INTRODUCTION

- In accounting terms, depreciation is defined as the reduction of recorded cost of a fixed asset in a systematic manner until the value of the asset becomes zero or negligible.
- It is important to account for value of portion of property, plant and equipment utilized for generating revenue during an accounting year to ascertain true income. This portion of cost of Property, Plant & Equipment allocated to an accounting year is called depreciation.
- As per Schedule II under the Companies Act, 2013, Depreciation is the systematically allocation of the depreciable amount of an asset over its useful life.

Value of such assets decreases with passage of time mainly due to following reasons.

1. Wear and tear due to its use in business
2. Efflux of time even when it is not being used
3. Obsolescence due to technological or other changes
4. Decrease in market value
5. Depletion mainly in case of mines and other natural reserves

Objectives for Providing Depreciation

- Correct in income measurement
- True position statement
- Funds for replacement
- Ascertainment of true cost of production.

Further depreciation is a non-cash expense and unlike other normal expenditure (e.g. wages, rent, etc.) does not result in any cash outflow
Three main inputs are required to calculate depreciation:

- **Useful life** – this is the time period over which the organisation considers the fixed asset to be productive. Beyond its useful life, the fixed asset is no longer cost-effective to continue the operation of the asset.

- **Salvage value** – Post the useful life of the fixed asset, the company may consider selling it at a reduced amount. This is known as the salvage value of the asset.

- **The cost of the asset** – this includes taxes, shipping, and preparation/setup expenses.

**Example of Depreciation** – If a delivery truck is purchased a company with a cost of Rs. 100,000 and the expected usage of the truck are 5 years, the business might depreciate the asset under depreciation expense as Rs. 20,000 every year for a period of 5 years.

**Depletion and amortization**

Depletion and amortization are similar concepts for natural resources (including oil) and intangible assets, respectively.

**Effect on cash**

- Depreciation expense does not require a current outlay of cash.

- However, since depreciation is an expense to the P&L account, provided the enterprise is operating in a manner that covers its expenses (e.g. operating at a profit) depreciation is a source of cash in a statement of cash flows, which generally offsets the cash cost of acquiring new assets required to continue operations when existing assets reach the end of their useful lives.

**Accumulated depreciation**

- Accumulated depreciation is the total amount an asset has been depreciated up until a single point.

- Each period, the depreciation expense recorded in that period is added to the beginning accumulated depreciation balance.

- An asset’s carrying value on the balance sheet is the difference between its historical cost and accumulated depreciation. At the end of an asset’s useful
life, its carrying value on the balance sheet will match its salvage value.

### METHODS FOR PROVIDING DEPRECIATION

- Straight line method
- Reducing balance method
- Sum of years of digits method
- Annuity method
- Sinking fund method
- Machine hour method
- Production units’ method
- Depletion method

---

**Straight Line Method**

- Straight-line depreciation is the simplest and most often used method.
- In this method, the company estimates the residual value (also known as salvage value or scrap value) of the asset at the end of the period during which it will be used to generate revenues (useful life). (The salvage value may be zero, or even negative due to costs required to retire it; however, for depreciation purposes salvage value is not generally calculated at below zero.)
- The company will then charge the same amount to depreciation each year over that period, until the value shown for the asset has reduced from the original cost to the salvage value.

\[
\text{Straight Line Depreciation} = \frac{\text{cost of Asset} - \text{Scrap Value}}{\text{Useful Life}}
\]

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

**For example,**

A vehicle that depreciates over 5 years is purchased at a cost of 17,000, and will have a salvage value of 2000. Then this vehicle will depreciate at 3,000 per year,

i.e. \((17000-2000)/5 = 3\).

This table illustrates the straight-line method of depreciation.
Book value at the beginning of the first year of depreciation is the original cost of the asset. At any time book value equals original cost minus accumulated depreciation.

**Book value = Original cost – Accumulated depreciation**

Book value at the end of year becomes book value at the beginning of next year. The asset is depreciated until the book value equals scrap value.

