

Hire-purchase system & Instalment system

Hire-purchase system is a special system of purchase and sale of goods. Under this system purchaser pays the price of the goods in instalments. The instalments may be annual, six monthly, quarterly, monthly fortnightly etc. Thus hire-purchase means a transaction where the goods are sold by vendor to the purchaser under the following conditions :

the goods will be delivered to the purchaser at the time of agreement.

the purchaser has a right to use the goods delivered.

the price of the goods will be paid in instalments.

every instalment will be treated to be the hire charges of the goods which is being used by the purchaser.

if all instalments are paid as per the terms of agreement , the title of the goods is transferred by vendor to the purchaser.

if there is a default in the payment of any of the instalments, the vendor will take away the goods from the possession of the purchaser without refunding him any amount received earlier in the form of various instalments.

Characteristics of Hire-Purchase System

The characteristics of hire-purchase system are as under

- Hire-purchase is a credit purchase.
- The price under hire-purchase system is paid in instalments.
- The goods are delivered in the possession of the purchaser at the time of commencement of the agreement.
- Hire vendor continues to be the owner of the goods till the payment of last instalment.
- The hire-purchaser has a right to use the goods as a bailer.
- The hire-purchaser has a right to terminate the agreement at any time in the capacity of a hirer.
- The hire-purchaser becomes the owner of the goods after the payment of all instalments as per the agreement.

- If there is a default in the payment of any instalment, the hire vendor will take away the goods from the possession of the purchaser without refunding him any amount.

Difference between Hire-purchase system and Instalment payment system

Instalment Payment System is system of purchase and sale of goods in which title of goods is immediately transferred to the purchaser at the time of sale of goods and the sale price of the goods is paid in instalments. In the event of default in payment of any instalment, the seller has no right to take back goods from the possession of the purchaser. He can file a suit for the recovery of the outstanding balance of the price of goods sold.

The followings are the differences between Hire-purchase system and Instalment payment system:

- In Hire-purchase system, the transfer of ownership takes place after the payment of all instalments while in case of Instalment payment system, the ownership is transferred immediately at the time of agreement.
- In Hire-purchase system, the hire-purchase agreement is like a contract of hire though later on it may become a purchase after the payment of last instalment while in Instalment payment system, the agreement is like a contract of credit purchase.
- In case of default in payment, in Hire-purchase system the vendor has a right to back goods from the possession of the hire-purchaser while in case of Instalment payment system, the vendor has no right to take back the goods from the possession of the purchaser; he can simply sue for the balance due.
- In Hire-purchase system, if the purchaser sells the goods to a third party before the payment of last instalment, the third party does not get a better title on the goods purchased. But in case of Instalment payment system, the third party gets a better title on the goods purchased.
- In Hire-purchase system the provisions of the Hire-purchase Act apply to the transaction while in case of Instalment payment system, the provisions of Sale of Goods Act apply to the transaction.

Accounting In the books of Hire-purchaser

There are two methods of accounting in the books of Hire-purchaser. Their detailed description is as under:-

Asset Accrual Method:

Under this method it is considered that the hire-purchaser is the owner of the asset up to the value of the cash price paid by him in the form of down payment or the cash price paid included in various instalments. The following journal entries are recorded under this method.

(i) On taking the delivery of asset:

No entry is recorded.

(ii) On making the down payment (if any)

Asset A/c Dr.	(Amount of down payment)
To Cash/Bank A/c.	

(iii) On becoming the instalment due

Asset a/c. Dr	(Balancing figure)
Intt. A/c. Dr.	(Amt. of Intt.)
To Hire-Vendor A/c.	(Amt. of Instalment)

(iv) On payment of instalment:

Hire-Vendor A/c Dr.	(Amt. of Instalment)
To Cash/Bank A/c.	

(v) On charging the Depreciation:

Depreciation A/c Dr.	(Amt. of Depreciation)
To Asset A/c.	

(vi) On Transfer of interest and depreciation to P/L A/c:

P/L A/c.	(Total amt.)
To Interest A/c	(Bal. of Intt. A/c.)
To Depreciation A/c.	(Bal. of Dep. A/c.)

Under Total Assets Value Method:

Under this method of accounting in the books of hire-purchaser, is done on the assumption that the ownership of the asset is also transferred to the purchaser with the delivery of goods. The following journal entries are recorded under this method.

(i) On taking the delivery of assets at the time of agreement:

Asset A/c Dr.	(Cash price of Asset)
To Hire vendor A/c.	

