

8. HIRE PURCHASE AND INSTALMENT SALE TRANSACTIONS

ASSIGNMENT SOLUTIONS

PROBLEM NO:1

Calculation of interest:

Hire- purchase price:	Rs.		Rs.
Down payment		2,000	
Installment Rs. 3,000 x 5		<u>15,000</u>	17,000
Less: cash price			<u>15,000</u>
Therefore total interest			<u>2,000</u>

Analysis of payments of vendor

Year	Opening balance of cash price (Rs.)	Towards principal (Rs.)	Towards interest (Rs.)	Installment (Rs.)	Closing balance of cash price (Rs.)
01.01.2010	15,000	2,000	-	-	13,000
31.12.2010	13,000	2,350	650	3,000	10,650
31.12.2011	10,650	2,468	532	3,000	8,182
31.12.2012	8,182	2,591	409	3,000	5,591
31.12.2013	5,591	2,720	280	3,000	2,871
31.12.2014	2,871	2,871	129 (bal. fig)	3,000	Nil
			2,000		

Statement of depreciation:

Year	Opening balance	Amount of depreciation	Closing balance
31.12.2010	15,000	3,000	12,000
31.12.2011	12,000	2,400	9,600
31.12.2012	9,600	1,920	7,680
31.12.2013	7,680	1,536	6,144
31.12.2014	6,144	1,229	4,915

i) Under Sales Method/ Credit Purchases with Interest Method:

Journal Entries

Date	Particulars	L.F	Debit Rs.	Credit Rs.
2010 Jan.1	Motor Vans A/c To Plain Vans Ltd. A/c (Cash price of the machine purchased under hire-purchase system)	Dr.	15,000	15,000
	Plain Vans Ltd. A/c To Bank A/c (Amount of down payment made to the vendor.)	Dr.	2,000	2,000
Dec.31	Interest A/c To Plain Vans Ltd. A/c (The interest due to vendor.)	Dr.	650	650
	Plain Vans Ltd. A/c To Bank A/c (The Installment paid.)	Dr.	3,000	3,000
	Depreciation A/c To Motor Vans A/c (Depreciation charged on Motor Vans.)	Dr.	3,000	3,000
	Profit and Loss A/c To Depreciation A/c To Interest A/c (Profit and Loss Account.)	Dr.	3,650	3,000 650

2011 Dec.31	Interest A/c To Plain Vans Ltd. A/c (Interest due to vendor.)	Dr.	532	532
	Plain Vans Ltd. A/c To Bank A/c (The Installment paid.)	Dr.	3,000	3,000
	Depreciation A/c To Motor Vans A/c (Depreciation charged on Motor Vans.)	Dr.	2,400	2,400
	Profit and Loss A/c To Depreciation A/c To Interest A/c (Depreciation and interest transferred to Profit and Loss Account.)	Dr.	2,932	2,400 532

Dr. **Motor Vans Account** Cr.

Date	Particulars	Rs.	Date	Particulars	Rs.
2010 Jan.1	To Plain Vans Ltd.	15,000	2010 Dec.31	By Depreciation	3,000
		15,000		By Balance c/d	12,000
					15,000
2011 Jan.1	To Balance b/d	12,000	2011 Dec.31	By Depreciation	2,400
		12,000		By Balance c/d	9,600
					12,000

Dr. **Plain Vans Ltd. Account** Cr.

Date	Particulars	Rs.	Date	Particulars	Rs.
2010 Jan.1	To Bank- Down	2,000	2010 Jan.1	By Motor Vans	15,000
Dec.31	To Bank – 1 st inst.	3,000	Dec.31	By Interest	650
	To Balance c/d	10,650			15,650
		15,650			
2011 Dec.31	To Bank – 2 nd Inst.	3,000	2011 Dec.31	By Balance b/d	10,650
	To Balance c/d	8,182		By Interest	532
		11,182			11,182

Dr. **Interest Account** Cr.

Date	Particulars	Rs.	Date	Particulars	Rs.
2010 Dec.31	To Plain Vans Ltd.	650	2010 Dec.31	By Profit and Loss A/c	650
2011 Dec.31	To Plain Vans Ltd.	532	2011 Dec.31	By Profit and Loss A/c	532

ii) Under Interest Suspense Method:

Journal Entries

Date	Particulars	L.F	Debit (Rs.)	Credit (Rs.)
2010 Jan.1	Motor Vans A/c Interest Suspense A/c To Plain Vans Ltd. A/c (Motor Vans purchased under Installment system.)	Dr. Dr.	15,000 2,000	17,000
	Plain Vans A/c To Bank A/c (Amount of down payment made to the vendor.)	Dr.	2,000	2,000
Dec.31	Interest A/c To Interest Suspense A/c (Interest paid and adjusted.)	Dr.	650	650
	Plain Vans A/c To Bank A/c (The Installment paid.)	Dr.	3,000	3,000
	Depreciation A/c To Motor Vans A/c (Depreciation charged on Motor Vans.)	Dr.	3,000	3,000

