# UNIT 2 :
# INDIAN ACCOUNTING STANDARD 16 : PROPERTY, PLANT AND EQUIPMENT

## LEARNING OUTCOMES

**After studying this unit, you will be able to**

- State the objective and scope of this standard
- Define various terms used in the standard
- Apply the revaluation and cost models of accounting for property, plant and equipment
- Interpret the differences between repairs and maintenance, replacement and major inspection
- Account for the changes in depreciation method, useful life and residual value
- Integrate the accounting for changes in existing, decommissioning, restoration and similar assets

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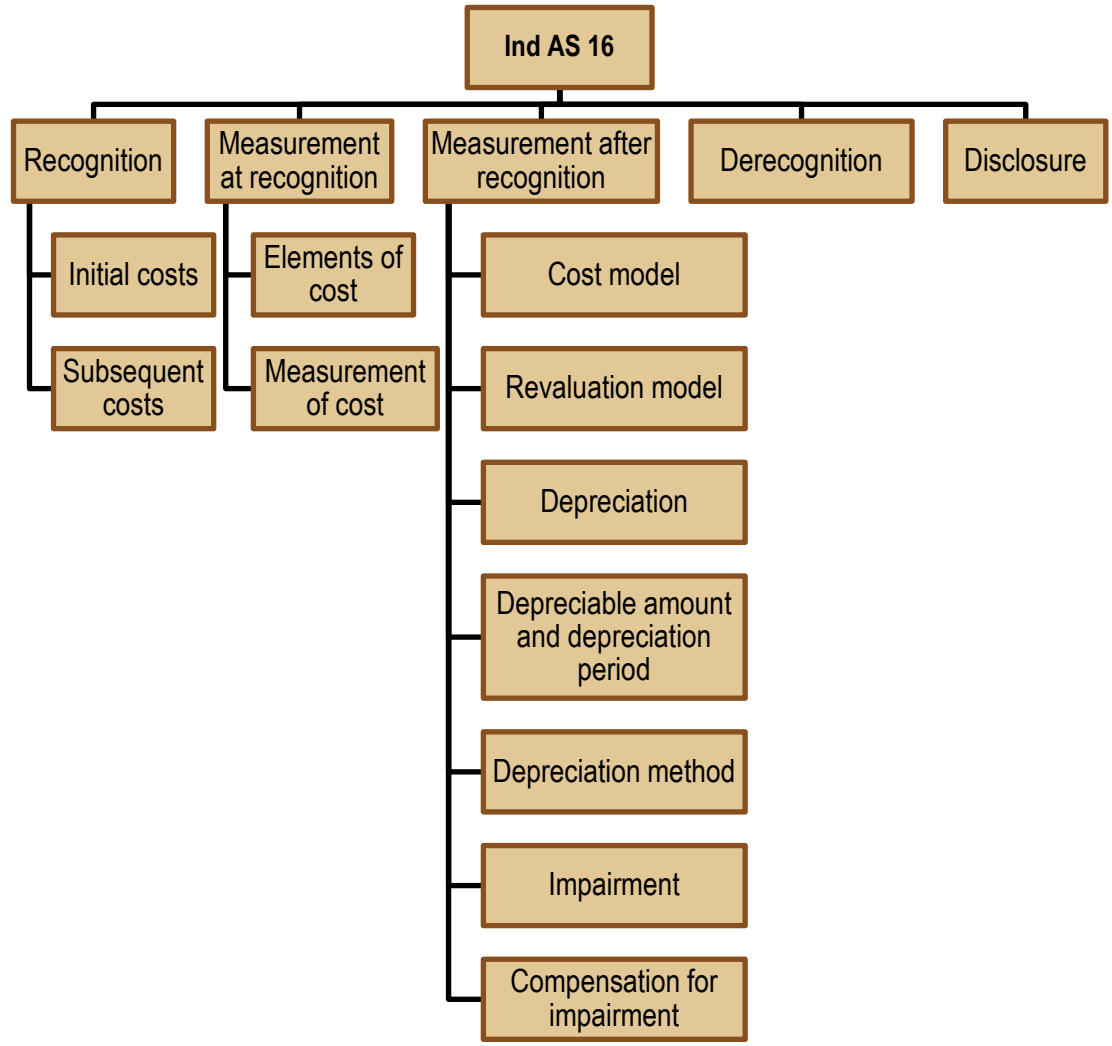
## UNIT OVERVIEW

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## 2.1 OBJECTIVE

The objective of this Standard is to prescribe the accounting treatment for property, plant and equipment so that users of the financial statements can discern information about an entity's investment in its property, plant and equipment and the changes in such investment. The principal issues in accounting for property, plant and equipment are the recognition of the assets, the determination of their carrying amounts and the depreciation charges and impairment losses to be recognized in relation to them.

## 2.2 SCOPE

- This Standard shall be applied in accounting for property, plant and equipment except when another Standard requires or permits a different accounting treatment.
- This Standard does not apply to:

| | |
|---|---|
| (a) PPE classified as held for sale (as per Ind AS 105) | (b) Biological assets related to agricultural activity other than bearer plants (Ind AS 41) |
| (c) Recognition and measurement of exploration and evaluation assets (Ind AS 106) | (d) Mineral rights and mineral reserves such as oil, natural gas and similar non-regenerative resources |

However, this Standard applies to property, plant and equipment used to develop or maintain the assets described in (b)–(d).

- An entity accounting for investment property in accordance with Ind AS-40, *Investment Property,* shall use the cost model in this Standard for owned investment property.

## 2.3 RELEVANT DEFINITIONS

The following are the key terms used in this standard:

- **Property, plant and equipment** are tangible items that:

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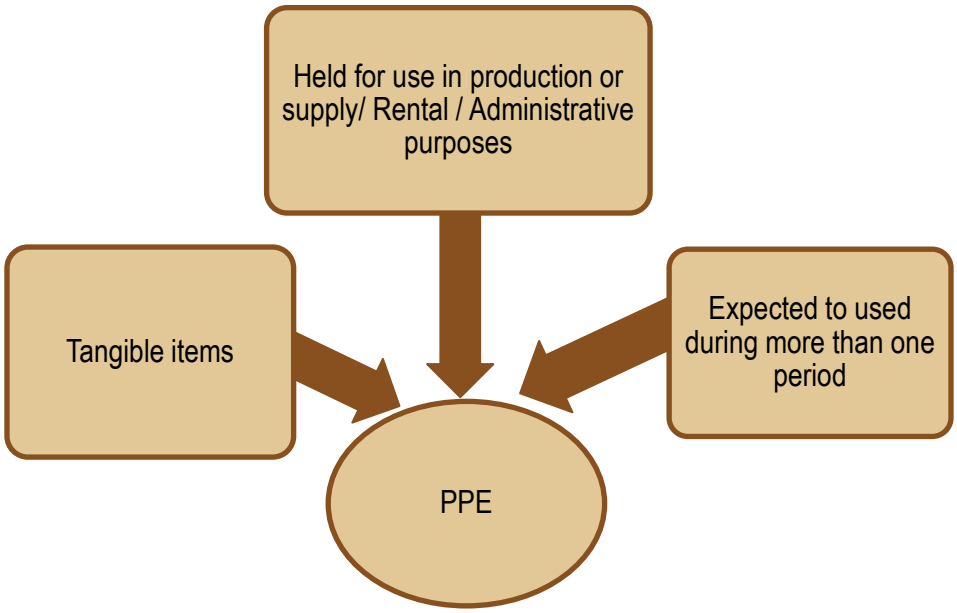
(a) are held for use in the production or supply of goods or services, for rental to others, or for administrative purposes; and

(b) are expected to be used during more than one period.




- A **bearer plant** is a living plant that:

  (a) is used in the production or supply of agricultural produce;

  (b) is expected to bear produce for more than one period; and

  (c) has a remote likelihood of being sold as agricultural produce, except for incidental scrap sales.

- **Carrying amount** is the amount at which an asset is recognized after deducting any accumulated depreciation and accumulated impairment losses.

- **Cost** is the amount of cash or cash equivalents paid or the fair value of the other consideration given to acquire an asset at the time of its acquisition or construction or, where applicable, the amount attributed to that asset when initially recognized in accordance with the specific requirements of other Indian Accounting Standards, e.g. Ind AS 102, *Share-based Payment*.

- **Depreciable amount** is the cost of an asset, or other amount substituted for cost, less its residual value.

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- **Depreciation** is the systematic allocation of the depreciable amount of an asset over its useful life.
- **Entity-specific value** is the present value of the cash flows an entity expects to arise from the continuing use of an asset and from its disposal at the end of its useful life or expects to incur when settling a liability.
- **Fair value** is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. (See Ind AS 113, *Fair Value Measurement*.)
- An **impairment loss** is the amount by which the carrying amount of an asset exceeds its recoverable amount.
- **Recoverable amount** is the higher of an asset's fair value less costs of disposal and its value in use.
- The **residual value** of an asset is the estimated amount that an entity would currently obtain from disposal of the asset, after deducting the estimated costs of disposal, if the asset were already of the age and in the condition expected at the end of its useful life.
- Useful life is:
  - (a) the period over which an asset is expected to be available for use by an entity; or
  - (b) the number of production or similar units expected to be obtained from the asset by an entity.

## 2.4 RECOGNITION

### 2.4.1 General recognition criteria

The cost of an item of property, plant and equipment shall be recognized as an asset if, and only if:

(a) it is probable that future economic benefits associated with the item will flow to the entity; and

(b) the cost of the item can be measured reliably.

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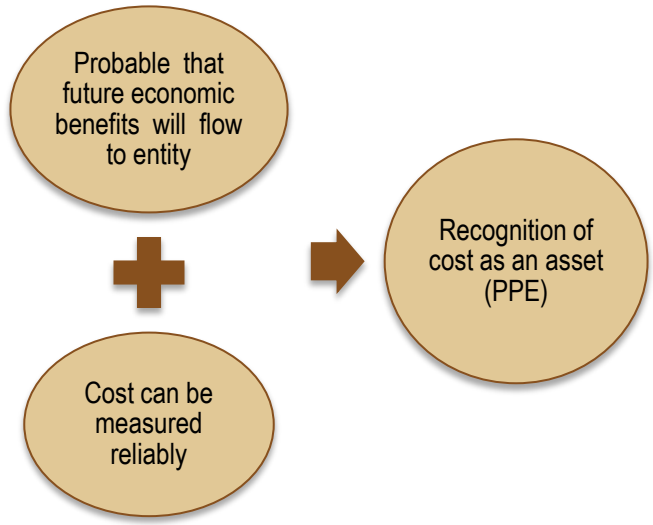


## 2.4.2 Recognition of Spare parts, stand-by equipment and servicing equipment

Items such as spare parts, stand-by equipment and servicing equipment are recognized in accordance with this Ind AS when they meet the definition of property, plant and equipment. Otherwise, such items are classified as inventory.

## 2.4.3 Unit of measurement for recognition of PPE and Aggregation of individually insignificant items

This Standard does not prescribe the unit of measure for recognition, ie what constitutes an item of property, plant and equipment. Thus, judgement is required in applying the recognition criteria to an entity's specific circumstances. It may be appropriate to aggregate individually insignificant items, such as moulds, tools and dies, and to apply the criteria to the aggregate value.

An entity evaluates under this recognition principle all its property, plant and equipment costs at the time they are incurred. These costs include costs incurred initially to acquire or construct an item of property, plant and equipment and costs incurred subsequently to add to, replace part of, or service it.

## 2.4.4 Initial Cost

Items of property, plant and equipment may be acquired for safety or environmental reasons. The acquisition of such property, plant and equipment, although not directly increasing the future economic benefits of any particular existing item of property, plant and equipment, may be necessary for an entity to obtain the future economic benefits from its other assets.

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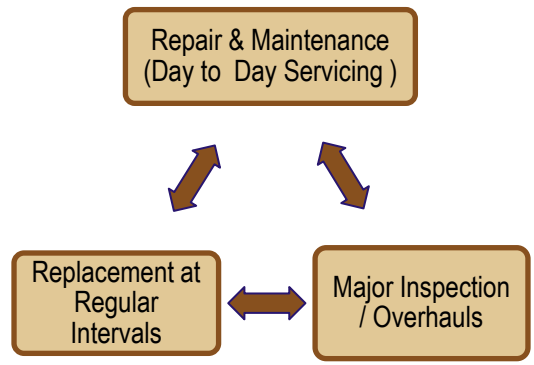
Such items of property, plant and equipment qualify for recognition as assets because they enable an entity to derive future economic benefits from related assets in excess of what could be derived had those items not been acquired.

