

SULIT



**BAHAGIAN PEPERIKSAAN DAN PENILAIAN
JABATAN PENDIDIKAN POLITEKNIK DAN KOLEJ KOMUNITI
KEMENTERIAN PENDIDIKAN MALAYSIA**

JABATAN PERDAGANGAN

**PEPERIKSAAN AKHIR
SESI DISEMBER 2018**

DPD5033: ISLAMIC INVESTMENT

**TARIKH : 18 APRIL 2019
MASA : 2.30 PETANG – 4.30 PETANG (2 JAM)**

Kertas ini mengandungi **DUA BELAS (12)** halaman bercetak.

Esei (4 soalan)

Dokumen sokongan yang disertakan : Jadual PVIFA dan PVIF

JANGAN BUKA KERTAS SOALANINI SEHINGGA DIARAHKAN

(CLO yang tertera hanya sebagai rujukan)

SULIT

SECTION A: 100 MARKS
BAHAGIAN A: 100 MARKAH

INSTRUCTION:

This section consists of **FOUR (4)** essay questions. Answer **ALL** questions.

ARAHAN:

*Bahagian ini mengandungi **EMPAT (4)** soalan esei. Jawab **SEMUA** soalan.*

QUESTION 1

SOALAN 1

- CLO1 C1** (a) i. List **FIVE (5)** roles of the Accounting and Auditing Organization for Islamic Financial Institutions (AAOFI).

*Senaraikan **LIMA (5)** peranan Organisasi Perakaunan dan Pengauditan bagi Institusi Kewangan Islam (AAOFI).*

[5 marks]
[5 markah]

- ii. Describe **FIVE (5)** roles of Bank Negara Malaysia (BNM).

Jelaskan LIMA (5) peranan Bank Negara Malaysia (BNM).

[10 marks]
[10 markah]

CLO1
C2

- (b) i. Based on the information below, calculate the total return.

Berdasarkan maklumat di bawah, kira jumlah pulangan.

Year <i>Tahun</i>	Beginning of the year <i>Permulaan tahun (RM)</i>	End of the year <i>Penghujung tahun (RM)</i>	Dividend <i>Deviden (RM)</i>
2014	54.50	58.20	0.054
2015	58.20	65.40	0.070
2016	65.40	66.10	0.061
2017	66.10	67.80	0.055
2018	67.80	64.30	0

[5 marks]
[5 markah]

- ii. The table below shows the return of stock Chaiyuk. Calculate the expected return and standard deviation for stock Chaiyuk.

Jadual dibawah menunjukkan pulangan ke atas saham Chaiyuk. Kirakan jangkaan pulangan dan sisihan piawaian untuk saham Chaiyuk.

Probability <i>Kebarangkalian</i>	Return <i>Pulangan</i>
0.20	30%
0.15	(12.5%)
0.25	26.5%
0.4	34%

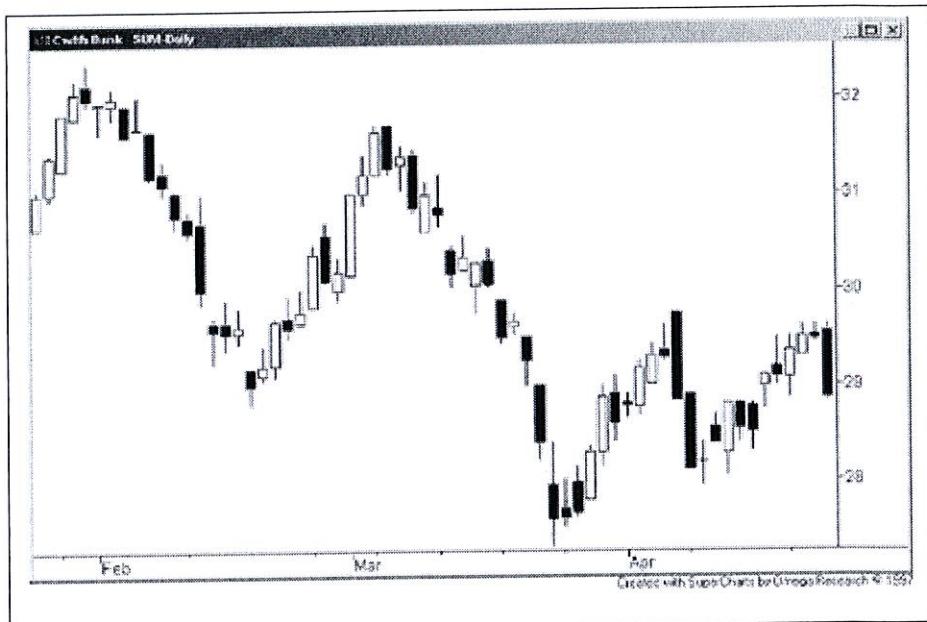
[5 marks]
[5 markah]