(ii) On making the down-payment (if any):

Hire-Vendor..... A/c. Dr.	(Amount of down payment)
To Cash/Bank A/c	

(iii) On becoming the instalment due:

Interest A/c. Dr.	(Amount of interest)
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To Hire-Vendor A/c

(iv) On payment of instalment:

Hire-Vendor a/c Dr. (Amount of instalment)
 To Cash/Bank A/c

(v) On charging the depreciations:

Depreciation A/c. Dr. (Amount of depreciation)
 To Asset A/c.

(vi) On Transfer of interest and depreciation to P/L A/c:

P/L A/c. Dr. (Total)
 To Interest A/c. (Bal. of Intt. A/c.)
 To Depreciation A/c. (Bal. of Dep. A/c.)

Calculation of Interest

The total payment made under hire-purchase system is more than cash price. In fact, this excess of payment over the cash price is interest. It is very essential to calculate interest because the amount paid for interest is charged to revenue and the asset is capitalized at cash price. Thus normally all instalments will include a part of cash price and a part of interest on the outstanding balance. However the amount paid at the time of agreement (down payment) will not include any interest. The calculation of interest is made under two conditions:

(a) When interest is included in amount of instalment: Where the hire-purchase price i.e. payment made in the form of down payment and all instalments is more than the cash price, it is regarded that the interest is included in instalments. It is explained in the following example.

Example-1 (Calculation of Interest)

On 1st April, 2005 Mr. X purchased from M/s Y & Co. one 'Motor Truck' under hire-purchase system, Rs. 5,000 being paid on delivery and the balance in five annual instalments of Rs. 7,500 each payable on 31st March each year. The cash price of the motor truck is Rs. 37,500 and vendors charge interest at the rate of 5 per cent per annum on yearly balances. Find out the amounts of principal and interest included in each instalment.

Calculation of Interest

Calculation of Intt.	Cash Price Rs.	Instalments		
		Principal Rs.	Intt. Rs.	Total Rs.
Cash Price	37,500			
Less paid on delivery	- 5,000	5,000	-	5,000
	32,500			
First Instalment	7,500			
Less Intt. on Rs. 32,500 @ 5%	1,625			
Principal	5,875	5,875	1,625	7,500
	26,625			
Second Instalment	7,500			
Less Intt. on Rs. 26,625 @ 5%	1,331			
Principal	6,169	6,169	1,331	7,500
	20,456			
Third Instalment	7,500			
Less Intt. on Rs. 20,456 @ 5%	1,023			
Principal	6,477	6,477	1,023	7,500
	13,979			
Fourth Instalment	7,500			
Less Intt. on Rs. 13,979 @ 5%	699			
Principal	6,801	6,801	699	7,500
	7,178			
Fifth Instalment	7,500			
Less Amount unpaid	<u>7,178</u>			
Interest	322	7,178	322	7,500
Total:	x	37,500	5,000	42,500

(b) When interest is not included in instalments: Where the total amount paid in the form of down payment and all instalments is exactly equal to the cash price, it is regarded that the interest is not included in instalments. It means that interest is payable in addition to the agreed amount of instalment. It is explained in the following example.

Example-2 (Calculation of Interest): On April 1, 2005, A Transport Company purchased a Motor Lorry from Motor Supply Co. Ltd. on hire-purchase basis, the cash price being Rs. 60,000. Rs. 15,000 on

signing of the contract and balance in three annual instalments of Rs. 15,000 each on 31st March every year. In addition to it, interest at 5 per cent per annum was also payable to vendors on outstanding balances.

Calculation of Interest

Calculation of Intt.		Cash Price	Instalments		
			Principal	Intt.	Total
		Rs	Rs	Rs.	Rs.
Cash Price		60,000			
Less: Down payment		15,000	15,000	-	15,000
		<u>45,000</u>			
Ist Instalment	15,000				
Int. @ 5% on 45,000	2,250				
Total: 17,250		15,000	15,000	2,250	17,250
		<u>30,000</u>			
2nd Instalment	15,000				
Int. @ 5% on 30,000	1,500				
Total: 16,500		15,000	15,000	1,500	16,500
		<u>15,000</u>			
3rd Instalment	15,000				
Int. @ 5% on 15,000	750				
Total: 15,750		-	15,000	750	15,750
		<u>15,000</u>			
Total:		Nil	60,000	4,500	64,500

Accounting in the books of Hire-vendor

Hire Vendor: There is only one method of recording the entries in the books of hire-vendor. Irrespective of the fact whether the entries in the books of hire-purchaser are passed under the Asset Accrual Method or under the Total asset value Method. But the accounting entries in the books of hire-vendor are always passed under the total Asset Method. These entries are as under:-

(i) On delivery of goods to the hire-purchaser at the time of agreement:

Hire – purchaser A/c Dr.	Cash Price
To Hire – Sales A/c.	