For example: A chemical manufacturer may install new chemical handling processes to comply with environmental requirements for the production and storage of dangerous chemicals; related plant enhancements are recognized as an asset because without them the entity is unable to manufacture and sell chemicals. However, the resulting carrying amount of such an asset and related assets is reviewed for impairment in accordance with Ind AS 36 Impairment of Assets.

## 2.4.5 Subsequent costs




### 2.4.5.1 Repair and maintenance

An entity does not recognize in the carrying amount of an item of property, plant and equipment the costs of the day-to-day servicing of the item. Rather, these costs are recognized in profit or loss as incurred. Costs of day-to-day servicing are primarily the costs of labour and consumables and may include the cost of small parts.

### 2.4.5.2 Replacement of parts of a property, plant and equipment

- Parts of some items of property, plant and equipment may require replacement at regular intervals. For example, a furnace may require relining after a specified number of hours of use, or aircraft interiors such as seats and galleys may require replacement several times during the life of the airframe.
- Items of property, plant and equipment may also be acquired to make a less frequently recurring replacement, such as replacing the interior walls of a building, or to make a non-recurring replacement.

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- Under the recognition principle, an entity recognizes in the carrying amount of an item of property, plant and equipment the cost of replacing part of such an item when that cost is incurred if the recognition criteria are met. The carrying amount of those parts that are replaced is derecognized in accordance with the derecognition provisions of this Standard.

### 2.4.5.3 Major inspections or overhauls

- A condition of continuing to operate an item of property, plant and equipment (for example, an aircraft) may be performing regular major inspections for faults regardless of whether parts of the item are replaced.
- When each major inspection is performed, its cost is recognized in the carrying amount of the item of property, plant and equipment as a replacement if the recognition criteria are satisfied.
- Any remaining carrying amount of the cost of the previous inspection is derecognized. This occurs regardless of whether the cost of the previous inspection was identified in the transaction in which the item was acquired or constructed. If necessary, the estimated cost of a future similar inspection may be used as an indication of what the cost of the existing inspection component was when the item was acquired or constructed.

**Example - Inspection Cost**

A shipping company is required by law to bring all ships into dry dock every five years for a major inspection and overhaul. Overhaul expenditure might at first sight seem to be a repair to ships but it is actually a cost incurred in getting the ship back into a seaworthy condition. As such the costs must be capitalised.

A ship which cost ₹ 20 million with a 20 year life must have major overhaul every five years. The estimated cost of the overhaul at the five-year point is ₹ 5 million.

The depreciation charge for the first five years of the assets life will be as follows:

| | Overhaul component (million) | Ship (other than overhaul component) (million) |
|---|---|---|
| Cost | 5 | 15 |
| Years | 5 | 20 |
| Depreciation per year | 1 | 0.75 |

Total accumulated depreciation for the first five years will be ₹ 8.75 million (₹ (1 + 0.75) x 5), and the carrying amount of the ship at the end of year 5 will be ₹ 11.25 million (₹ 20 less 8.75).

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Assume that the actual overhaul costs incurred at the end of year 5 are ₹ 6 million. This amount will now be capitalised into the costs of the ship, to give a carrying amount of ₹ 17.25 million (being ₹ 11.25 million plus 6 million).

The depreciation charge for years 6 to 10 will be as follows:

| | Overhaul component (₹ in million) | Ship (other than overhaul component) (₹ in million) |
|---|---|---|
| Cost | 6 | 11.25 |
| Years | 5 | 15 |
| Depreciation per year | 1.2 | 0.75 |

Annual depreciation for years 6 to 10 will now be ₹ 1.95 million [₹ (1.2 + 0.75)]. This process will be continued for years 11 to 15 and years 16 to 20. By the end of year 20, the capital cost of ₹ 20 million will have been depreciated plus the actual overhaul costs incurred at years 5, 10 and 15.

# 2.5 MEASUREMENT AT RECOGNITION

## 2.5.1 Measurement at cost

An item of property, plant and equipment that qualifies for recognition as an asset should be initially measured at its cost.

## 2.5.2 Element of cost

### 2.5.2.1 Cost of an acquired asset

#### *2.5.2.1.1 Component of cost*

- The cost of an item of property, plant and equipment comprises:

  (a) its purchase price, including import duties and non-refundable purchase taxes, after deducting trade discounts and rebates;

  (b) any costs directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management; and

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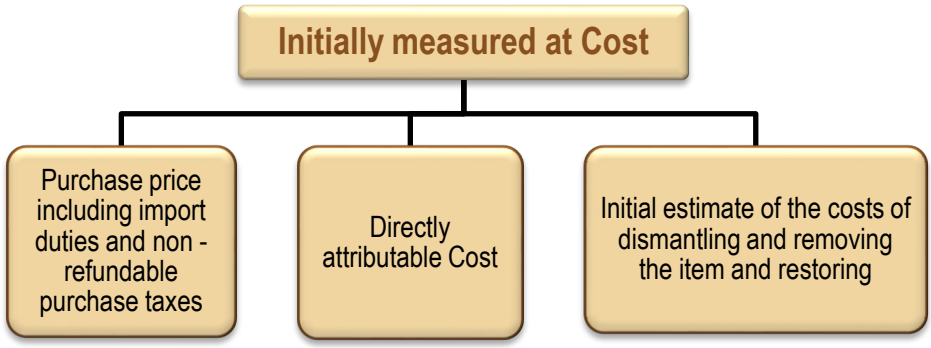
(c) the initial estimate of the costs of dismantling and removing the item and restoring the site on which it is located, the obligation for which an entity incurs either when the item is acquired or as a consequence of having used the item during a particular period for purposes other than to produce inventories during that period.




♦ **Examples of directly attributable costs are:**

- Employee benefits cost arising directly from construction or acquisition of PPE
- Cost of Site Preparation
- Initial delivery and handling costs
- Installation and assembly costs
- Professional Fees
- Costs of testing whether the asset is functioning properly, after deducting the net proceeds from selling any items produced while bringing the asset to that location and condition (such as samples produced when testing equipment).

  **Note:** Excess of net sale proceeds of items produced over the cost of testing, if any, shall not be recognized in the profit or loss but deducted from the directly attributable costs considered as part of cost of an item of property, plant, and equipment

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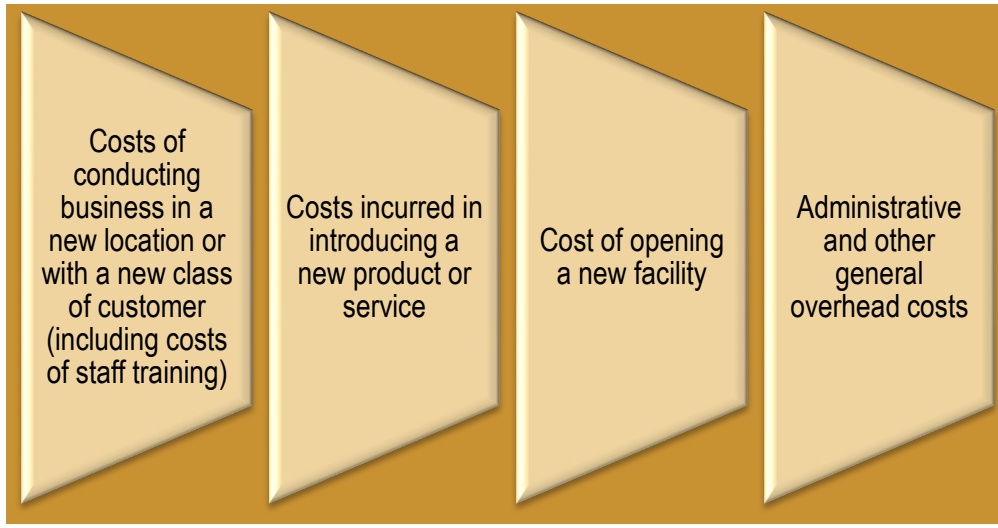
- **Examples of costs that are not costs of an item of property, plant and equipment are:**




### 2.5.2.2 Cost of self-constructed asset and Bearer Plants

The cost of a self-constructed asset is determined using the same principles as for an acquired asset. If an entity makes similar assets for sale in the normal course of business, the cost of the asset is usually the same as the cost of constructing an asset for sale. Therefore, any internal profits are eliminated in arriving at such costs.

Similarly, the cost of abnormal amounts of wasted material, labour, or other resources incurred in self-constructing an asset is not included in the cost of the asset.

Ind AS 23 'Borrowing Costs', establishes criteria for the recognition of interest as a component of the carrying amount of a self-constructed item of property, plant and equipment.

Bearer plants are accounted for in the same way as self-constructed items of property, plant and equipment before they are in the location and condition necessary to be capable of operating in the manner intended by management. Consequently, references to 'construction' in this Standard should be read as covering activities that are necessary to cultivate the bearer plants before they are in the location and condition necessary to be capable of operating in the manner intended by management.

### 2.5.2.3 Cost of dismantling, removal and site restoration

Cost incurred by an entity in respect of obligation for dismantling, removing and restoring the site on which an item of property, plant and equipment is located are recognized and measured in accordance with Ind AS 37, Provisions, Contingent Liabilities and Contingent Assets.

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If the obligations are incurred when the asset is acquired, or during a period when the item is used other than to produce inventories, they are included in the cost of the item property, plant and equipment.

An entity applies Ind AS 2, Inventories, to the costs of obligations for dismantling, removing and restoring the site on which an item is located that are incurred during a particular period as a consequence of having used the item to produce inventories during that period.

### 2.5.2.4 Incidental operations

Some operations occur in connection with the construction or development of an item of property, plant and equipment, but are not necessary to bring the item to the location and condition necessary for it to be capable of operating in the manner intended by management.

These incidental operations may occur before or during the construction or development activities. For example, income may be earned through using a building site as a car park until construction starts.

Because incidental operations are not necessary to bring an item to the location and condition necessary for it to be capable of operating in the manner intended by management, the income and related expenses of incidental operations are recognized in profit or loss and included in their respective classifications of income and expense.

### 2.5.2.5 Cessation of capitalisation

Recognition of costs in the carrying amount of an item of property, plant and equipment ceases when the item is in the location and condition necessary for it to be capable of operating in the manner intended by management. Therefore, costs incurred in using or redeploying an item are not included in the carrying amount of that item.

- **For example, the following costs are not included in the carrying amount of an item of property, plant and equipment:**

  (a) costs incurred while an item capable of operating in the manner intended by management has yet to be brought into use or is operated at less than full capacity;

  (b) initial operating losses, such as those incurred while demand for the item's output builds up; and

  (c) costs of relocating or reorganizing part or all of an entity's operations.

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Example

Moon Ltd incurs the following costs in relation to the construction of a new factory and the introduction of its products to the local market. The below table illustrates which of the items of cost can be capitalised as per Ind AS 16.

| Particulars | ₹ 000 (Cost incurred) | ₹ 000 (As per Ind AS 16) |
|---|---|---|
| Site preparation costs | 150 | 150 |
| Direct Material | 2,000 | 2,000 |
| Direct Labour cost, including ₹ 10,000 incurred during an industrial strike | 1,160 | 1,150 |
| Testing of various processes in factory | 200 | 200 |
| Consultancy fees for installation of equipment | 300 | 300 |
| Relocation of staff to new factory | 450 | - |
| General overheads | 550 | - |
| Estimated Costs to dismantle (at present value) | 200 | 200 |
| **Total Cost to be Capitalised as per Ind AS 16** | | **4,000** |

## 2.5.3 Measurement of cost

### 2.5.3.1 Payment deferred beyond normal credit terms

The cost of an item of property, plant and equipment is the cash price equivalent at the recognition date. If payment is deferred beyond normal credit terms, the difference between the cash price equivalent and the total payment is recognized as interest over the period of credit unless such interest is capitalised in accordance with Ind AS 23.