QUESTION 2
SOALAN 2CLO1
C2

- (a) i. Interpret TWO (2) methods of fundamental analysis.

Terangkan DUA (2) kaedah analisis asas.[5 marks]
[5 markah]

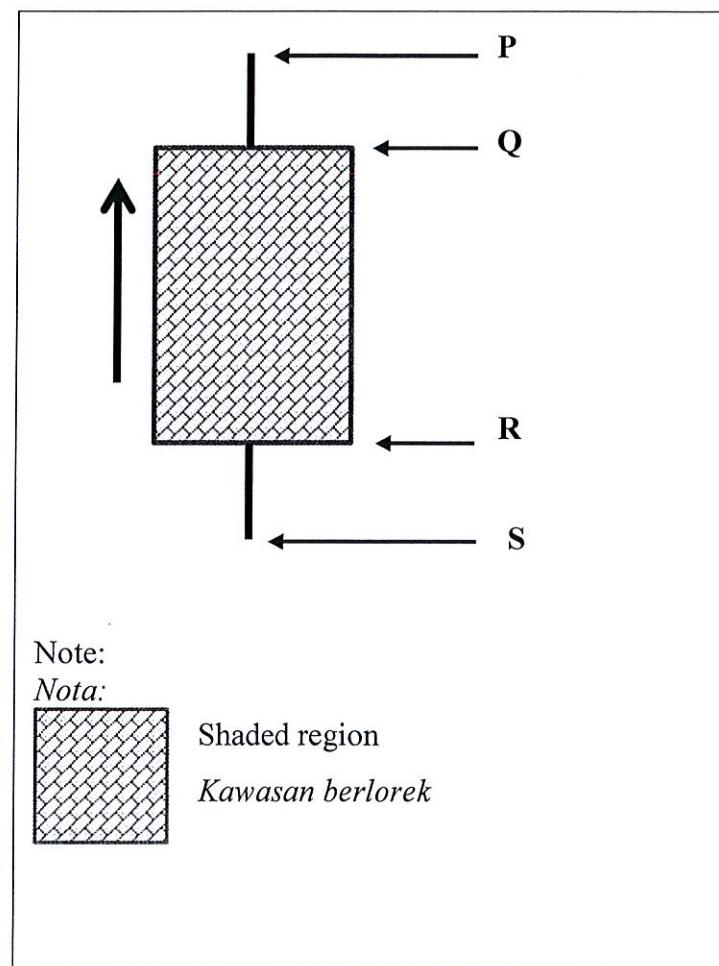
ii.



Picture A/Gambarajah A

- a) Based on Picture A, identify types of technical charts.

Berdasarkan Gambarajah A, kenalpasti jenis carta teknikal.[1 mark]
[1 markah]



Picture B / Gambarajah B

- b) Based on Picture B, name the correct P, Q, R and S points on this picture.

Berdasarkan Gambarajah B, namakan P, Q, R dan S dengan betul pada gambarajah ini.

