



UNIVERSITI KUALA LUMPUR
BUSINESS SCHOOL

FINAL EXAMINATION
OCTOBER 2025 SEMESTER

COURSE CODE : EIB11803
COURSE TITLE : FINANCIAL MANAGEMENT
PROGRAMME NAME : BACHELOR IN ISLAMIC FINANCE WITH HONOURS
DATE : 30 JANUARY 2026
TIME : 9:00AM -12:00PM
DURATION : 3 HOURS

INSTRUCTIONS TO CANDIDATES

1. Please read the instructions given in the question paper CAREFULLY.
2. This question paper is printed on both sides of the paper.
3. This question paper consist of ONE sections.
4. Section A consist of five questions. Answer FOUR (4) questions only.
5. Please write your answer on the answer booklet provided.
6. Please answer all questions in English only.
7. Refer to the attached Formula/ Appendies. Tick if applicable

THERE ARE 8 PAGES OF QUESTIONS INCLUDING THIS PAGE

SECTION A (Total: 100 marks)

Answer FOUR (4) questions.

Please use the answer booklet provided.

Question 1

Calculate the following and show all workings clearly:

- (a) Azzahra Boutique aims to open a premium outlet in six years. To finance this expansion, the company deposits a portion of its annual profit into a high-risk investment account that yields 16% interest per annum, compounded annually. Due to inconsistent earnings, the contributions at the end of each year vary throughout the investment period.

At the end of Year 1, Azzahra Boutique deposits RM5,000 into the investment account, followed by RM8,000 at the end of Year 2 and RM10,000 at the end of Year 3. In Year 4, the business contributes RM7,000, and in Year 5, the deposit is RM6,000. Finally, at the end of Year 6, an additional RM9,000 is invested into the account.

Assuming the required rate of return remains 16% annually throughout the investment period, calculate the future value of the entire investment portfolio at the end of Year 6.

(7 marks)

- (b) NovaBio Pharmaceuticals is negotiating a long-term collaboration with an international biomedical research agency to support the development of a new antiviral platform. As part of this arrangement, NovaBio will pay RM18,000 per year, starting at the beginning of the first year and continuing for the remaining years on an annual basis. The collaboration spans a total of 17 years, and due to the high risk and volatility of the biotechnology industry, the company evaluates its long-term obligations using a 25% discount rate.

To assess whether the agreement is financially viable, NovaBio's finance director requires an estimate of the present value of all 17 annual payments, calculated as of the start of the contract. Calculate the present value of these payments.

(2 marks)

- (c) Amazia Tech Sdn. Bhd. has won a government grant to develop an advanced machine learning system designed for national cybersecurity applications. If the company successfully delivers the final working prototype, it will receive a single payment of RM300,000 at the end of five years. Due to uncertainty in the technology sector, Amazia Tech evaluates this project using a 10% annual rate, compounded semi-annually.

The Chief Financial Officer wants to estimate how much the future payment is worth today to assist in deciding whether to accept the project. Determine the equivalent value today of the RM300,000 to be received in five years. Show all workings clearly.

(2 marks)

- (d) Dr. Farah has decided to purchase a Toyota Vios 1.5 G for her daily commute to the university. The car is priced at RM95,000, and the bank requires a 10% deposit, with the remaining balance financed through a loan. The loan will be repaid in equal annual instalments over seven (7) years, with interest charged at 3% per annum, compounded annually.

- i. Calculate the annual instalment that Dr Farah is required to pay on the loan.

(3 marks)

- ii. Prepare a loan amortization schedule for the seven-year financing period, showing for each year the interest charged, the annual instalment paid, the amount of principal repaid, and the closing loan balance.

(11 marks)

Question 2

Solaris Solutions Bhd is considering a project to manufacture a new type of high-efficiency solar panel. The initial investment required for the production equipment is RM2,200,000. The project has a lifespan of 5 years. The expected after-tax operating cash inflows are as follows:

Year 1: RM500,000

Year 2: RM600,000

Year 3: RM800,000

Year 4: RM900,000

Year 5: RM700,000

The company's required rate of return (cost of capital) is 12%. You are required to:

(a) Payback Period

- i. Calculate the payback period for the project.
(2 marks)
- ii. Based on your calculation, if the company's maximum acceptable payback period is 3 years, should the project be accepted based on this criterion?
(2 marks)

(b) Discounted Payback Period

- i. Calculate the discounted payback period for the project. Then, indicate whether the project should be accepted if the maximum acceptable payback period is 3 years.
(3 marks)
- ii. State one key advantage the discounted payback period has over the traditional payback period.
(2 marks)