**Illustration 1 - Deferred Payment Credit**

*On 1st April, 20X1, an item of property is offered for sale at ₹ 10 million, with payment terms being three equal installments of ₹ 33,33,333 over a two-year period (payments are made on 1st April, 20X1, 31st March, 20X2 and 31st March, 20X3). Implicit interest rate of 5.36 percent p.a.*

*Pass necessary journal entries for recording the property in accordance with Ind AS 16.*

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## Solution

Ind AS 16 requires that the cost of an item of PPE is the cash price equivalent at the recognition date. Hence, the purchaser that takes up the deferred payment terms will recognize the acquisition of the asset as follows:

| | | (₹) | (₹) |
|---|---|---|---|
| On 1st April, 20X1 | | | |
| Property, Plant and Equipment (W.N. 1) | Dr. | 95,00,000 | |
| To Bank A/c | | | 33,33,333 |
| To Accounts Payable (W.N. 2) | | | 61,66,667 |
| *(Initial recognition of property)* | | | |
| On 31st March, 20X2 | | | |
| Interest Expense (W.N. 2) | Dr. | 3,30,533 | |
| Accounts payable (W.N. 2) | Dr. | 30,02,800 | |
| To Bank A/c | | | 33,33,333 |
| *(Recognition of interest expense and payment of second installment)* | | | |
| On 31st March, 20X3 | | | |
| Interest Expense (W.N. 2) | Dr. | 1,69,467 | |
| Accounts payable (W.N. 2) | Dr. | 31,63,867 | |
| To Bank A/c | | | 33,33,334 |
| *(Recognition of interest expense and payment of final installment)* | | | |

## Working Notes:

### 1. Calculation of cash price equivalent at initial recognition

| Year | Payment | Discounting factor @ 5.36% | Present value |
|---|---|---|---|
| 1.4.20X1 | 33,33,333 | 1.000 | 33,33,333 |
| 31.3.20X2 | 33,33,333 | 0.949 | 31,63,333 |
| 31.3.20X3 | 33,33,334 | 0.901 | 30,03,334 |
| Initial date cash price equivalent | 1,00,00,000 | | 95,00,000 |

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**2. Calculation of interest expenses**

| Year | Opening balance (a) | Interest @ 5.36% (b) = (a) x 5.36% | Total payment at year beginning (c) | Principal amount in the instalment (d) = (c) – (b) | Closing balance (e) = (a) - (d) |
|---|---|---|---|---|---|
| 1.4.20X1 | 95,00,000 | - | 33,33,333 | 33,33,333 | 61,66,667 |
| 31.3.20X2 | 61,66,667 | 3,30,533 | 33,33,333 | 30,02,800 | 31,63,867 |
| 31.3.20X3 | 31,63,867 | 1,69,467* | 33,33,334 | 31,63,867 | Nil |

*Difference of ₹ 116 [(31,63,867 x 5.36%) – (33,33,334 - 31,63,867)] is due to approximation.

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### 2.5.3.2 Measurement of PPE acquired in Exchange

- One or more items of property, plant and equipment may be acquired in exchange for a non-monetary asset or assets, or a combination of monetary and non-monetary assets. The cost of such an item of property, plant and equipment is measured at fair value (even if an entity cannot immediately derecognize the asset given up) unless:

  (a) the exchange transaction lacks commercial substance; or

  (b) the fair value of neither the asset received nor the asset given up is reliably measurable.

- If the acquired item is not measured at fair value [because of considerations mentioned in a) and b) above], its cost is measured at the carrying amount of the asset given up.

- An entity determines whether an exchange transaction has commercial substance by considering the extent to which its future cash flows are expected to change as a result of the transaction. An exchange transaction has commercial substance if:

  (a) the configuration (risk, timing and amount) of the cash flows of the asset received differs from the configuration of the cash flows of the asset transferred; or

  (b) the entity-specific value of the portion of the entity's operations affected by the transaction changes as a result of the exchange; and

  (c) the difference in (a) or (b) is significant relative to the fair value of the assets exchanged.

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- For the purpose of determining whether an exchange transaction has commercial substance, the entity-specific value of the portion of the entity's operations affected by the transaction shall reflect post-tax cash flows.
- The fair value of an asset is reliably measurable if:
  (a) the variability in the range of reasonable fair value measurements is not significant for that asset or
  (b) the probabilities of the various estimates within the range can be reasonably assessed and used when measuring fair value.
- If an entity is able to measure reliably the fair value of either the asset received or the asset given up, then the fair value of the asset given up is used to measure the cost of the asset received unless the fair value of the asset received is more clearly evident.
- The carrying amount of an item of property, plant and equipment may be reduced by Government grants in accordance with Ind AS 20, Accounting for Government Grants and Disclosure of Government Assistance.

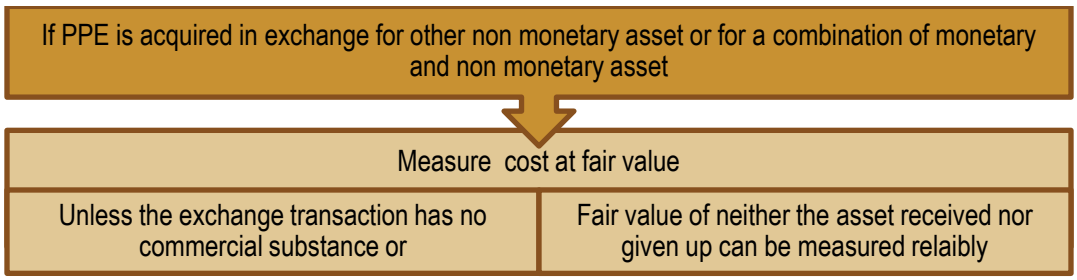


**Illustration 2 – Exchange of Assets**

*Pluto Ltd owns land and building which are carried in its balance sheet at an aggregate carrying amount of ₹ 10 million. The fair value of such asset is ₹ 15 million. It exchanges the land and building for a private jet, which has a fair value of ₹ 20 million, and pays additional ₹ 3 million in cash.*

*Apply necessary provisions of Ind AS 16 for the above transactions and pass journal entry for the same.*

**Solution**

Provided that the transaction has commercial substance, the entity should recognize the private jet at a cost of ₹ 18 million (being ₹ 15 million plus 3 million cash) and should recognize a profit on disposal of the land and building of ₹ 5 million, calculated as follow:

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| | | (₹ 000) |
|---|---|---|
| Recognition of fair value of asset acquired (15,000 + 3,000) | | 18,000 |
| *Less:* | Carrying amount of land and building disposed | (10,000) |
| | Cash Paid | (3,000) |
| Profit on exchange of assets | | 5,000 |

The required journal entry is therefore as follow:

| | | | |
|---|---|---|---|
| Property, Plant and Equipment (Private Jet) | Dr. | 18,000 | |
| To Property, Plant and Equipment (Land and Building) | | | 10,000 |
| To Cash | | | 3,000 |
| To Profit on exchange of assets | | | 5,000 |

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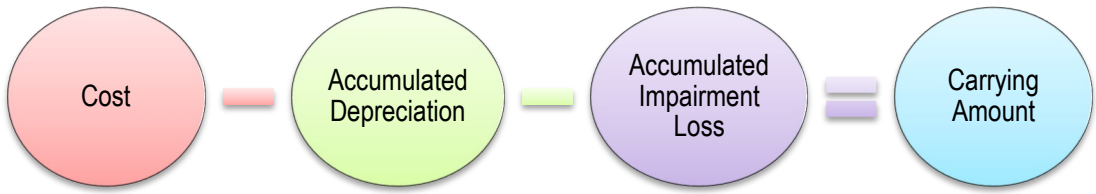
## 2.6 MEASUREMENT AFTER RECOGNITION

### 2.6.1 Alternative bases available for measurement after recognition

An entity shall choose either the cost model or the revaluation model as its accounting policy and shall apply that policy to an entire class of property, plant and equipment.

### 2.6.2 Cost model

After recognition as an asset, an item of property, plant and equipment shall be carried at its cost less any accumulated depreciation and any accumulated impairment losses.




### 2.6.3 Revaluation model

After recognition as an asset, an item of property, plant and equipment whose fair value can be measured reliably is carried at a revalued amount, being its fair value at the date of the revaluation

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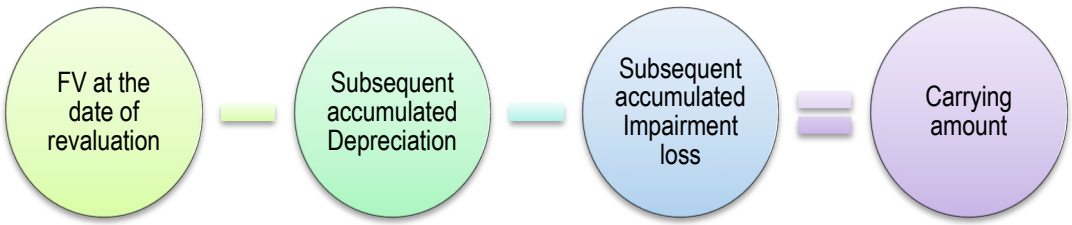
less any subsequent accumulated depreciation and subsequent accumulated impairment losses. Revaluations are required to be carried out with sufficient regularity to ensure that the carrying amount does not differ materially from that which would be determined using fair value at the end of the reporting period.




### 2.6.3.1 Frequency of revaluations

- The frequency of revaluations depends upon the changes in fair values of the items of property, plant and equipment being revalued. When the fair value of a revalued asset differs materially from its carrying amount, a further revaluation is required. Some items of property, plant and equipment experience significant and volatile changes in fair value, thus necessitating annual revaluation.
- Such frequent revaluations are unnecessary for items of property, plant and equipment with only insignificant changes in fair value. Instead, it may be necessary to revalue the item only every three or five years.

### 2.6.3.2 Accumulated depreciation at the date of revaluation

- When an item of property, plant and equipment is revalued, the carrying amount of that asset is adjusted to the revalued amount. At the date of the revaluation, the asset is treated in one of the following ways:

  (a) the gross carrying amount is adjusted in a manner that is consistent with the revaluation of the carrying amount of the asset. For example, the gross carrying amount may be restated by reference to observable market data or it may be restated proportionately to the change in the carrying amount. The accumulated depreciation at the date of the revaluation is adjusted to equal the difference between the gross carrying amount and the carrying amount of the asset after taking into account accumulated impairment losses; or

  (b) the accumulated depreciation is eliminated against the gross carrying amount of the asset.

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**Illustration 3: Accumulated depreciation at the date of revaluation**

*Jupiter Ltd. has an item of property, plant and equipment with an initial cost of ₹ 100,000. At the date of revaluation accumulated depreciation amounted to ₹ 55,000. The fair value of asset, by reference to transactions in similar assets, is assessed to be ₹ 65,000.*

*Prepare the necessary journal entries.*

**Solution**

***Method – I: Depreciation Elimination Approach***

| | | | |
|---|---|---|---|
| Accumulated depreciation | Dr. | 55,000 | |
| To Asset Cost | | | 55,000 |
| Asset Cost | Dr. | 20,000 | |
| To Revaluation reserve | | | 20,000 |

The net result is that the asset has a carrying amount of ₹ 65,000 (100,000 – 55,000 + 20,000).

***Method – II: Restatement Approach***

| | |
|---|---|
| Carrying amount (100,000 – 55,000) = | 45,000 |
| Fair value (revalued amount) | 65,000 |
| Surplus | 20,000 |
| % of surplus to the carrying amount (20,000 / 45,000) | 44.44% |

Entries to be Made:

| | | | |
|---|---|---|---|
| Asset (1,00,000 x 44.44%) | Dr. | 44,444 | |
| To Accumulated Depreciation (55,000 x 44.44%) | | | 24,444 |
| To Revaluation Reserve | | | 20,000 |

(Being the entry to increase both the original cost and the accumulated depreciation by 44.44%)

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### 2.6.3.3 Revaluation to be made for entire class of assets

If an item of property, plant and equipment is revalued, the entire class of property, plant and equipment to which that asset belongs shall be revalued.

A class of property, plant and equipment is a grouping of assets of a similar nature and use in an entity's operations. The following are examples of separate classes:

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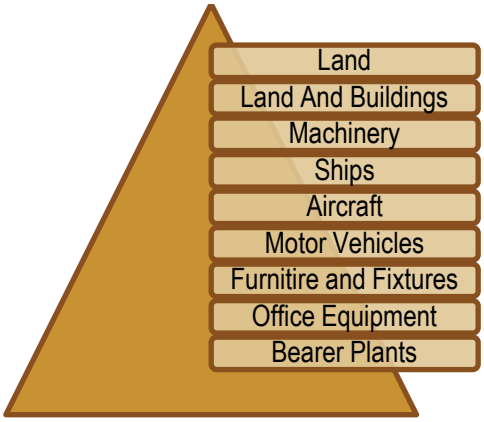


The items within a class of property, plant and equipment are revalued simultaneously to avoid selective revaluation of assets and the reporting of amounts in the financial statements that are a mixture of costs and values as at different dates.

However, a class of assets may be revalued on a rolling basis provided revaluation of the class of assets is completed within a short period and provided the revaluations are kept up to date.

**Illustration 4: Revaluation model for entire class**

*Venus Ltd. is a large manufacturing group. It owns a considerable number of industrial buildings, such as factories and warehouses, and office buildings in several capital cities. The industrial buildings are located in industrial zones whereas the office buildings are in central business districts of the cities. Venus's Ltd. management wants to apply the Ind AS 16 revaluation model to subsequent measurement of the office buildings but continue to apply the historical cost model to the industrial buildings.*

*Analyse the accounting treatment to be applied by the management in the light of Ind AS 16.*

**Solution**

Venus's Ltd. management can apply the revaluation model only to the office buildings.