[4 marks]
[4 markah]

CLO1
C2

- (b) i. Explain the following terms:
Terangkan terma-terma berikut:

a) Option

Opsyen

[2 marks]
[2 markah]

b) Forward contracts

Kontrak hadapan

[2 marks]
[2 markah]

c) Future contracts

Kontrak niaga hadapan

[2 marks]
[2 markah]

d) Islamic unit trust

Unit amanah Islam

[2 marks]
[2 markah]

e) Bai bithaman ajil (BBA)

Bai bithaman ajil (BBA)

[2 marks]
[2 markah]

- ii. Identify **FIVE (5)** advantages of investment in Real Estate Investment Trust (REITs).

*Kenalpasti **LIMA (5)** kelebihan pelaburan dalam Pelaburan Amanah Hartanah (REITs).*

[5 marks]
[5 markah]

QUESTION 3
SOALAN 3

CLO2
C3

- (a) Ms. Ariana is a fixed-income portfolio manager for a large pension fund. A member of the Investment Committee, Mr Helmie is very interested in learning about the management of fixed-income portfolios. Mr. Helmie has approached Ms. Ariana with several questions.

Ms. Ariana has decided to illustrate fixed-income trading strategies using a bond valuation. Both bonds have semi-annual coupons and par value at RM1 000. The characteristics of these securities are shown in the table below.

Cik Ariana adalah pengurus portfolio pendapatan tetap bagi dana pencen yang besar. Seorang ahli Jawatankuasa Pelaburan, Encik Helmie sangat berminat untuk belajar mengenai pengurusan portofolio pendapatan tetap. Encik Helmie telah menghubungi Cik Ariana bagi bertanyakan beberapa soalan.

Cik Ariana telah memutuskan untuk menggambarkan strategi perdagangan pendapatan tetap menggunakan penilaian bon. Kedua-dua bon tersebut mempunyai kupon separuh setahun dan nilai tara pada RM1 000. Ciri-ciri sekuriti ini ditunjukkan dalam jadual di bawah.

Bond <i>Bon</i>	Market price <i>Harga pasaran</i>	Coupon rate <i>Kadar kupon</i>	Required rate of return <i>Kadar pulangan yang diperlukan</i>	Years to maturity <i>Tahun matang</i>
Myers	RM1 320	11.4%	22%	12
Spice	RM 820	16%	18%	14

- i. Mr. Helmie asked Ms. Ariana to calculate the value of each bond.

Encik Helmie meminta Cik Ariana untuk kirakan nilai bagi setiap bon.

[9 marks]
[9 markah]

- ii. Mr. Helmie asked Ms. Ariana to calculate yield to maturity for each bond.

Encik Helmie meminta Cik Ariana untuk mengira kadar hasil hingga matang bagi setiap bon.

[4 marks]
[4 markah]

- iii. Ms. Ariana needs to suggest to Mr. Helmie which bonds sell at a discount.

Ariana perlu cadangan kepada Encik Helmie bon mana yang dijual pada harga diskau.

[2 marks]
[2 markah]

CLO2
C3

(b)

Sukuk market is one of the fastest growing segments of the Islamic capital market. In the case of investments, risk can be regarded as the deviation of the actual return from expected risk. Risk arises because of the element of uncertainty associated with the future.

Pasaran Sukuk merupakan salah satu daripada segmen pasaran modal Islam yang paling pesat berkembang. Dalam hal pelaburan, risiko dapat dipertikaikan sebagai sisihan pulangan sebenar daripada pulangan yang diharapkan. Risiko timbul kerana unsur ketidakpastian yang berkaitan dengan masa depan.

Interpret **FIVE (5)** risk underlying sukuk structures.

Huraikan **LIMA (5)** struktur sukuk asas risiko.

[10 marks]
[10 markah]

QUESTION 4
SOALAN 4CLO3
C3

- (a) The final stage in the interview process for an assistant financial analyst at CTDK-ation Corporation involves a test of your understanding of basic investment concepts. You are given the following article and asked to respond to the questions. Whether you are offered a position at CTDK-ation Corporation will depend on the accuracy of your response.

Potential for Securitisation in Malaysia

Tremendous potential for securitization growth driven by auto loan receivables, credit card receivables, portfolio of housing loans, portfolio of small and medium enterprise (SME) loans and property rental receivables.