(c) Net Present Value (NPV)

- i. Calculate the Net Present Value (NPV) of the project.
(3 marks)

- ii. Based on the NPV rule, should Solaris Solutions Ltd. undertake the project?
(2 marks)
- (d) Profitability Index (PI) and Modified Internal Rate of Return (MIRR)
- i. Calculate the Profitability Index (PI) for the project.
(1 marks)
- ii. Calculate the Modified Internal Rate of Return (MIRR).
(6 marks)
- iii. Briefly explain why the MIRR and the NPV decision for this project are consistent.
(1 marks)
- (e) Considering all your findings from parts (a) to (d), provide a final, well-reasoned recommendation to the management of Solaris Solutions Ltd. Your answer should reconcile any conflicting signals from the different techniques.
(3 marks)

Question 3

Feda Inc. has the following capital structure, which it considers to be optimal:

Debt	RM500,000
Preferred stock	RM300,00
Common equity	RM1,200,000

Feda Inc. expected net income this year is RM34,285.72. Its established dividend payout ratio is 30 percent; tax rate is 40 percent; and investors expect future earnings and dividends to grow at a constant rate of 9 percent. Feda Inc. paid a dividend of RM3.60 per share last year, and its stock currently sells for RM54.00 per share. Feda Inc. also obtain new capital in the following ways:

- i. New preferred stock with a dividend of RM11.00 can be sold to the public at a price of RM95.00 per share.
- ii. Debt can be sold at an interest rate of 12 percent.

From the information, your are required to:

- (a) Calculate the dividend for Years 1, 2 and 3.
(6 marks)
- (b) Determine the cost of capital for each component.
(10 marks)
- (c) Calculate the Weighted average cost of capital (WACC) of Feda Inc.
(6 marks)
- (d) Explain any two (2) factors that affect the WACC.
(3 marks)

Question 4

Arabella Sdn Bhd's sales from November 2024 to May 2025 are shown as follows:

Month	Sales (RM)
Actual Sales	
November, 2024	250,000
December, 2024	180,000
Forecasted Sales	
January, 2025	180,000
February, 2025	170,000
March, 2025	270,000
April, 2025	175,000
May, 2025	210,000

- i. The firm generates 40% of cash sales. The credit sales normally will be collected on an equal amount in each of the two months following the sales.
- ii. The firm purchases raw materials one month in advance before sales which the purchases are approximately 40% of the monthly sales. The firm will pay its suppliers 50% of the purchases a month after and the balance is made two months after the purchases.
- iii. The firm is expected to receive rental payment of RM32,000 in January and RM11,000 in March 2025.
- iv. Salaries paid to employees are 15% of the previous month's sales.
- v. Rental expenses of RM12,000 per month are expected to be paid. However, the firm is expected to receive a 5% discount on the rental expenses in March 2025.
- vi. Interest expenses of RM6,400 are due in January and March 2025.
- vii. Cash bonuses to the employees of RM14,000 are expected to be disbursed in February.
- viii. The firm plans to buy a new equipment by cash amounted to RM120,000 in February.
- ix. The firm has a cash balance of RM25,000 on December 31, 2024, wishing to hold a monthly minimum cash of RM13,000 for liquidity purpose.

- (a) You are required to prepare the first-quarter cash budget of Arabella Sdn Bhd for the year 2025 based on the following information:

(25 marks)

Question 5

Aurora Capital Advisory is a financial wealth management company that manages investment portfolios for retail and institutional clients. They are currently evaluating three financial assets with the following possible returns and probabilities.

Market Condition	Asset A		Asset B		Asset C	
	Probability	Return (RM)	Probability	Return (RM)	Probability	Return (RM)
Bear	0.35	800	0.40	500	0.25	450
Bull	0.65	1,900	0.60	2,200	0.75	3,200

- (a) Based on the information provided, calculate the following for each of the assets:
- i. Expected return. (6 marks)
 - ii. Standard deviation. (6 marks)
 - iii. Coefficient of variation. (6 marks)
 - iv. Rank the assets in terms of risk, starting with the highest risk. (1 marks)
- (b) Describe two (2) types of risk–return trade-off decisions commonly faced by investors in financial markets. Provide one example for each case. (6 marks)

