XYZ purchased a delivery truck for the distribution of its finished products for Rs 65,000 on 1st January, 2013. The expected useful life of that truck was five years and a salvage value of Rs 5,000

Required: Calculate the following

(A) The annual depreciation expense by applying Sum of the year digit method.

(B) Pass Journal entries and prepare depreciation schedule. Also state the assumptions of this method.

Solution
Sum of the year digit Method

Formula

Annual depreciation Expense = Depreciable cost x fraction.

Depreciable cost = Cost of Machine - Residual

$$\text{Fraction} = \frac{N(N+1)}{2}$$

Depreciable cost = 65000 - 5000

Depreciable cost = 60,000

$$\text{Fraction} = \frac{5(5+1)}{2} = 15$$

XYZ Company
Computation for depreciation Expense for Using Sum of the Year Digit Method

Period	Annual Depreciation	Depreciation Expense	Accumulated Depreciation
1st year ~~31, Dec, 2013~~	60,000 x 5/15	20000	20,000
2nd year ~~31, Dec, 2014~~	60,000 x 4/15	16000	36,000
3rd year	60,000 x 3/15	12000	48000
4th year	60,000 x 2/15	8000	56,000
5th year	60,000 x 1/15	4000	60,000

XYZ Company
General Journal Entries
~~for the Year 31 Dec 2013~~

Date	Particular	P/R	Debit	Credit
Year 1	Depreciation Expense		20,000	
	Allowance for depreciation			20,000
	(To record depreciation expense for the year 1)			
Year 2	Depreciation Expense		16,000	
	Allowance for depreciation			16,000
	(To record depreciation expense for the year 2).			
Year 3	Depreciation Expense		12,000	
	Allowance for depreciation			12,000
	(To record depreciation expense for the year 3).			
Year 4	Depreciation Expense		8,000	
	Allowance for depreciation			8,000
	(To record depreciation expense for the year 4)			
Year 5	Depreciation Expense		4,000	
	Allowance for depreciation			4,000
	(To record depreciation expense for the year 5).			

Buono Co. purchased equipment on Jan 31, 2005 at a total invoice cost of Rs 280,000, additional costs of Rs 5000 for freight and Rs 2500 for installation were incurred. The equipment has an estimated salvage value of Rs 10,000 and an estimated useful life of five years. What is the amount of accumulated depriciation at Dec. 31, 2006 if the straight line method of depriciation is used?

Compilation for Cost of Machine

Machine		280,000
add: Freight charges	5000	
Installation charges	25000	30,000
Cost of Machine.		310,000

Compute depriciation Expense by Straight line Method

$$\text{Annual depriciation expense} = \frac{\text{Cost} - \text{Salvage}}{\text{Estimated life in years}}$$

$$\text{Annual depriciation expense} = \frac{310,000 - 10,000}{5}$$

Annual depriciation expense = 60,000 per year.

Accumulated depreciation = Annual depreciation X Number of years used.

Accumulated depreciation = 60,000 X 2

Accumulated depreciation = ₹120,000.
at Dec, 31, 2006.

OR

Year	Annual depreciation	Depreciation Expense	Accumulated depreciation expense.
31, Dec, 2005	60,000	60,000	60,000
31, Dec, 2006	60,000	60,000	₹120,000.

Accumulated depreciation expense al 31, Dec, 2006 is ₹120,000.

A plant asset cost Rs 27,000 when it was purchased on Jan. 1, 2008. It was depreciated by the straight line method based on a 9 year life with no salvage value. On June 30, 2008, the asset was discarded with no cash proceeds. What gain or loss should be recognized on the retirement? Pass the entry.

Compute depreciation by Straight-line Method.

