

DEPRECIATION ACCOUNTING

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Course Summary:

This course attempts to discuss about depreciation accounting. This course is mainly designed keeping in view the CBCS syllabus for the undergraduate students of commerce of the University of Kalyani.

Course Content:

1. Meaning and nature of depreciation,
2. Objectives of providing depreciation,
3. Methods of depreciation (Straight Line Method, Diminishing Balance Method and Unit of Production Method),
4. Changes in the method of depreciation, and
5. Depreciation in case of revision of Residual Value and Useful Life of asset.

Meaning:

In business organization, tangible fixed assets are held for use in the production/distribution of goods or services, for rental to others, or for administrative purposes. The fixed asset for it to be considered for depreciation must be available for use for more than one accounting year. The value of fixed asset decreases over time due to a number of factors, such as, changes in technology, passage of time, wear and tear etc. It is to be noted that the systematic measurement of loss of value of fixed asset in each accounting year is essential for accurate determination of profit or loss for the period and true presentation of financial position of business at the end of the financial year as on balance sheet date. As per **Schedule II of the Companies Act 2013**, **depreciation** is the **systematic allocation** of the **depreciable amount** over the **useful life** of the asset. The systematic allocation of depreciable amount is possible only when the method of depreciation is chosen in such a way that it reflects the true pattern of consumption of benefits derived from the fixed asset. Thus, the measurement of depreciation requires consideration of the following four factors:

1. Cost of fixed asset,
2. Estimated useful life of the asset,
3. The residual value, and

4. Depreciable amount.

The **cost of fixed asset** is the cash or cash equivalent paid to acquire the asset including all expenditure incurred to make the asset ready for use, or any amount substituted for cost, for example, in case of revaluation of asset, the revalued amount of fixed asset should be considered as cost of asset.

The **estimated useful life** of the asset is the period over which the asset is expected to be used or number of production units expected to be generated from its use.

The **residual value** is the present expectation of the sale value of the asset at the end of its useful life.

Depreciable amount is the cost of asset or any amount substituted for cost *minus* residual value.

Therefore,

Depreciation per year = (Cost of the Asset-Residual Value)/Estimated useful life

=Depreciable Amount/Estimated useful life

Example:

Suppose, You have bought a Smartphone for Rs.20,000. You are expecting to sell it after 3 years for Rs.8,000. Here the **cost** of the smartphone is **Rs.20,000**, **useful life** is **3 years**, and the **residual value** is **Rs.8,000**. The **depreciable amount** is therefore, **Rs.20,000-Rs.8,000=Rs.12,000**. The **depreciation** for each year will be-Rs.12,000/3=**Rs.4,000** per year.

Nature of Depreciation:

The nature of depreciation is discussed below:

Depreciation of an asset begins when the asset becomes ready for intended use.

#Depreciation is charged on depreciable amount of tangible fixed asset. The depreciable amount is the cost of the asset or any amount substituted for cost less residual value.

Depreciation is allocated over the useful life of the asset. The useful life of an asset can either be shorter or equal to its economic life. The economic life is the total period over which the asset is expected to be economically usable by one or more users.

The method of depreciation must reflect the true pattern of consumption of benefit from the asset.

The depreciation must be charged to profit and loss account each and every year without any skip.

If change in the method of depreciation is required to reflect the changed pattern of consumption of future benefit from the asset, such change should be a prospective change and be considered as change in accounting estimate.

Depreciation should be calculated for each part of the asset separately if the cost of that part is significant in comparison with the total cost of the asset as a whole. A significant part of asset may be grouped with another significant part for determining depreciation charge, only if the useful life and the method of depreciation for both the parts are same.

Depreciation amount cannot be set off against the Revaluation Reserve generated as a result of upward revaluation of the fixed asset.

Objectives of Depreciation:

The main objectives of depreciation are discussed below:

1. Measurement of depreciation is necessary to ascertain actual cost of production. The cost of production is determined after adding allocated amount of depreciation for the period.
2. Depreciation is measured to ascertain true profit or loss for the period. The profit or loss is determined after charging depreciation for the period.
3. Depreciation is measured to determine true financial position on the balance sheet date. Fixed assets are shown in the balance sheet after deducting depreciation charged for the period to show the actual financial position.
4. Depreciation helps to generate fund for replacement of fixed asset at the end of its useful life. It is a known fact that depreciation is a non-cash expense. Thus, at the end of useful life of existing fixed asset accumulated depreciation provision can be used to finance new fixed asset.

Methods of Depreciation:

Following are the main methods of charging depreciation. Use of a particular method for computing depreciation depends on the nature of asset and the condition under which it is being used.

1. **Straight Line Method/Fixed Installment Method:** Under this method equal amount of depreciation is charged every year over the useful life of the asset so that at the end of its useful life its value reduced to zero or its residual value. The method is considered suitable for plant and machinery and leases. The method is based on the assumption that the usefulness generated from the asset remains constant every year over its useful life, and also the repairs and maintenance cost of asset is negligible or remains constant over its useful life. The formula for calculating depreciation under this method is-

$$\text{Depreciation} = (\text{Cost of Asset} - \text{residual value}) / \text{useful life of asset}$$

2. **Diminishing Balance Method:** Under this method, a fixed percentage of depreciation is calculated every year on written down value at the beginning of the year as brought forward from the previous year after deducting depreciation. Thus, under this method the amount of depreciation goes on decreasing every year. This method is suitable for assets whose repair and maintenance charges increase over time as the assets become old.