<table>
<thead>
<tr>
<th>Depreciation expense</th>
<th>Accumulated depreciation at year-end</th>
<th>Book value at year-end</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(original cost)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>17,000</td>
<td></td>
</tr>
<tr>
<td>3000</td>
<td>3000</td>
<td>14000</td>
</tr>
<tr>
<td>3000</td>
<td>6000</td>
<td>11000</td>
</tr>
<tr>
<td>3000</td>
<td>9000</td>
<td>8000</td>
</tr>
<tr>
<td>3000</td>
<td>12000</td>
<td>5000</td>
</tr>
<tr>
<td>3000</td>
<td>15000</td>
<td>2000( Scarp value)</td>
</tr>
</tbody>
</table>

**Reducing balance method/Diminishing balance method**

- Also known as Written Down Value Method.
- Under this method, the percentage rate of depreciation remains fixed, but we have to reduce the asset’s value during every accounting year.
- The Income Tax Act, 1961 has prescribed this method for calculation of depreciation.
- The rate of depreciation under this method may be determined by the following formula:

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

*Where, n=useful life*

**Class Example.**

Assets value -1000

Rate @ 40%

Scrap value 100.
<table>
<thead>
<tr>
<th>Depreciation rate</th>
<th>Depreciation expense</th>
<th>Accumulated depreciation</th>
<th>Book value at year-end</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>original cost</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1,000.00</td>
</tr>
<tr>
<td>40%</td>
<td>400.00</td>
<td>400.00</td>
<td>600.00</td>
</tr>
<tr>
<td>40%</td>
<td>240.00</td>
<td>640.00</td>
<td>360.00</td>
</tr>
<tr>
<td>40%</td>
<td>144.00</td>
<td>784.00</td>
<td>216.00</td>
</tr>
<tr>
<td>40%</td>
<td>86.40</td>
<td>870.40</td>
<td>129.60</td>
</tr>
<tr>
<td>129.60-100.00</td>
<td>29.60</td>
<td>900.00</td>
<td>scrap value</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>100.00</td>
</tr>
</tbody>
</table>

**Accounting Entries under Straight Line and Reducing Balance Methods:**

**First Alternative**

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

1) Depreciation Account Dr.
   To Provision for Depreciation Account

2) Profit and Loss Account Dr.
   To 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.

Depreciation Account Dr.
   To Asset Account

Depreciation Account Dr.
**Class Example**

PQR company bought a machine for 20,000. The company uses fixed installment method of depreciation and estimates that the machine will have a useful life of 6 years and leave a scrap value of 2,000.

A)

<table>
<thead>
<tr>
<th>Account</th>
<th>Debit</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depreciation Account</td>
<td></td>
<td>3000</td>
</tr>
<tr>
<td>To Provision for Depreciation Account</td>
<td></td>
<td>3000</td>
</tr>
<tr>
<td>Profit and Loss Account</td>
<td></td>
<td>3000</td>
</tr>
<tr>
<td>To Depreciation Account</td>
<td></td>
<td>3000</td>
</tr>
</tbody>
</table>

B)

<table>
<thead>
<tr>
<th>Account</th>
<th>Debit</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depreciation A/c</td>
<td>3000</td>
<td>3000</td>
</tr>
<tr>
<td>......................................... Dr.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>......................................... To Machine A/c</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Profit and Loss A/c.....................</td>
<td>3000</td>
<td>3000</td>
</tr>
<tr>
<td>Dr.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>......................................... To Deprecation A/c</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Sum of Years of Digits Method**

- Under this method, the annual depreciation is determined by multiplying the depreciable cost by a schedule of fractions.
- Sum of the years' digits method of depreciation is one of the accelerated depreciation techniques which are based on the assumption that assets are generally more productive when they are new and their productivity decreases as they become old.
- The formula to calculate depreciation under SYD method is:

\[
\text{SYD Depreciation} = \frac{\text{Depreciable base} \times \text{Remaining useful life(including the present Year)}}{\text{Sum of the years' digits}}
\]
Depreciable base = Cost − Salvage Value

Class Example:

If an asset has original cost of 1000, a useful life of 5 years and a salvage value of 100, compute its depreciation schedule.

Answer:

First, determine the years' digits. Since the asset has a useful life of 5 years, the years' digits are: 5, 4, 3, 2, and 1.

Next, calculate the sum of the digits: 5+4+3+2+1=15

The sum of the digits can also be determined by using the formula \( (n^2+n)/2 \) where \( n \) is equal to the useful life of the asset in years. The example would be shown as \( (5^2+5)/2=15 \)

Depreciation rates are as follows:

5/15 for the 1st year, 4/15 for the 2nd year, 3/15 for the 3rd year, 2/15 for the 4th year, and 1/15 for the 5th year.

