

Note: All questions are compulsory

Present value interest factor of an (ordinary) annuity of \$1 per period at i% for n periods, PVIFA(i,n).

Period	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
1	0.935	0.926	0.917	0.909	0.901	0.893	0.885	0.877	0.870	0.862	0.855	0.847	0.840	0.833
2	1.808	1.783	1.759	1.736	1.713	1.690	1.668	1.647	1.626	1.605	1.585	1.566	1.547	1.528
3	2.624	2.577	2.531	2.487	2.444	2.402	2.361	2.322	2.283	2.246	2.210	2.174	2.140	2.106
4	3.387	3.312	3.240	3.170	3.102	3.037	2.974	2.914	2.855	2.798	2.743	2.690	2.639	2.589
5	4.100	3.993	3.890	3.791	3.696	3.605	3.517	3.433	3.352	3.274	3.199	3.127	3.058	2.991
6	4.767	4.623	4.486	4.355	4.231	4.111	3.998	3.889	3.784	3.685	3.589	3.498	3.410	3.326
7	5.389	5.206	5.033	4.868	4.712	4.564	4.423	4.288	4.160	4.039	3.922	3.812	3.706	3.605
8	5.971	5.747	5.535	5.335	5.146	4.968	4.799	4.639	4.487	4.344	4.207	4.078	3.954	3.837
9	6.515	6.247	5.995	5.759	5.537	5.328	5.132	4.946	4.772	4.607	4.451	4.303	4.163	4.031
10	7.024	6.710	6.418	6.145	5.889	5.650	5.426	5.216	5.019	4.833	4.659	4.494	4.339	4.192
11	7.499	7.139	6.805	6.495	6.207	5.938	5.687	5.453	5.234	5.029	4.836	4.656	4.486	4.327
12	7.943	7.536	7.161	6.814	6.492	6.194	5.918	5.660	5.421	5.197	4.988	4.793	4.611	4.439
13	8.358	7.904	7.487	7.103	6.750	6.424	6.122	5.842	5.583	5.342	5.118	4.910	4.715	4.533
14	8.745	8.244	7.786	7.367	6.982	6.628	6.302	6.002	5.724	5.468	5.229	5.008	4.802	4.611
15	9.108	8.559	8.061	7.606	7.191	6.811	6.462	6.142	5.847	5.575	5.324	5.092	4.876	4.675

Present value interest factor of \$1 per period at i% for n periods, PVIF(i,n).

Period	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
1	0.935	0.926	0.917	0.909	0.901	0.893	0.885	0.877	0.870	0.862	0.855	0.847	0.840	0.833
2	0.873	0.857	0.842	0.826	0.812	0.797	0.783	0.769	0.756	0.743	0.731	0.718	0.706	0.694
3	0.816	0.794	0.772	0.751	0.731	0.712	0.693	0.675	0.658	0.641	0.624	0.609	0.593	0.579
4	0.763	0.735	0.708	0.683	0.659	0.636	0.613	0.592	0.572	0.552	0.534	0.516	0.499	0.482
5	0.713	0.681	0.650	0.621	0.593	0.567	0.543	0.519	0.497	0.476	0.456	0.437	0.419	0.402
6	0.666	0.630	0.596	0.564	0.535	0.507	0.480	0.456	0.432	0.410	0.390	0.370	0.352	0.335
7	0.623	0.583	0.547	0.513	0.482	0.452	0.425	0.400	0.376	0.354	0.333	0.314	0.296	0.279
8	0.582	0.540	0.502	0.467	0.434	0.404	0.376	0.351	0.327	0.305	0.285	0.266	0.249	0.233
9	0.544	0.500	0.460	0.424	0.391	0.361	0.333	0.308	0.284	0.263	0.243	0.225	0.209	0.194
10	0.508	0.463	0.422	0.386	0.352	0.322	0.295	0.270	0.247	0.227	0.208	0.191	0.176	0.162
11	0.475	0.429	0.388	0.350	0.317	0.287	0.261	0.237	0.215	0.195	0.178	0.162	0.148	0.135
12	0.444	0.397	0.356	0.319	0.286	0.257	0.231	0.208	0.187	0.168	0.152	0.137	0.124	0.112
13	0.415	0.368	0.326	0.290	0.258	0.229	0.204	0.182	0.163	0.145	0.130	0.116	0.104	0.093
14	0.388	0.340	0.299	0.263	0.232	0.205	0.181	0.160	0.141	0.125	0.111	0.099	0.088	0.078
15	0.362	0.315	0.275	0.239	0.209	0.183	0.160	0.140	0.123	0.108	0.095	0.084	0.074	0.065
16	0.339	0.292	0.252	0.218	0.188	0.163	0.141	0.123	0.107	0.093	0.081	0.071	0.062	0.054
17	0.317	0.270	0.231	0.198	0.170	0.146	0.125	0.108	0.093	0.080	0.069	0.060	0.052	0.045
18	0.296	0.250	0.212	0.180	0.153	0.130	0.111	0.095	0.081	0.069	0.059	0.051	0.044	0.038
19	0.277	0.232	0.194	0.164	0.138	0.116	0.098	0.083	0.070	0.060	0.051	0.043	0.037	0.031
20	0.258	0.215	0.178	0.149	0.124	0.104	0.087	0.073	0.061	0.051	0.043	0.037	0.031	0.026