The broadening of Islamic financial market has seen the rise of Islamic debt financing, in particular Islamic asset securitization / Sukuk as an alternative to conventional debt as a means of raising financing.

Sukuk structures that have been developed in the International Islamic market include Sukuk al-Ijarah and the Sukuk al-Salam.

By N. Kokularupan

Chief Executive Officer, Cagamas Berhad

ASEAN+3 Workshop on the Rise of Asset Securitisation in East Asia

7 - 9 November 2005

Peringkat akhir dalam proses temuduga untuk seorang pembantu penganalisis kewangan di CTDK-action Corporation melibatkan ujian kefahaman anda tentang konsep asas pelaburan. Anda diberi artikel berikut dan diminta menjawab soalan. Samada anda ditawarkan kedudukan di CTDK-action Corporation akan bergantung kepada ketepatan respons anda.

Potensi pensekuritian di Malaysia

Potensi yang besar untuk pertumbuhan pensekuritian didorong oleh penghutang pinjaman kereta, penghutang kad kredit, portfolio pinjaman perumahan, portfolio pinjaman perusahaan kecil dan sederhana (IKS) dan penghutang sewa hartanah.

Dalam memperluas pasaran kewangan Islam telah menyaksikan kebangkitan pembiayaan hutang berlandaskan Islam, khususnya aset pensekuritian / Sukuk sebagai alternatif kepada hutang konvensional sebagai cara meningkatkan pembiayaan.

Struktur Sukuk yang telah dibangunkan di pasaran Islam Antarabangsa termasuk Sukuk al-Ijarah dan Sukuk al-Salam.

Oleh N. Kokularupan

Ketua Pegawai Eksekutif, Cagamas Berhad

ASEAN +3Bengkel Kebangkitan Pensekuritian Aset di Asia Timur

7 - 9 November 2005

Please respond to the following questions:

Sila jawab soalan-soalan berikut:

- i. Determine the concept of securitization.

Tentukan konsep pensekuritian.

[2 marks]
[2 markah]

- ii. Interpret **FOUR (4)** differences between conventional securitization and Islamic securitization.

*Huraikan **EMPAT (4)** perbeaan antara pensekuritian konvensional dengan pensekuritian Islam.*

[8 marks]
[8 markah]

- CLO3
C4 (b) There are two companies that in the past year paid exactly the same annual dividend of RM2.50 per share. These two companies have the same required rate of return at 15%. In addition, the future annual rate of growth in dividends for each of the two companies has been estimated as follows.

Terdapat dua syarikat yang dimana pada tahun lepas telah membayar dividen tahunan yang sama iaitu RM2.50 sesaham. Kedua-dua syarikat mempunyai kadar pulangan yang diperlukan pada 15%. Di samping itu, pertumbuhan tahunan kadar dividen bagi setiap dua syarikat telah dianggarkan seperti berikut.

Alieff Corporation	
Year Tahun	Growth rate Kadar Pertumbuhan
1	10%
2	10%
3	10%
4 and beyond <i>4 dan seterusnya</i>	6%

Alisha Corporation	
Year Tahun	Growth rate Kadar pertumbuhan
1	0
2	0
3	0
4 and beyond <i>4 dan seterusnya</i>	0

- i. Calculate the intrinsic value for each company.

Kira nilai intrinsic bagi setiap syarikat.

[12 marks]
[12 markah]

- ii. Determine which company is undervalued if the market price of these two companies are at RM25.80. Give reasons.

Tentukan syarikat mana yang paling rendah jika harga pasaran kedua-dua syarikat tersebut pada RM25.80. Berikan alasan.

