

So Interest on Capital of:

Page 13

$$A = 85,000 \times 18/100 = 8,500$$

$$B = 1,95,000 \times 18/100 = 19,500$$

Working Notes:-

Distribution of Profit:-

$$A = 40,000 \times 3/5 = 24,000$$

$$B = 40,000 \times 2/5 = 16,000$$

Find out the interest

Example :- 3

A and B are partners the balance of their Capital A/c at the end of the year ^{respectively} are ₹ 1,00,000 and ₹ 2,00,000. They distributed the profits ₹ 40,000 in the ratio of 3:2. Their drawings are as follows:-
A - ₹ 90,000 and B ₹ 11,000.

Calculate interest on Capital @ 10% p.a.

Solution:- You see at the Capital of the partners are given at the end of the year so obviously it is adjusted Capital. Now you have to calculate the opening Capital as follows:-

Recall your memory, what have you done in the balance sheet ~~10000~~? In Class XI that I am showing

Capital ① → opening Capital Capital

Add, Net Profit ✓

Add, Capital out. on Capital ✓

Less, Net Loss. (-) ✓

Drawings, (-) ✓

Out. on Drawings (-) ✓

Adjusted



So from opening Capital you can find out adjusted Capital now from adjusted Capital you can also find out the opening Capital. How?? just by doing the Reverse.

Adjusted Capital ✓

Add, Drangs

Net loss

Int. on Dranghs

(+) ✓
(+) ✓
(+) ✓

✓

Less

Net Profit

Add. Capital.

Int. on Capital

(-) ✓
(-) ✓
(-) ✓

✓

Opening Capital →

So let us solve the problem.

Example - ③

Calculation of opening Capital

particulars.

particulars.	A	B
Capital at the end of year	1,00,000	2,00,000
Add. Drangs	9,000	11,000
Less share of Profit (3:2)	24,000	16,000
opening Capital	85,000	1,95,000

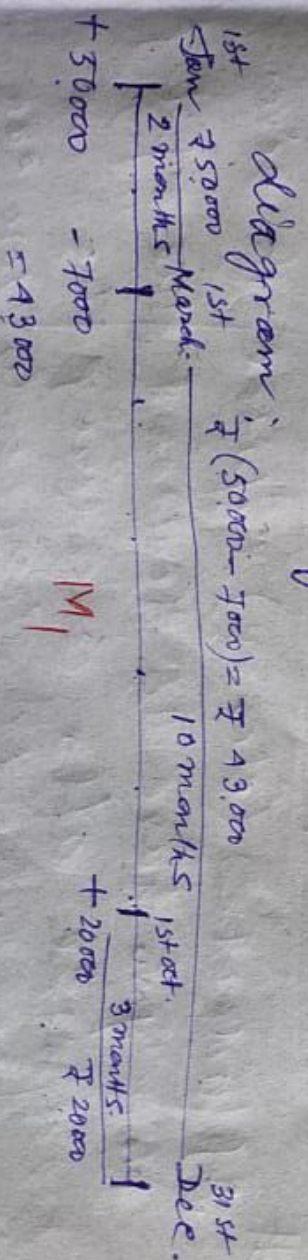
Note :- The 1st Method for Calculation of Interest on Capital is Simple then 2nd Method

Explanations:-

A $\Rightarrow$ As you see in the problem that he invests ₹ 1,00,000 on 1.1.19 and he draws ₹ 5000 on 1.8.19. So ₹ 1,00,000 is invested from 1.1.19 to 1.8.19 i.e. for 7 months, So you will calculate the interest for 7 months only. Now, after the drawings of ₹ 5,000 the investment reduced to ₹ 95,000 and it will continue from 1.8.19 to 31.12.19 i.e. for 5 months, So you will calculate the interest on ₹ 95,000 for 5 months only.

B $\Rightarrow$ He invests ₹ 50,000 on 1.1.19 then further investment made by him ₹ 20,000 on 1.10.19 and in between this he draws ₹ 7000 on 1.3.19.

Now I am trying to show it in the following diagram:-



Now, if previous example there was no drawings made by the partners, now if the drawing will be made by the partners then how will you calculate the interest?

Example 2 In the above example (1) Suppose the drawings made by them are as follows:-

- A, on 1st Aug 2019, draws ₹ 5000
- B, on 1st March 2019, draws ₹ 7000
- C, on 1st Nov. 2019, draws ₹ 6000

Then interest on Capital will be calculated as follows:-

1st Method

$$A = (1,00,000 \times 12/100 \times 7/12) + (95,000 \times 12/100 \times 5/12) = ₹ 11,750$$

$$B = (50,000 \times 12/100 \times 7/12) + (43,000 \times 12/100 \times 10/12) + (20,000 \times 12/100 \times 3/12) = ₹ 5,900$$

$$C = (40,000 \times 12/100 \times 10/12) + (34,000 \times 12/100 \times 7/12) + (10,000 \times 12/100 \times 6/12) = ₹ 5,240$$

OR

2nd Method

$$B = (50,000 \times 12/100 \times 7/12) + (43,000 \times 12/100 \times 7/12) + (63,000 \times 12/100 \times 3/12) = ₹ 5,900$$

$$C = (40,000 \times 12/100 \times 6/12) + (50,000 \times 12/100 \times 4/12) + (44,000 \times 12/100 \times 2/12) = ₹ 5,240$$

M ₁		M ₂	
1st Jan	50000	1st Oct	63000
2 months		3 months	
	- 7000		
	= 43000		
			+ 20000

So from the above diagram you see that

₹ 50000 invested from 1.1.19 to 1.3.19 i.e. for 2 months. Then the drawing made ₹ 7000 on 1.3.19. So the remaining amount ₹ (50000-7000) i.e. ₹ 43000 is invested for 10 months (i.e. from 1.3.19 to 31.3.19) and further investment made on 1.10.19. So interest will be calculated from 1.10.19 to 31.12.19 on ₹ 20000 for 3 months.