END OF EXAMINATION PAPER

FORMULA

- $FV = PV (FVIF_{i,n})$
- $PV = FV (PVIF_{i,n})$
- $FV = CF_A (FVIFA_{i,n})$
- $PV = CF_A (PVIFA_{i,n})$
- $n = \ln [PMT / (PMT - PV \times r)] / \ln (1+r)$
- $i = (FV / PV)^{1/n} - 1$
- $PB = \frac{IO}{\text{Ann CF}}$
- $PBP = [(n-1)] + [(IO - \text{sum of cash flow before } n) / (\text{cash flow of the year } n)]$
- $NPV = CF (PVIFA_{i,n}) - IO$
- $NPV = \sum [CF (PVIF_{i,n})] - IO$
- $PI = \text{PV of future cash flow} / \text{Initial Investment}$
- $d_1 = d_0(1 + g)$
- $k_e = (d_1/p_0) + g$
- $k_p = d/p_0$
- $r_d = k_i(1-t)$
- $WACC = w_e k_e + w_p k_p + w_d k_d$
- $E(R_p) = (w_A \times E(R_A)) + (w_B \times E(R_B))$
- $\sigma_p = \sqrt{(w_A^2 \sigma_A^2) + (w_B^2 \sigma_B^2) + (2 \cdot w_A \cdot w_B \cdot \rho_{AB} \cdot \sigma_A \cdot \sigma_B)}$
- $ER_i = R_f + \beta_i (ER_m - R_f)$

Present Value and Future Value Tables

Table A-1 Future Value Interest Factors for One Dollar Compounded at k Percent for n Periods: $FVIF_{k,n} = (1 + k)^n$

