

SULIT



BAHAGIAN PEPERIKSAAN DAN PENILAIAN  
JABATAN PENDIDIKAN POLITEKNIK  
KEMENTERIAN PENDIDIKAN TINGGI

JABATAN PERDAGANGAN

PEPERIKSAAN AKHIR  
SESI JUN 2015

**PS503 : ISLAMIC INVESTMENT**

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**TARIKH : 22 OKTOBER 2015**  
**TEMPOH : 11.15 AM- 1.15 PM (2 JAM)**

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Kertas ini mengandungi **ENAM BELAS (16)** halaman bercetak.

Bahagian A: Objektif (25 soalan)

Bahagian B: Esei (3 soalan)

Dokumen sokongan yang disertakan : Jadual Nilai Masa Wang

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**JANGAN BUKA KERTAS SOALANINI SEHINGGA DIARAHKAN**

(CLO yang tertera hanya sebagai rujukan)

SULIT

**SECTION A : 25 MARKS**  
**BAHAGIAN A : 25 MARKAH**

**INSTRUCTION**

This section consists of TWENTY FIVE (25) objective questions. Mark your answers in the OMR form provided.

**ARAHAN**

Bahagian ini mengandungi DUA PULUH LIMA (25) soalan objektif. Tandakan jawapan anda di dalam borang OMR yang disediakan.

CLO 1  
C1

1. The process of using financial capital in an effort to create more financial capital in the future is known as \_\_\_\_\_.

Proses menggunakan modal kewangan dalam usaha untuk mewujudkan modal kewangan yang lebih pada masa akan datang dikenali sebagai \_\_\_\_\_.

- A. a working capital management / pengurusan modal kerja
- B. a capital budgeting / belanjawan modal
- C. an investment / pelaburan
- D. a cost of capital / modal kos

CLO 1  
C2

2. Which of the following statement is TRUE regarding Bank Negara Malaysia?

Manakah antara peryataan berikut adalah BENAR berkenaan Bank Negara Malaysia?

- A. Manage domestic liquidity and exchange rate  
*Menguruskan kadar pertukaran dan kecairan domestik.*
- B. Ensure proper conduct of market institutions and licensed persons  
*Memastikan pengendalian yang betul di kalangan institusi pasaran dan individu berlesen*
- C. Maintain and service savings and checking accounts of its depositors  
*Mengekal dan perkhidmatan simpanan dan penyemakan akaun pendeposit*
- D. Bank Negara Malaysia is a statutory body which started its operations on 26 January 1988.  
*Bank Negara Malaysia adalah sebuah badan berkanun yang mula beroperasi pada 26 Januari 1988.*

CLO 1  
C1

3. Officially inaugurated on 3<sup>rd</sup> November 2002 and started operation on 10<sup>th</sup> March 2003. An international organization that issues guiding principles and standards within the banking, insurance and capital market sector in order to promote stability in the Islamic finance industry.

*Secara rasmi dirasmikan pada 3 November 2002 dan mula beroperasi pada 10 Mac 2003. Sebuah organisasi antarabangsa yang mengeluarkan panduan prinsip dan piawaian dalam sektor pasaran perbankan, insurans dan modal bagi menggalakkan kestabilan dalam industri kewangan Islam.*

The above statement refers to \_\_\_\_\_.

*Kenyataan di atas merujuk kepada \_\_\_\_\_.*

- A. Central Bank of Malaysia  
*Bank Negara Malaysia*
- B. Securities Commission  
*Suruhanjaya Sekuriti*
- C. The Islamic Financial Services Board  
*Lembaga Perkhidmatan Kewangan Islam*
- D. The Accounting and Auditing Organization for Islamic Financial Institutions  
*Organisasi Perakaunan dan Pengauditan bagi Institusi Kewangan Islam.*

CLO1  
C1

4. \_\_\_\_\_ refers to the portion of an asset risk that has attributes of firm's specific random events. For example, attacks and robberies that can be eliminated by diversification.