[3 marks]
[3 markah]

SOALAN TAMAT

LAMPIRAN 1

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

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
1	0.990	0.980	0.971	0.962	0.952	0.943	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	0.980	0.961	0.943	0.925	0.907	0.890	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	0.971	0.942	0.915	0.889	0.864	0.840	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	0.961	0.924	0.888	0.855	0.823	0.792	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	0.951	0.906	0.863	0.822	0.784	0.747	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	0.942	0.888	0.837	0.790	0.746	0.705	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	0.933	0.871	0.813	0.760	0.711	0.665	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	0.923	0.853	0.789	0.731	0.677	0.627	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	0.914	0.837	0.766	0.703	0.645	0.592	0.544	0.500	0.460	0.424	0.391	0.361	0.333	0.308	0.284	0.263	0.243	0.225	0.208	0.194
10	0.905	0.820	0.744	0.676	0.614	0.558	0.508	0.463	0.422	0.386	0.352	0.322	0.295	0.247	0.227	0.208	0.191	0.176	0.162	0.150
11	0.896	0.804	0.722	0.650	0.585	0.527	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	0.887	0.788	0.701	0.625	0.557	0.497	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	0.879	0.773	0.681	0.601	0.530	0.469	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	0.870	0.758	0.661	0.577	0.505	0.442	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	0.861	0.743	0.642	0.554	0.481	0.417	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	0.853	0.728	0.623	0.534	0.458	0.394	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	0.844	0.714	0.605	0.513	0.436	0.371	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	0.836	0.700	0.587	0.494	0.416	0.350	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	0.828	0.586	0.570	0.475	0.396	0.331	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	0.820	0.673	0.554	0.456	0.377	0.312	0.258	0.215	0.178	0.149	0.124	0.104	0.087	0.073	0.061	0.043	0.037	0.031	0.026	0.022
21	0.811	0.660	0.538	0.439	0.359	0.294	0.242	0.199	0.164	0.135	0.112	0.093	0.077	0.064	0.053	0.044	0.037	0.031	0.026	0.022
22	0.803	0.647	0.522	0.422	0.342	0.278	0.226	0.184	0.150	0.123	0.101	0.083	0.068	0.056	0.046	0.038	0.032	0.026	0.022	0.018
23	0.795	0.634	0.507	0.406	0.326	0.262	0.211	0.170	0.138	0.112	0.091	0.074	0.060	0.049	0.040	0.033	0.027	0.022	0.018	0.015
24	0.788	0.622	0.492	0.390	0.310	0.247	0.197	0.158	0.126	0.102	0.082	0.066	0.053	0.043	0.035	0.030	0.028	0.023	0.019	0.013
25	0.780	0.610	0.478	0.375	0.295	0.233	0.184	0.146	0.116	0.092	0.074	0.059	0.047	0.038	0.030	0.026	0.020	0.016	0.013	0.010
26	0.772	0.598	0.464	0.361	0.281	0.220	0.172	0.135	0.106	0.084	0.066	0.053	0.042	0.033	0.026	0.021	0.017	0.014	0.011	0.009
27	0.764	0.586	0.450	0.347	0.268	0.207	0.161	0.125	0.098	0.076	0.060	0.047	0.037	0.029	0.023	0.018	0.014	0.011	0.009	0.007