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	20%	24%	25%	30%
1	1.0100	1.0200	1.0300	1.0400	1.0500	1.0600	1.0700	1.0800	1.0900	1.1000	1.1100	1.1200	1.1300	1.1400	1.1500	1.1600	1.2000	1.2400	1.2500	1.3000
2	1.0201	1.0404	1.0609	1.0816	1.1025	1.1236	1.1449	1.1664	1.1881	1.2100	1.2321	1.2544	1.2769	1.2996	1.3225	1.3456	1.4400	1.5376	1.5625	1.6900
3	1.0303	1.0612	1.0927	1.1249	1.1576	1.1910	1.2250	1.2597	1.2950	1.3310	1.3676	1.4049	1.4429	1.4816	1.5209	1.5609	1.7280	1.9066	1.9531	2.1970
4	1.0406	1.0824	1.1255	1.1699	1.2155	1.2625	1.3108	1.3605	1.4116	1.4641	1.5181	1.5735	1.6305	1.6890	1.7490	1.8105	2.0736	2.3642	2.4414	2.8551
5	1.0510	1.1041	1.1593	1.2167	1.2763	1.3382	1.4026	1.4693	1.5386	1.6105	1.6851	1.7623	1.8424	1.9254	2.0114	2.1003	2.4883	2.9316	3.0518	3.7129
6	1.0616	1.1262	1.1941	1.2653	1.3401	1.4185	1.5007	1.5868	1.6771	1.7716	1.8704	1.9738	2.0820	2.1950	2.3131	2.4364	2.9860	3.6352	3.8147	4.8268
7	1.0721	1.1487	1.2299	1.3169	1.4071	1.5016	1.6007	1.7043	1.8126	1.9258	2.0440	2.1682	2.2985	2.4350	2.5777	2.7267	3.4160	4.2898	4.5295	5.8173
8	1.0829	1.1717	1.2668	1.3689	1.4771	1.5926	1.7168	1.8509	1.9949	2.1490	2.3143	2.4910	2.6803	2.8825	3.0978	3.3263	4.1680	5.2958	5.6005	7.2573
9	1.0937	1.1951	1.3048	1.4233	1.5513	1.6899	1.8393	1.9997	2.1719	2.3570	2.5563	2.7709	3.0018	3.2503	3.5177	3.8030	4.7680	6.0930	6.4650	8.5000
10	1.1046	1.2190	1.3439	1.4802	1.6289	1.7908	1.9672	2.1589	2.3674	2.5937	2.8394	3.1058	3.3946	3.7072	4.0456	4.4114	5.5280	7.0930	7.5273	10.0000
11	1.1157	1.2434	1.3842	1.5395	1.7103	1.8983	2.1049	2.3316	2.5804	2.8531	3.1518	3.4785	3.8359	4.2262	4.6524	5.1173	6.4300	8.3657	8.8642	11.9222
12	1.1268	1.2682	1.4258	1.6010	1.7959	2.0122	2.2522	2.5182	2.8127	3.1384	3.4985	3.8960	4.3345	4.8179	5.3503	5.9360	7.4160	9.6525	10.2250	13.9000
13	1.1381	1.2936	1.4655	1.6561	1.8656	2.1029	2.4098	2.7496	3.1253	3.5313	3.9813	4.4795	5.0200	5.6080	6.2480	6.9450	8.6400	11.2000	11.8500	16.0000
14	1.1495	1.3195	1.6126	1.7317	1.9799	2.2609	2.5785	2.9372	3.3417	3.7976	4.3104	4.8871	5.5388	6.2613	7.0757	7.9875	9.9200	12.8319	13.7373	18.3744
15	1.1610	1.3459	1.5580	1.8009	2.0789	2.3966	2.7590	3.1722	3.6425	4.1772	4.7846	5.4736	6.2543	7.1379	8.1371	9.2555	11.4073	14.6196	15.6222	20.5186
