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LKAS 16
Property, Plant & Equipment

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Reading for MBA (PIM), CA and CIMA Prize Winner

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JAYASEKERA MANAGEMENT CENTRE (PVT) LTD

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Accounting Standards

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LKAS 16 – Property, Plant and Equipment

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Examples for Property, Plant and Equipment

- Land
- Buildings
- Machinery
- Computers
- Equipment
- Motor vehicles




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What are these Property, Plant and Equipment (PPE)?

4

Tangible assets held for

- Production
- Rental to others
- Administrative purposes

having a useful life of more than one year

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At what point do we record PPE in the books of accounts? (Recognition)

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Recognition Criteria

- Probable that future **economic benefits** will flow to the entity.
- **Cost** can be measured reliably.

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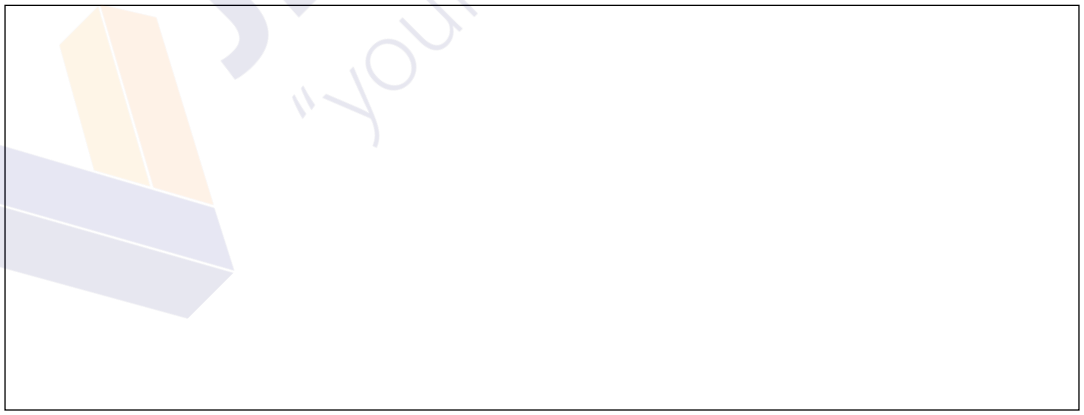
Equipment used to protect the health, safety and environment



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Major Inspection Expenses

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At what value should PPE be initially measured? (Initial Measurement)

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At Cost

Cost include

+ Purchase Price	XXX
(-) Trade Discounts	(X)
(-) Rebates (Note 01)	(X)
+ Non-refundable Taxes (Import duties, CESS tax, Custom duties, Port Authority Levy)	X
+ Directly attributable costs on bringing the asset to current working location and condition	X

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Directly attributable costs incurred on bringing the asset to current working location and condition

- Transport expenses
- Handling expenses
- Clearing expenses
- Site preparation cost
- Installation costs
- Assembly costs
- Professional fees for those who engaged in installation
- Staff costs arising directly from the construction or acquisition of assets
- Borrowing cost of qualifying assets
- Present value of cost of dismantling and removing the asset (Note 02)

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Note 01 – Rebates

Reimbursement of cost received from a customer, supplier, government or a third party.

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Cost of PPE shall exclude:

- Staff training
- Administration overhead
- Sales overhead
- Cost of opening a new facility
- Cost of introducing a new product or service
- Relocation cost
- Recoverable taxes (VAT)
- Initial operating losses
- Subsequent expenditure

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Note 02 – Present value of cost of dismantling and removing the asset

An entity may have a legal or constructive obligation to dismantle and remove an asset at the end of its useful life. The present value of the expected costs of dismantling, removing and rectification are capitalized as part of the cost of the asset and recognized as a provision.

Example:
The Government has demanded to dismantle chemical production facility after 5 years of operation. This is expected to cost Rs. 500,000/- at the end of 5th year. The present value of it is Rs. 300,000/-.