28	0.757	0.574	0.437	0.333	0.255	0.196	0.150	0.116	0.090	0.069	0.054	0.042	0.033	0.026	0.020	0.016	0.012	0.010	0.008	0.006
29	0.749	0.563	0.424	0.321	0.243	0.185	0.141	0.107	0.082	0.063	0.048	0.037	0.029	0.022	0.017	0.014	0.011	0.008	0.006	0.005
30	0.742	0.552	0.412	0.308	0.231	0.174	0.131	0.099	0.075	0.057	0.044	0.033	0.026	0.020	0.016	0.012	0.009	0.007	0.005	0.004
31	0.735	0.541	0.400	0.296	0.220	0.164	0.123	0.092	0.069	0.052	0.039	0.030	0.023	0.017	0.013	0.010	0.008	0.006	0.005	0.004
32	0.727	0.531	0.388	0.285	0.210	0.155	0.115	0.085	0.063	0.047	0.035	0.027	0.020	0.015	0.011	0.009	0.007	0.005	0.004	0.003
33	0.720	0.520	0.377	0.274	0.200	0.146	0.107	0.079	0.058	0.043	0.032	0.024	0.018	0.013	0.010	0.007	0.005	0.004	0.003	0.002
34	0.713	0.510	0.366	0.264	0.190	0.138	0.102	0.073	0.053	0.039	0.029	0.021	0.016	0.012	0.009	0.006	0.005	0.004	0.003	0.002
35	0.706	0.500	0.355	0.253	0.181	0.130	0.094	0.068	0.049	0.036	0.026	0.019	0.014	0.010	0.008	0.006	0.005	0.004	0.003	0.002
36	0.699	0.490	0.345	0.244	0.173	0.123	0.088	0.063	0.045	0.032	0.023	0.017	0.012	0.009	0.007	0.005	0.004	0.003	0.002	0.001
37	0.692	0.481	0.335	0.234	0.164	0.116	0.082	0.067	0.041	0.029	0.021	0.015	0.010	0.008	0.006	0.004	0.003	0.002	0.001	0.000
38	0.685	0.471	0.325	0.225	0.157	0.109	0.076	0.054	0.038	0.027	0.019	0.013	0.010	0.007	0.005	0.004	0.003	0.002	0.001	0.000
39	0.678	0.462	0.316	0.217	0.149	0.103	0.077	0.050	0.035	0.024	0.017	0.012	0.009	0.006	0.004	0.003	0.002	0.001	0.000	0.000
40	0.672	0.453	0.307	0.208	0.142	0.097	0.067	0.046	0.031	0.022	0.015	0.011	0.008	0.006	0.004	0.003	0.002	0.001	0.000	0.000
41	0.665	0.444	0.298	0.200	0.135	0.092	0.062	0.043	0.029	0.020	0.014	0.010	0.007	0.005	0.003	0.002	0.001	0.001	0.000	0.000
42	0.658	0.435	0.289	0.193	0.129	0.087	0.068	0.039	0.027	0.018	0.012	0.009	0.006	0.004	0.003	0.002	0.001	0.001	0.000	0.000
43	0.652	0.427	0.281	0.185	0.123	0.082	0.055	0.037	0.025	0.017	0.011	0.008	0.005	0.004	0.003	0.002	0.001	0.001	0.000	0.000
44	0.645	0.418	0.272	0.178	0.117	0.077	0.051	0.034	0.023	0.015	0.010	0.007	0.005	0.003	0.002	0.001	0.001	0.001	0.000	0.000
45	0.639	0.410	0.264	0.171	0.111	0.073	0.048	0.031	0.021	0.014	0.009	0.006	0.004	0.003	0.002	0.001	0.001	0.001	0.000	0.000
46	0.633	0.402	0.257	0.165	0.106	0.069	0.044	0.029	0.019	0.012	0.008	0.005	0.004	0.003	0.002	0.001	0.001	0.001	0.000	0.000
47	0.626	0.394	0.249	0.158	0.101	0.065	0.042	0.027	0.017	0.011	0.007	0.005	0.003	0.002	0.001	0.001	0.001	0.001	0.000	0.000
48	0.620	0.387	0.242	0.152	0.096	0.061	0.039	0.025	0.016	0.010	0.007	0.004	0.003	0.002	0.001	0.001	0.001	0.000	0.000	0.000
49	0.614	0.379	0.235	0.146	0.092	0.058	0.033	0.023	0.015	0.010	0.007	0.004	0.003	0.002	0.001	0.001	0.001	0.000	0.000	0.000
50	0.608	0.372	0.228	0.141	0.087	0.054	0.034	0.021	0.013	0.009	0.005	0.003	0.002	0.001	0.001	0.001	0.001	0.000	0.000	0.000

