**Basics Problem Statements**

**Straight Line Method:**

**1.Calculate the Asset Price?**

**Ans:** Asset Price = Asset Cost + Additional Asset Cost

= 4,50,000+5,000

= 5,00,000

**2. What is the depreciation as per straight line method?**

**Ans:** Depreciation/Year =Asset Price - Scrap Value/ Life span

=500000-50000/10

= 45,000

In excel we use

=SLN (cost, salvage, life)

**3. What is the depreciation percentage for the straight-line method?**

**Ans:** Depreciation percentage = Depreciation per year /Asset Price \* 100

= 45000/500000\* 100

= 9%

**4. What is the total depreciation for its life span?**

**Ans.** Total depreciation = Depreciation per year \* Total Life Span

= 45000\*10

= 450000

**5. Find the depreciated book value after its life span?**

**Ans:** Depreciated Book Value = Asset Price – Total depreciation

= 500000-450000

=50000

**6. What is the Balance amount?**

**Ans:** Balance Amount = Scrap Value – Depreciated book value

=50000-50000

= 0

**Diminishing Balance Method**

**1.Calculate the Asset Price?**

**Ans:** Asset Price = Asset Cost + Additional Cost

= 450000+50000

=500000

**2. Find the rate of depreciation as per diminishing balance method?**

**Ans:** Rate of Depreciation = [1 - (Scrap Value/Total Asset Cost)1/Lifespan] \* 100

= [(1-50000/500000)1/10]

= 20.57%

**Intermediate Problem Statements**

**1. Find the Book Value for Year 1 and the after that Calculate the Year on Year Depreciation amount**

**Ans:** Book Value for year 1 = Asset Cost

= 500000

Y0Y depreciation amount for year 1 = Book Value for year 1 \* Rate of Depreciation

= 500000\*20.57%

=1,03,000

**2. Find the Book Value for Year2 and its Year-on-Year Depreciation amount for Year2?**

**Ans:** Book value for Year 2 = Book Value for year 1 – YoY depreciation amount for year 1

= 500000-103000

= 397000

YoY depreciation for Year 2 = 397000\*20.57%

= 81782

**3. Find the Book Value for Year3 and its Year-on-Year Depreciation amount for Year3?**

**Ans:** Book value for Year 3 = Book Value for year 2 – YoY depreciation amount for year 2

= 397000-81782

= 315218

YoY depreciation for Year 3 = 315218\*20.57%

= 64934

4. So by using above approach calculate for 10 years data

**Ans:** Answer provided in the excel sheet

**Advanced Problem Statements**

(Note- For below Questions take a new worksheet and in that Write your Answers with which formula you are applying for each question)

**1) Calculate the annual depreciation amount using the straight-line method for the given asset.**

Annual Depreciation Amount = Asset Price + Additional Cost - Scrap Value / LifeSpan

= 450000+50000-50000/10

Formula in excel =SLN (Asset cost, Scrap value, LifeSpan)

**2) Calculate the total depreciation for the asset's entire life span using the straight-line method.**

Total Depreciation Amount = Annual Depreciation Amount \* LifeSpan

= 45000\*10

=450000

**3) What is the depreciated book value of the asset after its life span using the straight-line method?**

Depreciated Book Value = Total Asset Cost - Total Depreciation Amount, ideally should be equal to scrap value.

=500000-450000

=50000

**4) Calculate the rate of depreciation per year as per the diminishing balance method.**

Rate of Depreciation per year = [1 - (Scrap Value/Total Asset Cost)1/Lifespan]\* 100

= [(1-50000/500000)1/10]

= 20.57%

**5) What is the depreciation amount for the asset in the second year according to the diminishing balance method?**

Depreciation Amount for second year = Book Value of 2nd Year \* Rate of Depreciation

= 397000\*20.57%

= 81782

**6) What is the book value of the asset in the fourth year using the diminishing balance method?**

Book Value for the fourth Year = Book Value of 3rd year - YoY depreciation amount for 3rd year

= 315218 – 64934

= 250283

**7) Calculate the total depreciation for the asset's entire life span using the diminishing balance method.**

Total Depreciation Amount = Sum of the depreciation values of each year.

= $1,03,000.00 + $81,782.00 + $64,934.91 + $51,558.32 + $40,937.30 + $32,504.22 + $25,808.35 + $20,491.83 + $16,270.51 + $12,918.79

=450000

**8) What is the book value of the asset after its life span using the diminishing balance method?**

Book value of the asset after life span = Total Asset Cost – Total Depreciation

= 500000-450000

=50000

**9) Compare the total depreciation amounts obtained from the straight-line method and the diminishing balance method. Which method results in higher total depreciation?**

The total depreciation amounts from both straight-line and diminishing method results in same total depreciation. It is 450000 in our case.

**10) Prepare a Presentation for above Analysis you made so far along with Visual Graphs representation**

With this above graph, we can clearly see that both the DB method and SLN method eventually comes to the same salvage value at the end of its life span.

In the SLN method, the book value of an asset reduces at a constant rate independent of the previous year. book value.

In the DB method, the book value reduces as per its previous year’s book value.

Even though the DB method starts with a high depreciation value than SLN method, it eventually becomes smaller than the SLN value and by the end of the life span. Both adds up to the same value.