(ii) On receipt of cash at the time of agreement (down payment), if any:

Cash/Bank A/c. Dr.	(Amt. of down payment)
To Hire-Purchaser	

(iii) On interest being due:

Hire – Purchaser A/c Dr.	Amt. of Interest
To Interest A/c.	

(iv) On receipt of instalment:

Cash/bank A/c.	(Amt. of Instalment)
To Hire – Purchaser	

(v) On Transfer of Balance of Hire-Sales A/c. to Trading A/c. (at the end of first year only):

Hire – Sales A/c Dr.	Cash Price
To Trading A/c.	

(vi) On Transfer of amount of interest to P/L A/c:

Interest A/c. Dr.	(Balance of Intt. A/c.)
To P/L A/c.	

examples-3:

On 1st April, 2005 X Company Ltd. purchased a machine from Y Machines Ltd. on hire-purchase basis, the cash price being Rs. 55,850 Rs. 15,000 was paid on the signing of the contract and the balance in three annual instalments of Rs. 15,000 each on 31st March each year. Interest is charged at 5% per annum. Depreciation was written off at rate of 10% per annum on the diminishing balance system.

Give journal entries in the books of X Company Ltd. whose accounting year ends on 31st March each year, under Asset Accrual Method.

Solution:

(a) under Asset Accrual Method

Journal Entries in the Books of X Co. Ltd.

Date	Particulars	L F	Dr.(Rs)	Cr.(Rs)
2005 April 1	Machinery A/cDr. To Bank A/c (Being down payment made at the time of delivery)		15,000	15,000
2006 March 31	Machinery A/cDr. Interest A/cDr.		12,957 2,043	15,000

	To Y Machine Ltd. (Being the first instalment due).			
"	Y MachinesLtd.Dr. To Bank (Being the amount paid in first instalment)		15,000	15,000
"	Depreciation A/cDr. To Machinery A/c (Being the depreciation charged)		5,585	5,585
"	Profit & Loss A/cDr. To Interest A/c To Depreciation A/c (Being the amount transferred)		7,628	2,043 5,585
2007 March 31	Machinery A/cDr. Interest A/cDr. To Y Machine Ltd. (Being the second instalment due).		13,605 1,395	15,000

"	Y Machines Ltd.Dr. To Bank (Being the amount paid in second instalment)		15,000	15,000
"	Depreciation A/cDr. To Machinery A/c (Being the depreciation charged)		5,027	5,027
"	Profit & Loss A/cDr. To Interest A/c To Depreciation A/c (Being the amount transferred)		6,422	1,395 5,027
2008 March 31	Machinery A/cDr. Interest A/cDr. To Y Machine Ltd. (Being the third instalment due).		14,288 712	15,000
"	Y Machines Ltd.Dr.		15,000	15,000

	To Bank (Being the amount paid in third instalment)			
"	Depreciation A/cDr. To Machinery A/c (Being the depreciation charged)		4,524	4,524
"	Profit & Loss A/cDr. To Interest A/c To Depreciation A/c (Being the amount transferred)		5,236	712 4,524

Note1:Interest has been calculated in the manner already explained in workedout example-1.

Calculation of Cash Price, if Cash Price is not given

Some times in a problem of hire-purchase, cash price of goods sold is not given. Only hire-purchase price is given under such situation first of all, cash price is to be calculated in order to find out the amount of interest included in each instalment. the cash price can be calculated under following two situations.

(a)By Annuity Method, if the annuity value of Re. 1 is given:

Cash Price = (Annuity, Value of Re.1 x Amt. of one instalment) + down payment if, any.

Calculation of Cash Price by Annuity Method

Worked out Example-4

On 1st April,2005 a manufacturing company buys on Hire-purchase system a machinery for Rs. 60,000, payable by three equal annual instalments

combining principal and interest, the rate of interest was 5% per annum. Calculate the amount of cash price and interest. The present value of an annuity of one rupee for three years at 5% interest is Rs. 2,72325.

Solution:

Calculation of Cash Price – The present value of an annuity of Re. 1 paid for 3 year @ 5% = Rs. 2,72325 Then the present value of Rs. 20,000 for 3 years = $2,72325 \times 20,000 = \text{Rs. } 54,465$ Cash Price Rs. 54,465

(b) By Arithmetic Method, if the annuity value of Re. 1 is not given:

First take the last instalment and calculate interest included in that instalment.

Interest: = (Amount of instalment x Rate of Int) / 100 + Rate of Int.

Thereafter interest included in last but one instalment should be calculated.