*\_\_\_\_\_ merujuk kepada bahagian risiko aset yang mempunyai sifat-sifat kejadian secara rawak tertentu terhadap firma. Sebagai contoh serangan dan rompakan yang boleh dihapuskan dengan kepelbagaian.*

- A. Market risk  
*Risiko pasaran*
- B. General risk  
*Risiko am*
- C. Unsystematic risk  
*Risiko tidak sistematik*
- D. Systematic risk  
*Risiko sistematik*

CLO1  
C2

5. A year ago, Nur Insyirah purchased 3 lots of GLOMAC's common stock at RM1.50 per share. Now, she decided to sell her shares at RM2.80 per share. GLOMAC paid dividend of RM 400. Calculate Nur Insyirah holding period return.

*Satu tahun yang lalu Nur Insyirah membeli 3 lot-saham biasa GLOMAC pada harga RM1.50 sesaham. Beliau kini mengambil keputusan untuk menjual saham beliau pada harga RM2.80 sesaham. GLOMAC telah membayar dividen sebanyak RM 400. Kirakan pulangan untuk tempoh pegangan Nur Insyirah.*

- A. 86.67%
- B. 175.56%
- C. 203.40%
- D. 93.67%

CLO1  
C2

6. Which of the following statements about risk is **TRUE**?

*Manakah antara pernyataan berikut adalah BENAR mengenai risiko?*

- A. Risky investments have the highest coefficient of variation.  
*Satu pelaburan berisiko mempunyai pengkali korelasi yang tinggi.*
- B. A risk taker is a person who is not willing to take large risk.  
*Pengambil risiko adalah seseorang yang tidak sanggup mengambil risiko yang besar.*
- C. Market risk can be reduced through diversification.  
*Risiko pasaran boleh dikurangkan melalui kepelbagaian.*
- D. Diversification would eliminate total risk.  
*Kepelbagaian akan menyingkirkan jumlah risiko.*

CLO1  
C2

7. Which of the following stocks would a risk-taker investor choose?

*Antara saham berikut yang manakah akan di pilih oleh pelabur yang mengambil risiko?*

Stock <i>Saham</i>	Expected Return <i>Jangkaan Pulangan</i>	Standard Deviation <i>Sisihan Piawai</i>
PETGAS	14%	17%
FGV	5%	9%
SHELL	8%	12%
ASTRO	5%	5%

- A. PETGAS
- B. FGV
- C. SHELL
- D. ASTRO

CLO1  
C2

8. The principal objective of technical analysis is \_\_\_\_\_.

- Objektif utama analisis teknikal adalah \_\_\_\_\_.*
- A. Determining the best time to get into market  
*Menentukan masa yang terbaik untuk masuk ke pasaran*
  - B. Increasing trading to improve overall profits  
*Meningkatkan perdagangan untuk meningkatkan keuntungan keseluruhan*
  - C. Avoiding all unpleasant surprises in the market.  
*Mengelakkan semua yang tidak menyenangkan di pasaran.*
  - D. Maintaining the lowest level of risk possible.  
*Mengekalkan tahap risiko yang paling rendah.*

CLO1  
C1

9. \_\_\_\_\_ is a method of evaluating securities by analyzing the statistics data generated by market activity such as previous share prices.

*\_\_\_\_\_ adalah kaedah untuk menganalisis sekuriti dengan menganalisis data statistik yang dihasilkan oleh aktiviti pasaran seperti harga saham yang lepas.*

- A. Fundamental analysis  
*Analisis asas*
- B. Company analysis  
*Analisis syarikat*
- C. Technical analysis  
*Analisis teknikal*
- D. Industry analysis  
*Analisis industri*

CLO 1  
C2

10. Which of following refer to the sukuk based partnership contract?

*Antara berikut, yang manakah merujuk kepada kontrak sukuk berdasarkan perkongsian?*

- A. Salam contract  
*Kontrak salam*
- B. Ijarah contract  
*Kontrak ijarah*
- C. Mudarabah contract  
*Kontrak mudarabah*
- D. Wakalah contract  
*Kontrak wakalah*

CLO1  
C1

11.