Production facility	Dr	300,000
Provision for removal	Cr	300,000

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Question no. 01

Isumi (Pvt) Ltd. imported a machine from USA. Following information are relevant for the purchase.
Purchase price $ 1,000,000/- ($ 1 = Rs. 200)
Trade discount 10%
Port authority levy 2% (on the purchase price, net of trade discounts)
VAT rate 15% (on the purchase price, net of trade discounts)
Based on an agreement between Isumi Ltd. and the Government, the government granted a rebate of $ 100,000/-
Clearing charges Rs. 300,000/-
Handling charges Rs. 200,000/-

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Question no. 01

Transport cost Rs. 180,000/-
Site preparation cost Rs. 900,000/-
Initial feasibility study cost of suppliers Rs. 50,000/-
Staff training cost Rs. 45,000/-
Cost of technical experts hired in fixing the machine Rs. 100,000/-
Initial trial run cost Rs. 400,000/-
Sales income from selling the output of initial trial run Rs. 50,000/-
Initial operational losses Rs. 100,000/-
Administration overheads Rs. 50,000/-
Cost of introducing the new product Rs. 200,000/-
Calculate the initial cost of the machine to be capitalized.

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Question No. 02

Shine Tiles Ltd. is in the business of manufacturing of wall tiles. The company imported a tile manufacturing machinery from China on 30th September 2020. FOB price of the machinery was Rs. 3 million. Freight charges and marline insurance cost of machinery were Rs. 250,000/- and Rs. 50,000/- respectively.

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Question No. 02

In addition, the following costs were incurred:

(1)The company paid Rs. 300,000/- as import duties and Rs. 30,000/- as non-refundable taxes at the time of importing the machinery.

(2)Engineering services cost of Rs. 80,000/- has been incurred to install the machinery. Further, cost of Rs. 75,000/- was incurred to site preparation and dismantle the old machinery.

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Question No. 02

(3) After installing the machinery, test run was carried out and production cost of Rs. 55,000/- was incurred on that.

(4) Insurance policy was obtained to cover the future losses / damages to the machinery and annual premium was Rs. 50,000/-.

You are required to:

Calculate the cost of the machinery at the initial recognition as per LKAS 16 – Property, Plant and Equipment. (06 marks)

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Answer

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What is Residual Value?

Estimated amount obtained from disposal at the end of its useful life

Estimated disposal price = Estimated disposal cost

In many cases, residual value is immaterial. In such cases, the residual value is considered as 0 and ignored.

Residual Value » Carrying Amount of asset ⇨ Depreciation charge is zero

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What is Depreciable Amount?

The amount remaining for depreciation.
Depreciable Amount of an asset at acquisition is;

Cost — Residual Value

Depreciable amount of an asset changes when the asset continues to be depreciated, when more expenses are capitalized and when the asset continues to be revalued.

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What is Useful Life?

Period or Number of Products

asset is expected to be available for use/ expected to be obtained

Factors considered in determining useful life:

- Legal limits
- Expected usage
- Physical wear and tear
- Industry average
- Prior experience