The office buildings can be clearly distinguished from the industrial buildings in terms of their function, their nature and their general location.

Ind AS 16 permits assets to be revalued on a class-by-class basis.

The different characteristics of the buildings enable them to be classified as different PPE classes. The different measurement models can therefore be applied to these classes for subsequent measurement. All properties within the class of office buildings must therefore be carried at revalued amount. Separate disclosure of the two classes must be given in accordance with para 73 of Ind AS 16.

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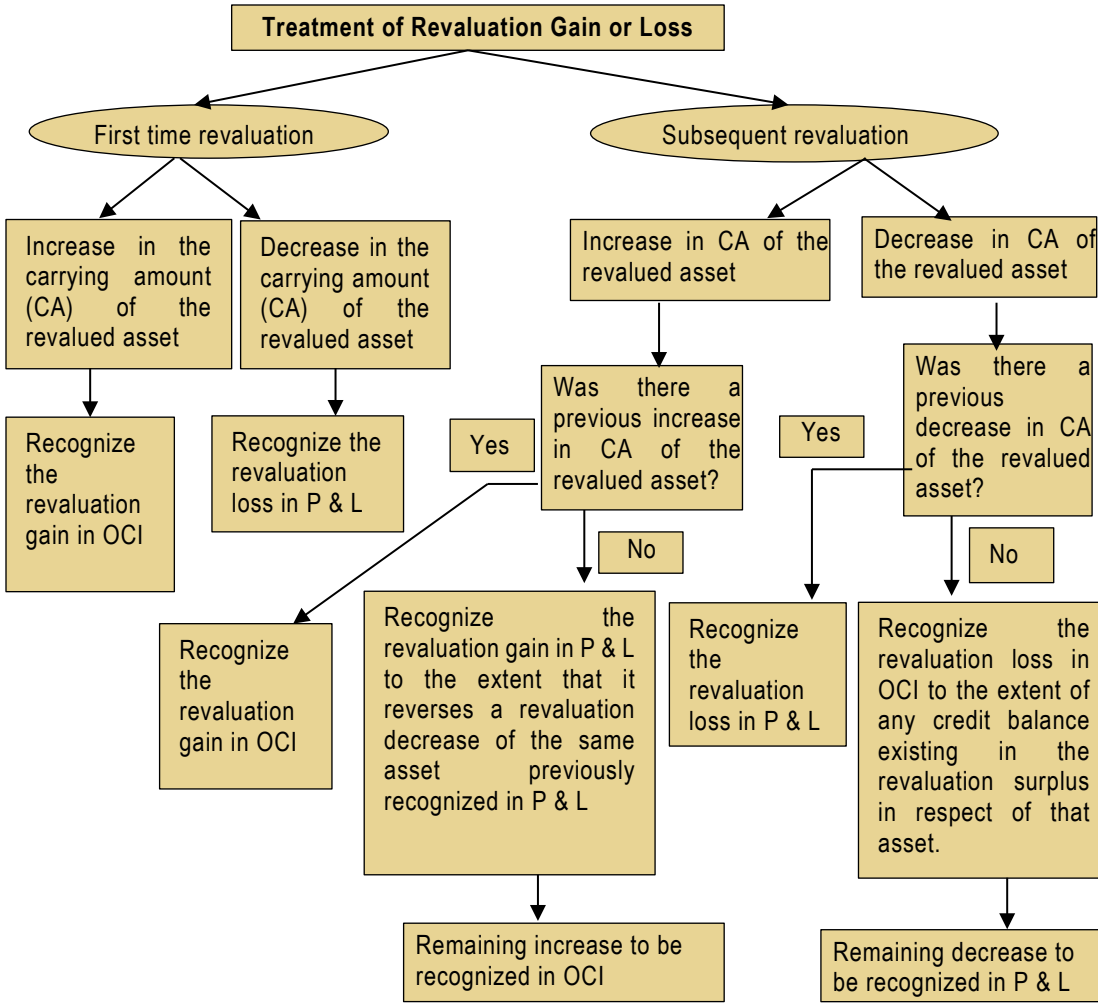
### 2.6.3.4 Treatment of surplus or deficit arising on revaluation

- If an asset's carrying amount is increased as a result of a revaluation, the increase shall be recognized in other comprehensive income and accumulated in equity under the heading of revaluation surplus. However, the increase shall be recognized in profit or loss to the extent that it reverses a revaluation decrease of the same asset previously recognized in profit or loss.
- If an asset's carrying amount is decreased as a result of a revaluation, the decrease shall be recognized in profit or loss. However, the decrease shall be recognized in other comprehensive income to the extent of any credit balance existing in the revaluation surplus in respect of that asset. The decrease recognized in other comprehensive income reduces the amount accumulated in equity under the heading of revaluation surplus.

**Treatment of revaluation gain and loss is summarized in the below diagram:**

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The revaluation surplus included in equity in respect of an item of property, plant and equipment may be transferred directly to retained earnings when the asset is derecognized. This may involve transferring the whole of the surplus when the asset is retired or disposed of.

However, some of the surplus may be transferred as the asset is used by an entity. In such a case, the amount of the surplus transferred would be the difference between depreciation based on the revalued carrying amount of the asset and depreciation based on the asset's original cost. Transfers from revaluation surplus to retained earnings are not made through profit or loss.

The effects of taxes on income, if any, resulting from the revaluation of property, plant and equipment are recognized and disclosed in accordance with Ind AS 12, *Income Taxes*.

**Illustration 5: Utilisation of Revaluation Surplus**

*An item of PPE was purchased for ₹ 9,00,000 on 1st April, 20X1. It is estimated to have a useful life of 10 years and is depreciated on a straight-line basis. On 1st April, 20X3, the asset is revalued to ₹ 9,60,000. The useful life remains unchanged as ten years. Ignore impact of deferred taxes.*

*Calculate depreciation and revaluation surplus for 20X3-20X4 as per Ind AS 16.*

**Solution**

| **Calculation of Additional Depreciation:** | **(₹)** |
|---|---|
| Actual depreciation for 20X3-20X4 based on revalued amount (9,60,000/8) | 1,20,000 |
| Depreciation for 20X3-20X4 based on historical cost (9,00,000/10) | (90,000) |
| Additional Depreciation | 30,000 |

In the profit or loss for 20X3-20X4, a depreciation expense of ₹ 1,20,000 will be charged. A reserve transfer, which will be shown in the statement of changes in equity, may be undertaken as follows:

| | | | |
|---|---|---|---|
| Revaluation surplus | Dr. | 30,000 | |
| To Retained earnings | | | 30,000 |

The closing balance on the revaluation surplus on 31st March, 20X4 will therefore be as follows:

| | | |
|---|---|---|
| Balance arising on revaluation (9,60,000 – 7,20,000) | | 2,40,000 |
| Transfer to retained earnings | | (30,000) |
| | | 2,10,000 |

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## 2.6.4 Depreciation

- The depreciable amount of an asset should be allocated on a systematic basis over its useful life. The depreciation charge for each period should be recognized in profit or loss unless it is included in the carrying amount of another asset.
- Each part of an item of property, plant and equipment with a cost that is significant in relation to the total cost of the item should be depreciated separately.
- An entity allocates the amount initially recognized in respect of an item of property, plant and equipment to its significant parts and depreciates separately each such part. For example, it may be appropriate to depreciate separately the airframe and engines of an aircraft.
- A significant part of an item of property, plant and equipment may have a useful life and a depreciation method that are the same as the useful life and the depreciation method of another significant part of that same item. Such parts may be grouped in determining the depreciation charge.
- To the extent that an entity depreciates separately some parts of an item of property, plant and equipment, it also depreciates separately the remainder of the item. The remainder consists of the parts of the item that are individually not significant. If an entity has varying expectations for these parts, approximation techniques may be necessary to depreciate the remainder in a manner that faithfully represents the consumption pattern and/or useful life of its parts.
- Land and buildings are separable assets and are accounted for separately, even when they are acquired together. With some exceptions, such as quarries and sites used for landfill, land has an unlimited useful life and therefore is not depreciated. Buildings have a limited useful life and therefore are depreciable assets. An increase in the value of the land on which a building stands does not affect the determination of the depreciable amount of the building.
- If the cost of land includes the costs of site dismantlement, removal and restoration, that portion of the land asset is depreciated over the period of benefits obtained by incurring those costs.
- In some cases, the land itself may have a limited useful life, in which case it is depreciated in a manner that reflects the benefits to be derived from it.

### 2.6.4.1 Residual Value

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

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change in an accounting estimate in accordance with Ind AS 8, *Accounting Policies, Changes in Accounting Estimates and Errors*.

**Illustration 6: Revision of Useful Life**

*An asset which cost ₹ 10,000 was estimated to have a useful life of 10 years and residual value ₹ 2000. After two years, useful life was revised to 4 remaining years.*

*Calculate the depreciation charge for the years 1,2,3.*

**Solution:** ₹

| | Year-1 | Year-2 | Year-3 |
|---|---|---|---|
| Cost | 10,000 | 10,000 | 10,000 |
| *Less:* Accumulated Depreciation | (800) | (1,600) | (3,200) |
| Carrying Amount | 9,200 | 8,400 | 6,800 |
| Charges for year | $\frac{10,000 - 2,000}{10} = 800$ | $\frac{10,000 - 2,000}{10} = 800$ | $\frac{8,400 - 2,000}{4} = 1,600$ |

*****

- The residual value of an asset may increase to an amount equal to or greater than the asset's carrying amount. If it does, the asset's depreciation charge is zero unless and until its residual value subsequently decreases to an amount below the asset's carrying amount.
- Depreciation is recognized even if the fair value of the asset exceeds its carrying amount, as long as the asset's residual value does not exceed its carrying amount. Repair and maintenance of an asset do not negate the need to depreciate it.

### 2.6.4.2 Commencement of depreciation

Depreciation of an asset begins when it is available for use, i.e. when it is in the location and condition necessary for it to be capable of operating in the manner intended by management.

### 2.6.4.3 Cessation of depreciation

- Depreciation of an asset ceases at the earlier of:
  - (a) the date that the asset is classified as held for sale (or included in a disposal group that is classified as held for sale) in accordance with Ind AS 105.
  - (b) and the date that the asset is derecognized.

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- Therefore, depreciation does not cease when the asset becomes idle or is retired from active use unless the asset is fully depreciated. However, under usage methods of depreciation the depreciation charge can be zero while there is no production.

### 2.6.4.4 Factors affecting the useful life of an asset

The future economic benefits embodied in an asset are consumed by an entity principally through its use. However, other factors, such as technical or commercial obsolescence and wear and tear while an asset remains idle, often result in the diminution of the economic benefits that might have been obtained from the asset. Consequently, all the following factors are considered in determining the useful life of an asset:

(a) expected usage of the asset. Usage is assessed by reference to the asset's expected capacity or physical output;

(b) expected physical wear and tear, which depends on operational factors such as the number of shifts for which the asset is to be used and the repair and maintenance programme, and the care and maintenance of the asset while idle;

(c) technical or commercial obsolescence arising from changes or improvements in production, or from a change in the market demand for the product or service output of the asset. Expected future reductions in the selling price of an item that was produced using an asset could indicate the expectation of technical or commercial obsolescence of the asset, which, in turn, might reflect a reduction of the future economic benefits embodied in the asset; and

(d) legal or similar limits on the use of the asset, such as the expiry dates of related leases.

### 2.6.4.5 Impact of an entity's asset management policy

The useful life of an asset is defined in terms of the asset's expected utility to the entity. The asset management policy of the entity may involve the disposal of assets after a specified time or after consumption of a specified proportion of the future economic benefits embodied in the asset.

Therefore, the useful life of an asset may be shorter than its economic life. The estimation of the useful life of the asset is a matter of judgement based on the experience of the entity with similar assets.

### 2.6.4.6 Depreciation method

The depreciation method used shall reflect the pattern in which the asset's future economic benefits are expected to be consumed by the entity.

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The depreciation method applied to an asset is reviewed at least at each financial year-end and, if there has been a significant change in the expected pattern of consumption of the future economic benefits embodied in the asset, the method should be changed to reflect the changed pattern. Such a change is accounted for as a change in an accounting estimate in accordance with Ind AS 8.