<table>
<thead>
<tr>
<th>Depreciable base(a)</th>
<th>Depreciation rate(b)</th>
<th>Depreciation expense (c)</th>
<th>Accumulated depreciation (d)</th>
<th>Book value at end of year (e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>900</td>
<td>5/15</td>
<td>300</td>
<td>300</td>
<td>1,000 (original cost)</td>
</tr>
<tr>
<td>900</td>
<td>4/15</td>
<td>240</td>
<td>540</td>
<td>460</td>
</tr>
<tr>
<td>900</td>
<td>3/15</td>
<td>180</td>
<td>720</td>
<td>280</td>
</tr>
<tr>
<td>900</td>
<td>2/15</td>
<td>120</td>
<td>840</td>
<td>160</td>
</tr>
<tr>
<td>900</td>
<td>1/15</td>
<td>60</td>
<td>900</td>
<td>100(Scarp value)</td>
</tr>
</tbody>
</table>

Annuity Method

This method of depreciation considers the cost of the asset and also the amount of interest lost on the capital expenditure. Thus, it is based on the assumption that if the amount
that is spent on the purchase of the asset was invested elsewhere, it would have earned a certain amount of interest.

Relevant Journal entries are:

(1) **For charging interest on asset account**
   
   Asset Account  
   To Interest Account

(2) **For charging depreciation on asset**
   
   Depreciation Account  
   To Asset Account or Provision for Depreciation Account

(3) **For transferring depreciation to Profit and Loss Account**
   
   Profit and Loss Account  
   To Depreciation Account

(4) **For transferring interest to Profit and Loss Account**
   
   Interest Account  
   To Profit and Loss Account

**CLASS EXAMPLE.**

A Ltd. purchased a 5 years lease on 1 April 2013 for ₹500000. It is decided to write off depreciation on lease using the Annuity Method. The rate of interest is presumed to be 6% p.a. The annuity for ₹1 for 5 years at 6% interest is 0.237396. Prepare the Lease A/c and the Profit & Loss A/c for 5 years.

**Ans:** Amount of depreciation to be written off every year = 0.237396 x 500000 = ₹118698

**Sinking Fund Method**

Sinking fund method is used when the cost of replacement of an asset is too large. Depreciation is charged every year to the profit and loss A/c. But, it may sometimes happen that the amount is not readily available at the time of purchase of the new asset. Thus, the sinking fund method is used.

- The amount of depreciation to be charged every year is calculated after considering the element of interest. The interest will be earned on the amount which is invested every year and will remain invested till the useful life of the asset.
- At the time of the replacement of the asset, the investment is sold and the new asset is purchased from the sale proceeds. At this time, the book value of the old asset that needs to be replaced is transferred to the Sinking Fund Account.
- Also, the sale proceeds of the old asset and any profit or loss from the sale of investments are transferred to the Sinking Fund Account. The balance in the Sinking Fund Account is then transferred to the Profit and Loss A/c or General Reserve.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. For <strong>Depreciation</strong></td>
<td>Depreciation A/c…………………………….. DR. To Sinking Fund A/c (Being depreciation on the asset transferred to the sinking fund account)</td>
</tr>
<tr>
<td>2. For transferring depreciation to P&amp;L A/c</td>
<td>Profit and Loss A/c……………………………..Dr. To Depreciation A/c (Being depreciation charged to the profit and loss A/c)</td>
</tr>
<tr>
<td>3. For investing the depreciation amount</td>
<td>Sinking Fund Investment A/c…………………..Dr. To Bank A/C (Being amount of depreciation invested)</td>
</tr>
<tr>
<td>4. For interest earned</td>
<td>Bank A/c……………………………..Dr. To Interest on Sinking Fund Investment A/c (Being interest earned on the sinking fund investments)</td>
</tr>
<tr>
<td>5. For transferring interest on investment</td>
<td>Interest on Sinking Fund Investment A/c…………………..Dr. To Sinking Fund A/c (Being interest on Sinking Fund Investment transferred to Sinking Fund A/c)</td>
</tr>
<tr>
<td>6. For sale of sinking fund investment</td>
<td>Bank A/c…………………..Dr. To Sinking Fund Investment A/c (Being Sinking Fund Investment sold at the end of the useful life of the asset)</td>
</tr>
<tr>
<td>7. For the profit on the sale of investment</td>
<td>Sinking Fund Investment A/c…………………..Dr To Sinking Fund A/c (Being profit on the sale of investment transferred to sinking fund)</td>
</tr>
<tr>
<td>8. For loss on sale of investment</td>
<td>Sinking Fund A/c…………………..Dr. To Sinking Fund Investment A/c (Being loss on sale of investment transferred to sinking fund)</td>
</tr>
</tbody>
</table>
9. For transferring the book value of the asset
   Sinking Fund A/c……………….Dr.
   To Asset A/c
   (Being the book value of the asset transferred to the sinking fund)

