

ATTENTION : FEEDBACK IS AWAITED , KINDLY FORWARD YOUR COMMENTS TO
MOBILE : 07569989230 OR MAIL TO : bvinayreddy1997@gmail.com
"CRITICS ARE MOST WELCOMED"



PREPARED BY :



For queires :

**B.VINAY REDDY
MEDAK**

TELANGANA

Cell : 7569989230

bvinayreddy1997@gmail.com

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PREFACE

Dear Friends,

This book is specifically written as a summary for chartered accountant(C.A.) Students

I hope this book will serve as revision purpose. This book is prepared with which only you need to read to recapture the concept covered. Do only print such pages and If you are reading it on digital media then its best.

Go Green because it also Saves Money.

Thanks and warm Regards,

Place: medak , telangana .

B VINAY REDDY

7569989230

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knock the 'T' of the CAN'T say iCAN.....
B vinay reddy

**THIS BOOK IS
SPECIFICALLY
WRITTEN FOR MY
FRIEND**

**VIKRAM AMAN
FROM SURAT**

Single cash flow	multiple uneven cash flow	EMI Equated Monthly Install.	Effective rate of Interest (EIR)	To Find missing figure ex. say, finding int. rate 'x'
How much Reddy should deposit now to receive <u>5,000</u> after <u>15</u> years, at interest rate of <u>9%</u>. Solution: $FV = PV \times (1+r)^n$ $\frac{FV}{(1+r)^n} = PV$ $PV = \frac{5,000}{(1+\frac{9}{100})^{15}}$ $= \frac{5,000}{3.642}$ $= 1373$ (after rounding)	Same as calculation done for Single CF It is nothing but combination of Single CF	Q. Ramanuj. take 20 month car loan of ₹ 6 L @ 12% - what will be the EMI payable. Solution: $EMI = \frac{CF}{PVIFA}$ It is Annuity Factor Sum of PV of CF Because EMI is payable every month $EMI = \frac{6,00,000}{\left(\frac{1 - (1.12)^{-20}}{0.12}\right)}$ 12% calculate carefully 12 because we are paying monthly i.e. 12 times in a year $EMI = \frac{6,00,000}{18.0456}$ $= ₹ 33,249.1$	SBH pays 10% interest quarterly, what is the effective interest rate p.a.? Solution: $Ei = \left(1 + \frac{i}{m}\right)^m - 1$ $= \left(1 + \frac{10}{4}\right)^4 - 1$ quarterly 4 times payable in a year $= 0.1038$ (or) 10.38%	Refer Q. of single CF (starting one) Here, let say we don't not int. then. $FV = PV(1+r)^n$ $5000 = 1373(1+r)^{15}$ $\frac{5000}{1373} = (1+r)^{15}$ $3.642 = (1+r)^{15}$ $\sqrt[15]{3.642} = 1+r$ *** calculate only by calculator 3.642 → √ 15 times → +1 ← ÷ 15 ← -1 X = (15 times) → 1.089 $1.089 = 1+r$ $1.089 - 1 = r$ $0.089 = r$ $0.089 \times 100 = r$ $8.9\% = r$ rounded r = 9%
	PERPETUITY			
	PRESENT VALUE			
Reddy has deposited ₹ 55,650 in a bank @ 15% int. for 10 years. calculate amount at end of 10 yrs. Solution: $FV = PV \times (1+r)^n$ $= 55,650 \times \left(1 + \frac{15}{100}\right)^{10}$ $= 55,650 \times 4.046$ $= ₹ 2,25,159.9$	Reddy was receiving ₹ 1,000 pension every year, int. rate is 10% Solution: $PV = \frac{CF}{r} = \frac{1000}{\frac{10}{100}}$ $= 10,000$			
	FUTURE VALUE			
PV of SINGLE CASH FLOW	As, perpetuity has endless payments, there is no future value		Magic of compound interest $\frac{72}{1r} = \frac{72}{12}$ don't do 12/100 only 12 $\frac{72}{1r} = \frac{72}{12} = 6$ *** If 25,000 invested @ 12% it takes 6 years to become 50,000	

ANNUITY

Annuity Immediate

Eg: We pay rent at 1st date of month as advance

Same example: **PRESENT VALUE**

Yr	CF	PVAF	Disc. CF
0-4	20,000	3.487	69,740

$$PVAF = \frac{(1+r)^n - 1}{r(1+r)^n} (1+r)$$

$$= \frac{(1+10\%)^4 - 1}{10\%(1+10\%)^4} (1+10\%)$$

$$= 3.17(1.1) = 3.487$$

Future Value

Yr	CF	FVAF	Comp. CF
0-4	20,000	5.1051	1,02,102

$$FVAF = \frac{(1+r)^n - 1}{r} (1+r)$$

$$= \frac{(1+10\%)^4 - 1}{10\%} (1+10\%)$$

$$= 4.641(1.1) = 5.1051$$

MID ANNUITY

For example Annuity received in Yr 3, Yr 4, Yr 5 then How?

Yr	CF
3-5	XXX

3, 4, 5

(3) years

Calculate Annuity factor for 5 year

" " " " (2 year)

" " " " 3 year

Annuity Due (or) Normal Annuity

Eg: we pay electricity Bill after consuming only at end of month

Annuity → Receiving continuous equal periodic payments/receipts

Eg: Recurring depositing → we pay every month XX amt to bank.

PRESENT VALUE OF ANNUITY

- Find out PV of 4 year Annuity of ₹ 20,000 discounted @ 10%.

$$FV = PV \times PVAF$$

$$\frac{FV}{PVAF} = PV$$

$$PV = \frac{FV}{PVAF}$$

$$1 \div \frac{(1+r)^n - 1}{r(1+r)^n} \rightarrow \text{Formula for PVAF}$$

$$PV = \frac{20,000}{\frac{(1+\frac{10}{100})^4 - 1}{\frac{10}{100} (1+\frac{10}{100})^4}} = \frac{20,000}{3.17}$$

$$20,000 \times 3.17 = 63,400$$

Future value of ANNUITY

Same example.

Yr	CF	FVAF	Compounded CF
1-4	20,000	4.641	92,820

$$FVAF = \frac{(1+r)^n - 1}{r} = \frac{(1+10\%)^4 - 1}{10\%} = 4.641$$

FEED BACK :

**FOR ANY NEW FILES / CLARIFICATIONS / SUGGESTIONS /ANY
QUEIRES..**

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IF YOU LIKE SHARE TO YOUER FRIENDS..