	Profit and Loss A/c To Depreciation A/c To Interest A/c (Depreciation and interest transferred to Profit and Loss Account.)	Dr.		3,650	3,000 650
2011 Dec.31	Interest A/c To Interest Suspense A/c (The interest paid and adjusted.)	Dr.		532	532
	Plain Vans Ltd. A/c To Bank A/c (The Installment paid.)	Dr.		3,000	3,000
	Depreciation A/c To Motor Vans A/c (Depreciation charged on Motor Vans.)	Dr.		2,400	2,400
	Profit and Loss A/c To Depreciation A/c To Interest A/c (Depreciation and interest transferred to Profit and Loss Account.)	Dr.		2,932	2,400 532

Dr. **Motor Vans Account** Cr.

Date	Particulars	Rs.	Date	Particulars	Rs.
2010 Jan.1	To Plain Vans Ltd. A/c	15,000	2010 Dec.31	By Depreciation A/c By Balance c/d	3,000 12,000
		15,000			15,000
2011 Jan.1	To Balance b/d	12,000	2011 Dec.31	By Depreciation A/c By Balance c/d	2,400 9,600
		12,000			12,000

Dr. **Plain Vans Ltd. Account** Cr.

Date	Particulars	Rs.	Date	Particulars	Rs.
2010 Jan.1	To Bank A/c - Down	2,000	2010 Jan.1	By Motor Vans A/c	15,000
2010 Dec.31	To Bank A/c - 1 st Inst. To Balance c/d	3,000 12,000		By Interest Suspense A/c	2,000
		17,000			17,000
2011 Dec.31	To Bank A/c - 2 nd Inst. To Balance c/d	3,000 9,000	2011 Jan.1	By Balance b/d	12,000
		12,000			12,000

Dr. **Interest Suspense Account** Cr.

Date	Particulars	Rs.	Date	Particulars	Rs.
2010 Jan.1	To Plain Vans Ltd.	2,000	2010 Dec.31	By Interest A/c By Balance c/d	650 1,350
		2,000			2,000
2011 Jan.1	To Balance c/d	1,350	2011 Dec.31	By Interest A/c By Balance c/d	532 818
		1,350			1,350

Dr. **Interest Account** Cr.

Date	Particulars	Rs.	Date	Particulars	Rs.
2010 Dec.31	To Interest Suspense A/c	650	2010 Dec.31	By Profit and Loss A/c	650
2011 Dec.31	To Interest Suspense A/c	532	2011 Dec.31	By Profit and Loss A/c	532

PROBLEM NO: 2

a) Ratio of interest and amount due = $\frac{\text{Rate of interest}}{100 + \text{Rate of interest}} = \frac{10}{110} = \frac{1}{11}$

There is no interest element in the down payment as it is paid on the date of the transaction. Installments paid after certain period includes interest portion also. Therefore, to ascertain cash price, interest will be calculated from last installment to first installment as follows

No. of installments	Amount due at the time of installment	Interest	Cumulative Cash price
3 rd	2,20,000	1/11 of 2,20,000 = 20,000	2,00,000
2 nd	4,20,000 [W.N.1]	1/11 of 4,20,000 = 38,182	3,81,818
1 st	6,01,818 [W.N.2]	1/11 of 6,01,818 = 54,711	5,47,107

Total cash price = Rs. 5,47,107+ Rs. 2,40,000 (down payment) = Rs. 7,87,107.

Working Notes:

- 2,00,000 + 2nd installment of 2,20,000 = 4,20,000.
- 3,81,818 + 1st installment of 2,20,000 = 6,01,818.

b) Statement showing computation of cash value of machine acquired

Particulars	Installment amount	Interest	Principal
5 th installment	6,000	286	5,714
Interest (6,000 x 5 / 105)	(286)		
	5,714		
Add: 4th installment	6000		
	11,714	558	5,442
Less: Interest (11,714 x 5/105)	(558)		
	11,156		
Add: 3rd installment	6,000		
	17,156	817	5,183
Less: Interest (11,156 x 5/105)	(817)		
	16,339		
Add: 2nd installment	6,000		
	22,339	1,064	4,936
Less: Interest (22,339 x 5/105)	(1,064)		
	21,275		
Add: 1st installment	6,000		
	27,275	1,299	4,701
Less: Interest (27,275 x 5/105)	(1,299)		
	25,976	4,024	25,976