Certificates that represent the holder's proportionate ownership in an undivided part of the underlying asset where the holder assumes all the rights and obligations to the asset.

*Sijil yang mewakili pemilikan berkadar pemegang di bahagian yang tidak berbelah bagi aset sandaran. Di mana pemegang menerima segala hak dan obligasi untuk aset tersebut.*

The above statement refers to \_\_\_\_\_.

*Kenyataan di atas merujuk kepada \_\_\_\_\_.*

- A. Shares  
*Saham*
- B. Option  
*Opsyen*
- C. Warrant  
*Waran*
- D. Sukuk  
*Sukuk*

CLO 1  
C2

12. Which of the following is the advantage of a warrant?

*Antara berikut yang manakah merupakan kelebihan waran?*

- A. Have no voting rights  
*Tidak mempunyai hak mengundi*
- B. Involve considerable amount of speculation  
*Melibatkan sejumlah besar spekulasi*
- C. Able to invest at small amounts.  
*Mampu melabur pada jumlah yang kecil.*
- D. Price tends to move same direction as the common stock price  
*Harga cenderung untuk bergerak ke arah yang sama dengan harga saham biasa*

CLO 1  
C2

13. Sukuk is the Arabic term for \_\_\_\_\_.

*Sukuk adalah terma Arab bagi \_\_\_\_\_.*

- A. Islamic Bond / Bon Islam
- B. Islamic Share / Saham Islam
- C. Islamic Principle / Prinsip Islam
- D. Islamic Unit Trust / Unit Amanah Islam

CLO 2  
C2

14. The issuance of sukuk in Malaysia would requires the approval of \_\_\_\_\_.

*Pengeluaran sukuk di Malaysia memerlukan kebenaran daripada \_\_\_\_\_.*

- A. Central Bank  
*Bank Negara Malaysia*
- B. Islamic Financial Services Board  
*Lembaga Perkhidmatan Kewangan Islam*
- C. Securities Commision Malaysia  
*Suruhanjaya Sekuriti Malaysia*
- D. Accounting and Auditing Organization for Islamic Financial Institution  
*Organisasi Perakaunan dan Pengauditan bagi Institusi Kewangan Islam*

CLO 2  
C3

15. Which of the following is a disadvantage of sukuk?

*Yang manakah di antara yang berikut adalah kelemahan sukuk?*

- A. Full disclosure

*Pendedahan sepenuhnya*

- B. Diversified investment

*Kepelbagai pelaburan*

- C. No uncertainty

*Tidak wujud kesamaran*

- D. Trade is based on sales of a debt instrument.

*Perdagangan adalah berdasarkan kepada jualan pada instrumen hutang*

CLO 2  
C1

16. The following are the principles of Islamic Equity investment EXCEPT

*Prinsip-prinsip Ekuiti Pelaburan Islam adalah seperti berikut KECUALI*

- A. To earn halal profits in strict conformity to Islamic Law.

*Untuk mendapat keuntungan yang halal selaras dengan syariat Islam yang ketat.*

- B. Highlights the need for transparency and proper monitoring and regulation of the industry.

*Menekankan keperluan dalam ketulusan , pemantauan dan pengawalseliaan industri yang betul.*

- C. To ensure that the investor has clear information about how the investments are being deployed.

*Bagi memastikan pelabur mempunyai maklumat yang jelas tentang bagaimana pelaburan dijalankan*

- D. To maximize profit without any Islamic restrictions.

*Untuk memaksimumkan keuntungan tanpa apa-apa syarat berkaitan syariat Islam.*

CLO 2  
C1

17. The following are the advantages of unit trust investment EXCEPT \_\_\_\_\_.

*Berikut adalah kebaikan pelaburan unit amanah KECUALI \_\_\_\_\_.*

- A. A small amount is required for investment.

*Jumlah yang kecil diperlukan untuk pelaburan.*

- B. Spread of risks.

*Penyebaran risiko.*

- C. Managed by professional fund managers.

*Diuruskan oleh pengurus dana yang profesional.*

- D. Less liquidity.