10. For the transfer of surplus in Sinking fund
    Sinking Fund A/c……………………..Dr.
    To General Reserve A/c
    (Being surplus in sinking fund transferred to the General Reserve)

11. For transfer of deficit in sinking fund
    Profit & Loss A/c………………..Dr.
    To Sinking Fund A/c
    (Being deficit in sinking fund transferred to profit and loss A/c)

### Machine Hour Method

- This is also known as Service Hours Method.
- This method takes into account the running time of the asset for the purpose of calculating depreciation.
- The method has the advantage of correlating the charge for depreciation, to the actual working time of the machine. However, this method can be used only in case of those assets whose life can be measured in terms of working time.
- The method is particularly suitable for charging depreciation on plant and machinery, air-crafts, etc.

#### Hourly Depreciation Rate

\[
\text{Hourly Depreciation Rate} = \frac{\text{Original Cost of Machine} - \text{Scrap Value}}{\text{Estimated Life of the Machine in Hours}}
\]

**Annual Depreciation**

\[
\text{Annual Depreciation} = \{\text{Working of Machine in a Year}\} \times \text{Hourly Depreciation Rate} \quad \text{(Calculate in hours)}
\]

### Class Example

A machine was acquired on 1st April 2004 at a cost of 45000, the cost of installation was RS. 5000. It is expected that its total life will be 1,00,000 hours. During 2004, it worked for 8,000 and during 2005 for 12000 hours. Depreciation for 2004 and 2005.

**SOLUTION**
Hourly Depreciation Rate = Cost of machine + cost of installation / estimated life

\[ \text{HDR} = \frac{45000 + 5000}{1,00,000} = \text{Rs.0.50 per hour} \]

Year 2004 = 8000 * 0.50 = 4000

Year 2005 = 12000 * 0.50 = 6000

**Production Units Method**

Under this method depreciation of the asset is determined by comparing the annual production with the estimated total production. The amount of depreciation is computed by the use of following method:

\[
\text{Depreciation for the period} = \text{Depreciation Amount} \times \frac{\text{Production during the period}}{\text{Estimated total production}}
\]

The method is applicable to machines producing product of uniform specifications

**Class Example:**

M/s Cube textiles purchased machinery for ₹200000 on 1st January. It has an estimated useful life of 10 years and an estimated residual value of ₹20000. The firm sells the asset at the residual value at the end of the 10th year. The machine has an expected production of 15000 units during its useful life. Now the production pattern is as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Production (units per year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3</td>
<td>2000</td>
</tr>
<tr>
<td>4-7</td>
<td>1500</td>
</tr>
<tr>
<td>8-10</td>
<td>1000</td>
</tr>
</tbody>
</table>

Calculate the amount of depreciation using the Units of Production Method. Pass necessary journal entries. Also, prepare Machinery A/c.

**Solution:**

Calculation of depreciation under Units of Production Method:

Depreciable Value = Original cost – Scrap value = 200000 - 20000 = 180000

Annual Depreciation = Depreciable Value \times \text{Units produced during the year/Estimated total production}

<table>
<thead>
<tr>
<th>YEAR</th>
<th>Annual Depreciation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3</td>
<td>180000\times2000/15000=24000</td>
</tr>
<tr>
<td>4-7</td>
<td>180000\times1500/15000=18000</td>
</tr>
<tr>
<td>8-10</td>
<td>180000\times1000/15000=12000</td>
</tr>
</tbody>
</table>
**Depletion Method**

This method is used in case of mines, quarries etc. containing only a certain quantity of product. The depreciation rate is calculated by dividing the cost of the asset by the estimated quantity of product likely to be available.