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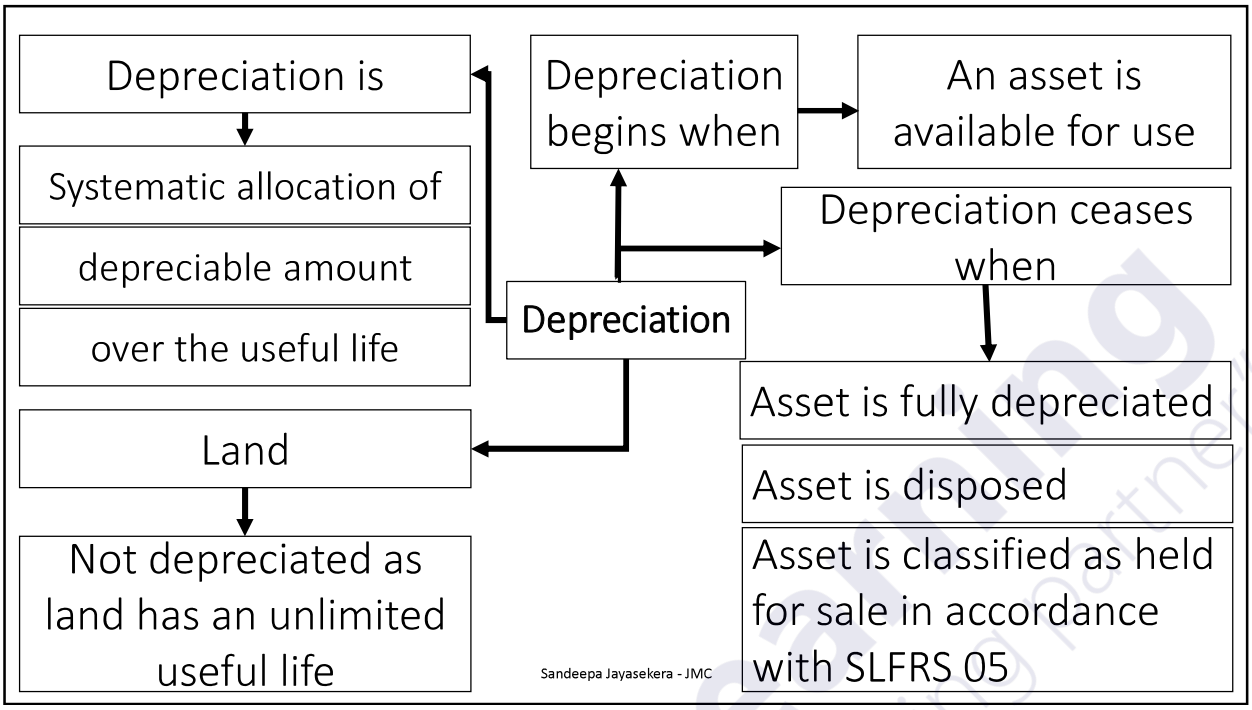
Depreciation is
Systematic allocation of
depreciable amount
over the useful life
Depreciation
Depreciation begins when
An asset is available for use
Depreciation ceases when
Asset is fully depreciated
Asset is disposed
Asset is classified as held for sale in accordance with SLFRS 05
Land
Not depreciated as land has an unlimited useful life
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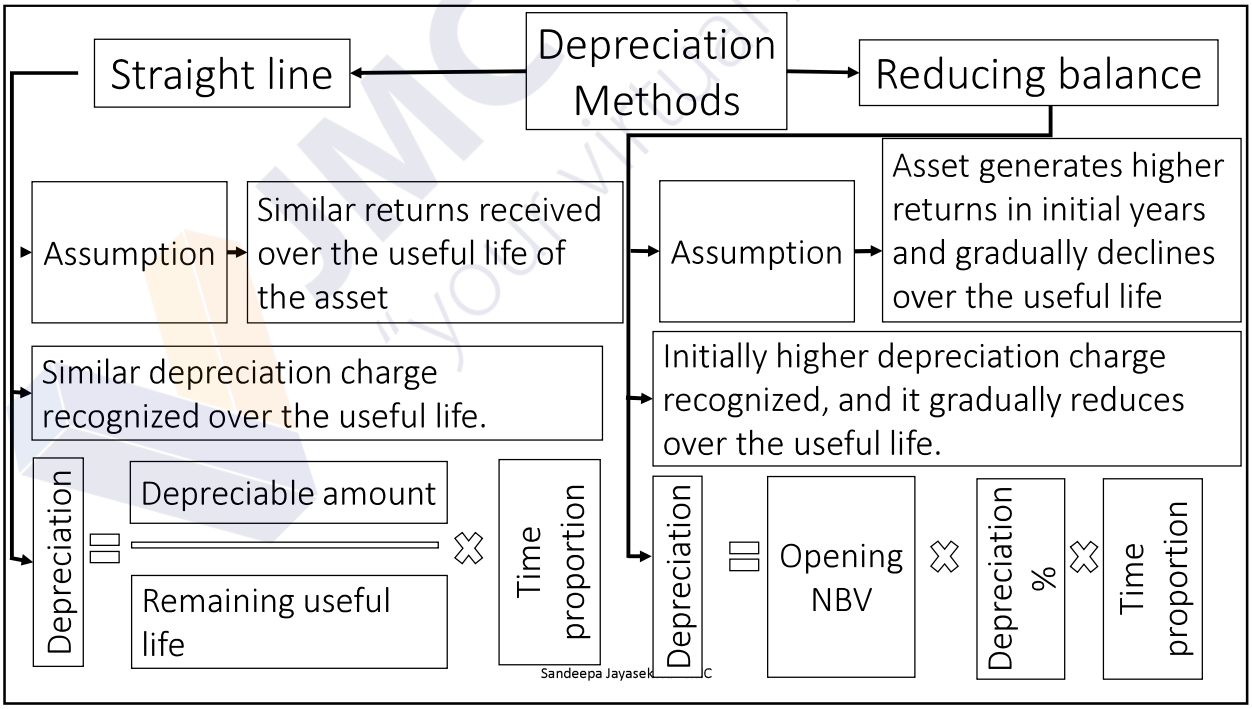
Depreciation Methods
Straight line
Reducing balance
Assumption
Similar returns received over the useful life of the asset
Similar depreciation charge recognized over the useful life.
Depreciation
Depreciable amount
Remaining useful life
Time proportion
Assumption
Asset generates higher returns in initial years and gradually declines over the useful life
Initially higher depreciation charge recognized, and it gradually reduces over the useful life.
Depreciation
Opening NBV
Depreciation %
Time proportion