*Kurang kecairan.*

CLO 3  
C1

18. The security that entitles the holder to buy underlying stocks of the issuing company at a fixed exercise price until the expiry date refers to \_\_\_\_\_.

*Sekuriti yang memberi hak kepada pemegang untuk membeli saham syarikat pengeluar pada harga pelaksanaan yang tetap sehingga tarikh luput merujuk kepada. \_\_\_\_\_.*

- A. Warrants

*Waran*

- B. Forward Contracts

*Kontrak Hadapan*

- C. Future Contracts

*Kontrak Niaga Hadapan*

- D. Preferred Shares

*Saham utama*

CLO 3

C2

19. The followings are the related parties in REITs EXCEPT \_\_\_\_\_

Berikut adalah pihak yang berkaitan dalam REITs adalah seperti berikut KECUALI \_\_\_\_\_.

- A. Unit holders / Pemegang unit
- B. Trustee holder / Pemegang amanah
- C. REITs manager / Pengurus REITs
- D. Property holder / Pemegang harta tanah

CLO 3

C1

20. The concept of Ijarah Thumma al-Bai and Bai Bithaman Ajil is used in \_\_\_\_\_.

Konsep Ijarah Thumma al-bai dan Bai Bithaman Ajil digunakan dalam \_\_\_\_\_.

- A. Warrant / Waran
- B. Islamic equity fund / Dana ekuiti Islam
- C. Islamic hedge fund / Dana lindung nilai Islam
- D. Asset backed securities / Sekuriti bersandarkan aset

CLO 3

C2

21. Assuming that the current dividend is paid at RM 1.00 per share and the expected dividend growth rate is 7% a year with 15% rate of return. Calculate the value of this share.

Andaikan kadar dividen semasa dibayar pada kadar RM 1.00 sesaham dengan jangkaan pertumbuhan dividen adalah 7% setahun dan kadar pulangan pelabur sebanyak 15%. Kirakan nilai saham tersebut.

- A. RM 13.38
- B. RM 13.00
- C. RM 14.00
- D. RM 13.30

CLO 3  
C3

22. An analyst conducted some research on the banking sector and found out that the prevailing PE ratio for next year would be 15 times. If the estimated value per share of Public Bank Bhd. is RM0.25, calculate the prospective price per share .

*Seorang penganalisis telah menjalankan penyelidikan ke atas sektor perbankan dan mendapati bahawa nisbah PE semasa bagi tahun akan datang ialah 15 kali. Sekiranya anggaran nilai sesaham Public Bank Bhd ialah RM 0.25. Kirakan prospek harga sesaham.*

- A. RM 3.71
- B. RM 3.73
- C. RM 3.75
- D. RM 3.76

CLO 3  
C2

23. Determine the type of account that need to be opened if someone wants to start buying shares.

*Tentukan jenis akaun yang perlu dibuka sekiranya seseorang yang ingin mula membeli saham,*

- A. Share account / *Akaun saham*
- B. Savings account / *Akaun simpanan*
- C. An Investment account / *Akaun pelaburan*
- D. Central Depository System Account (CDSA)  
*Akaun Sistem Pendepositran Pusat*

CLO 3  
C3

24. Which of the following is the main principle of governing Islamic Securitization.

*Yang manakah berikut adalah prinsip utama dalam pensekuritian berlandaskan Islam.*

- A. Profit and loss sharing principles  
*Prinsip untung rugi*
- B. Risks and return profiles  
*Profil risiko dan pulangan*
- C. Prohibition of speculation  
*Larangan spekulasi*
- D. Non restriction in investing  
*Tiada larangan untuk melabur*

CLO 3  
C2

25. The purpose of a \_\_\_\_\_ is to avoid “ odd lots” and to facilitate easier trading .

*Tujuan \_\_\_\_\_ adalah untuk mengelakkan “odd lots” dan memudahkan perdagangan.*

- A. market lot  
*lot pasaran*
- B. speculation lot  
*lot spekulasi*
- C. board lot  
*lot dagangan*
- D. Central Depository System  
*Sistem Deposit Berpusat*

**SECTION B : 75 MARKS**  
**BAHAGIAN B : 75 MARKAH**

**INSTRUCTION:**

This section consists of **THREE (3)** essay questions. Answer **ALL** questions.