Annual depreciation will be the quantity extracted multiplied by the rate per unit.

\[
\text{Depreciation} = \frac{\text{Estimated Total Cost} - \text{Residual Value}}{\text{Estimated total output (units)}} \times \text{Actual output during the year.}
\]

**PROFIT OR LOSS ON THE SALE/DISPOSAL OF PROPERTY, PLANT AND EQUIPMENT**

- Whenever any depreciable asset is sold during the year, depreciation is charged on it for the period it has been used in the sale year.
- The written down value after charging such depreciation is used for calculating the profit or loss on the sale of that asset.
- The resulting profit or loss on sale of the asset is ultimately transferred to profit and loss account.

**Class example**

The book value of the asset as on 1st January, 2015 is Rs 50,00,000. Depreciation is charged on the asset @10%. On 1st July 2015, the asset is sold for Rs 32,00,000. In such a situation, profit or loss on the sale will be calculated as follows:

<table>
<thead>
<tr>
<th></th>
<th>Rs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Book value as on 1st Jan., 2015</td>
<td>50,00,000</td>
</tr>
<tr>
<td>Less: Depreciation for 6 months @10% (from 1st Jan., 2015 to 30th June, 2015)</td>
<td>(2,50,000)</td>
</tr>
<tr>
<td>Written down value as on 1st July, 2015</td>
<td>47,50,000</td>
</tr>
<tr>
<td>Less: Sale proceeds as on 1st July, 2015</td>
<td>(32,00,000)</td>
</tr>
<tr>
<td>Loss on sale of the asset</td>
<td>15,50,000</td>
</tr>
</tbody>
</table>
CHANGE IN THE METHOD OF DEPRECIATION

- **Accounting** policies and principles need to be consistently applied while recording the financial transactions. This is the Principle of Consistency. Any change in the method of depreciation implies a change in accounting estimate. Thus, there should be valid reasons for a change in method of depreciation.

- At the end of each financial year, **management** should review the method of depreciation. When there is a significant change in the pattern of the future economic benefits from the **asset** then the method of depreciation should also be changed.

- As per the **Accounting Standard 1**- Disclosure of Accounting Policies, the change in the method of depreciation is a change in the accounting estimate. Thus, it requires quantification and full disclosure in the footnotes. Also, the justification and financial effects of the change needs to be disclosed.

- Thus, the method of depreciation can be changed **without retrospective effect** or **with retrospective effect**.

<table>
<thead>
<tr>
<th>Without Retrospective effect</th>
<th>With Retrospective effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>No adjustment will be made for past entries and only in the future depreciation shall be charged by the new method.</td>
<td>the amount of depreciation to be charged is adjusted from the date of purchase of the asset.</td>
</tr>
</tbody>
</table>

**Class Example**-

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of Machine</td>
<td>1050000</td>
</tr>
<tr>
<td>Residual Value</td>
<td>50000</td>
</tr>
<tr>
<td>Useful life</td>
<td>10 years</td>
</tr>
</tbody>
</table>

The company charges depreciation on straight line method for the first two years and thereafter decides written down value method by charging depreciation@25%.(calculated based on useful life). You are required to calculate depreciation for the 3rd year.

Depreciation already charged for the first 2 years as per straight line method is Rs 2,00,000. Therefore, WDV for 2nd year is Rs 8,50,000

Therefore in the profit and loss account of the 3rd year, the depreciation of Rs 2,12,500 (25% of Rs 850,000) should be debited.
REVISION OF THE ESTIMATED USEFUL LIFE OF PROPERTY, PLANT AND EQUIPMENT

The residual value and the useful life of an asset should be reviewed at least at each financial year-end and, if expectations differ from previous estimates, the change(s) should be accounted for as a change in an accounting estimate in accordance with Accounting Standards. Whenever there is a revision in the estimated useful life of the asset, the unamortized depreciable amount should be charged over the revised remaining estimated useful life of the asset.