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Reducing Balance Method

$$\text{Depreciation Rate} = \sqrt[1-n]{\frac{r}{c}}$$

n = Useful life
r = Residual value
c = Cost

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Production Unit Method

Depreciation charge recognized in line with production units.

$$\text{Depreciation} = \frac{\text{Depreciable Amount}}{\text{Total Expected Units}} \times \text{No. of produced units}$$

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Question no. 03

Vihanga (Pvt) Ltd. purchased a machine at a cost of Rs. 10 Mn. Its residual value is Rs. 2 Mn and useful life is 2 years. If the machine is depreciated using the straight-line method,

1. Calculate the depreciation per annum.

2. Calculate the depreciation rate.

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Question no. 03

3. Fill the following table:

Year	Cost	Depreciation	Accumulated Depreciation	Net Book Value
1				
2				

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Question no. 04

Assume the same information as Question 02, except the depreciation method. Assume the machine is depreciated using the reducing balance method.

1. Calculate the depreciation rate.

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Question no. 04

2. Fill in the following table:

Year	Cost	Depreciation	Accumulated Depreciation	Net Book Value
1				
2				

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Question no. 05

Assume the same information as Question 02, except the depreciation method. Assume the machine is depreciated using production unit method. Total production capacity of the machine is 8,000 and production units produced in 1st year and 2nd year were 2,500 units and 5,500 units respectively.

1. Calculate the depreciation charge for Year 1 and Year 2.

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Question no. 05

2. Fill in the following table:

Year	Cost	Depreciation	Accumulated Depreciation	Net Book Value
1				
2				

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Question 06

(a)The following balances were appeared in the Statement of Financial Position of Sony Ltd. as at 01st April 2020 relating to its building:

Asset	Cost	Accumulated Depreciation as at 01st April 2020	Carrying Value as at 01st April 2020
Building	24,000,000	7,200,000	16,800,000

The estimated useful life of the building was 40 years and the buildings are depreciated on the straight-line basis at cost by the company.

On 01st April 2020, the useful life of the building was reviewed and it was revealed that the remaining useful life of the building has been increased by further 32 years as at 01st April 2020.