Annual depreciation expense = $\frac{\text{Cost - Salvage value}}{\text{Estimated life in years.}}$

Annual depreciation expense = $\frac{27000 - 0}{9}$

Annual depreciation expense = 3000

~~Year~~	~~Annual depreciation Expense~~	~~Depreciation Expense~~	~~Accumulated~~

		Depreciation Expense	Accumulated Depreciation
30, June 2008	$3000 \times \frac{6}{12}$	1500	Expense. 1500

Discarded at 30, June 2008.

Discarded value = Cost - Accumulated Depreciation.

Discarded value = 27000 - 1500

Discarded/Carrying value = 25500

Gain / loss on retirement

Gain / loss = Proceed value - Carring value.

Gain / loss = 0 - 25500

loss = 25500

General Journal Entry

Date	Particular	P/R	Debit	Credit
30 June 2008	Accumulated depreciation		1500	
	Loss on retirement		25500	
	Asset			27000
	(To record accumulated depreciation expense and loss on retirement			

On June 30, 2010 B.Co. sells office furniture for Rs 60,000 cash. The office ~~Defu~~ furniture originally cost Rs 150,000, when purchased on Jan 1, 2005. Depreciation is recorded by the straight-line method over 10 years with a Salvage value of Rs 15,000.

Compute depreciation Expenses by Straight-Line Method

Annual depreciation Expense = $\frac{\text{Cost - Salvage value}}{\text{Estimated life in years}}$

Annual depreciation Expense = $\frac{150,000 - 15000}{10}$

Annual depreciation expense = 13500 per year

		Depreciation Expense	Accumulated Depreciation Expense
31, Dec, 2005	13500	13500	13500
31, Dec, 2006	13500	13500	27000
31, Dec, 2007	13500	13500	40500
31, Dec, 2008	13500	13500	54000
31, Dec, 2009	13500	13500	67500
30, June 2010	13500 X 6/12	6750	74250.

Accumulated depreciation at 30, June 2010 = 74250.

Curring value at 30 June 2010.

CV = Cost - Accumulated depreciation

CV = 150000 - 74250

CV = 75750

Gain/Loss on Sale

Gain/loss on sale = Proceed value - Curring value

Gain/loss on Sale = 60,000 - 75750

Loss on Sale = 15750

General Journal

Date	Particular	P/R	Debit	Credit
30, June 2010	Cash		60,000	
	Accumulated depriciation		74250	
	Loss on Sale		15750	
	Asset			150,000
	(To record Sale of machinery at a price below book value)			

The XYZ Co. purchased a large machine 5 year Ago at a total cost of Rs 400,000. The accumulated depreciation on this machine is Rs 290,000. The corporation sold the machine at Rs 10,000 gain.

Required: calculate the amount would be required as cash flow from this sale.

Solution

XYZ Co.

General Journal.

Date	Particulars	P/L	Debit	credit
	Accumulated depreciation		290,000	
	Cash/Book value		120,000	
	Machine			400,000
	Gain on Sale			10,000
	(To record Sale of machine at a price above book value).			

Book value = orginal cost - Accumulated depreciation + gain

Book value = 400,000 - 290,000 + 10,000

Book value = 120,000

On April 1, 1993, Ayesha Industries purchased new equipment at a cost of Rs 325000. Useful life of this equipment was estimated at 5 years, with a residual value of Rs 25000. For tax purposes, however this equipment is classified as "3-year property".

Required: Compute the annual depreciation expense for each year until this equipment becomes fully depreciated under each depreciation methods listed below (Because you will record depreciation for only a fraction of a year in 1993, depreciation will extend through in all methods except MACRS) and show supporting computations.

(a) Straight-line with depreciation for fractional years rounded to the nearest whole month.

(b) 20% - declining-balance method with the half-year convention; Limit depreciation in 1998 to an amount which reduces the undepreciated cost to the estimated residual value.

(c) Sum-of-the-years digits with the half year convention.