Q.1 Write short notes on any three of following: (5 Marks each)

- a) Time value of money
- b) Financing decision in financial management
- c) Wealth maximization
- d) Internal rate of return

Q.2 a) Company X is considering investing in a project that requires an initial investment of ₹3500 with an expected cash flow generated over 3 years as given in the table below:

CFAT and its probability of occurrence

Year I		Year II		Year III	
CFAT	Probability	CFAT	Probability	CFAT	Probability
900	0.2	900	0.1	900	0.3
1200	0.2	1200	0.3	1200	0.2
1800	0.3	1800	0.4	1890	0.3
2200	0.3	2200	0.2	2200	0.2

- a) What is expected NPV of the project when risk-free rate of interest in the market is 10%? (6 Marks)
- b) Calculate the riskiness of project by calculating standard deviation (4 Marks)

Q.2 b) A company goes for expansion policy of existing plant. Expansion project costs ₹ 1200 million. Working capital is 100 million. Annual capacity of the plant is 50,000 units sold at the rate of ₹2500. The variable cost to sales ratio is 50%. The fixed cost per annum is 450 million excluding depreciation. The set-up cost of one time would be ₹100 million. Working capital requirement will be 10% of sales. The company would utilize the capacity of plant as shown in table below:

Year	0	1	2	3	4	5
Capacity utilization (%)	30	30	50	70	100	100

The salvage value of machine will be 15% of the cost. Determine the cash flows for each of year of the expansion project. Depreciation is on straight-line basis. Present value is **not to be computed** (10 Marks)

Q.3 Bhaskar Manufacture Ltd. has equity share capital of ₹500,000 (face value of ₹ 100). To meet the expenditure of an expansion program, the company wishes to raise ₹300,000 and is having following alternatives as sources of funds:

Plan A: To have full money from issue of equity

Plan B: To have ₹ 100,000 from equity shares and ₹ 200,000 from borrowings from financial institution at 10% p.a.

Plan C: To have full money from borrowings at 10% p.a.

Plan D: To have ₹ 100,000 in equity and ₹200,000 from 8% preference shares

The company has present earnings of ₹150,000. The corporate tax rate is 50%.

Select the **most suitable plan** to raise required funds. (2 x 4 + 1 = 9 Marks)

Q.3.b) Calculate the degree of operating leverage and degree of financial leverage according to the data given below for companies A and B: (3X2 = 6 marks)

	A	B
Output in Units	70,000	25,000
Fixed costs	10,000	13,000
Variable cost/ unit	0.2	1.5
Interest on borrowed funds	5,000	18,000
Selling price per unit	0.6	5

OR

Q.3

Brightways Ltd. faces four possible economic conditions very poor, poor, normal and good. Brightways' possible level of sales and operating expenses with their probability of occurrence are given in table below:

Expected Sales, EBIT, ROI with associated probabilities

	Poor		Normal		Good
Probability	0.10	0.15	0.35	0.30	0.05
Sales	660	710	800	880	1160
Costs:					
Variable cost	330	355	400	440	580
Fixed cost	280	280	280	280	280
Total Cost	610	635	680	720	860
EBIT	50	75	120	160	300
ROI	10%	15%	24%	32%	60%

The company is considering two financial plans for an investment of ₹500,000:

1. Raise entire funds by issuing 50,000 ordinary shares at 10 per share
2. Or to raise ₹250,000 by issuing 25,000 shares of ₹10 each and borrow 250,000 at 15%.

The tax rate of 50%.

- a) What are the effects of alternative plans on shareholders' earnings? Which plan out of two is best in given scenarios (10+2 = 12 marks)
- b) Does state of economy have a bearing on choice of financial plan, please state in context of information given about Bright ways.

(3 marks)

Q.4 A. Mr Sunil takes a loan of INR 100,000 at 14% rate of interest for purchasing a car. The loan has to be repaid over the next 5 years.

- a) Estimate the equal annual instalment to be given by Mr Sunil to repay his principal plus interest in the 5 years. (3 Marks)
- b) Prepare schedule of loan amortization (5 Marks)

Q.4 B. How much amount should be invested now so that Mr Sunil receives INR 100,000 each year in perpetuity at an interest rate of 10%? (2 Marks)