The cash purchase price of machinery is Rs. 25,977

c) Statement Showing the Computation of Cash Price and Periodic Interest

A Installment	B = D - C Balance Due at the Beginning	C Interest Dx10/110	D = E + F Total Amount Due at the end before the payment of installment	E Installment Amount	F = D - E Balance due at the end after the payment of installment
	3,00,000	30,000	3,30,000	Nil	3,30,000
I	3,30,000	33,000	3,63,000	1,63,000	2,00,000
II	2,00,000	20,000	2,20,000	1,20,000	1,00,000
III	1,00,000	10,000	1,10,000	1,10,000	Nil

Let Cash Price be X : X = Rs.3,00,000 + 40% of X

0.6 X = Rs.3,00,000 : X = Rs.3,00,000/0.6 = Rs.5,00,000, cash price = Rs.5,00,000

PROBLEM NO 3

In the books of K& Co

Dr.

Hire purchaser (MC) A/c

Cr.

Date	Particulars	Amount	Date	Particulars	Amount
01/01/2001	To Hire purchase sales	1,00,000	01/01/2001	By bank	20,000
31/12/2001	To interest (80,000*5%)	4,000	31/12/2001	By bank	24,000
				By balance c/d	60,000
		1,04,000			1,04,000

01/01/2002	To Balance b/d	60,000	31/12/2002	By repossessed goods	63,000
31/12/2002	To Interest (60,000*5%)	3,000			
		63,000			63,000

Dr.

Repossessed Goods A/c

Cr.

Date	Particulars	Amount	Date	Particulars	Amount (Rs.)
31/12/2002	To MC	63,000	31/12/2002	To Balance C/d	81,000
31/12/2002	To profit on repossession (81,000 - 63,000)	18,000			
		81,000			81,000
01/01/2003	To Balance b/d	81,000	01/01/2003	By Bank	90,000
"	To Bank	1,000			
"	To P&L A/c	8,000			
		90,000			90,000

Computation of WDV of Machinery as on 31st Dec, 2002:

Particulars	Amount (Rs.)
Value of Machinery as on 01/01/2001	1,00,000
Less: Depreciation for first year (1,00,000*10%)	(10,000)
WDV as on 01/01/2002	90,000
Less: Depreciation for first year (90,000*10%)	(9,000)
WDV as on 31/12/2002	81,000

PROBLEM NO:4**a) Calculation of Interest and Cash Price:**

No. of installments	Outstanding balance at the end after the payment of installment	Amount due at the time of installment	Outstanding balance at the end before the payment of installment	Interest	Outstanding Balance at the beginning
3 rd		2,75,000	2,75,000	25,000	2,50,000
2 nd	2,50,000	2,45,000	4,95,000	45,000	4,50,000
1 st	4,50,000	2,65,000	7,15,000	65,000	6,50,000

Total cash price = Rs.6,50,000+ 5,00,000 (down payment) =Rs.11,50,000.

b) In the books of Lucky:

Dr.

Tractors Account

Cr.

Date	Particulars	Amount	Date	Particulars	Amount
1.10.20X1	To Happy a/c	11,50,000	30.9.20X2	By Depreciation A/c	2,30,000
		11,50,000		By Balance c/d	9,20,000
1.10.20X2	To Balance b/d	9,20,000			11,50,000
		9,20,000	30.9.20X3	By Depreciation A/c	1,84,000
1.10.20X3	To Balance b/d	7,36,000		By Balance c/d	7,36,000
		7,36,000			9,20,000
			30.9.20X4	By Depreciation A/c	1,47,200
				By Happy a/c*	1,97,225
				By Loss transferred to P&L a/c on surrender (Bal. fig.) or (2,94,400 - 1,97,225)	97,175
				By Balance c/d ½ of (7,36,000 - 1,47,200 = 5,88,800)	2,94,400
					7,36,000

*(Value of 1 Tractor taken over after depreciation for 3 years @ 30% p.a.) {5,75,000 - (1,72,500 + 1,20,750 + 84,525)}.

Dr.

Happy Account

Cr.

Date	Particulars	Amount	Date	Particulars	Amount
01.10.X1	To Bank (down payment)	5,00,000	01.10.X1	By Tractors a/c	11,50,000
30.09.X2	To Bank (1 st installment)	2,65,000	30.09.X2	By Interest a/c	65,000
	To Balance c/d	4,50,000			
		12,15,000			12,15,000

30.09.X3	To Bank (2 nd Installment) To Balance c/d	2,45,000 2,50,000 4,95,000	01.10.X2 30.09.X3	By Balance b/d By Interest a/c	4,50,000 45,000 4,95,000
30.09.X4	To Tractor a/c To Balance c/d (b.f.)	1,97,225 77,775 2,75,000	01.10.X3 30.09.X4	By Balance b/d By Interest a/c	2,50,000 25,000 2,75,000
31.12.X4	To Bank (Amount settled after 3 months)	81,275	01.10.X4 31.12.X4	By Balance b/d By Interest a/c (@ 18% on bal.) (77,775 x 3/12 x 18/100)	77,775 3,500 81,275
		81,275			81,275