In this manner you can calculate the interest on Capital of C.

Calculation of interest on Adjusted Capital

Some times in the question the adjusted (closing) Capital is given and you are required to calculate then how will you calculate?

If adjusted (closing) Capital is given then you have to find out the opening Capital after considering the adjustments then only you can

01/4/20

Page-7

Calculation of Interest on Capital

Interest on Capital will be calculated as follows:-

- i) On opening Capital $\Rightarrow$ For full year
- ii) On additional Capital $\Rightarrow$ From the date of investment to the closing date, if the date of investment of additional Capital is not given then for 6 months.

Example:- ① A, B, C are partners they invest ₹ 1,00,000, ₹ 50,000 and ₹ 40,000 respectively. Interest on Capital @ 12% p.a. B further invests ₹ ~~20,000~~^{20,000} on 1st Oct, 2019 and C further invests ₹ 10,000. cal. interest on Capital of the partners assume that book closure of accounts is the calendar year.

Solution Interest on Capital of :-

$$A = ₹ (1,00,000 \times 12/100) = ₹ 12,000$$

date of further investment is given

$$B = ₹ (50,000 \times 12/100) + ₹ (20,000 \times 12/100 \times 3/12) = ₹ (6,000 + 600) = ₹ 6,600$$

$$C = ₹ (40,000 \times 12/100) + ₹ (10,000 \times 12/100 \times 6/12) = ₹ (4,800 + 600) = ₹ 5,400$$

date of further investment is not given

Now, interest

$$= (1500 \times 12) \times \frac{6}{100} \times \frac{6}{12}$$

$$= \boxed{₹ 540}$$

3. If ^{the} drawings made in ~~the~~ different dates

Example - 3

Calculate interest on drawings

@ 6% p.a. if it is made on the following date:

1st Feb -	₹ 10,000
1st April -	₹ 12,000
1st Sept -	₹ 13,000
31st Oct -	₹ 14,000
1st Nov -	₹ 7,000
31st Dec. -	₹ 9,000

Solution:

Calculation for interest on drawings

Date	Amount ₹ (2)	Duration (3) (in months)	Product (4) = (2) x (3)	✓
① 1st Feb	10,000	11	110,000	
1st April	12,000	9	108,000	
1st Sept	13,000	4	52,000	
31st Oct	14,000	2	28,000	
1st Nov	7,000	2	14,000	
31st Dec.	9,000	0	0	
Total Product →			3,12,000	

$$\begin{aligned} \text{Interest} &= \text{Total product} \times \frac{\text{Rate}}{100} \times \frac{1}{12} \\ &= ₹ \left(3,12,000 \times \frac{6}{100} \times \frac{1}{12} \right) \\ &= ₹ 1,560. \end{aligned}$$

Home work.

Problem No - 18(A), (B), 19(A), (B), 20,
21, 22(A), (B).

31st Dec i.e. 15 months.

Page-15

$$\therefore AP = \frac{12+1}{2} = \frac{13}{2}$$

$$TD = 500 \times 12$$

$$R = 6$$

$$\therefore \text{Interest} = \left\{ (500 \times 12) \times \frac{6}{100} \times \frac{13}{2} \times \frac{1}{12} \right\}$$
$$= \boxed{195}$$

Case - ii)

1st Drawings made by C on 31st Mar. So time left is 9 months i.e. from 1st April to 31st Dec. and last drawing made by him on 31st Dec. So time left is zero.

$$\therefore AP = \frac{9+0}{2} = \frac{9}{2}$$

$$\text{Total Drawings} = \frac{2}{6000 \times 4}$$

(As there are 4 quarters in a year)

$$\therefore \text{Interest} = (6000 \times 4) \times \frac{6}{100} \times \frac{9}{2} \times \frac{1}{12}$$

$$= \boxed{2540}$$

Case (iii)

1st Drawing made by C on 15th Jan

So 11.5 months ~~left~~ left and last drawings made by him on 15th Dec.

So 0.5 months is ~~left~~ left.

$$\therefore AP = \frac{11.5+0.5}{2} = 6$$

2. If drawings made at equal interval

Example - 2 Find out interest on drawings

@ 6% p.a. under the following
circumstances:

- i) A draws ₹ 500 at the beginning of each month
- ii) B draws ₹ 600 at the end of each quarter
- iii) C draws ₹ 1500 at the middle of each month.

Solution:-

Formula

$$\text{Int. on drawings} = \text{TD} \times \frac{R}{100} \times \frac{AP}{12}$$

TD = Total drawings

R = Rate of Interest

AP = Average period

Now, AP = Time left after 1st drawings + Time left after last drawings

2

Explanation

In above case(i) you see 1st drawings made on 1st Jan so from 1st Jan to 31st Dec. the total time is 12 months and last drawings made on 1st Dec. so ~~total~~ from 1st Dec. to

Calculation of Interest on Drawings

1. If the date of drawings is not given then calculate the interest for 6 months.

Example -1 : A and B are partners. A draws ₹ 10,000 and B draws ₹ 15,000 at an interest @ 6% p.a.

Solution:- Int. on Drawings of:

$$A = 10,000 \times 6/100 \times 6/12 = ₹$$

$$B = 15,000 \times 6/100 \times 6/12 = ₹$$

Note:- As date of drawings of the partners are not given so it is assume that drawings has made at the middle of the year.