16	1.1726	1.3728	1.6047	1.8730	2.1829	2.5404	2.9622	3.4259	3.9703	4.5950	5.3109	6.1304	7.0673	8.1372	9.3576	10.7488	13.4880	17.2433	18.3527	24.5442
17	1.1843	1.4002	1.6528	1.9479	2.2920	2.6928	3.1688	3.7000	4.3276	5.0545	5.8951	6.8660	7.9861	9.2765	10.7611	12.4680	15.8186	20.7441	21.9409	29.5000
18	1.1961	1.4282	1.7024	2.0258	2.4068	2.8543	3.3799	3.9960	4.7171	5.5599	6.5436	7.6900	9.0243	10.5751	12.3761	14.4633	18.6233	24.6333	25.9511	35.5000
19	1.2081	1.4568	1.7535	2.1068	2.5270	3.0256	3.6165	4.3157	5.1417	6.1159	7.2633	8.6128	10.1971	12.0561	14.2332	16.7773	22.1948	29.6988	31.1039	42.5000
20	1.2202	1.4859	1.8061	2.1911	2.6533	3.2071	3.8697	4.6510	5.6044	6.7276	8.0623	9.6463	11.5233	13.7433	16.3673	19.4611	26.3333	35.8644	37.3673	50.0000
21	1.2324	1.5157	1.8603	2.2788	2.7860	3.3996	4.1406	5.0338	6.1088	7.4002	8.9492	10.8041	13.0211	15.8688	18.8222	22.5744	30.0000	40.6922	42.8222	57.0000
22	1.2447	1.5460	1.9161	2.3699	2.9253	3.6035	4.4394	5.4365	6.6586	8.1403	9.9336	12.1000	14.7141	17.8611	21.6455	26.1888	34.6667	46.8333	49.5222	65.0000
23	1.2572	1.5769	1.9736	2.4647	3.0716	3.8197	4.7405	5.8715	7.2579	8.9543	11.0262	13.5557	16.6272	20.3622	24.8911	30.3766	40.0000	53.3333	55.9444	75.0000
24	1.2697	1.6084	2.0328	2.5633	3.2251	4.0489	5.0724	6.3412	7.9111	9.8497	12.2239	15.1779	18.7888	23.2122	28.6255	35.2333	46.0000	61.6667	64.8889	87.0000
25	1.2824	1.6406	2.0936	2.6658	3.3864	4.2919	5.4274	6.8485	8.6231	10.8355	13.5955	17.0000	21.2911	26.4622	32.9119	40.8744	53.3333	70.0000	74.6667	100.0000
30	1.3478	1.8114	2.4273	3.2434	4.3219	5.7435	7.6123	10.0633	13.2688	17.4489	22.8922	29.9600	39.1166	50.9500	66.2122	85.8500	113.3333	148.8889	156.6667	200.0000
35	1.4166	1.9999	2.8139	3.8461	5.1600	7.0861	10.6771	14.7855	20.4141	28.1022	38.5755	52.8000	72.0667	98.1000	133.1766	180.3144	240.0000	320.0000	420.0000	550.0000
36	1.4308	2.0399	2.8903	4.0339	5.7918	8.1473	11.4241	15.9668	22.2511	30.5133	42.8188	59.1366	81.4373	111.8344	153.1522	209.1666	280.0000	370.0000	480.0000	620.0000
40	1.4889	2.2080	3.2620	4.8010	7.0400	10.2864	14.9741	21.7255	31.4099	45.2599	65.0011	93.0511	132.7822	188.8844	267.8644	378.7211	500.0000	660.0000	860.0000	1100.0000
60	1.6446	2.6916	4.3839	7.1067	11.4673	18.4200	29.4573	46.9022	74.3588	117.3911	184.6666	289.0022	450.7366	700.2333	1050.0000	1550.0000	2050.0000	2750.0000	3600.0000	4600.0000

