Q1 Your firm borrows Rs. 1 million at an interest rate of 10% per year and I annual instalments payable at the end of next 4 years. What proportior the end of year 2, represents principal repayment proportion?

Answer **Loan Amortisation**

Loan Amount = A X PVIFA (4, 10%) OR

1000000 = A X 3.170

Annuity 315457.41

Year	Beginning Amount	Annual Instalment	Interest
1	1000000	315457	100000
2	784543	315457	78454
3	547540	315457	54754
4	286837	315457	28684

At the end of year 2 Rs. 237003 is the principal portion of th
It is approximate 75 % of the instalment paid.

Q2 Your firm borrows Rs. 2 million at an interest rate of 12% per equal annual instalments payable at the end of the next 5 yea instalment payable? What proportion of the instalment payab represents the principal repayment proportion?

Answer **Loan Amortisation**

Loan Amount = A X PVIFA (5, 12%) OR

2000000 = A X 3.605

Annuity 554785.02

Year	Beginning Amount	Annual Instalment	Interest
1	2000000	554785	240000
2	1685215	554785	202226
3	1332656	554785	159919
4	937789	554785	112535
5	495539	554785	59465

Annual Instalment payable = Rs. 554785
At the end of year 3 Rs. 394866 is the principal portion of th
It is approximate 71 % of the instalment paid.

Q 3. Calculate the value 5 years hence of a deposit of Rs. 1000 ma

Answer $A = P (1+r)^n$

If interest rate is 8 %	1000* (1+0.08) ^ 5	1469
If interest rate is 10 %	1000* (1+0.10) ^ 5	1611
If interest rate is 12 %	1000* (1+0.12) ^ 5	1762
If interest rate is 15 %	1000* (1+0.15) ^ 5	2011

Q 4. You can save Rs. 2000 a year for 5 years, and Rs. 3000 a year

Answer

FVA = A{[(1+r)^n - 1]/r}

OR

FVA A x FVIFA (r,n)

FV 2000 * FVIFA (10%,15) + 1000 * FVIF

2000*31.772 + 1000 * 15.937

79481

Q5 Mr. Vinay plans to send his son for higher studies abroad afte save annually to have the sum of Rs. 1 million at the end of 10

Answer

FVA = A x FVIFA (r,n) OR

1000000 = A x FVIFA (12%,10)

1000000 = A x 17.549

A = 56983

Q6 At the time of retirement, Mr. Jingo is given a choice betweer

a) Annual pension of Rs. 10000, as long as he lives, and
b) A lumpsum amount of Rs. 50000. If Mr. Jingo expec

Answer

Annual pension option after 15 years = 10000 x PVIFA

10000 X 5.847

58470

Alternatively

Lumpsum amount of Rs. 50000

Option of Annual pension is better than the lumpsum amou

Q7 Suppose you deposit Rs. 10000 with an investment company

Answer FV= A(1+r/4)^n*4

10000 x (1+16%/4)^5*4

21911

Q8 How much would you deposit of Rs. 5000 at the end of 5 yea

Answer FV= A(1+r/4)^n*4

5000 x (1 + 12%/4)^5*4

9031

Q9 Mr. X deposits Rs. 100000 in a bank which pays 10% interest. How muc the amount deposited will whittle down to zero.

Answer PVA = A [{1-(1/1+r)^n}/r]

OR

PVA = A X PVIFA (10%,30)
100000 = A X 9.427
A= 10608

Q 10 What is the Present value of an income stream which provide each of the year 3, if discount rate is 12%.

Answer

YEAR	INCOME STREAM	PVIF @ 12%
1	1000	0.893
2	2500	0.797
3	5000	0.712

PRESENT VALUE OF INCOME STREAM

loan is to be repaid in 4 equal
ı of the instalment payable at

A [{1-(1/1+r)^n}/r]

Principal Repaymen	Outstanding Balance	
215457	784543	
237003	547540	
260703	286837	
286773	64	This is due to rounding up of the instalment amount

ıe instalment paid.

year and the loan is repaid in 5
ırs. What is the annual
ɔle at the end of year 3,

PVA = A [{1-(1/1+r)^n}/r]

Principal Repaymen	Outstanding Balance	
314785	1685215	
352559	1332656	
394866	937789	
442250	495539	
495320	219	This is due to rounding up of the instalment amount

ıe instalment paid.

de today if the interest rate is 8%, 10%, 12%, 15%.

for 10 years thereafter. What will this savings cumulate at the end of 15 years, if the interest rate is 1

A (10%, 10)

r 10 years. He expects the cost of these studies to be Rs. 1million. How much should he
) years, if the interest rate is 12%.

FVA = A{[(1+r)^n - 1]/r}

ı 2 alternatives
ɟ
ts to live for 15 years and the interest rate is 15%, which option appears more attractive?

(15%, 15 YRS) OR PVA = A [{1-(1/1+r)^n}/r]

ınt of Rs.50000

which pays 16% interest with quarterly compounding. How much will this deposit grow to in 5 years?

rs be, if the interest rate is 12% and if the compounding is done quarterly?

ch can he withdraw annually for a period of 30 years. Assume that at the end of 30 years

s Rs. 1000 at the end of year one, Rs. 2500 at the end of year two, and Rs. 5000 during

PRESENT VALUE
893
1993
3560
6445.5

0%.