REVALUATION OF PROPERTY, PLANT AND EQUIPMENT

- If there is an upward revision in the value of asset for the first time, then the amount of appreciation is debited to Asset Account and credited to Revaluation Reserve Account.
- If there is downward revision in the value of asset then Profit and Loss Account is debited and Asset Account is credited.
- If an asset was earlier revalued downward and later on revalued upward then the appreciation to the extent of earlier downfall is credited to profit and loss account.
- If an asset was earlier revalued upward and then later on it was revalued downward then the downfall to the extent of earlier appreciation is debited to Revaluation Reserve Account.
- In case the revaluation has a material effect on the amount of depreciation, the same should be disclosed separately in the year in which revaluation is carried out.
PROVISION FOR REPAIRS AND RENEWALS

- Expenditure incurred for repairs, renewals and maintenance on plant and machinery may vary over the years during the working life. Thus, for equalising the charge of repairs and renewals, sometimes a Provision for Repairs and Renewals Account is opened.
- Total of such expenses that may be incurred over the working life is estimated beforehand. Average of this expenditure is debited to Profit and Loss Account and credited to Provision for Repairs and Renewals Account irrespective of actual expenses incurred.
- Every year Provision for Repairs and Renewals Account is debited and Repairs Account is credited for actual expenses incurred.
- The balance in provision for Repairs and Renewals Account is carried forward and in the end or on sale of the asset, the account is closed by transfer to the Asset Account for any balance left.
**Class Example:**
The following particulars are available from the books of a public company having a large fleet of vehicles:

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>31.3.2016</td>
<td>Balance in Provision for Repairs and Renewals Account as on 31.3.2016</td>
<td>11,50,000</td>
</tr>
<tr>
<td></td>
<td>Actual repairs charged/incurred during the year ended 31.3.2016</td>
<td>7,50,000</td>
</tr>
<tr>
<td></td>
<td>Actual repairs charged/incurred during the year ended 31.3.2017</td>
<td>3,20,000</td>
</tr>
<tr>
<td></td>
<td>The company makes an annual provision of Rs4,00,000 on repairs and renewals.</td>
<td></td>
</tr>
</tbody>
</table>

**Required**
Draw up the Provision for Repairs and Renewals Account for the years 2015-2016 and 2016-2017.

**SOLUTION**

<table>
<thead>
<tr>
<th>Date</th>
<th>Particulars</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>31.3.2016</td>
<td>To Repairs A/c</td>
<td>75,000</td>
</tr>
<tr>
<td>1.4.2015</td>
<td>By Balance b/d (Balancing figure)</td>
<td>150,000</td>
</tr>
<tr>
<td>31.3.2016</td>
<td>To Balance c/d</td>
<td>1,15,000</td>
</tr>
<tr>
<td>1.4.2016</td>
<td>By profit &amp; loss a/c</td>
<td>40,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1,90,000</td>
</tr>
<tr>
<td>31.3.2017</td>
<td>To repairs a/c</td>
<td>32,000</td>
</tr>
<tr>
<td>1.4.2016</td>
<td>By Bal. B/d</td>
<td>1,15,000</td>
</tr>
<tr>
<td>31.3.2017</td>
<td>To Balance c/d</td>
<td>1,23,000</td>
</tr>
<tr>
<td>31.3.2017</td>
<td>By Profit &amp; Loss A/c</td>
<td>40,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1,55,000</td>
</tr>
<tr>
<td></td>
<td>1.4.2017 By Balance B/d</td>
<td>1,23,000</td>
</tr>
</tbody>
</table>
PRACTICAL QUESTION

QUESTION 1. (ICAI MODULE)
Jain Bros. acquired a machine on 1st July, 2015 at a cost of Rs 14,00,000 and spent Rs1,00,000 on its installation. The firm writes off depreciation at 10% p.a. of the original cost every year. The books are closed on 31st December every year.

Required
Show the Machinery Account and Depreciation Account for the year 2015 and 2016.

QUESTION 2. (ICAI MODULE)
Ram acquired a machine on 1st July, 2015 at a cost of Rs14,00,000 and spent Rs1,00,000 on its installation. The firm writes off depreciation at 10% p.a. every year. The books are closed on 31st December every year.

Required
Show the Machinery Account on diminishing balance method for the year 2015 and 2016.

QUESTION 3. (ICAI MODULE)
M/s Akash purchased a machine for Rs 10,00,000. Estimated useful life and scrap value were 10 years and Rs 1,20,000 respectively. The machine was put to use on 1.1.2010.

Required
Show Machinery Account and Depreciation Account in their books for 2015 by using sum of year’s digits method.