Table A-2 Future Value Interest Factors for a One-Dollar Annuity Compounded at k Percent for n Periods: $FVIFA_{k,n} = [(1 + k)^n - 1] / k$

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	20%	24%	25%	30%
1	1.0000	1.0200	1.0300	1.0400	1.0500	1.0600	1.0700	1.0800	1.0900	1.1000	1.1100	1.1200	1.1300	1.1400	1.1500	1.1600	1.2000	1.2400	1.2500	1.3000
2	2.0100	2.0200	2.0300	2.0400	2.0500	2.0600	2.0700	2.0800	2.0900	2.1000	2.1100	2.1200	2.1300	2.1400	2.1500	2.1600	2.2000	2.2400	2.2500	2.3000
3	3.0301	3.0604	3.0909	3.1216	3.1525	3.1836	3.2149	3.2464	3.2781	3.3100	3.3421	3.3744	3.4069	3.4396	3.4725	3.5056	3.6400	3.7776	3.8125	3.9900
4	4.0604	4.1216	4.1836	4.2463	4.3101	4.3746	4.4399	4.5058	4.5723	4.6404	4.7091	4.7783	4.8481	4.9184	4.9893	5.0608	5.3600	5.6844	5.7866	6.1870
5	5.1010	5.2040	5.3091	5.4163	5.5256	5.6371	5.7507	5.8666	5.9847	6.1051	6.2278	6.3528	6.4803	6.6104	6.7432	6.8787	7.4400	8.0484	8.2070	9.0431
6	6.1520	6.3081	6.4684	6.6330	6.8019	6.9753	7.1533	7.3359	7.5233	7.7156	7.9129	8.1152	8.3227	8.5355	8.7537	8.9775	9.9299	10.9800	11.2559	12.7566
7	7.2135	7.4343	7.6625	7.8983	8.1420	8.3936	8.6540	8.9226	9.2004	9.4872	9.7833	10.0889	10.4045	10.7303	11.0673	11.4154	12.8160	14.0161	14.4161	16.5833
8	8.2857	8.5830	8.8923	9.2142	9.5491	9.8976	10.2600	10.6373	11.0296	11.4369	11.8599	12.2983	12.7523	13.2227	13.7097	14.2134	16.0000	17.4161	17.8161	20.5000
9	9.3685	9.7546	10.1569	10.5853	11.0297	11.4911	11.9714	12.4808	13.0191	13.5873	14.1764	14.7873	15.4201	16.0757	16.7541	17.4563	19.6000	21.2161	21.7161	25.0000
10	10.4622	10.9550	11.4644	12.0006	12.5743	13.1864	13.8379	14.5298	15.2631	16.0389	16.8583	17.7223	18.6329	19.5913	20.6000	21.6600	24.0000	26.0161	26.5161	30.0000
11	11.5687	12.1699	12.7908	13.4423	14.1342	14.8675	15.6431	16.4619	17.3250	18.2333	19.1877	20.1891	21.2385	22.3369	23.4853	24.6857	27.6000	29.8161	30.3161	35.0000
12	12.6883	13.3912	14.1141	14.8770	15.6809	16.5268	17.4157	18.3486	19.3265	20.3504	21.4213	22.5401	23.7079	24.9257	26.1945	27.5153	30.8000	33.2161	33.7161	40.0000
13	13.8209	14.6350	15.4701	16.3470	17.2669	18.2308	19.2397	20.2946	21.3975	22.5504	23.7543	25.0091	26.3159	27.6757	29.0895	30.5593	34.4000	36.9161	37.4161	45.0000
14	14.9675	15.8936	16.8417	17.8226	18.8475	19.9174	21.0333	22.1962	23.4071	24.6670	25.9769	27.3367	28.7475	30.2093	31.7241	33.2939	37.6000	40.2161	40.7161	50.0000
15	16.1291	17.1672	18.2333	19.3382	20.4831	21.6690	22.9069	24.1978	25.5437	26.9456	28.4035	29.9174	31.4883	33.1171	34.8049	36.5523	41.6000	44.4161	44.9161	55.0000
16	17.3067	18.4568	19.6409	20.8608	22.1177	23.4136	24.7505	26.1294	27.5523	29.0202	30.5341	32.0950	33.7139	35.3827	37.1025	38.8323	44.0000	46.9161	47.4161	60.0000
17	18.4993	20.0122	21.2963	22.6312	24.0081	25.4280	26.8919	28.3998	29.9527	31.5526	33.1975	34.8884	36.6263	38.4151	40.1929	42.0305	48.0000	51.0161	51.5161	65.0000
18	19.7069	21.4122	22.8003	24.1963	25.6380	27.1039	28.6578	30.2617	31.8646	33.5175	35.2724	37.0003	38.7181	40.5000	42.4500	44.9500	51.6000	54.6161	55.1161	70.0000
19	20.9295	22.8441	24.3144	25.8604	27.2929	28.9398	30.5217	31.9306	33.2415	34.8124	36.4073	38.1431	40.0000	42.5000	45.0000	47.				