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

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909	0.901	0.893	0.885	0.877	0.862	0.855	0.847	0.840	0.833	
2	1.970	1.942	1.913	1.886	1.859	1.833	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	
3	2.941	2.884	2.829	2.775	2.723	2.673	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	
4	3.902	3.808	3.717	3.630	3.546	3.465	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	
5	4.853	4.713	4.580	4.452	4.329	4.212	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	
6	5.795	5.601	5.417	5.242	5.076	4.917	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	
7	6.728	6.472	6.230	6.002	5.786	5.582	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	
8	7.652	7.325	7.020	6.733	6.463	6.210	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	
9	8.566	8.162	7.798	7.435	7.108	6.802	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	
10	9.471	8.983	8.530	8.111	7.722	7.360	7.024	6.710	6.418	6.145	5.889	5.660	5.426	5.216	5.019	4.833	4.659	4.494	4.339	
11	10.388	9.787	9.253	8.706	8.233	7.887	7.536	7.199	6.805	6.495	6.207	5.938	5.687	5.434	5.234	5.029	4.836	4.656	4.486	
12	11.265	10.575	9.954	9.385	8.863	8.384	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	
13	12.134	11.348	10.635	9.986	9.394	8.853	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	
14	13.004	12.106	11.296	10.563	9.899	9.295	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	
15	13.865	12.849	11.938	11.118	10.380	9.712	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	
16	14.718	13.578	12.561	11.652	10.838	10.106	9.447	8.851	8.313	7.824	7.379	6.974	6.604	6.265	5.954	5.668	5.405	5.162	4.938	
17	15.562	14.292	13.166	12.166	11.274	10.477	9.763	9.122	8.544	8.022	7.549	7.120	6.728	6.373	6.047	5.749	5.475	5.222	4.990	
18	16.398	14.992	13.754	12.659	11.690	10.828	10.059	9.377	8.756	8.201	7.702	7.250	6.840	6.467	6.128	5.818	5.534	5.033	4.812	
19	17.226	15.678	14.324	13.134	12.085	11.158	10.336	9.604	8.950	8.365	7.839	7.366	6.938	6.550	6.198	5.877	5.584	5.316	5.070	
20	18.046	16.351	14.877	13.590	12.462	11.470	10.594	9.818	9.129	8.514	7.963	7.469	7.025	6.623	6.259	5.929	5.628	5.353	5.101	
21	18.857	17.011	15.415	14.029	12.821	11.764	10.836	10.017	9.292	8.649	8.075	7.562	7.102	6.687	6.312	5.973	5.665	5.384	5.127	
22	19.660	17.658	15.337	14.451	13.163	12.042	11.061	10.201	9.442	8.772	8.176	7.645	7.170	6.743	6.359	6.011	5.696	5.410	4.909	
23	20.456	18.292	16.444	14.857	13.489	12.303	11.272	10.371	9.580	8.883	8.266	7.748	7.250	6.792	6.399	6.044	5.723	5.432	5.167	
24	21.243	18.914	16.936	15.247	13.793	12.550	11.469	10.529	9.707	9.085	8.348	7.784	7.283	6.835	6.434	6.073	5.746	5.451	5.182	
25	22.023	19.523	17.413	15.622	14.094	12.783	11.684	10.675	9.823	9.077	8.422	7.843	7.350	6.873	6.464	6.097	5.766	5.467	5.195	
26	22.795	20.121	17.877	15.983	14.315	13.003	11.826	10.810	9.929	9.161	8.488	7.896	7.372	6.906	6.491	6.118	5.783	5.480	5.206	