QUESTION 4. (ICAI MODULE)
A lease is purchased on 1st April, 2012 for 4 years at a cost of Rs 2,00,000. It is proposed to depreciate the lease by the annuity method charging 5 percent interest. A reference to the annuity table shows that to depreciate Rs 1 by annuity method over 4 years charging 5% interest, one must write off amount Rs0.282012 [To write off Rs 2,00,000 one has to write off every year Rs 56,402. 40i.e. .0.282012×2,00,000].

Required
Show the Lease Account for four years and also the relevant entries in the profit and loss account.
QUESTION 5. (ICAI MODULE)
On 1st April, 2013, Z Limited purchased the lease of property for Rs 10,00,000. The lease would expire on 31st March, 2016. Z Ltd., decided to set up a sinking fund. The Sinking Fund was to be credited (or debited) with an annual contribution from profit, the interest on the investments and any profits (or losses) made on the realization of the sinking fund investments. The sinking fund was to be represented by specific investment, and any sums made available to the sinking fund were to be immediately invested, except at the termination of the fund.

During the three years following transactions took place:

2014 31st March: A contribution from profits of Rs 3,20,000 was made and this sum was invested.

2014 13th Oct.: Investments which originally costed Rs 1,10,000 were sold for Rs 1,20,000 and the proceeds of sale were re-invested.

2015 31st March: A contribution from profits of Rs 3,20,000 was made; interest on investments of Rs 16,000 was received and these amounts were reinvested.

2015 9th August: Investments which originally costed Rs 2,10,000 were sold at a profit of Rs 20,000 and proceeds of sale were re-invested.

2016 31st March: Interest on investments Rs 48,000 was received which was not invested. All existing investments we resold for Rs 6,60,000. A contribution from profit of amount required to make up the sinking fund to Rs 10,00,000 was made and this amount was not invested.

Required

QUESTION 6. (ICAI MODULE)
On 1st April, 2013, Z Limited purchased the lease of property for Rs 10,00,000. The lease would expire on 31st March, 2016. Z Ltd., decided to set up a sinking fund. The Sinking Fund was to be credited (or debited) with an annual contribution from profit, the interest on the investments and any profits (or losses) made on the realization of the sinking fund investments. The sinking fund was to be represented by specific investment, and any sums made available to the sinking fund were to be immediately invested, except at the termination of the fund.
During the three years following transactions took place:

2014 31st March: A contribution from profits of Rs3,20,000 was made and this sum was invested.

2014 13th Oct.: Investments which originally costed Rs 1,10,000 were sold for Rs1,20,000 and the proceeds of sale were re-invested.

2015 31st March: A contribution from profits of Rs3,20,000 was made; interest on investments of Rs 16,000 was received and these amounts were reinvested.

2015 9th August: Investments which originally costed Rs 2,10,000 were sold at a profit of Rs 20,000 and proceeds of sale were re-invested.

2016 31st March: Interest on investments Rs48,000 was received which was not invested. All existing investments we resold for Rs 6,60,000. A contribution from profit of amount required to make up the sinking fund to Rs 10,00,000 was made and this amount was not invested.

Required
Prepare Lease Account and Depreciation Account for the years 1st April, 2013 to 31st March, 2016.

**QUESTON 7. (ICAI MODULE)**
A machine was purchased for Rs30,00,000 having an estimated total working of 24,000 hours. The scrap value is expected to be Rs 2,00,000 and anticipated pattern of distribution of effective hours is as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Hours per Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3</td>
<td>3,000</td>
</tr>
<tr>
<td>4-6</td>
<td>2,600</td>
</tr>
<tr>
<td>7-10</td>
<td>1,800</td>
</tr>
</tbody>
</table>

Required
Determine Annual Depreciation under Machine Hour Rate Method.

**QUESTION 8. (ICAI MODULE)**
A machine is purchased for Rs2 0,00,000. Its estimated useful life is 10 years with a residual value of Rs 2,00,000. The machine is expected to produce 1.5 lakh units during its life time. Expected distribution pattern of production is as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3</td>
<td>20,000 units per year</td>
</tr>
<tr>
<td>4-7</td>
<td>15,000 units per year</td>
</tr>
</tbody>
</table>
Required
Determine the value of depreciation for each year using production units method.

