#### Quadrant II – Notes

Programme: BCom Subject: Computer Science Paper Code: CSS101 Paper Title: Computer Applications for Business I Unit: 02 Module Name: Depreciation Accounting Module No: 20 Name of the Presenter: Shilpa Neenad Desai

#### Depreciation

The word depreciation has been derived from the Latin word 'Depretium' which means 'decline in price' or 'value'. Depreciation relates to fixed assets which lose value on account of usage. Depreciation is a part of the operating cost. It is the reduction in the value of an asset. The decrease in the value of an asset is due to its use, caused by wear and tear or any other reason. The decrease in the value of an asset is gradual and continuous.

Assessment and Allocation of Depreciation depends on the depreciable asset's original cost, estimated residual value (Salvage) and expected useful life.

**Original Cost** includes payment to vendors, transportation, customs, installation, initial repairs to second hand assets etc.

**Estimated residual value (Salvage)** is the amount likely to be realized on the disposition of asset as a scrap.

**Expected useful life** is the depreciable asset's effective service, expressed in periods, to the organization. It is based on various factors

such as physical potentiality of an asset, maintenance, magnitude of use, legal requirements, obsolescence and the policy of the firm.

# **Functions in Spreadsheets for Depreciation**

The two spreadsheet functions for depreciation which will be covered are i) Straight Line Method function SLN() and ii) Reducing Balance/ Declining Balance function DB() besides these two function spreadsheets support three other depreciation functions.

# Straight Line Method

Returns the straight-line depreciation of an asset for one period. This method is also known as Fixed Instalment Method.

# Syntax: SLN (cost, salvage, life)

Cost: The initial cost of the asset.

Salvage: The value at the end of the depreciation.

Life: The number of periods over which the asset is depreciated (sometimes called the useful life of the asset).

### Example 1:

Assume you have been given the following details

Purchase Price	₹ 156,000
Taxes @ 3.5%	
Shipping and Installation.	₹ 2,780
Est. Useful Life (years)	6
Est. Salvage Value	₹ 32,000

Calculate the depreciation amount using the straight line method.

The above question is modeled in Spreadsheets as shown in Figure 1 below.

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4	Shipping and Installation.		2,780		2							
5	Total Depreciable Basis				3							
6					4							
7	Est. Useful Life (years)		6		5							
8	Est. Salvage Value		32,000		6							
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Figure 1: Format for calculating depreciation using straight line method

The tax and total depreciable basis is calculated as shown in Figure 2 below.

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7	Est. Useful Life (years)		6		5			
8	Est. Salvage Value		32,000		6			
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Figure 2: Calculation of Tax and Total Depreciable Basis

The calculation of beginning of the year book value, depreciation expense and end of the year book value is shown from Figure 3 to Figure 7.

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3	Taxes @ 3.5%		5,460		1							
4	Shipping and Installation.		2,780		2							
5	Total Depreciable Basis		164,240		3							
6					4							
7	Est. Useful Life (years)		6		5							
8	Est. Salvage Value		32,000		6							
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Figure 3: Calculation of Begining of Year Book Value

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Figure 4: Using Straight Line Method to calculate depreciation expense

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Figure 5: Calculation of Depreciation Expense using SLN Function

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Figure 6: Calculation Depreciation Expense using SLN function

In the Figures 5 and 6 note that absolute reference has been used, as we wish to use autofill to calculate the depreciation expense for the remaining years.

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4	Shipping and Installation.		2,780			142,200.00	₹ 22,040.00	₹ 120,160.00					
5	Total Depreciable Basis				3	₹ 120,160.00	₹ 22,040.00	₹ 98,120.00					
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7	Est. Useful Life (years)			3	5	₹ 76,080.00	₹ 22,040.00	₹ 54,040.00					
8	Est. Salvage Value				6	₹ 54,040.00	₹ 22,040.00	₹ 32,000.00					
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Figure 7:Formulas used to calculate Depreciation Expense, End of Year Book Value and Beginning of Year Book Value for all the remaining years which is to be dragged to fill the table

### Fixed Declining Balance Method

Returns the depreciation of an asset for a specified period using the fixed-declining balance method.

#### Syntax: DB(cost, salvage, life, period, [month])

Cost: The initial cost of the asset.

Salvage: The value at the end of the depreciation.

Life: The number of periods over which the asset is depreciated (sometimes called the useful life of the asset).

Period: The period for which you want to calculate the depreciation. Period must use the same units as life.

Month: The number of months in the first year. If omitted, it is assumed to be 12.

#### Example 2:

Assume you have been given the following details

Purchase Price	₹ 2,00,000
Taxes @ 4.5%	
Shipping and Installation.	₹ 21,000
Est. Useful Life (years)	5
Est. Salvage Value	₹ 25,000

Calculate the depreciation amount using the declining balance method.

The above question is modeled in Spreadsheets as shown in Figure 8.

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5	Shipping and Installation.		₹ 21,000.00		2						
6	Total Depreciable Basis				3						
7					4						
8	Est. Useful Life (years)		5		5						
9	Est. Salvage Value		₹ 25,000.00								
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Figure 8: Format for calculating depreciation using Declining Balance Method

The solution to the problem in Example 2 is shown in Figure 9.

Note that here the formula has an extra parameter named *period* which refers to the year for which the depreciation expense is being calculated. Since the value for year, changes in the table, the last parameter for the DB function namely period is given using relative reference.

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