**Illustration 7: Change in Depreciation Method**

*An entity acquired an asset 3 years ago at a cost of ₹ 5 million. The depreciation method adopted for the asset was 10 percent reducing balance method.*

*At the end of Year 3, the entity estimates that the remaining useful life of the asset is 8 years and determines to adopt straight –line method from that date so as to reflect the revised estimated pattern of recovery of economic benefits.*

*Calculate the depreciation charge for respective years in accordance with Ind AS 16.*

**Solution**

Change in depreciation method shall be accounted for as a change in an accounting estimate in accordance with Ind AS 8 and hence will have a prospective effect.

Depreciation charges for year 1 to 11 will be as follows:

| | |
|---|---|
| Year 1 | ₹ 5,00,000 |
| Year 2 | ₹ 4,50,000 |
| Year 3 | ₹ 4,05,000 |
| Year 4 to Year 11 (refer W.N.) | ₹ 4,55,625 p.a. |

**Working Note:**

| Year | Opening balance of asset (a) | Depreciation @ 10% on (a) | Closing balance of asset (c) = (a)- (b) |
|---|---|---|---|
| 1 | 50,00,000 | 5,00,000 | 45,00,000 |
| 2 | 45,00,000 | 4,50,000 | 40,50,000 |
| 3 | 40,50,000 | 4,05,000 | 36,45,000 |

Year 3 onwards method of depreciation has been changed from reducing balance method to straight line method for which it is assessed that the remaining useful life is 8 years. Hence revised depreciation would be calculated as follows:

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Revised depreciation as per straight line method

= (Carrying amount as at the end of the 3rd year – Residual value) / Remaining useful life

= 36,45,000 / 8 years = ₹ 4,55,625 per annum (for year 4 to year 11)

*****

A variety of depreciation methods can be used to allocate the depreciable amount of an asset on a systematic basis over its useful life. These methods include:

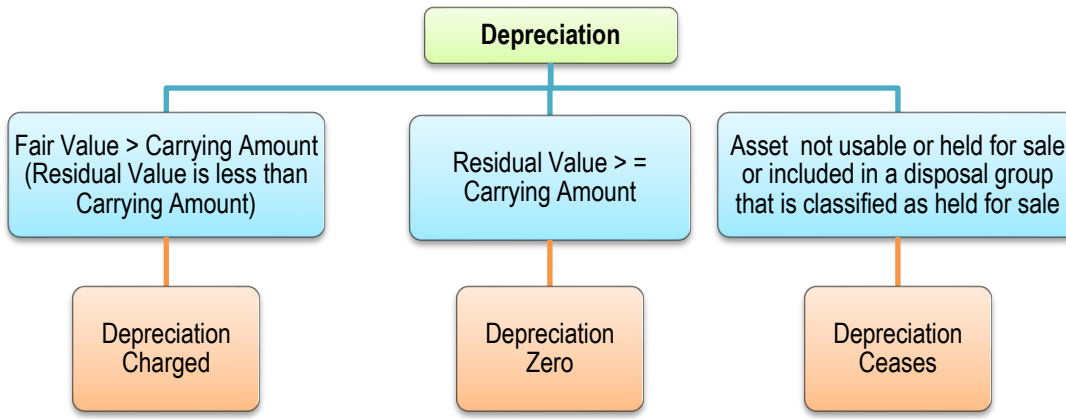
(a) Straight-line depreciation method results in a constant charge over the useful life if the asset's residual value does not change.

(b) Diminishing balance method results in a decreasing charge over the useful life.

(c) Units of production method results in a charge based on the expected use or output.

The entity selects the method that most closely reflects the expected pattern of consumption of the future economic benefits embodied in the asset. That method is applied consistently from period to period unless there is a change in the expected pattern of consumption of those future economic benefits.

A depreciation method that is based on revenue that is generated by an activity that includes the use of an asset is not appropriate. The revenue generated by an activity that includes the use of an asset generally reflects factors other than the consumption of the economic benefits of the asset (e.g. revenue is affected by other inputs and processes, selling activities and changes in sales volumes and prices). The price component of revenue may be affected by inflation, which has no bearing upon the way in which an asset is consumed.

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## 2.6.5 Impairment

### 2.6.5.1 Identification of an impairment loss

To determine whether an item of property, plant and equipment is impaired, an entity applies Ind AS 36, *Impairment of Assets*. Ind AS 36 explains how an entity reviews the carrying amount of its assets, how it determines the recoverable amount of an asset, and when it recognizes, or reverses the recognition of, an impairment loss.

### 2.6.5.2 Compensation for impairment

- Compensation from third parties for items of property, plant and equipment that were impaired, lost or given up shall be included in profit or loss when the compensation becomes receivable.
- Impairments or losses of items of property, plant and equipment, related claims for or payments of compensation from third parties and any subsequent purchase or construction of replacement assets are separate economic events and are accounted for separately as follows:

  (a) impairments of items of property, plant and equipment are recognized in accordance with Ind AS 36;

  (b) derecognition of items of property, plant and equipment retired or disposed of is determined in accordance with this Standard;

  (c) compensation from third parties for items of property, plant and equipment that were impaired, lost or given up is included in determining profit or loss when it becomes receivable; and

  (d) the cost of items of property, plant and equipment restored, purchased or constructed as replacements is determined in accordance with this Standard.

# 2.7 DERECOGNITION

## 2.7.1 Derecognition- general

- The carrying amount of an item of property, plant and equipment should be derecognized:

  (a) on disposal; or

  (b) when no future economic benefits are expected from its use or disposal.

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- The gain or loss arising from the derecognition of an item of property, plant and equipment is included in profit or loss when the item is derecognized (unless Ind AS 116 requires otherwise on a sale and leaseback). Gains shall not be classified as revenue.
- However, an entity that, in the course of its ordinary activities, routinely sells items of property, plant and equipment that it has held for rental to others shall transfer such assets to inventories at their carrying amount when they cease to be rented and become held for sale. The proceeds from the sale of such assets shall be recognized as revenue in accordance with Ind AS 115, Revenue from Contracts with Customers.
- The date of disposal of an item of property, plant and equipment is the date the recipient obtains control of that item in accordance with Ind AS 115. Ind AS 116 applies to disposal by a sale and leaseback.
- If, under the recognition principle, an entity recognizes in the carrying amount of an item of property, plant and equipment the cost of a replacement for part of the item, then it derecognizes the carrying amount of the replaced part regardless of whether the replaced part had been depreciated separately. If it is not practicable for an entity to determine the carrying amount of the replaced part, it may use the cost of the replacement as an indication of what the cost of the replaced part was at the time it was acquired or constructed.
- The gain or loss arising from the derecognition of an item of property, plant and equipment shall be determined as the difference between the net disposal proceeds, if any, and the carrying amount of the item.
- The date of disposal of an item of property, plant and equipment is the date the recipient obtains control of that item in accordance with the requirements for determining when a performance obligation is satisfied in Ind AS 115. Ind AS 116 applies to disposal by a sale and leaseback.
- The amount of consideration to be included in the gain or loss arising from the derecognition of an item of property, plant and equipment is determined in accordance with the requirements for determining the transaction price in Ind AS 115.
- Subsequent changes to the estimated amount of the consideration included in the gain or loss shall be accounted for in accordance with the requirements for changes in the transaction price in Ind AS 115.

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## 2.8 DISCLOSURE

### 2.8.1 Disclosure- general

- The financial statements shall disclose, for each class of property, plant and equipment:
  - (a) the measurement bases used for determining the gross carrying amount;
  - (b) the depreciation methods used;
  - (c) the useful lives or the depreciation rates used; and
  - (d) the gross carrying amount and the accumulated depreciation (aggregated with accumulated impairment losses) at the beginning and end of the period.
- Entity is also required to provide a reconciliation of the carrying amount at the beginning and end of the period showing:
  - (a) additions;
  - (b) assets classified as held for sale or included in a disposal group classified as held for sale in accordance with Ind AS 105 and other disposals;
  - (c) acquisitions through business combinations;
  - (d) increases or decreases resulting from revaluations and from impairment losses recognized or reversed in other comprehensive income in accordance with Ind AS 36;
  - (e) impairment losses recognized in profit or loss in accordance with Ind AS 36;
  - (f) impairment losses reversed in profit or loss in accordance with Ind AS 36;
  - (g) depreciation;
  - (h) the net exchange differences arising on the translation of the financial statements from the functional currency into a different presentation currency, including the translation of a foreign operation into the presentation currency of the reporting entity; and
  - (i) other changes.
- The financial statements shall also disclose:
  - (a) the existence and amounts of restrictions on title, and property, plant and equipment pledged as security for liabilities;

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(b) the amount of expenditures recognized in the carrying amount of an item of property, plant and equipment in the course of its construction;

(c) the amount of contractual commitments for the acquisition of property, plant and equipment; and

(d) if it is not disclosed separately in the statement of profit and loss, the amount of compensation from third parties for items of property, plant and equipment that were impaired, lost or given up that is included in profit or loss.

- Selection of the depreciation method and estimation of the useful life of assets are matters of judgement. Therefore, disclosure of the methods adopted and the estimated useful lives or depreciation rates provides users of financial statements with information that allows them to review the policies selected by management and enables comparisons to be made with other entities. For similar reasons, it is necessary to disclose:

(a) depreciation, whether recognized in profit or loss or as a part of the cost of other assets, during a period; and

(b) accumulated depreciation at the end of the period.

- In accordance with Ind AS 8 an entity discloses the nature and effect of a change in an accounting estimate that has an effect in the current period or is expected to have an effect in subsequent periods. For property, plant and equipment, such disclosure may arise from changes in estimates with respect to:

(a) residual values;

(b) the estimated costs of dismantling, removing or restoring items of property, plant and equipment;

(c) useful lives; and

(d) depreciation methods

## 2.8.2 Items stated at revalued amounts

- If items of property, plant and equipment are stated at revalued amounts, the following should be disclose:

(a) the effective date of the revaluation;

(b) whether an independent valuer was involved;

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(c) for each revalued class of property, plant and equipment, the carrying amount that would have been recognized had the assets been carried under the cost model; and

(d) the revaluation surplus, indicating the change for the period and any restrictions on the distribution of the balance to shareholders.

## 2.8.3 Additional recommended disclosure

- Entities are encouraged but not required, to disclose the following amounts:

(a) the carrying amount of temporarily idle property, plant and equipment;

(b) the gross carrying amount of any fully depreciated property, plant and equipment that is still in use;

(c) the carrying amount of property, plant and equipment retired from active use and not classified as held for sale in accordance with Ind AS 105; and

(d) when the cost model is used, the fair value of property, plant and equipment when this is materially different from the carrying amount.

**Illustration 8**

*MS Ltd. has acquired a heavy machinery at a cost of ₹ 1,00,00,000 (with no breakdown of the component parts). The estimated useful life is 10 years. At the end of the sixth year, one of the major components, the turbine requires replacement, as further maintenance is uneconomical. The remainder of the machine is perfect and is expected to last for the next four years. The cost of a new turbine is ₹ 45,00,000. The discount rate assumed is 5%.*

*Analyse whether the cost of the new turbine can be recognized as an asset, and, if yes, then apply the accounting treatment relevant to it.*

**Solution**

The new turbine will produce economic benefits to MS Ltd., and the cost is measurable. Hence, the item should be recognized as an asset. The original invoice for the machine did not specify the cost of the turbine; however, the cost of the replacement ₹ 45,00,000 can be used as an indication (usually by discounting) of the likely cost, six years previously.

If an appropriate discount rate is 5% per annum, ₹ 45,00,000 discounted back six years amounts to ₹ 33,57,900 [₹ 45,00,000/$(1.05)^6$], i.e., the approximate cost of turbine before 6 years.

The current carrying amount of the turbine which is required to be replaced of ₹ 13,43,160 would be derecognized from the books of account, (i.e., Original Cost ₹ 33,57,900 as reduced by accumulated

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depreciation for past 6 years ₹ 20,14,740, assuming depreciation is charged on straight-line basis.)

The cost of the new turbine, ₹ 45,00,000 would be added to the cost of machine, resulting in a revision of carrying amount of machine to ₹ 71,56,840. (i.e., ₹ 40,00,000* – ₹ 13,43,160 + ₹ 45,00,000).

*Original cost of machine ₹ 1,00,00,000 reduced by accumulated depreciation (till the end of 6 years) ₹ 60,00,000.