**QUESTION 9. (ICAI MODULE)**
M/s Surya took lease of a quarry on 1-1-2013 for Rs 1,00,00,000. As per technical estimate the total quantity of mineral deposit is 2,00,000 tonnes. Depreciation was charged on the basis of depletion method. Extraction pattern is given in the following table:

<table>
<thead>
<tr>
<th>Year</th>
<th>Quantity of Mineral extracted</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>2,000 tonnes</td>
</tr>
<tr>
<td>2014</td>
<td>10,000 tonnes</td>
</tr>
<tr>
<td>2015</td>
<td>15,000 tonnes</td>
</tr>
</tbody>
</table>

Required
Show the Quarry Lease Account and Depreciation Account for each year from 2013 to 2015.

**QUESTION 10. (ICAI MODULE)**
A firm purchased on 1st January,2015 certain machinery for Rs 5,82,000 and spent Rs 18,000 on its erection. On July 1,2015 another machinery for Rs 2,00,000 was acquired. On 1st July,2016 the machinery purchased on 1st January,2015 having become obsolete was auctioned for Rs 3,86,000 and on the same date fresh machinery was purchased at a cost of Rs 4,00,000. Depreciation was provided for annually on 31st December at the rate of 10 percent p.a. on written down value.

Required
Prepare machinery account.

**QUESTION 11.**
M/s Anshul commenced business on 1st January 2011, when they purchased plant and equipment for Rs 7,00,000. They adopted a policy of charging depreciation at 15% per annum on diminishing balance basis and over the years, their purchases of plant have been:
**Date** | **Amount Rs**
--- | ---
1-1-2012 | 1,50,000
1-1-2015 | 2,00,000

On 1-1-2015 it was decided to change the method and rate of depreciation to straight line basis. On this date remaining useful life was assessed as 6 years for all the assets purchased before 1.1.2015 and 10 years for the asset purchased on 1.1.2015 with no scrap value.

Required
Calculate the difference in depreciation to be adjusted in the Plant and Equipment Account for the year ending 31st December, 2015.

**QUESTION 12.**
A Machine costing Rs 6,00,000 is depreciated on straight line basis, assuming 10 years working life and Nil residual value, for three years. The estimate of remaining useful life after third year was reassessed at 5 years.

Required
Calculate depreciation for the fourth year.

**QUESTION 13.**
A machine of cost Rs 12,00,000 is depreciated straight-line assuming 10 year working life and zero residual value for three years. At the end of third year, the machine was revalued upwards by Rs 60,000 there maining useful life was reassessed at 9 years.

Required
Calculate depreciation for the fourth year.

**QUESTION 14.**
The following particulars are available from the books of a public company having a large fleet of vehicles:

<table>
<thead>
<tr>
<th>Amount Rs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance in Provision for Repairs and Renewals Account as on 31.3.2016</td>
</tr>
<tr>
<td>Actual repairs charged/incurred during the year ended 31.3.2016</td>
</tr>
</tbody>
</table>
The company makes an annual provision of Rs4,00,000 on repairs and renewals.

**QUESTION 15. (ICAI MODULE)**

The Machinery Account of a Factory showed a balance of Rs 19,00,000 on 1st January, 2015. Its accounts were made up on 31st December each year and depreciation is written off at 10% p.a. under the Diminishing Balance Method.

On 1st June 2015, a new machinery was acquired at a cost of Rs 2,80,000 and installation charges incurred in erecting the machine works out to Rs 8,920 on the same date. On 1st June, 2015 a machine which had cost Rs 4,37,400 on 1st January 2013 was sold for Rs 75,000. Another machine which had cost Rs4,37,000 on 1st January, 2014 was scrapped on the same date and it realized nothing.

Write a plant and machinery account for the year 2015, allowing the same rate of depreciation as in the past calculating depreciation to the nearest multiple of a Rupee.

**QUESTION 16. (ICAI MODULE)**

The LG Transport company purchased 10 trucks at Rs 45,00,000 each on 1st April 2014. On October 1st, 2016, one of the trucks is involved in an accident and is completely destroyed and Rs 27,00,000 is received from the insurance in full settlement. On the same date another truck is purchased by the company for the sum of Rs 50,00,000. The company write of 20% on the original cost per annum. The company observe the calendar year as its financial year.

Give the motor truck account for two year ending 31 Dec, 2017.