Journal Entries:

There are two alternative ways of recording depreciation under the above two methods-

A. Depreciation amount is credited to asset account every year -

a. Depreciation A/C.....Dr.

To Fixed Asset A/C

b. Profit & Loss A/C.....Dr.

To Depreciation A/C

B. When separate provision for depreciation is created and the asset value is kept unchanged at historical cost-

Profit & Loss A/C.....Dr.

To Provision for depreciation A/C

3. **Units of Production Method:** Under this method total production units expected to be generated from the asset over its useful life is estimated first. The depreciation of a year is then calculated on the basis of the number of units produced during that particular year. Thus, if in any financial year the asset is heavily used, the amount of depreciation will be high.

The formula for calculating depreciation under this method-

Annual depreciation= depreciable amount X (Units produced during the year/Total estimated production)

Example:

Raj textile purchased machinery for Rs.1,00,000 on 1st January, 2012. The estimated useful life of the machinery is 5 years with an estimated residual value of Rs.20,000. The machine has an expected production of 16,000 units during its useful life. The production pattern is as follows:

1st year	2nd year	3rd year	4th year	5th year
2800 units	3500 units	3000 units	3800 units	2900 units

Solution:

Depreciation:

Year	Annual Depreciation
1	$80000 \times 2800/16000 = \text{Rs.}14,000$
2	$80000 \times 3500/16000 = \text{Rs.}17,500$
3	$80000 \times 3000/16000 = \text{Rs.}15,000$
4	$80000 \times 3800/16000 = \text{Rs.}19,000$
5	$80000 \times 2900/16000 = \text{Rs.}14,500$

Change in the method of depreciation:

The method of depreciation applied to an asset should be reviewed every year at least at the end of the financial year to see whether it reflects the true pattern of consumption of benefits derived from the asset or not. If any significant change is expected in the future pattern of consumption of benefits derived from the asset, the method of providing depreciation should also be changed to reflect the changed condition. The effect of change in the method of depreciation should be accounted for as change in accounting estimates in accordance with Accounting Standards 5. Any change in the method of providing depreciation should be a prospective

change. In other words, change in the method of providing depreciation may affect current period only or both current period and future periods.

Example:

X Ltd. bought a machinery for Rs.50,000 on 1st January, 2014. It was decided to charge depreciation at 10% per annum on diminishing balance basis. After two years on 1st January, 2016, it was decided to change the method of depreciation to straight line method and the remaining useful life was assessed as 6 years with no scrap value.

Calculate the amount of depreciation for the third year.

Solution:

Year	Depreciation
2014	$50000 \times 10\% = \text{Rs. } 5,000.$
2015	$(50,000 - 5,000) \times 10\% = \text{Rs. } 4,500.$
2016	$(45,000 - 4,500) / 6 = \text{Rs. } 6,750.$

Revision of Residual Value and Useful Life of Asset:

The residual value and the useful life of asset should be reviewed every year at least at the end of each financial year. If any change in the estimated residual value and the useful life of the asset is expected in future, such change should be accounted for as per Accounting Standard 10-“Property, Plant and Equipment” and the depreciable amount should be calculated according to the revised estimate. The unamortized portion of the asset is depreciated after revision of estimated residual value over the remaining revised estimated useful life of the asset.

Example:

A machinery purchased for Rs.75,000 is estimated to have useful life of 10 years with expected residual value of Rs.5,000. After providing depreciation on straight line basis for 4 years, its residual value is reassessed as Rs.7,000 with estimated remaining useful life as 8 years.

Calculate the amount of depreciation for the 5th year.

Solution:

Depreciation per year by following straight line method = $(\text{Rs.}75,000 - \text{Rs.}5,000) / 10 = \text{Rs. } 7,000$

Depreciation for 4 years = $\text{Rs.}7,000 \times 4 = \text{Rs } 28,000$

Book value of machinery at the end of 4th year = Rs.75,000-Rs.28,000 = Rs.47,000.

Remaining useful life as per previous estimate = 6 years

Remaining useful life as per revised estimate = 8 years

Residual value as per previous estimate = Rs.5,000

Residual value as per revised estimate = Rs.7,000

Depreciation from the fifth year onwards = (Rs.47000-Rs.7000)/8= Rs.5,000 per annum.

Possible Questions:

A. Short Answer Type Questions: (Marks: 2)

1. Define depreciation?
2. Write two causes of depreciation.
3. Write two objectives of providing depreciation.
4. Name four users of accounting information.
5. What factors are to be considered for measuring depreciation?
6. Write two differences between economic life and useful life of fixed asset.

B. Medium Answer type Question: (Marks: 5)

1. What is depreciation? What factors are to be considered for providing depreciation?
2. What are the objectives of providing depreciation?
3. Write about the nature of providing depreciation.
4. Distinguish between straight line method and diminishing balance method of providing depreciation.
5. Write about units of production method of depreciation.

C. Essay Types Question: (Marks: 10)

1. Various problems on depreciation.

Suggested Readings:

1. Hanif & Mukherjee, Financial Accounting, Tata Mcgraw Hill.
2. Debarshi Bhattacharya, Financial Accounting, Lawpoint Publications.
3. Accounting Standards-10 (revised 2016): Property, Plant and Equipment.