27	23.560	20.707	18.327	16.330	14.643	13.211	11.987	10.935	10.027	9.237	8.548	7.943	7.409	6.935	6.514	6.136	5.798	5.492	5.215	
28	24.316	21.281	18.764	16.663	14.898	13.406	12.137	11.051	10.116	9.307	8.602	7.984	7.441	6.961	6.534	6.152	5.810	5.502	5.223	
29	25.066	21.844	19.188	16.984	15.141	13.591	12.278	11.158	10.198	9.370	8.650	8.022	7.470	6.983	6.551	6.166	5.820	5.510	5.229	
30	25.808	22.396	19.600	17.924	15.372	13.765	12.158	11.249	10.427	9.609	8.994	8.055	7.496	7.003	6.566	6.215	5.829	5.517	5.235	
31	26.542	22.938	20.000	17.588	15.593	13.929	12.532	11.350	10.343	9.479	8.733	8.085	7.518	7.020	6.579	6.187	5.837	5.523	5.239	
32	27.270	23.468	20.389	17.874	15.803	14.084	12.647	11.435	10.406	9.526	8.769	8.112	7.538	7.035	6.591	6.196	5.844	5.528	5.243	
33	27.990	23.989	20.766	18.148	16.003	14.230	12.754	11.514	10.464	9.569	8.801	8.135	7.556	7.048	6.600	6.203	5.849	5.532	5.246	
34	28.703	24.499	21.132	18.411	16.193	14.368	12.854	11.587	10.518	9.609	8.829	8.157	7.572	7.060	6.609	6.210	5.854	5.536	5.249	
35	29.409	24.999	21.487	18.665	16.374	14.98	13.655	12.464	11.655	10.567	9.644	8.855	8.176	7.586	7.070	6.617	6.215	5.829		
36	30.108	25.489	21.832	18.908	16.547	14.621	13.345	11.717	10.612	9.677	8.879	8.192	7.598	7.079	6.623	6.220	5.862	5.541	5.253	
37	30.800	25.969	22.167	19.143	16.711	14.737	13.117	11.775	10.653	9.706	8.900	8.208	7.609	7.087	6.629	6.224	5.865	5.543	5.255	
38	31.485	26.441	22.492	19.368	16.868	14.846	13.193	11.829	10.691	9.733	8.919	8.221	7.618	7.094	6.634	6.228	5.867	5.545	5.256	
39	32.163	26.903	22.808	19.584	17.017	14.949	13.265	11.879	10.726	9.757	9.936	8.233	7.627	7.100	6.638	6.231	5.869	5.547	5.257	
40	32.835	27.355	23.115	19.793	17.159	15.046	13.332	11.925	10.757	9.779	9.951	8.244	7.634	7.105	6.642	6.233	5.871	5.548	5.258	
41	33.500	27.799	23.412	19.993	17.294	15.138	13.394	11.967	10.813	9.817	9.965	8.253	7.641	7.110	6.645	6.242	5.877	5.552	5.251	
42	34.158	28.235	23.701	20.186	17.423	15.225	13.452	12.007	10.813	9.817	9.965	8.262	7.647	7.114	6.648	6.243	5.878	5.553	5.259	
43	34.810	28.662	23.982	20.371	17.546	15.306	13.507	12.043	10.838	9.834	9.989	8.270	7.652	7.117	6.650	6.239	5.875	5.557	5.260	
44	35.455	29.080	24.254	20.549	17.663	15.383	13.558	12.077	10.861	9.849	9.999	8.276	7.667	7.120	6.652	6.241	5.876	5.552	5.261	
45	36.095	29.490	24.519	20.720	17.774	15.456	13.606	12.108	10.881	9.863	9.008	8.283	7.661	7.123	6.654	6.242	5.877	5.552	5.261	
46	36.727	29.892	24.775	20.885	17.880	15.524	13.650	12.137	10.900	9.875	9.016	8.288	7.664	7.126	6.656	6.243	5.878	5.553	5.261	
47	37.354	30.287	25.025	21.043	17.981	15.589	13.692	12.164	10.918	9.887	9.024	8.293	7.668	7.128	6.657	6.244	5.879	5.553	5.262	
48	37.974	30.673	25.267	21.195	18.077	15.650	13.730	12.189	10.934	9.887	9.036	8.297	7.671	7.130	6.659	6.245	5.879	5.554	5.262	
49	38.588	31.052	25.502	21.341	18.169	15.708	13.767	12.212	10.948	9.906	9.036	8.301	7.673	7.131	6.660	6.246	5.880	5.554	5.262	
50	39.196	31.424	25.730	21.482	18.256	15.762	13.801	12.233	10.962	9.915	9.042	8.304	7.675	7.133	6.661	6.246	5.880	5.554	5.262	