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**VIRTUAL COACHING CLASSES
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**FOUNDATION LEVEL
PAPER 1: PRINCIPLES AND PRATICE OF
ACCOUNTING**

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CHAPTER 5- Depreciation

- Depreciation refers to the fall in the value of the assets (fixed assets) systematically each year by writing them off to the Profit and loss account. The reasons for the decrease in the value of assets can be attributed to the following reasons such as –
 - Wear and tear of machinery
 - Efflux of time
 - Obsolescence
 - Change in the market conditions, customer preferences
- This also refers to allocating the value of the fixed asset (balance sheet item) to the Profit and loss through a method, so that there is an amount which is set aside for the purpose of replacement of the fixed asset at the end of the useful life.
- To understand the computation of depreciation, the following terms need explanation-
 - Cost of the Asset
 - Useful life or economic life of asset
 - Scrap value



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- **Cost of the asset** includes- Purchase cost, taxes (non refundable), installation/erection charges, commissioning charges, and pre production trial run charges (if any). Any improvements or additions which enhance the efficiency of the fixed asset also will be added to the cost of the asset.
- **Useful life of asset**- The life in years or based on the units the machinery is capable to produce during the life of the asset. This can be either in the number of years and also the number of units.
- **Scrap (residual) value**- This refers to the value the fixed asset is able to fetch from the market at the end of the useful life of the asset. This shall be excluded from the cost of the asset.

Depreciable amount of asset= *Cost of the asset- scrap Value*

**Depreciation amount= Depreciable amount
*Estimated useful life***



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- **Why should you charge depreciation?**
 - Correct income measurement
 - True position statement
 - Funds for replacement
 - Ascertainment of true cost of production
- Other important points- Where there is an asset with different components which are significant in relation to the cost of the total asset and have a different estimated useful life than the total asset- then such components can have a different rate of depreciation.
- In order to charge a different rate of depreciation for the different components of the same asset then, the above two conditions to be satisfied- For ex- in case of Airplane- the different components have different rates as they satisfy the conditions.



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- To charge the depreciation- the asset can has to be in usable condition- that is it has to be installed and ready for use. It is irrelevant whether the asset has been used or not by the business.
- To provide depreciation – the following methods are generally used-
 - Straight line method
 - Written Down value method
 - Unit of production method
- Straight line method-** According to this method- the depreciation amount is the same every year which is written off to Profit and loss account. The value of the asset at the end of the useful life is Nil or Zero. This is one of the easiest method of computation of depreciation using the following formula



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- **Straight line method-** According to this method- the depreciation amount is the same every year which is written off to Profit and loss account. The value of the asset at the end of the useful life is Nil or Zero. This is one of the easiest method of computation of depreciation using the following formula

$$\text{Depreciation amount} = \frac{\text{Cost of asset} - \text{Scrap value}}{\text{Useful life of asset}}$$

- **Written down value method-** According to this method- the depreciation is charged as a percent of the written down value of asset. The depreciation keeps decreasing every year since the value of the asset keeps reducing. This is the most preferred method from the taxation angle as it gives a prudent estimate of depreciation.
- Since the repairs tend to increase towards the end of the life of the asset, the depreciation shall reduce at the end making the expenses on the fixed asset even during the entire life under this method, hence it is considered as a prudent method.



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- **Sum of the years digit (SYD) method-** According to this method- the depreciation is charged as under a tabular method following the concept that the depreciation is charged as a measure of the years. This is a variation of the WDV method where in the depreciation decreases year on year- but it is a variant of number of years.
- Let us consider the following example where in a machinery purchased for Rs. 200 with scrap value of Rs. 50 and useful life of 5 years. The depreciation shall be calculated under the SYD method in the following way
 - Depreciable amount= Cost of asset- Scrap Value= $200 - 50 = 150$
 - To calculate the depreciation each year- we need to make a table with the second column as the remaining years. For ex- in the 1st year- remaining useful life of machinery is 5 years- like this in descending order we need to make the second column
 - The total of the second column- shall be done using the formula for adding n natural numbers= $n(n+1)/2$
 - So if years is 5- then sum of n natural numbers- $5(5+1)/2 = 30/2 = 15$



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- The depreciation column – is the yearly depreciation- if in the question it is asked to find the 3rd year depreciation then it is Rs. 30.
- This is the way to compute the depreciation as per the Sum of the years digits method-

Years	Remaining years	Depreciation
1	5	$150 * 5/15 = 50$
2	4	$150 * 4/15 = 40$
3	3	$150 * 3/15 = 30$
4	2	$150 * 2/15 = 20$
5	1	$150 * 1/15 = 10$
Total	15	150



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- **Machine hour rate method-** Under this method the depreciation is calculated on the basis of the hours for which the machinery is used each year.
- The way to compute depreciation is as under
 - Compute the depreciable amount= Cost of asset- scarp (residual value)
 - Depreciation amount- $\frac{\text{Yearly hours consumed}}{\text{Total no. of working hours}} * \text{Depreciable amount (above step)}$
- **Production units method-** under this method the depreciation is calculated based on the units of production the machinery is capable of producing during the entire useful life
- The way to compute depreciation is as under
 - Compute the depreciable amount= Cost of asset- scarp (residual value)
 - Depreciation amount- $\frac{\text{Units produced- yearly}}{\text{Total no. of units}} * \text{Depreciable amount (above step)}$