(d) MACRS accelerated rates for "3-year property".

modified Accelerated cost recovery system.

a) Straight-Line Method

Formula

Annual depreciation Expense = $\frac{\text{Cost - Salvage}}{\text{Estimated life in year}}$

Annual depreciation Expense = $\frac{325000 - 25000}{5}$

Annual depreciation Expense = 60,000 per year

Period	Annual depreciation expense/ undepreciated cost	Depreciation Expense	Accumulated Depreciation Expense
31 Dec 1993.	$60,000 \times \frac{9}{12}$	45000	45000
31 Dec 1994	$60,000 \times \frac{12}{12}$	60,000	105000
31 Dec 1995	60,000	60,000	165,000
31 Dec 1996	60,000	60,000	225,000
31 Dec 1997	60,000	60,000	285,000
30 April 1998	$60,000 \times \frac{3}{12}$	15000	300,000

b) Declining balance Method

Annual depreciation Expense = Cost - Accumulated depreciation x Rate of depreciation.

Period	Annual depreciation expense	Depreciation Expense	Accumulated depreciation expense.
1993, 31 Dec.	$(325000 - 0) \times \frac{20}{100} \times \frac{9}{12}$	48750	48750
31, Dec, 1994	$(325000 - 48750) \times \frac{20}{100}$	55250	104000
31, Dec, 1995	$(325000 - 104000) \times \frac{20}{100}$	44200	148200
31, Dec, 1996	$(325000 - 148200) \times \frac{20}{100}$	35360	183560
31, Dec, 1997	$(325000 - 183560) \times \frac{20}{100}$	28288	211848
30 April, 1998	$(325000 - 211848) \times \frac{20}{100} \times \frac{3}{12}$	5658	217506

OR

1993	$(325000 - 0) \times 20\% \times \frac{1}{2}$	32500	32500
1994	$(325000 - 32500) \times 20\%$	58500	91000
1995	$(325000 - 91000) \times 20\%$	46800	137800
1996	$(325000 - 137800) \times 20\%$	37440	175240
1997	$(325000 - 175240) \times 20\%$	29952	205192
1998	$(325000 - 205192 - 25000) \times \frac{1}{2}$	47404	214673

c) Sum of the year digit Method

Fomula

Annual depreciation expense = Depreciable cost x fraction x $\frac{m}{12}$

Depreciable cost = Cost of Machine - Residual

Depreciable cost = 325000 - 25000

Depreciable Cost = 300,000

Fraction = $\frac{N(N+1)}{2} = \frac{5(5+1)}{2}$

Fraction = 15 ~~year~~.

Year	Computation	Depreciation expense	Accumulated depreciation expense
1993	$300,000 \times \frac{5}{15} \times \frac{1}{2} = 50,000$	50,000	50,000
1994	$300,000 \times \frac{5}{15} \times \frac{1}{2} = 50,000$		
1994	$300,000 \times \frac{4}{15} \times \frac{1}{2} = 40,000$	90,000	140,000
1995	$300,000 \times \frac{4}{15} \times \frac{1}{2} = 40,000$		
1995	$300,000 \times \frac{3}{15} \times \frac{1}{2} = 30,000$	70,000	210,000
1996	$300,000 \times \frac{3}{15} \times \frac{1}{2} = 30,000$		
1996	$300,000 \times \frac{2}{15} \times \frac{1}{2} = 20000$	50,000	260,000
1997	$300,000 \times \frac{2}{15} \times \frac{1}{2} = 20,000$		
1997	$300,000 \times \frac{1}{15} \times \frac{1}{2} = 10,000$	30,000	290,000
1998	$300,000 \times \frac{1}{15} \times \frac{1}{2} = 10,000$	10,000	300,000

d) Modified Accelerated Cost Recovery System

Year	Computation	Depreciation expense	Accumulated depreciation
1993	325000 x 33.33%	108322.5	108322.5
1994	325000 x 44.45%	144462.5	252785
1995	325000 x 14.81%	48130.2	300917.5
1996	325000 x 7.41%	24082.5	325000