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Question 06

You are required to:

Calculate the accumulated depreciation and carrying value of the building as at 31st March 2021.

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Subsequent costs incurred on Assets

- Maintenance
- Repairs
- Replacing of spare parts
- New additions
- Renovations

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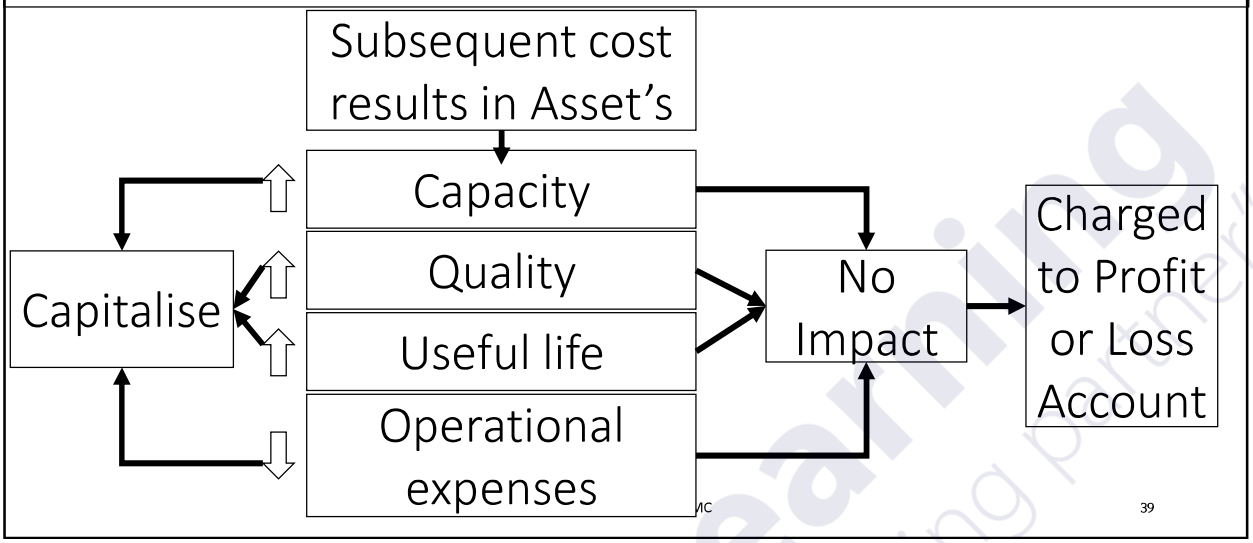
How do you account for subsequent costs incurred on assets?



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Question no. 07

Jeniffer (Pvt) Ltd. acquired a machine at a cost of Rs. 20 Mn on 01/01/20X8. The residual value is zero and useful life is 5 years.

The machine maintenance expenses incurred for year 20X8 and 20X9 were Rs. 1 Mn and Rs. 1.5 Mn respectively.

On 01/01/20X9, Rs. 4 Mn was incurred on increasing the production capacity of the machine. There is no impact on the remaining useful life. Financial year ends on 31st December.

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Question no. 07

1. Explain the accounting treatment for the maintenance expense.

2. Calculate the depreciation for year 20X8.

3. Can this Rs. 4 Mn expense incurred on 01/01/ 20X9 be capitalized? Explain.

4. Calculate the depreciation for year 20X9.

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Subsequent Measurement

Once PPE is initially measured at cost, at the end of each reporting period, the PPE shall be assessed for subsequent measurement.

- Cost Model
- Revaluation Model

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Cost Model

The asset is measured at initial cost and capitalized subsequent costs less any accumulated depreciation and accumulated impairment losses. The cost model applies a historical cost basis.