*****

**Illustration 9**

*On 1st April, 20X1, XYZ Ltd. acquired a machine under the following terms:*

| | ₹ |
|---|---|
| *List price of machine* | *80,00,000* |
| *Import duty* | *5,00,000* |
| *Delivery fees* | *1,00,000* |
| *Electrical installation costs* | *10,00,000* |
| *Pre-production testing* | *4,00,000* |
| *Purchase of a five-year maintenance contract with vendor* | *7,00,000* |

*In addition to the above information XYZ Ltd. was granted a trade discount of 10% on the initial list price of the asset and a settlement discount of 5%, if payment for the machine was received within one month of purchase. XYZ Ltd. paid for the plant on 20th April, 20X1.*

*Compute the cost of the asset to be recognized.*

**Solution**

In accordance with Ind AS 16, all costs required to bring an asset to its present location and condition for its intended use should be capitalized. Therefore, the initial purchase price of the asset should be

| | ₹ |
|---|---|
| List price | 80,00,000 |
| *Less:* Trade discount (10%) | (8,00,000) |
| | 72,00,000 |
| Import duty | 5,00,000 |

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| | |
|---|---|
| Delivery fees | 1,00,000 |
| Electrical installation costs | 10,00,000 |
| Pre-production testing | 4,00,000 |
| Total amount to be capitalized at 1st April, 20X1 | **92,00,000** |

Maintenance contract is a separate contract to get service, therefore, the maintenance contract cost of ₹ 7,00,000 should be taken as a prepaid expense and charged to the profit or loss over a period of 5 years.

In addition, the settlement discount received of ₹ 3,60,000 (₹ 72,00,000 x 5%) is to be shown as other income in the profit or loss.

*****

**Illustration 10**

*X Limited started construction on a building for its own use on 1st April, 20X0. The following costs are incurred:*

| | ₹ |
|---|---|
| *Purchase price of land* | *30,00,000* |
| *Stamp duty & legal fee* | *2,00,000* |
| *Architect fee* | *2,00,000* |
| *Site preparation* | *50,000* |
| *Materials* | *10,00,000* |
| *Direct labour cost* | *4,00,000* |
| *General overheads* | *1,00,000* |

*Other relevant information: Material costing ₹ 1,00,000 had been spoiled and therefore wasted and a further ₹ 1,50,000 was spent on account of faulty design work. As a result of these problems, work on the building was stopped for two weeks during November, 20X0 and it is estimated that ₹ 22,000 of the labour cost relate to that period. The building was completed on 1st January, 20X1 and brought in use 1st April, 20X1. X Limited had taken a loan of ₹ 40,00,000 on 1st April, 20X0 for construction of the building. The loan carried an interest rate of 8% per annum and is repayable on 1st April, 20X2. Assume that the entity did not considered the construction period as substantial period of time as per Ind AS 23.*

*Calculate the cost of the building that will be included in tangible non-current asset as an addition?*

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### Solution

Only those costs which are directly attributable to bringing the asset into working condition for its intended use should be included. Administration and general costs cannot be included. Cost of abnormal amount of wasted material/ labor or other resources is not included as per para 22 of Ind AS 16. Here, the cost of spoilt materials and faulty designs are assumed to be abnormal costs. Also, it is assumed that the wastages and labor charges incurred are abnormal in nature. Hence, same are also not included in the cost of PPE.

Amount to be included in Property, Plant and Equipment (PPE):

| | ₹ |
|---|---|
| Purchase price of land | 30,00,000 |
| Stamp duty & legal fee | 2,00,000 |
| Architect fee | 2,00,000 |
| Site preparation | 50,000 |
| Material (10,00,000 – 2,50,000) | 7,50,000 |
| Direct labour cost (4,00,000 – 22,000) | 3,78,000 |
| General overheads | Nil |
| Interest* | Nil |
| Total to be capitalized | 45,78,000 |

*****

### Illustration 11

*XYZ Ltd. purchased an asset on 1st January, 20X0, for ₹1,00,000 and the asset had an estimated useful life of ten years and a residual value of nil. The company has charged depreciation using the straight-line method at ₹ 10,000 per annum. On 1st January, 20X4, the management of XYZ Ltd. reviews the estimated life and decides that the asset will probably be useful for a further four years and, therefore, the total life is revised to eight years.*

*Account for the asset for the remaining years.*

### Solution

Change in useful economic life of an asset is change in accounting estimate, which is to be applied prospectively, i.e., the depreciation charge will need to be recalculated. On 1st January, 20X4, when the asset's net book value is ₹ 60,000. The company should amend the annual provision

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for depreciation to charge the unamortised cost (namely, ₹ 60,000) over the revised remaining life of four years. Consequently, it should charge depreciation for the next four years at ₹ 15,000 per annum.

*****

**Illustration 12**

*On 1st April, 20X1, Sun Ltd. purchased some land for ₹ 10 million (including legal costs of ₹ 1 million) in order to construct a new factory. Construction work commenced on 1st May, 20X1. Sun Ltd incurred the following costs in relation with its construction:*

- *Preparation and levelling of the land – ₹ 3,00,000.*
- *Purchase of materials for the construction – ₹ 6.08 million in total.*
- *Employment costs of the construction workers – ₹ 2,00,000 per month.*
- *Overhead costs incurred directly on the construction of the factory – ₹ 1,00,000 per month.*
- *Ongoing overhead costs allocated to the construction project using the company's normal overhead allocation model – ₹ 50,000 per month.*
- *Income received during the temporary use of the factory premises as a car park during the construction period – ₹ 50,000.*
- *Costs of relocating employees to work at the new factory – ₹ 3,00,000.*
- *Costs of the opening ceremony on 31st January, 20X2 – ₹ 1,50,000.*

*The factory was completed on 30th November, 20X1 (which is considered as substantial period of time as per Ind AS 23) and production began on 1st February, 20X2. The overall useful life of the factory building was estimated at 40 years from the date of completion. However, it is estimated that the roof will need to be replaced 20 years after the date of completion and that the cost of replacing the roof at current prices would be 30% of the total cost of the building.*

*At the end of the 40-year period, Sun Ltd has a legally enforceable obligation to demolish the factory and restore the site to its original condition. The directors estimate that the cost of demolition in 40 years' time (based on prices prevailing at that time) will be ₹ 20 million. An annual risk adjusted discount rate which is appropriate to this project is 8%. The present value of ₹ 1 payable in 40 years' time at an annual discount rate of 8% is ₹ 0.046.*

*The construction of the factory was partly financed by a loan of ₹ 17·5 million taken out on 1st April, 20X1. The loan was at an annual rate of interest of 6%. Sun Ltd received investment income of ₹ 100,000 on the temporary investment of the proceeds.*

*Compute the carrying amount of the factory on the Balance Sheet of Sun Ltd at 31st March, 20X2. Explain the treatment of all the amounts referred to in this part of the answer.*

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**Solution**

Computation of the cost of the factory

| Description | Included in P.P.E. ₹ '000 | Explanation |
|---|---|---|
| Purchase of land | 10,000 | Both the purchase of the land and the associated legal costs are direct costs of constructing the factory. |
| Preparation and levelling | 300 | A direct cost of constructing the factory |
| Materials | 6,080 | A direct cost of constructing the factory |
| Employment costs of construction workers | 1,400 | A direct cost of constructing the factory for a seven-month period |
| Direct overhead costs | 700 | A direct cost of constructing the factory for a seven-month period |
| Allocated overhead costs | Nil | Not a direct cost of construction |
| Income from use as a car park | Nil | Not essential to the construction so recognized directly in profit or loss |
| Relocation costs | Nil | Not a direct cost of construction |
| Opening ceremony | Nil | Not a direct cost of construction |
| Finance costs | 612.50 | Capitalize the interest cost incurred in a seven-month period (purchase of land would not trigger off capitalization since land is not a qualifying asset. Infact, the construction started from 1st May, 20X1) |
| Investment income on temporary investment of the loan proceeds | (100) | offset against the amount capitalized |
| Demolition cost recognized as a provision | 920 | Where an obligation must recognize as part of the initial cost |
| Total | 19,912.50 | |
| **Computation of accumulated depreciation** | | |
| Total depreciable amount | 9,912.50 | All of the net finance cost of 512.50 (612.50 – 100) has been allocated to the depreciable amount. Also, acceptable to reduce by allocating a portion to the non-depreciable land element principle |

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| | | |
|---|---|---|
| Depreciation must be in two parts:<br>Depreciation of roof component<br>Depreciation of remainder | <br>49.56<br>57.82 | <br>9,912.50 x 30% x 1/20 x 4/12<br>9,912.50 x 70% x 1/40 x 4/12 |
| Total depreciation | 107.38 | |
| Computation of carrying amount | 19,805.12 | 19,912.50 – 107.38 |

*****

## 2.9 CHANGES IN EXISTING DECOMMISSIONING, RESTORATION AND SIMILAR LIABILITIES (APPENDIX A)

Many entities have obligations to dismantle, remove and restore items of property, plant and equipment after the end of particular period. The initial estimate of such costs is included in the cost of an item of property, plant and equipment. For instance, a lessee who has taken an office building on lease may do some leasehold improvements and may have an obligation under the lease agreement to dismantle the leasehold improvements at the end of the lease. Such obligations are referred to as 'decommissioning, restoration and similar liabilities'.

Ind AS 37 contains requirements on how to measure decommissioning, restoration and similar liabilities. **Appendix A to Ind AS 16 provides guidance on how to account for** the effect of changes in the measurement of existing decommissioning, restoration and similar liabilities.

### 2.9.1 When to apply guidance in Appendix A to Ind AS 16

The guidance in Appendix A to Ind AS 16 applies to changes in the measurement of any existing de-commissioning, restoration or similar liability that is both:

- recognized as part of the cost of an item of property, plant and equipment in accordance with Ind AS 16 or as part of the cost of a right-of-use asset in accordance with Ind AS 116; and
- recognized as a liability in accordance with Ind AS 37.

### 2.9.2 Issues addressed by Appendix A to Ind AS 16

This Appendix addresses how the **effect of the following events that change the measurement** of an existing decommissioning, restoration or similar liability should be accounted for:

(a) a change in the estimated outflow of resources embodying economic benefits (e.g. cash flows) required to settle the obligation;

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(b) a change in the current market-based discount rate as defined in paragraph 47 of Ind AS 37 (this includes changes in the time value of money and the risks specific to the liability); and

(c) an increase that reflects the passage of time (also referred to as the unwinding of the discount).

## 2.9.3 Accounting guidance in Appendix A to Ind AS 16

- Appendix A to Ind AS 16 offers two different approaches to account for changes in decommissioning **liability depending upon whether the entity follows cost model or revaluation model**.
- If the related asset is measured using the **cost model**:

  (a) subject to point (b) below, changes in the decommissioning, restoration and similar liability shall be **added to, or deducted from,** the cost of the asset in the current period and related provision for decommissioning and site restoration is accordingly adjusted.

  (b) **any such decrease** in the decommissioning, restoration and similar liability **cannot exceed** the carrying amount of the asset. In case, the said decrease in the decommissioning liability is more than the carrying amount of the asset, **the excess is recognized immediately as income** in statement of profit and loss.

  (c) if the changes in the decommissioning liability and the resultant **adjustment results in an addition to the cost** of an asset, the entity shall consider whether this is an indication that the new carrying amount of the asset may not be fully recoverable. If it is such an indication, **the entity shall test the asset for impairment** by estimating its recoverable amount, and shall account for any impairment loss, in accordance with Ind AS 36.

- If the asset is measured using the **revaluation model**:

  (a) **Any increase in liability** arising out of changes in decommissioning liabilities is **adjusted against revaluation surplus to the extent credit balance is available relating to that particular asset through 'other comprehensive income'**. Any excess is, however, recognized in the statement of profit and loss.

  (b) **Any decrease in liability** arising out of changes in decommissioning liabilities, is **recognized in the revaluation reserve ie equity through 'other comprehensive income'**. However, if there was any revaluation deficit previously charged to profit

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or loss, to that extent it can be recognized as income in the statement of profit and loss.

(c) If there is **decrease** in decommissioning liability **in excess of the carrying amount** of the asset, such excess is treated as 'deemed revaluation' and is **recognized immediately in the statement of profit and loss**.

(d) Any change in liability would require the asset to be tested for impairment to ascertain if there is any change in fair value.

(e) **Change in the revaluation surplus** arising from a change in the decommissioning liability **shall be presented as a separate line item** in the Statement of Other Comprehensive Income, as required under Ind AS 1.

- The ***adjusted depreciable amount*** of the asset is depreciated over its useful life. Therefore, once the related asset has reached the end of its useful life, all subsequent changes in the liability shall be recognized in profit or loss as they occur. This applies under both the cost model and the revaluation model.
- The ***periodic unwinding of the discount*** shall be recognized in profit or loss as a finance cost, as it occurs. Capitalisation under Ind AS 23 is not permitted.