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- **Depletion method-** Under this method the depreciation is calculated on the basis of the tonnes generated from the asset- which is the mines. Generally where there is extraction activity from the mines- the asset tends to reduce in the value- which is termed as depletion.
- The term used for depreciation of natural resources is ***depletion***
- The way to compute depreciation is as under
 - Compute the depreciable amount= Cost of asset- scarp (residual value)
 - Depreciation amount- $\frac{\text{Yearly tonnes extraction}}{\text{Total no. of tonnes available}} * \text{Depreciable amount (above step)}$



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- **Other important concepts from Exam point of view-**
 - *Computation of profit or loss on the sale of asset(after depreciation)- Illus 10*
 - *Change in the method of depreciation- Illus 11*
 - *Revision in the useful life of Plant, property and Equipment- Illus 12*
 - *Revaluation of value of the PPE (Plant property and Equipment)- Illus 13*
- **Computation of profit or loss on the sale of asset-** In this kind of question, we need to clearly look at the dates which are very important for the purpose of computing the depreciation. There will be sale of the asset during the mid of year- for which need to carefully provide the depreciation for those many months we have used the machinery
- Working out the illustration 10 will give a better clarity.
- **Change in the method of depreciation-** Generally any method of depreciation once applied- cannot be changed as we like- so if there is change in method of depreciation it shall be required under statute/ accounting standard or for better presentation of the financial statements



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- **Change in the method of depreciation-** So when there is change from one method to another- the amount of depreciation and the written down value shall be calculated again.
- The change can be prospective (only from the date of change- subsequently) or retrospective (from the beginning of purchase of asset).
- Working out the illustration 11- will give a better clarity in understanding the concept
- **Revision in the estimated useful life-** The residual value and the life of the assets shall be reviewed yearly to find out if there needs a change.
- *After all they are all estimates in nature which require checking in case of any revisions. Incase of any change in the useful life- then the remaining unamortized amount of asset should be depreciated over the revised useful life*
- Working out the illustration 12- will give better clarity to understand the concept.



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- **Revaluation of PPE-** This is similar to the concept of revision in useful life. But then revaluation is in value of the assets. Revaluation can be done either as first time or second time.
- When revaluation is done for the first time, there can be a change in the value of the asset- either upward or downward. First we need to understand what is upward and what is downward revaluation.
- Lets consider the following ex- where the value of the asset is Rs. 100
- When as per **First revaluation** if the value of the asset is **revised to Rs. 120 (original value is Rs.100)**- it is **upward revaluation**, which is **credited (since it is a gain)** to separate account- **Revaluation reserve A/c**.
- When as per **First revaluation** if the value of the asset is **revised to Rs. 80 (original value is Rs.100)**- it is **downward revaluation**, which is **debited (since it is a loss)** to **Profit and loss account**.



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- **Revaluation of PPE-** When revaluation is done for the second time, even then there can be a change in the value of the asset- either upward or downward. In that case the treatment for the second time will be based on the first time
- Lets understand this through the following table-

	First time revaluation	Second time revaluation	Accounting treatment
Case 1	Upward- Rs. 100	Downward- Rs. 150	To the extent of Rs. 100 – it shall be debited to Revaluation reserve and remaining Rs. 50- to 'Profit and loss ac'
Case 2	Downward- Rs. 100	Upward- Rs. 150	Appreciation to the extent of downfall is recognized in Profit and loss account. Then it means- upto Rs. 100 it is credited to Profit and loss and remaining Rs.50- is taken to Revaluation reserve.



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- **Provision for Repairs and renewals-** The fixed assets which are used in the business are bound to repairs and renewals to keep them in running condition. To meet out such expenses in the future, a provision is created each year from the Profit and loss account which is called as the ***provision for Repairs and Renewals***
- When there is actual expenditure incurred, it is debited to the provision meaning the amount from the provision is used for the actual repairs value.
- Illustration 14- will make the concept clear.
- **Important from exam point of view**
 - All the methods of depreciation- SLM, WDV, SYD, machine hour rate, production units, depletion method- how to do the sums.
 - Then the different concepts- refer to slide 12 and 16- practice the illustrations again and again.
 - Make notes for the theory as a part of the practical problems.



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- **Annuity method of depreciation-** under this method the opportunity of investing the funds outside the business instead of purchasing the asset would have earned interest for the business. On this basis, the depreciation under this method is taken from the annuity tables.
- Generally where the machinery is taken on long leases- for a certain period in time by paying the lump sum amount- the annuity method of depreciation is used to write off the amount to Profit and loss account.
- The only thing to be remembered here is that Interest is to be charged on the asset- add the interest to the asset.

Asset a/c Dr.

To Interest Account



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- **Annuity method of depreciation-** for easy understanding- we need to add the interest rate along with the cost of the asset and for the total value we will be charging the depreciation based on the annuity table (this will be given in the question)
- Solving illus 4 will give better clarity.
- **Sinking fund method-** under this method- the depreciation amount which is set aside each year is invested outside in the form of fund to earn revenue on the same, so that the amount of investment can be liquidated at the end of the useful life of the asset to purchase a new asset.
- **Depreciation amount is transferred to Sinking fund account, from this fund account the amount is invested outside and in the books it is shown as –**

Sinking fund investment A/c Dr

To Bank A/c



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- **Sinking fund method-** when the interest is earned on the sinking fund investment account- it is transferred to Sinking fund account as follows-

Bank A/c Dr

To interest on sinking fund investment A/c

Transfer to fund

Interest on sinking fund investment A/c Dr

To Sinking fund A/c

When the investment is liquidated, the proceeds out of the sale is used to purchase a new asset.



THANK YOU