Cost (Initial + capitalized subsequent costs)	XX
(-) Accumulated Depreciation	(XX)
(-) Accumulated Impairment Losses (Refer LKAS 36)	(XX)
Net Book Value	XX

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Question no. 08

Ashen (Pvt) Ltd. purchased a motor vehicle on 01/04/20X8 at a cost of Rs. 5 Mn. Its useful life is 5 years. On 31/03/20X9 this motor vehicle met with an accident and its resulting impairment loss was Rs. 1 Mn.
Financial year ends on 31st March.

1. Calculate the depreciation for the year 20X8/X9.
2. Show the double entries for depreciation.
3. Provide the double entries for impairment loss.
4. Calculate the depreciation for the year 20X9/X0.

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Revaluation Model

This involves incorporating the current market value of assets into books of accounts. Firstly, a valuation will be carried out to obtain the market value of the asset. Then, the difference between the carrying amount of the asset and the market value will be recognized as the revaluation gain or loss.

Revalued Amount		XX
(-) Carrying amount of the asset		
Cost	XX	
(-) Accumulated Depreciation	(XX)	
(-) Accumulated Impairment losses	(XX)	(XX)
Revaluation Gain/ Loss		X/(X)

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Accounting for Revaluation

Firstly, bring in the Net Book Value into one account.

Accumulated Depreciation	Dr	
Asset Account		Cr

Secondly, account for the revaluation gain or loss (Note 01)

Revaluation Gain		**Revaluation Loss**	
Asset Account	Dr	Revaluation losses	Dr
Revaluation Reserve	Cr	Asset Account	Cr

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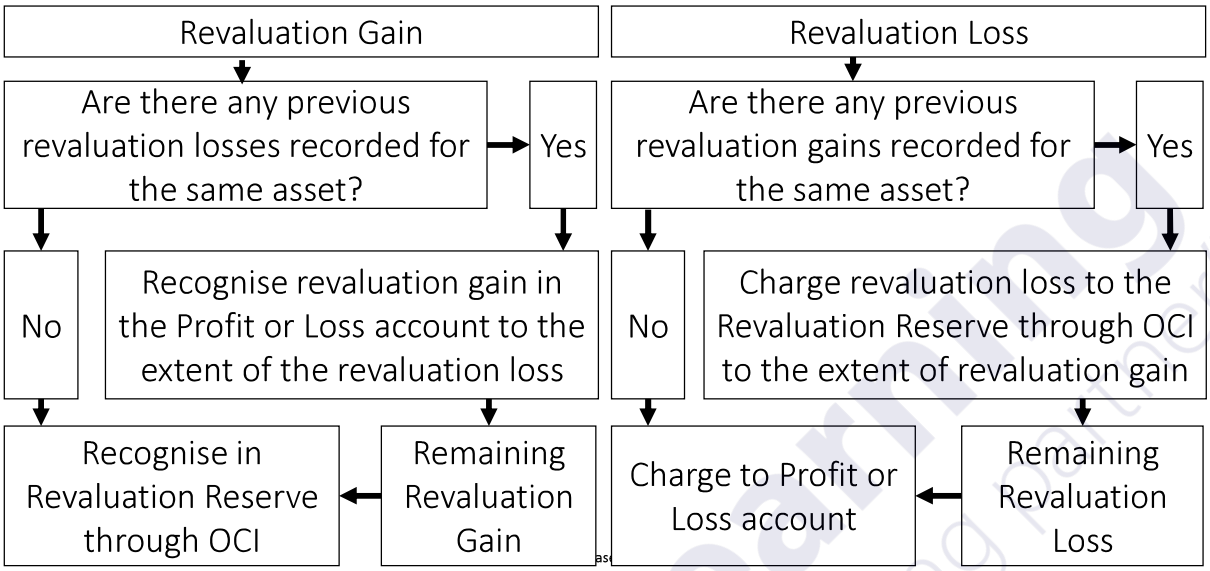
Adjusting Revaluation Gains/Losses



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How frequently should Revaluation be carried out?

Depending on the frequency of changes in fair value of PPE, the management shall decide an appropriate revaluation cycle.