**Illustration 13**

*H Limited purchased an item of PPE costing ₹ 100 million which has useful life of 10 years. The entity has a contractual decommissioning and site restoration obligation, estimated at ₹ 5 million to be incurred at the end of 10th year. The current market-based discount rate is 8%.*

*The company follows SLM method of depreciation. H Limited follows the Cost Model for accounting of PPE.*

*Determine the carrying value of an item of PPE and decommissioning liability at each year end when*

*(a) There is no change in the expected decommissioning expenses, expected timing of incurring the decommissioning expense and / or the discount rate*

*(b) At the end of Year 4, the entity expects that the estimated cash outflow on account of decommissioning and site restoration to be incurred at the end of the useful life of the asset will be ₹ 8 million (in place of ₹ 5 million, estimated in the past).*

*Determine in case (b), how H Limited need to account for the changes in the decommissioning liability?*

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## Solution

The present value of such decommissioning and site restoration obligation at the end of 10th year is **₹ 2.32 million** [being 5 / $(1.08)^{10}$]. H Limited will recognize the present value of decommissioning liability of ₹ 2.32 million as an **addition to cost of PPE and** will also recognize a corresponding decommissioning liability. Further, the entity will recognize the unwinding of discount as finance charge.

(a) The following table shows the relevant computations, if there is **no change** in the expected decommissioning expenses, expected timing of incurring the decommissioning expense and / or the discount rate: (₹ in million)

| Year | Opening Amount of PPE | Depreciation Charge (on SLM) for 10 Years | Carrying Amount of PPE at the end of the year | Opening Decommissioning Liability | Unwinding of Interest @ 8% | Closing Decommissioning Liability |
|---|---|---|---|---|---|---|
| 1 | 102.32 | 10.23 | 92.08 | 2.32 | 0.19 | 2.50 |
| 2 | 92.08 | 10.23 | 81.85 | 2.50 | 0.20 | 2.70 |
| 3 | 81.85 | 10.23 | 71.62 | 2.70 | 0.22 | 2.92 |
| 4 | 71.62 | 10.23 | 61.39 | 2.92 | 0.23 | 3.15 |
| 5 | 61.39 | 10.23 | 51.16 | 3.15 | 0.25 | 3.40 |
| 6 | 51.16 | 10.23 | 40.93 | 3.40 | 0.27 | 3.68 |
| 7 | 40.93 | 10.23 | 30.69 | 3.68 | 0.29 | 3.97 |
| 8 | 30.69 | 10.23 | 20.46 | 3.97 | 0.32 | 4.29 |
| 9 | 20.46 | 10.23 | 10.23 | 4.29 | 0.34 | 4.63 |
| 10 | 10.23 | 10.23 | - | 4.63 | 0.37 | 5.00 |
| **Total** | | **102.32** | | | **2.68** | |

(b) The changes to the estimate of expected decommissioning obligation:

- The present value of the decommissioning liability at the end of Year 4 works out to be **₹ 5.04 million** [being 8 / $(1.08)^6$].
- As against this, the carrying amount of decommissioning liability at the end of Year 4 is **₹ 3.15 million** (as computed above).

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- The changes in the decommissioning liability of **₹ 1.89 million** *(being ₹ 5.04 million less ₹ 3.15 million)* shall be ***added to*** the cost of the asset in the current period and the related provision for decommissioning liability is also adjusted.

  The journal entry will be:

  PPE Dr. ₹ 1.89 million

  To Provision for decommissioning liability ₹ 1.89 million

- The following table shows the calculations for years 5 - 10:

| Year | Opening Amount of PPE | Depreciation Charge SLM – 10 Years | Carrying Amount of PPE at end of the year | Opening Decommissioning Liability | Unwinding of Interest @8% | Closing Decommissioning Liability |
|---|---|---|---|---|---|---|
| 5 | 63.28 | 10.55 | 52.73 | 5.04 | 0.40 | 5.44 |
| 6 | 52.73 | 10.55 | 42.19 | 5.44 | 0.44 | 5.88 |
| 7 | 42.19 | 10.55 | 31.64 | 5.88 | 0.47 | 6.35 |
| 8 | 31.64 | 10.55 | 21.09 | 6.35 | 0.51 | 6.86 |
| 9 | 21.09 | 10.55 | 10.55 | 6.86 | 0.55 | 7.41 |
| 10 | 10.55 | 10.55 | - | 7.41 | 0.59 | 8.00 |
| **Total** | | **63.28** | | | **2.96** | |

Note that in the above table:

- Opening amount of PPE at the beginning of Year 5 is computed as ₹ 63.28 million (being carrying amount of ₹ 61.39 million at the end of Year 4 *plus* increase of ₹ 1.89 million arising due to increase in the present value of the decommissioning liability at the end of Year 4).
- The revised carrying amount of PPE (at ₹ 63.28 million) at the beginning of Year 5 will be depreciated over the balance 6 years of the useful life).
- Opening decommissioning liability at the beginning of Year 5 is computed as ₹ 5.04 million (being carrying amount of ₹ 3.15 million at the end of Year 4 *plus* increase of ₹ 1.89 million).

Since the entity has adjusted the increase in the decommissioning liability against the carrying amount of PPE, it needs to evaluate whether the new carrying amount (in this case, ₹ 63.28 million) is recoverable. If not, it will give rise to impairment loss, to be accounted for under Ind AS 36.

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## 2.10 EXTRACTS OF FINANCIAL STATEMENTS OF LISTED ENTITY

Following is the extract from the financial statements of the listed entity 'Cummins India Limited' for the financial year 2021-2022 with respect to 'Property, Plant and Equipment' and its accounting policy thereon.

# BALANCE SHEET AS AT MARCH 31, 2022

| Particulars | Notes No. | As at March 31, 2022 |
|---|---|---|
| **ASSETS** | | |
| **Non-current assets** | | |
| Property, plant and equipment | 2.1 | 115,362 |

### 2.1 Property, plant and equipment (PPE)

₹ Lacs

| Particulars | Gross block | | | | | Depreciation and Amortisation | | | | | Net block |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | As at April 1, 2021 | Additions | Adjustment *** | Deductions / Write-off | As at March 31, 2022 | As at April 1, 2021 | For the year | Adjustment *** | Deductions / Write-off | As at March 31, 2022 | As at March 31, 2022 |
| Freehold land @ | 3,612 | - | - | - | 3,612 | - | - | - | - | - | 3,612 |
| Leasehold Improvements | 607 | - | - | - | 607 | 55 | 6 | - | - | 61 | 546 |
| Roads | 2,993 | 67 | - | - | 3,060 | 2,022 | 126 | (0) | (0) | 2,148 | 912 |
| Buildings # | 83,989 | 910 | 13 | 47 | 84,865 | 14,230 | 1,901 | 13 | 43 | 16,101 | 68,764 |
| Plant and machinery # | 100,984 | 9,548 | 4,456 | 8,852 | 106,136 | 64,860 | 5,421 | 1,995 | 5,565 | 66,711 | 39,425 |
| Furniture and fittings # | 5,158 | 11 | 5 | 78 | 5,096 | 2,730 | 452 | 5 | 49 | 3,138 | 1,958 |
| Vehicles | 458 | 19 | (14) | - | 463 | 286 | 46 | (14) | - | 318 | 145 |
| | 197,801 | 10,555 | 4,460 | 8,977 | 203,839 | 84,183 | 7,952 | 1,999 | 5,657 | 88,477 | 115,362 |

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***ACCOUNTING POLICY***

***Property, plant and equipment and investment properties***

*Property plant and equipment, capital work in progress and investment properties are stated at cost of acquisition or construction net of accumulated depreciation and impairment loss (if any).*

*All significant costs relating to the acquisition and installation of property plant and equipment/ investment properties are capitalised. Subsequent costs are included in the asset's carrying amount or recognized as a separate asset, as appropriate, only when it is probable that future economic benefits associated with the item will flow to the Company and the cost of the item can be measured reliably. The carrying amount of the replaced part is derecognized. All other repairs and maintenance are charged to the Statement of Profit and Loss during the financial period in which they are incurred.*

*When significant parts of plant and equipment are required to be replaced at intervals, the Company depreciate them separately based on their specific useful lives.*

*Depreciation is computed on straight line method based on useful lives, determined based on internal technical evaluation, as follows:*

| ***Assets*** | ***Useful life*** |
|---|---|
| *Roads* | *10 years* |
| *Office building and investment properties* | *Upto 60 years* |
| *Factory building* | *30 years* |
| *Plant and machinery* | *3 to 15 years* |
| *Furniture and fittings* | *5 to 10 years* |
| *Vehicles* | *8 to 9 years* |

*The assets' residual values and useful lives are reviewed, and adjusted if appropriate, at the end of each reporting period.*

*Freehold land is carried at cost. Losses arising from the retirement of, and gains and losses arising from disposal of property, plant and equipment which are carried at cost are recognized in the Statement of Profit and Loss.*

*Leasehold improvements are amortised on straight line basis over the period of lease.*

*Transfers are made to investment properties only when there is a change in use. Transfers between investment property and owner-occupied property do not change the carrying amount of the property transferred and they do not change the cost of that property for measurement or disclosure purposes.*

*(Source: Annual Report 2021-2022 - Cummins India Limited)*

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## 2.11 SIGNIFICANT DIFFERENCES IN IND AS 16 *VIS-À-VIS* AS 10

| S. No. | Particular | Ind AS 16 | AS 10 |
|---|---|---|---|
| *1.* | *Fixed Assets retired from Active Use and Held for Sale* | Ind AS 16 does not deal with the assets 'held for sale' because the treatment of such assets is covered in Ind AS 105, Non-current Assets Held for Sale and Discontinued Operations. | AS 10 deals with accounting for items of fixed assets retired from active use and held for sale. |
| *2.* | *Stripping Costs in the Production Phase of a Surface Mine* | Ind AS 16 provides guidance on measuring 'Stripping Costs in the Production Phase of a Surface Mine'. | AS 10 does not contain this guidance. |

## 2.12 CARVE OUT IN IND AS 16 *VIS-À-VIS* IAS 16

Para 17(e) of Ind AS 16 has been amended (through a notification by MCA on 23rd March, 2022) by adding a clarification that the excess of net proceeds from sale of items produced during testing will not be credited to Profit or loss i.e. it will be deducted from the cost of an item of property, plant and equipment.

However, an amendment made in IAS 16 by IASB prohibited deduction of proceeds of items produced during testing from cost of an item of property, plant and equipment.

This differential treatment in IAS 16 and Ind AS 16 has led to a carve out, which will have consequential impact on depreciation, impairment, and deferred tax.

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# TEST YOUR KNOWLEDGE

## Questions

1. ABC Ltd. is installing a new plant at its production facility. It has incurred these costs:

| | | |
|---|---|---|
| 1. | Cost of the plant (cost per supplier's invoice plus taxes) | ₹ 25,00,000 |
| 2. | Initial delivery and handling costs | ₹ 2,00,000 |
| 3. | Cost of site preparation | ₹ 6,00,000 |
| 4. | Consultants used for advice on the acquisition of the plant | ₹ 7,00,000 |
| 5. | Interest charges paid to supplier of plant for deferred credit | ₹ 2,00,000 |
| 6. | Net present value of estimated dismantling costs to be incurred after 7 years | ₹ 3,00,000 |
| 7. | Operating losses before commercial production | ₹ 4,00,000 |

Advise ABC Ltd. on the costs that can be capitalized in accordance with Ind AS 16.

2. A Ltd. has an item of property, plant and equipment with an initial cost of ₹ 1,00,000. At the date of revaluation, accumulated depreciation amounted to ₹ 55,000. The fair value of the asset, by reference to transactions in similar assets, is assessed to be ₹ 65,000.

Pass journal entries with regard to revaluation.

3. B Ltd. owns an asset with an original cost of ₹ 2,00,000. On acquisition, management determined that the useful life was 10 years and the residual value would be ₹ 20,000. The asset is now 8 years old, and during this time there have been no revisions to the assessed residual value.

At the end of year 8, management has reviewed the useful life and residual value and has determined that the useful life can be extended to 12 years in view of the maintenance program adopted by the company. As a result, the residual value will reduce to ₹ 10,000.

Analyze how would the above changes in estimates be accounted by B Ltd.

4. X Ltd. has a machine which got damaged due to fire as on 31st January, 20X1. The carrying amount of machine was ₹ 1,00,000 on that date. X Ltd. sold the damaged asset as scrap for ₹ 10,000. X Ltd. has insured the same asset against damage. As on 31st March, 20X1, the compensation proceedings were still in process but the insurance company has confirmed the claim. Compensation of ₹ 50,000 is receivable from the insurance company.

Determine the accounting for the above transaction for X Ltd.

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5. An entity has a nuclear power plant and a related decommissioning liability. The nuclear power plant started operating on 1st April, 2XX1. The plant has a useful life of 40 years. Its initial cost was ₹ 1,20,000 which included an amount for decommissioning costs of ₹ 10,000, which represented ₹ 70,400 in estimated cash flows payable in 40 years discounted at a risk-adjusted rate of 5 per cent. The entity's financial year ends on 31st March. After 10 years, the net present value of the decommissioning liability has decreased by ₹ 8,000. The discount rate has not yet changed.