PROBLEM NO:5

In books of X Transport Ltd

Dr.			Tempo a/c		Cr.	
Date	Particulars	Rs.	Date	Particulars	Rs.	
2010 Jan 1	To Delhi Motors	1,50,000	2010 Dec 21	By Depreciation (1,50,000 x 20%)	30,000	
				By Balance e/d	1,20,000	
		1,50,000			1,50,000	
2011 Jan 1	To Balance b/d	1,20,000	2011 Dec 31	By Depreciation	24,000	
				By Delhi Motors A/c (value 2 tempo's taken away)	49,000	
				By profit & loss A/c (B/f)	15,000	
				By balance c/d (value of one tempo left)	32,000	
		1,20,000			1,20,000	
2012 Jan 1	To Balance b/d	32,000	2012 Dec 31	By Depreciation A/c	6400	
				By Balance c/d	25,600	
		32,000			32,000	

Delhi motors A /c

Date	Particulars	Rs.	Date	Particulars	Rs.
2010 Jan 1	To Bank (down payment)	30,000	2010 Jan 1	By Tempo's a/c	1,50,000
31 Dec	To Bank	50,800	Dec 31	By Interest (1,20,000 x 9%)	10,800
31. Dec	To Balance c/d	80,000			
		1,60,800			1,60,800
2011 Jan 1	To Tempos a/c	49,000	2011 Jan 1	By Balance b/d	80,000
Dec 31	To Balance c/d	38,200	Dec 31	By Interest (80,000 x 9%)	7200
		87,200			87,200
2012 Dec 31	To Bank c/d	41,638	2012 Jan 1	By Balance b/d	38,200
			Dec 31	By Interest a/c (38,200 x 9%)	3,438
					41,638

WORKING NOTES: (10,000 + 8,000) = 18,000

Particulars	Amount (Rs.)
W.N. 1: Value of one tempo left with buyer	
Cost	50,000
Depreciation for 2 years @ 20% (10,000 + 8,000)	(18,000)
Value of tempo at end of 2 nd year	32,000
W.N. 2: Value of 2 tempos taken by hire vendor	
Cost (50,000 x 2)	1,00,000
Depreciation @ 30% W.D.V method for 2yrs (30000 + 21000)	(51,000)
Value of tempos taken away	49,000

W.N.3: Computation of profit (or) loss on Repossession		
Value of tempos taken over	(i)	49,000
Book value of 2 tempos (32,000 x 2)	(ii)	(64,000)
Loss to X Transport Ltd on taken over of 2 tempos ((i) - (ii))		(15,000)

PROBLEM NO: 6

(i)	Price of two cars = Rs 2,00,000 x 2		4,00,000	
	Less: Depreciation for the first year @ 30%		1,20,000	
			2,80,000	
	Less: Depreciation for the second year = Rs 2, 80,000 x30/100		84,000	
	Agreed value of two cars taken back by the hire vendor		1,96,000	
(ii)	Cash purchase price of one car		2,00,000	
	Less: Depreciation on Rs 2,00,000 @20% for the first year		40,000	
	Written down value at the end of first year		1,60,000	
	Less: Depreciation on Rs 1,60,000 @ 20% for the second year		32,000	
	Book value of car left with the hire purchaser		1,28,000	
(iii)	Book value of one car as calculated in working note (ii) above		1,28,000	
	Book value of Two cars = Rs 1,28,000 x 2		2,56,000	
	Value at which the two cars were taken back, calculated in working note (i) above		1,96,000	
	Hence, loss on cars taken back = Rs 2,56,000 – Rs 1,96,000 =		Rs 60,000	
	Sale proceeds of cars repossessed		1,70,000	
	Less: Value at which plant were taken back	Rs 1,96,000		
	Repairs	Rs 10,000		2,06,000
Loss on resale			36,000	

PROBLEM NO: 7**Calculation of Cash Price:****Alternative 1:**

The present value of an annuity of Re. 1 paid for 3 year @ 5% = Rs .2.723. Hence, the present value of Rs. 30,000 for 3 years = 2.723 x 30,000 = Rs 81,690.

Thus, Cash Price will be computed as Rs. 81,690.

Alternative 2:

Cash price may also be calculated using the annuity formula :

$$\begin{aligned} \text{Cash price} &= \text{Annual installment} \times \frac{(1+r)^n - 1}{r(1+r)^n} \\ &= 30,000 \times [(1+0.05)^3 - 1] / 0.05(1+0.05)^3 \\ &= 81,697 \end{aligned}$$

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THE END