Present Value and Future Value Tables

Table A-3 Present Value Interest Factors for One Dollar Discounted at k Percent for n Periods: $PVIF_{k,n} = 1 / (1 + k)^n$

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	20%	24%	25%	30%
1	0.9901	0.9804	0.9709	0.9615	0.9524	0.9434	0.9345	0.9259	0.9174	0.9091	0.9009	0.8929	0.8850	0.8772	0.8696	0.8621	0.8333	0.8065	0.8000	0.7692
2	0.9803	0.9612	0.9426	0.9246	0.9070	0.8900	0.8734	0.8573	0.8417	0.8264	0.8116	0.7972	0.7831	0.7695	0.7561	0.7432	0.6944	0.6504	0.6400	0.5917
3	0.9706	0.9423	0.9151	0.8890	0.8638	0.8396	0.8163	0.7938	0.7722	0.7513	0.7312	0.7118	0.6931	0.6750	0.6575	0.6407	0.5787	0.5245	0.5120	0.4552
4	0.9610	0.9238	0.8885	0.8548	0.8227	0.7921	0.7629	0.7350	0.7084	0.6830	0.6587	0.6355	0.6133	0.5921	0.5718	0.5523	0.4823	0.4230	0.4096	0.3501
5	0.9515	0.9057	0.8626	0.8219	0.7835	0.7473	0.7130	0.6806	0.6499	0.6209	0.5935	0.5674	0.5428	0.5194	0.4972	0.4761	0.4019	0.3411	0.3277	0.2693
6	0.9420	0.8880	0.8375	0.7903	0.7462	0.7050	0.6663	0.6302	0.5963	0.5646	0.5346	0.5066	0.4803	0.4556	0.4323	0.4104	0.3349	0.2751	0.2621	0.2072
7	0.9327	0.8706	0.8131	0.7599	0.7107	0.6651	0.6227	0.5835	0.5470	0.5132	0.4817	0.4523	0.4251	0.3996	0.3769	0.3538	0.2791	0.2218	0.2097	0.1594
8	0.9235	0.8535	0.7894	0.7307	0.6768	0.6274	0.5820	0.5403	0.5019	0.4665	0.4339	0.4039	0.3762	0.3506	0.3269	0.3050	0.2326	0.1789	0.1678	0.1226
9	0.9143	0.8368	0.7664	0.7026	0.6446	0.5919	0.5439	0.5002	0.4604	0.4241	0.3909	0.3606	0.3329	0.3076	0.2843	0.2630	0.1938	0.1443	0.1342	0.0943
10	0.9053	0.8203	0.7441	0.6756	0.6139	0.5584	0.5083	0.4632	0.4224	0.3855	0.3522	0.3220	0.2946	0.2697	0.2472	0.2267	0.1615	0.1164	0.1074	0.0725
11	0.8963	0.8043	0.7224	0.6496	0.5847	0.5268	0.4751	0.4289	0.3875	0.3505	0.3173	0.2875	0.2607	0.2366	0.2149	0.1954	0.1346	0.0938	0.0859	0.0558
12	0.8874	0.7885	0.7014	0.6246	0.5568	0.4970	0.4440	0.3971	0.3555	0.3186	0.2858	0.2567	0.2307	0.2076	0.1869	0.1685	0.1122	0.0757	0.0687	0.0429
13	0.8787	0.7739	0.6810	0.6006	0.5303	0.4688	0.4150	0.3677	0.3262	0.2897	0.2575	0.2292	0.2042	0.1821	0.1625	0.1462	0.0935	0.0610	0.0550	0.0330
14	0.8700	0.7579	0.6611	0.5775	0.5051	0.4423	0.3878	0.3405	0.2992	0.2633	0.2320	0.2046	0.1807	0.1597	0.1413	0.1252	0.0779	0.0492	0.0440	0.0254
15	0.8613	0.7430	0.6419	0.5553	0.4810	0.4173	0.3624	0.3152	0.2745	0.2394	0.2090	0.1827	0.1599	0.1401	0.1229	0.1079	0.0649	0.0397	0.0352	0.0195
16	0.8528	0.7284	0.6232	0.5339	0.4581	0.3936	0.3387	0.2919	0.2519	0.2176	0.1883	0.1631	0.1415	0.1229	0.1069	0.0930	0.0541	0.0320	0.0281	0.0150
17	0.8444	0.7142	0.6060	0.5134	0.4363	0.3714	0.3166	0.2703	0.2311	0.1978	0.1696	0.1456	0.1252	0.1078	0.0929	0.0802	0.0451	0.0268	0.0225	0.0116
18	0.8360	0.7002	0.5874	0.4936	0.4165	0.3503	0.2959	0.2502	0.2120	0.1799	0.1528	0.1300	0.1108	0.0946	0.0808	0.0691	0.0376	0.0208	0.0180	0.0089
19	0.8277	0.6864	0.5703	0.4746	0.3957	0.3306	0.2765	0.2317	0.1945	0.1635	0.1377	0.1161	0.0981	0.0829	0.0703	0.0596	0.0313	0.0168	0.0144	0.0068
20	0.8195	0.6730	0.5537	0.4564	0.3769	0.3118	0.2584	0.2145	0.1784	0.1486	0.1240	0.1037	0.0868	0.0728	0.0611	0.0514	0.0261	0.0135	0.0115	0.0053
21	0.8114	0.6598	0.5375	0.4388	0.3589	0.2942	0.2416	0.1987	0.1637	0.1351	0.1117	0.0926	0.0768	0.0638	0.0531	0.0443	0.0217	0.0109	0.0092	0.0040
22	0.8034	0.6468	0.5219	0.4220	0.3418	0.2775	0.2257	0.1839	0.1502	0.1228	0.1007	0.0826	0.0680	0.0560	0.0462	0.0382	0.0181	0.0088	0.0074	0.0031
23	0.7954	0.6342	0.5067	0.4057	0.3256	0.2618	0.2109	0.1703	0.1378	0.1117	0.0907	0.0738	0.0601	0.0491	0.0402	0.0329	0.0151	0.0071	0.0059	0.0024
24	0.7876	0.6217	0.4919	0.3901	0.3101	0.2470	0.1971	0.1577	0.1264	0.1015	0.0817	0.0659	0.0532	0.0431	0.0349	0.0284	0.0126	0.0057	0.0047	0.0018
25	0.7798	0.6095	0.4776	0.3751	0.2953	0.2330	0.1842	0.1460	0.1160	0.0923	0.0736	0.0588	0.0471	0.0378	0.0304	0.0245	0.0105	0.0045	0.0038	0.0014
30	0.7419	0.5521	0.4120	0.3083	0.2314	0.1741	0.1314	0.0994	0.0754	0.0573	0.0437	0.0334	0.0256	0.0196	0.0151	0.0116	0.0042	0.0016	0.0012	*
35	0.7059	0.5000	0.3554	0.2534	0.1813	0.1301	0.0937	0.0676	0.0490	0.0366	0.0259	0.0189	0.0139	0.0102	0.0075	0.0055	0.0017	0.0005	*	*
40	0.6717	0.4529	0.3066	0.2083	0.1420	0.0972	0.0688	0.0460	0.0318	0.0221	0.0154	0.0107	0.0075	0.0053	0.0037	0.0026	0.0007	*	*	*
50	0.6080	0.3715	0.2281	0.1407	0.0872	0.0543	0.0339	0.0213	0.0134	0.0085	0.0054	0.0035	0.0022	0.0014	0.0009	0.0006	*	*	*	*