Subsequent Measurement using Revaluation Model

Revalued Amount	XX
(-) Subsequent Accumulated Depreciation	(XX)
(-) Subsequent Accumulated Impairment losses	(XX)
Net Book Value	XX

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Can we revalue selected assets of a particular class of assets?

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Question no. 09

Niranjala PLC purchased a machine on 01/01/20X1 for Rs. 50 Mn. It has a useful life of 5 years. Financial year ends on 31st December. Show the financial statement impact for each of the following 2 independent scenarios.

1. On 31/12/20X1 the machine was revalued at Rs. 45 Mn and on 31/12/20X2 it was revalued at Rs. 25 Mn.
2. On 31/12/20X1 the machine was revalued at Rs. 38 Mn and on 31/12/20X2 it was revalued at Rs. 35 Mn.

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Derecognition of Assets

PPE shall be derecognized,

- On disposal of assets
- No future economic benefits are expected from the assets.

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Calculation of Disposal gain or loss

Disposal Proceeds		xxx
(-) Carrying Amount of the asset		
Cost/ Revalued Amount	xx	
(-) Accumulated Depreciation	(xx)	
(-) Accumulated Impairment losses	(xx)	(x)
Disposal gain/(loss)		xx/(x)

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Double entries relevant for Disposal

1. Cost of the disposed asset

Disposal Gain or Loss Account	Dr	
Asset Account		Cr

2. Accumulated Depreciation and Accumulated Impairment Losses of the disposed asset

Accumulated Depreciation Account	Dr	
Accumulated Impairment Loss Account	Dr	
Disposal Gain or Loss Account		Cr

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Double entries relevant for Disposal

3. Disposal Proceeds

Cash Book	Dr	
Disposal Gain or Loss Account		Cr

4. Disposal Gain

Disposal Gain or Loss Account	Dr	
Profit or Loss Account (Other Income)		Cr

5. Disposal Loss

Profit or Loss Account (Other Expenses)	Dr	
Disposal Gain or Loss Account		Cr

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Disposal of revalued assets with a revaluation gain

When a revalued asset is disposed of, the revaluation gain of such asset becomes realized. Therefore, the related revaluation reserve needs to be transferred to retained earnings. This adjustment is made in the Statement of Changes in Equity.

Revaluation Reserve	Dr	
Retained Earnings		Cr

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Question 10

Abdul purchased a motor vehicle at a cost of Rs. 4 Mn on 01/01/20X1. Its residual value is Rs. 1 Mn and the useful life is 6 years. On 31/12/20X2 this was sold for Rs. 2 Mn. Financial year ends on 31st December.

1. Calculate the depreciable amount of the motor vehicle.
2. Calculate the depreciation per annum.
3. Calculate the depreciation rate.
4. What is the carrying amount of the motor vehicle on the date of disposal?
5. Calculate the disposal gain or loss of the motor vehicle.

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Exchange of Assets

On some occasions, an entity's existing asset may be exchanged with another asset. This is also like a disposal of an asset. However, the entity would receive another asset as disposal proceeds, instead of cash.

Recognition of the cost of new asset

Asset Account Dr
Disposal Gain or Loss Account Cr

Cost of new asset shall be →
- Fair value of the new asset received or
- Fair value of the asset given up or
- Carrying amount of the asset given up

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Question no. 11

Imasha PLC purchased a motor vehicle worth Rs. 5 Mn on 01/04/20X1. Its useful life is 5 years. On 31/03/20X2 this motor vehicle was exchanged with another new motor vehicle. The fair value of this new motor vehicle was Rs. 5 Mn, while the fair value of the old motor vehicle was Rs. 4.5 Mn. Useful life of the new motor vehicle is 5 years. Financial year ends on 31st March.

1. Calculate the depreciation charge for year 20X1/X2.
2. Calculate the depreciation rate of the old motor vehicle.
3. Calculate the carrying amount of the old motor vehicle as at the date of exchange.
4. What is the cost of new asset?
5. Calculate the asset exchange gain/loss.

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