Assignment 03

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02-131212-027

Question 1 :-

Receipts

Date	Particulars	PR	Sales Discount	Cash	Bank
1	Cash in hand			18900	
2	Cash at bank				25400
5	Sold goods			17900	
8	Received cheque				19700
12	Sold Goods			22900	
17	Withdraw	C		1000	
18	Deposit Cash	C			5800
24	Received cheque				17900
				60700	68800
1 Apr				40250	43360

Payments

Date	Particulars	PR	Sales Discount	Cash	Bank
2	Paid To Ameen				5300
11	Bought Goods			6500	
15	Paid Telephone Bill				4900
16	Drawing				2550
17	Withdraw	C			1000
18	Deposited	C		5800	
22	Furniture Exp				5800
29	Salary Exp			5350	
31	Rent Exp				5890
32	Wages Exp			2800	
				20450	25440
31st March				40250	43360
				60700	68800

Question: 2

Time Value of Money

(a) Find a simple interest on Rs 10,000 for 5 years at 6% perannum?

$P_o = 10000$
$i = 6\% = 0.06$
$n = 5$

$$SI = P_o(i)(n)$$
$$SI = (10000)(0.06)(5)$$
$$\boxed{SI = 3000}$$

(b) Find simple interest on Rs 15000 for 7 years at 8% per annum?

$P_o = 15000$
$i = 8\% = 0.08$
$n = 7$

$$SI = P_o(i)(n)$$
$$SI = (15000)(0.08)(7)$$
$$\boxed{SI = 8400}$$

(c) Find compound amount of Rs 10,000 in 6 years at 10% per annum?

$P_o = 10,000$
$i = 0.1$
$n = 6$

$$FV = P_o(1+i)^n$$
$$FV = 10000(1+0.01)^6$$
$$\boxed{FV = 17715.61}$$

(d) Find compound amount of Rs. 22,000 in 8 years at 14% per annum?

$P_o = 22000$
$i = 14\% = 0.14$
$n = 8$

$$FV = P_o(1+i)^n$$
$$FV = (22000)(1+0.14)^8$$
$$\boxed{FV = 62756.90}$$

(e) Find discount amount of Rs 30,000 in 7 years at 15% per annum?

$FV = 30000$
$i = 0.15$
$n = 7$

$$PV = FV(1+i)^{-n}$$
$$PV = 30000(1+0.15)^{-7}$$
$$\boxed{PV = 11278.1112}$$

(f) Find discount amount of Rs 50,000 in 9 years at 13% per annum?

$FV = 50000$
$i = 13\% = 0.13$
$n = 9$

$$PV = FV(1+i)^{-n}$$
$$PV = 50000(1+0.13)^{-9}$$
$$\boxed{PV = 16644.24}$$

(g) Ms Saleem deposits Rs 60000 in a bank at end of each year for 4 years. If the interest rate is 12% compounded annually, what would he receive at the end of 4 years?

$R = 60000$
$n = 4$
$i = 12\% = 0.12$

Future Value of Ordinary Annuity:

$$FV = R\left[\frac{(1+i)^n - 1}{i}\right]$$
$$FV = 60000\left[\frac{(1+0.12)^4 - 1}{0.12}\right]$$
$$FV \doteq 286759.68$$

(h) Ms Saleem deposits Rs 60000 in a bank at start of each year for 4 years. If the interest rate is 12% compounded anually. What would he receive at the end of 4 years-

$R = 60000$
$n = 4$
$i = 12\%$

Future Value of Annuity Dues-

$$FV = R\left[\frac{(1+i)^n - 1}{i}\right](1+i)$$

$$FV = 60000\left[\frac{(1+0.12)^4 - 1}{0.12}\right](1+0.12)$$

$$\boxed{FV = 321170.841}$$

(1) What is the present value of an annuity that would pay Rs. 10000 a year for 15 years, assuming an interest rate of 8% discounted annually?

$R = 10000$

$n = 15$

$i = 8\% = 0.08$

Present Value of Annuity Dues:-

$$PVA = R\left[\frac{1-(1+i)^{-n}}{i}\right](1+i)$$

$$PVA = 10000\left[\frac{1-(1+0.08)^{-15}}{0.08}\right](1+0.08)$$

$$PVA = 9244.236$$

Question 03

Capital Budgeting :-

Year	Cash Flow	10% PVF	15% PVF
0	(2000000)		
1	450,000	409090.9091	391304.3478
2	300,000	247933.8843	226843.1002
3	350,000	262960.1803	230130.6814
4	550,000	375657.4005	314464.2851
5	600,000	372552.7938	298306.0412
6	200,000	112894.786	86465.51918
		1781089.954	1547513.975

① NPV

$$NPV = \frac{1781089}{2000000}$$

$$-218910$$

$$NPV = \frac{1547513}{2000000}$$

$$-452487$$

(b) Payback Period :-

YRS	Cash Flow	6% PVF	
0	(2000000)		
1	450,000	424528.3019	424528
2	300,000	266998.932	691526
3	350,000	293866.7491	985392
4	550,000	435651.5148	1421043
a 5	600,000	448354.9037	1869397
6	200,000	140992.1081	2010389
		d 2010392.51	

Payback Period = $a+(b-c)/d$

$= 5+\frac{(2000000-1869397)}{140992.1081}$

PBP = 5.926

(c) IRR :-

$IRR = \text{Rate of NPV +ve} + \left[\frac{NPV\ +ve - Initial\ Investment}{NPV\ +ve - NPV\ -ve}\right] \times$ ↓ difference in discount rate -

$= 6+\left[\frac{2010392.51-2000000}{2010392.51-1781089.954}\right]\times 4$

$= 6+\left[\frac{10392.51}{229302.556}\right]\times 4$

$IRR = 6\times 0.0453\times 4$

$IRR = 6.1812\ \%$

YRS	Cash Flow	6.1812 % PV
0	(2000000)	
1	450,000	423803.8372
2	300,000	266088.4332
3	350,000	292364.8494
4	550,000	432685.3319
5	600,000	444542.3126
6	200,000	139554.6207
		1999999.99 ≈ 2000000

(d) Profatability Index :-

$PI = \frac{\text{cash inflow}}{\text{cash outflow}}$

$= \frac{2010392.51}{2000000}$

$= 1.0051$

$P = 1.0051-1$

$P = 5.19\times 10^{-3}$

$P = 0.519\%$ Profit.