Table A.4 Present Value Interest Factors for a One-Dollar Annuity Discounted at k Percent for n Periods: $PVIFA = [1 - 1/(1 + k)^n] / k$

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	20%	24%	25%	30%
1	0.9901	0.9804	0.9709	0.9615	0.9524	0.9434	0.9345	0.9259	0.9174	0.9091	0.9009	0.8929	0.8850	0.8772	0.8696	0.8621	0.8333	0.8065	0.8000	0.7692
2	1.9704	1.9416	1.9135	1.8861	1.8594	1.8334	1.8080	1.7833	1.7591	1.7356	1.7125	1.6901	1.6681	1.6467	1.6257	1.6052	1.5278	1.4668	1.4400	1.3609
3	2.9410	2.8839	2.8286	2.7751	2.7232	2.6730	2.6243	2.5771	2.5313	2.4869	2.4437	2.4018	2.3612	2.3216	2.2832	2.2469	2.1065	1.9813	1.9520	1.8161
4	3.9020	3.8177	3.7171	3.6299	3.5460	3.4651	3.3872	3.3121	3.2397	3.1699	3.1024	3.0373	2.9745	2.9137	2.8550	2.7982	2.5887	2.4043	2.3616	2.1662
5	4.8534	4.7135	4.5797	4.4518	4.3295	4.2124	4.1002	3.9927	3.8897	3.7906	3.6959	3.6048	3.5172	3.4331	3.3522	3.2743	2.9906	2.7454	2.6893	2.4356
6	5.7955	5.6014	5.4172	5.2421	5.0757	4.9173	4.7655	4.6229	4.4859	4.3530	4.2205	4.1114	3.9975	3.8887	3.7845	3.6847	3.3255	3.0205	2.9514	2.6427
7	6.7282	6.4720	6.2303	6.0021	5.7864	5.5824	5.3893	5.2064	5.0330	4.8684	4.7122	4.5638	4.4226	4.2883	4.1604	4.0386	3.6046	3.2423	3.1611	2.8021
8	7.6517	7.3256	7.0197	6.7327	6.4632	6.2098	5.9713	5.7465	5.5349	5.3451	5.1675	4.9976	4.7988	4.6389	4.4873	4.3436	3.8372	3.4212	3.3289	2.9247
9	8.5660	8.1622	7.7861	7.4353	7.1078	6.8017	6.5152	6.2469	5.9952	5.7590	5.5370	5.3282	5.1317	4.9464	4.7716	4.6065	4.0310	3.5655	3.4631	3.0190
10	9.4713	8.9226	8.5302	8.1109	7.7217	7.3601	7.0236	6.7101	6.4177	6.1446	5.8892	5.6502	5.4262	5.2161	5.0188	4.8332	4.1925	3.6819	3.5705	3.0915
11	10.3688	9.7868	9.2826	8.7805	8.3064	7.8669	7.4587	7.0719	6.8052	6.4951	6.2065	5.9377	5.6869	5.4527	5.2337	5.0286	4.3271	3.7757	3.6564	3.1473
12	11.2556	10.6756	10.1540	9.6511	9.1764	8.7383	8.3337	7.9427	7.5331	7.1607	6.8137	6.4924	6.1944	5.9176	5.6603	5.4206	4.5971	4.0332	3.9124	3.1903
13	12.1334	11.5448	11.0196	10.5185	10.0428	9.6038	9.1977	8.8133	8.4099	8.0371	7.6949	7.3836	7.1018	6.8424	6.6031	6.3823	4.5327	3.9124	3.7801	3.2233
14	13.0044	12.4066	11.8766	11.3754	10.9038	10.4638	10.0549	9.6765	9.2791	8.9123	8.5758	8.2684	7.9883	7.7299	7.4916	7.2716	4.6729	4.0332	3.9014	3.2889
15	13.8666	13.2499	12.7138	12.2126	11.7410	11.3000	10.8896	10.5087	10.1571	9.8349	9.5417	9.2762	9.0373	8.8164	8.6122	8.4245	4.7755	4.0332	3.9014	3.2889
16	14.7188	14.0938	13.5437	13.0226	12.5314	12.0704	11.6394	11.2383	10.8661	10.5227	10.2081	9.9212	9.6611	9.4176	9.1904	9.0786	4.8796	4.0332	3.9014	3.2889
17	15.5622	14.9292	14.3637	13.8326	13.3314	12.8604	12.4194	12.0083	11.6261	11.2727	10.9481	10.6512	10.3811	10.1376	9.9104	9.7986	4.9837	4.0332	3.9014	3.2889
18	16.3988	15.7592	15.1787	14.6376	14.1264	13.6354	13.1744	12.7433	12.3421	11.9707	11.6271	11.3122	11.0261	10.7686	10.5314	10.3042	4.9837	4.0332	3.9014	3.2889
19	17.2288	16.5792	15.9837	15.4326	14.9114	14.4104	13.9294	13.4683	13.0371	12.6359	12.2645	11.9206	11.6055	11.3194	11.0522	10.7950	4.9837	4.0332	3.9014	3.2889
20	18.0466	17.3511	16.7406	16.1795	15.6484	15.1374	14.6464	14.1753	13.7341	13.3227	12.9413	12.5894	12.2673	11.9722	11.7050	11.4478	4.9837	4.0332	3.9014	3.2889
21	18.8572	18.1111	17.4856	16.9145	16.3734	15.8524	15.3514	14.8703	14.4091	14.0077	13.6263	13.2644	12.9323	12.6292	12.3460	12.0728	4.9837	4.0332	3.9014	3.2889
22	19.6600	18.8650	18.2245	17.6434	17.0924	16.5714	16.0704	15.5893</												