70,000 d. Rs. 77,778

(iii) Depreciation provided in 2003-04 = _____

a. Rs. 51,030 b. Rs. 56,700

c. Rs. 63,000 d. Rs. 70,000

Continued

(iv) Depreciation under new method for 2002-03 and 2003-04 = _____.

a. Rs. 1,33,400 b. Rs. 1,26,000

c. Rs. 1,40,000 d. Rs. 1,55,556

(v) Further depreciation to be provided=____.

a. Rs. 5,670 b. Rs. 6,300

c. Rs. 7,000 d. Rs.7,778

Continued

(vi) Balance in Machinery A/c on 31.03.2004 =_____.

a. Rs. 5,67,000 b. Rs. 6,30,000

c. Rs. 7,00,000 d. Rs. 7,77,778

(vii) Depreciation for the year 2004-05 =___.

a. Rs. 3,300 b. Rs. 7,000

c. Rs. 10,300 d. Rs. 73,300

Continued

(viii) The balance outstanding to the debit of machinery account as on March 31, 2005 after effecting the above changes was

a. Rs. 5,45,700 b. Rs. 5,52,700

c. Rs. 5,46,000 d. Rs. 5,49,400

THE END

Depreciation Accounting ,AS-6