   Examine how the entity will account for the above changes in decommissioning liability in the 11th year, if it adopts cost model.

6. An entity has a nuclear power plant and a related decommissioning liability. The nuclear power plant started operating on 1st April, 20X1. The plant has a useful life of 40 years. Its initial cost was ₹ 1,20,000. This included an amount for decommissioning costs of ₹ 10,000, which represented ₹ 70,400 in estimated cash flows payable in 40 years discounted at a risk-adjusted rate of 5 per cent. The entity's financial year ends on 31st March. Assume that a market-based discounted cash flow valuation of ₹ 1,15,000 is obtained at 31st March, 20X4. This valuation is after deduction of an allowance of ₹ 11,600 for decommissioning costs, which represents no change to the original estimate, after the unwinding of three years' discount. On 31st March, 20X5, the entity estimates that, as a result of technological advances, the present value of the decommissioning liability has decreased by ₹ 5,000. The entity decides that a full valuation of the asset is needed at 31st March, 20X5, in order to ensure that the carrying amount does not differ materially from fair value. The asset is now valued at ₹ 1,07,000, which is net of an allowance for the reduced decommissioning obligation.

   Examine how will the entity account for the above changes in decommissioning liability if it adopts revaluation model.

7. A Ltd. purchased some Property, Plant and Equipment on 1st April, 20X1, and estimated their useful lives for the purpose of financial statements prepared on the basis of Ind AS. Following were the original cost, and useful life of the various components of property, plant, and equipment assessed on 1st April, 20X1:

| Property, Plant and Equipment | Original Cost | Estimated useful life |
|---|---|---|
| Buildings | ₹ 15,000,000 | 15 years |
| Plant and machinery | ₹ 10,000,000 | 10 years |
| Furniture and fixtures | ₹ 3,500,000 | 7 years |

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A Ltd. uses the straight-line method of depreciation. On 1st April, 20X4, the entity reviewed the following useful lives of the property, plant, and equipment through an external valuation expert:

| | |
|---|---|
| Buildings | 10 years |
| Plant and machinery | 7 years |
| Furniture and fixtures | 5 years |

There were no salvage values for the three components of the property, plant, and equipment either initially or at the time the useful lives were revised.

Examine the impact of revaluation of useful life on the Statement of Profit and Loss for the year ending 31st March, 20X5.

## Answers

**1.** According to Ind AS 16, these costs can be capitalized:

| | | |
|---|---|---|
| 1. | Cost of the plant | ₹ 25,00,000 |
| 2. | Initial delivery and handling costs | ₹ 2,00,000 |
| 3. | Cost of site preparation | ₹ 6,00,000 |
| 4. | Consultants' fees | ₹ 7,00,000 |
| 5. | Net present value of estimated dismantling costs to be incurred after 7 years | ₹ 3,00,000 |
| | | ₹ 43,00,000 |

**Note:** Interest charges paid on "Deferred credit terms" to the supplier of the plant (not a qualifying asset) of ₹ 2,00,000 and operating losses before commercial production amounting to ₹ 4,00,000 are not regarded as directly attributable costs and thus cannot be capitalized. They should be written off to the Statement of Profit and Loss in the period they are incurred.

**2.** The entries to be passed would be:

| | | ₹ | ₹ |
|---|---|---|---|
| Accumulated depreciation | Dr. | 55,000 | |
| To Asset A/c | | | 55,000 |
| (Being elimination of accumulated depreciation against the cost of the asset) | | | |
| Asset A/c | Dr | 20,000 | |
| To Revaluation Surplus | | | 20,000 |
| (Being increase of net asset value to Fair value) | | | |

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**Note:** The net result is that the asset has a carrying amount of ₹ 65,000 [1,00,000 – 55,000 + 20,000.]

**3. Calculation of accumulated depreciation till 8th year**

Depreciable amount {Cost less residual value} = ₹ 2,00,000 – ₹ 20,000 = ₹ 1,80,000.

Annual depreciation = Depreciable amount / Useful life = 1,80,000 / 10 = ₹ 18,000.

Accumulated depreciation = 18,000 x No. of years (8) = ₹ 1,44,000.

**Calculation of carrying amount at the end of the 8th year**

The asset has a carrying amount of ₹ 56,000 at the end of year 8 [ie. ₹ 2,00,000 – ₹ 1,44,000]

**Accounting of the changes in estimates**

Revision of the useful life to 12 years results in a remaining useful life of 4 years (ie 12 years – 8 years).

The revised depreciable amount is ₹ 46,000 (₹ 56,000 – ₹ 10,000)

Thus, depreciation should be charged in future ie from 9th year onwards at ₹ 11,500 per annum (₹ 46,000 / 4 years).

**4.** As per para 66 of Ind AS 16, impairment or losses of items of property, plant and equipment and related claims for or payments of compensation from third parties are separate economic events and should be accounted for separately.

X Ltd. should account for the above transaction as given below:

At the time of sale of scrap machine, X Ltd. should write off the carrying amount of asset from books of account and provide a loss of ₹ 90,000. (i.e., carrying amount of ₹ 1,00,000 – realised amount of ₹ 10,000)

As on 31st March, 20X1, X Ltd. should recognize income of ₹ 50,000 against the compensation receivable in its profit or loss.

**5.** On 31st March, 2X11, the plant is 10 years old. Accumulated depreciation is ₹ 30,000 (₹ 120,000 x 10 / 40 years). Due to unwinding of discount @ 5% over the 10 years, the amount of decommissioning liability has increased from ₹ 10,000 to ₹ 16,300 (approx.).

On 31st March, 2X11, the discount rate has not changed. However, the entity estimates that, as a result of technological advances, the net present value of the decommissioning liability has decreased by ₹ 8,000. Accordingly, the entity adjusts the decommissioning liability from

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₹ 16,300 to ₹ 8,300. On this date, the entity passes the following journal entry to reflect the change:

| | | ₹ | ₹ |
|---|---|---|---|
| Provision for decommissioning liability | Dr. | 8,000 | |
| To Asset | | | 8,000 |

Following this adjustment, the carrying amount of the asset is ₹ 82,000 (₹ 1,20,000 – ₹ 8,000 – ₹ 30,000), which will be depreciated over the remaining 30 years of the asset's life giving a depreciation expense for the next year of ₹ 2,733 (₹ 82,000 / 30). The next year's finance cost for unwinding of discount will be ₹ 415 (₹ 8,300 × 5 per cent).

**6.**

| At 31st March, 20X4: | ₹ |
|---|---|
| Asset at valuation (1) | 1,26,600 |
| Accumulated depreciation | Nil |
| Decommissioning liability | (11,600) |
| Net assets | 1,15,000 |
| Retained earnings (2) | (10,600) |
| Revaluation surplus (3) | 15,600 |

**Notes:**

(1) When accounting for revalued assets to which decommissioning liabilities attach, it is important to understand the basis of the valuation obtained. For example:

(a) if an asset is valued on a discounted cash flow basis, some valuers may value the asset without deducting any allowance for decommissioning costs (a 'gross' valuation), whereas others may value the asset after deducting an allowance for decommissioning costs (a 'net' valuation), because an entity acquiring the asset will generally also assume the decommissioning obligation. For financial reporting purposes, the decommissioning obligation is recognized as a separate liability and is not deducted from the asset. Accordingly, if the asset is valued on a net basis, it is necessary to adjust the valuation obtained by adding back the allowance for the liability, so that the liability is not counted twice.

(b) if an asset is valued on a depreciated replacement cost basis, the valuation obtained may not include an amount for the decommissioning component of the

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asset. If it does not, an appropriate amount will need to be added to the valuation to reflect the depreciated replacement cost of that component.

Since, the asset is valued on a net basis, it is necessary to adjust the valuation obtained by adding back the allowance for the liability. Valuation obtained of ₹ 1,15,000 plus decommissioning costs of ₹ 11,600, allowed for in the valuation but recognized as a separate liability = ₹ 1,26,600.

(2) Three years' depreciation on original cost ₹ 1,20,000 × 3/40 = ₹ 9,000 plus cumulative discount on ₹ 10,000 at 5 per cent compound = ₹ 1,600; total ₹ 10,600.

(3) Revalued amount ₹ 1,26,600 less previous net book value of ₹ 1,11,000 (cost ₹ 120,000 less accumulated depreciation ₹ 9,000).

The depreciation expense for 20X4-20X5 is therefore ₹ 3,420 (₹ 1,26,600 x 1 / 37) and the discount expense for 20X5 is ₹ 600 (11,600 x 5% = 580 or 600 (to the nearest 100). On 31st March, 20X5, the decommissioning liability (before any adjustment) is ₹ 12,200. However, as per the estimate of the entity, the present value of the decommissioning liability has decreased by ₹ 5,000. Accordingly, the entity adjusts the decommissioning liability from ₹ 12,200 to ₹ 7,200.

The whole of this adjustment is taken to revaluation surplus, because it does not exceed the carrying amount that would have been recognized had the asset been carried under the cost model. If it had been done, the excess would have been taken to profit or loss. The entity makes the following journal entry to reflect the change:

| | | ₹ | ₹ |
|---|---|---|---|
| Provision for decommissioning liability | Dr. | 5,000 | |
| To Revaluation surplus | | | 5,000 |

As at 31st March, 20X5, the entity revalued its asset at ₹ 1,07,000, which is net of an allowance of ₹ 7,200 for the reduced decommissioning obligation that should be recognized as a separate liability. The valuation of the assets for financial reporting purposes, before deducting this allowance, is therefore ₹ 1,14,200. The following additional journal entry is needed:

**Notes:**

| | | ₹ | ₹ |
|---|---|---|---|
| Accumulated depreciation (1) | Dr. | 3,420 | |

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| | | | |
|---|---|---|---|
| To Asset at valuation | | | 3,420 |
| Revaluation surplus (2) | Dr. | 8,980 | |
| To Asset at valuation (3) | | | 8,980 |

(1) Eliminating accumulated depreciation of ₹ 3,420 in accordance with the entity's accounting policy.

(2) The debit is to revaluation surplus because the deficit arising on the revaluation does not exceed the credit balance existing in the revaluation surplus in respect of the asset.

(3) Previous valuation (before allowance for decommissioning costs) ₹ 1,26,600, less cumulative depreciation ₹ 3,420, less new valuation (before allowance for decommissioning costs) ₹ 1,14,200.

Following this valuation, the amounts included in the balance sheet are:

| | |
|---|---|
| Asset at valuation | 1,14,200 |
| Accumulated depreciation | Nil |
| Decommissioning liability | (7,200) |
| Net assets | 1,07,000 |
| Retained earnings (1) | (14,620) |
| Revaluation surplus (2) | 11,620 |

**Notes:**

(1) ₹ 10,600 at 31st March, 20X4, plus depreciation expense of ₹ 3,420 and discount expense of ₹ 600 = ₹ 14,620.

(2) ₹ 15,600 at 31st March, 20X4, plus ₹ 5,000 arising on the decrease in the liability, less ₹ 8,980 deficit on revaluation = ₹ 11,620.

**7.** The annual depreciation charges prior to the change in useful life were

| | | |
|---|---|---|
| Buildings | ₹ 1,50,00,000/15 = | ₹ 10,00,000 |
| Plant and machinery | ₹ 1,00,00,000/10 = | ₹ 10,00,000 |
| Furniture and fixtures | ₹ 35,00,000/7 = | ₹ 5,00,000 |
| Total = | | ₹ 25,00,000 (A) |

The revised annual depreciation for the year ending 31st March, 20X5, would be

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| | | |
|---|---|---|
| Buildings | [₹1,50,00,000 – (₹ 10,00,000 × 3)] / 10 | ₹ 12,00,000 |
| Plant and machinery | [₹ 1,00,00,000 – (₹ 10,00,000 × 3)] / 7 | ₹ 10,00,000 |
| Furniture and fixtures | [₹ 35,00,000 – (₹ 5,00,000 × 3)] / 5 | ₹ 4,00,000 |
| Total | | ₹ 26,00,000 (B) |

The impact on Statement of Profit and Loss for the year ending 31st March, 20X5

= ₹ 26,00,000 – ₹ 25,00,000 = ₹ 1,00,000

This is a change in accounting estimate which is adjusted prospectively in the period in which the estimate is amended and, if relevant, to future periods if they are also affected. Accordingly, from 20X4-20X5 onward, excess of ₹ 1,00,000 will be charged in the Statement of Profit and Loss every year till the time there is any further revision.

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