Interest = [(Amt. of last but one instalment + principal price included in the last instalment) x Rate of Interest] / 100 + Rate of Int.

Interest included in all proceeding instalment should be calculated in the same manner.

In the end, interest included in each instalment should be added. It should be remembered that down payment does not include any interest.

Finally cash price = Hire purchase price – Total interest included in various instalments.

Calculation of Cash Price by Arithmetic Method**Worked out Example-5**

Mr. X purchased a machine on Hire-Purchase system on 1st April, 2005. He paid Rs. 5,000 at spot and then three annual instalments of Rs. 5,000 each. The rate of interest was 5% per annum. Find out the amount of interest included in instalments and cash price of the machine.

Solution:

(1) First of all Interest included in the 3rd instalment is to be calculated.

Interest=(5000x5)/105=Rs. 238,Principal= 5000-238=4762

(2)Interest included in second instalment = [(5000+4762)x5]/105 = 465,
Principal=4535

(3)Interest included in 1st instalment = [(5000+4762+4535)x5]/105 =
681,Principal=4319

Cash Price = 4762+4535+4319+down payment Rs.5000 = Rs.=18616

**Total Interest=Rs20000-18616=1384. I Yr. rs.681, IIYr. Rs465, III
Yr.Rs238**

Note: Now you can make the interest table in the usual manner as explained in worked out example-1 and check your calculation of amount of interest.

Calculation of interest

Wherever, rate of interest is not given in the problem, again there can be two situations.

(a) When cash price and the amounts of instalments are given and the amount of each instalment is same. the following worked out example will make the calculation clear.

Worked out Example-6

(Calculation of Interest When Rate of Interest is not given) A machine was sold on hire-purchase system on 1st April,2005 Rs. 10,000 was paid at spot and rest was paid by four equal quarterly instalments of 22,000 each. The cash price of machine was Rs. 90,000. Find out the amount of interest included in each instalment.

Soluton:

Hire-purchase Price = 10,000 + (22,000 x 4) = Rs.98,000 Less: Cash Price Rs.90,000 Total Interest= Rs.8,000

The total Interest of Rs 8,000 is to be apportioned among the various instalments i.e. 4th, 3rd, 2nd and 1st instalment in the ratio of 1:2:3:4 (i.e. among 1st, 2nd, 3rd and 4th instalment in the ratio of 4:3:2:1)

(1)Share of 1st instalment in the Interest= $8,000 \times \frac{4}{10}$ = Rs.3,200

(2)Share of 2nd instalment in the Interest= $8,000 \times \frac{3}{10}$ = Rs.2,400

(3)Share of 3rd instalment in the interest= $8,000 \times \frac{2}{10}$ = Rs.1,600

(4)Share of 2nd instalment in the interest= $8,000 \times \frac{1}{10}$ = Rs. 800

(b) When cash price and amounts of instalments are given but the amount of each instalment is not equal: The following worked out example will clear the doubts.

Rate of Interest not known and Instalments of different amounts**Worked out Example-7**

Cash price of a machine is Rs. 37,400 on 1st January, 2003. Its hire-purchase price is Rs. 50,000. This hire-purchase price is paid in five annual instalments in the following

manner: Rs. 15,000 at the end of the first year Rs. 12,000 at the end of second year; Rs. 10,000 at the end of third year, Rs. 8,000 at the end of fourth year, Rs. 5,000 at the end of fifth year. Calculate interest and cash price included in each instalment.

Solution:**Calculation of Interest Included in each Instalment**

Total Interest = Hire-purchase price - Cash Price

Total Interest = Rs. 50,000 - 37,400 = 12,600

Total Interest of Rs. 12,600 is to be apportioned among the five instalments in the following manner:

Instalment No	Unpaid Amount(Rs.)	Calculation of Int.(Rs.)
First	50000	$(12600 \times 50000) / 126000 = 5000$
Second	$50000 - 15000 = 35000$	$(12600 \times 35000) / 126000 = 3500$
Third	$35000 - 12000 = 23000$	$(12600 \times 23000) / 126000 = 2300$
Fourth	$23000 - 10000 = 13000$	$(12600 \times 13000) / 126000 = 1300$
Fifth	$13000 - 8000 = 5000$	$(12600 \times 5000) / 126000 = 500$

Total	126000	
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Calculation of Cash Price included in each instalment

Instalment No.	Instalment(Rs.)	Interest(Rs.)	Cash Price(Rs.)
First	15000	5000	10000
Second	12000	3500	8500
Third	10000	2300	7700
Fourth	8000	1300	6700
Fifth	5000	500	4500
Total	50000	12600	37400