**ARAHAN:**

*Bahagian ini mengandungi **TIGA (3)** soalan esei. Jawab semua soalan.*

**QUESTION 1**

**SOALAN 1**

Wealth accumulation is enjoined in Islam. One of the method to accumulate wealth is through investment.

*Pengumpulan kekayaan adalah diperintahkan dalam Islam. Salah satu kaedah untuk mengumpul kekayaan adalah melalui pelaburan.*

CLO 1  
C1

- a) Define Islamic investment.  
*Definisikan pelaburan Islam.*

[3 Marks]  
[3 markah]

CLO 1  
C2

- b) Explain the following concepts of investment according to Islamic perspectives.

*Terangkan konsep pelaburan menurut perspektif Islam yang berikut.*

- i. Time value of money in Islam

*Nilai masa wang di Islam*

- ii. Shariah approved activities

*Aktiviti diluluskan Shariah*

- iii. Prohibition of speculation

*Larangan spekulasi*

- iv. Sanctity Of Contract

*Kesucian Kontrak*

[12 marks]  
[12 markah]

CLO 1  
C1

- c) List **FIVE (5)** roles of Bank Negara Malaysia and Securities Commissions.

*Senaraikan **LIMA (5)** peranan Bank Negara Malaysia dan Suruhanjaya Sekuriti.*

[10 marks]  
[10 markah]

CLO2  
C1

- a) Identify **FIVE (5)** benefits of Islamic Unit Trust.

*Kenalpasti **LIMA (5)** faedah Unit Amanah Islam.*

[5 marks]  
[5 markah]

- CLO2 b) List **FIVE (5)** types of Financial Instruments in investment activities.  
*Senaraikan LIMA (5) jenis Instrumen Kewangan di dalam aktiviti pelaburan.* [5 marks]  
[5 markah]
- CLO2 c) Identify procedures for issuance of Sukuk  
*Kenalpasti prosedur penerbitan Sukuk.* [5 marks]  
[5 markah]
- CLO2 d) Describe **THREE (3)** characteristics of Islamic and conventional Real Estate Investment Trust (REIT).  
*Terangkan TIGA (3) ciri Pelaburan Amanah Hartanah (REIT) Islam dan konvensional* [10 marks]  
[10 markah]

**QUESTION 3****SOALAN 3**

- CLO 3 C1 a) Define securitization  
*Definisikan pensekuritian.* [3 marks]  
[3 markah]
- CLO 3 C2 b) Identify **SIX (6)** parties that involved in a securitization process.  
*Kenalpasti ENAM (6) pihak yang terlibat dalam proses pensekuritarian.* [6 marks]  
[6 markah]

CLO3  
C3

- c) Dividend for Jones Corporation is RM 1.00. In the first 5 years, the company has a very rapid development. This causes the stock dividend growth at 12%. After this period, the dividend rate stabilize at 6% with rate of return is 10%. Calculate the value of Jones Corporation the shares.

*Dividen untuk Jones Corporation adalah RM 1.00. Dalam 5 tahun pertama, syarikat telah mengalami perkembangan yang sangat pesat. Ini menyebabkan pertumbuhan dividen saham adalah 12%. Selepas tempoh ini kadar pertumbuhan dividen adalah stabil pada kadar 6% dengan kadar pulangan 10%. Kira nilai saham Jones Corporation.*

[16 marks]

[16 markah]

**SOALAN TAMAT**

# Present value interest factor of an ordinary annuity (PVIFA)

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	C:83
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	1.52
3	2.941	2.884	2.723	2.775	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	2.10	
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	2.58
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	2.96
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	3.32
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	3.60
8	7.662	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	3.83
9	8.566	8.162	7.786	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	4.03
10	9.471	8.983	8.530	8.111	7.722	7.360	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	4.15
11	10.368	9.787	9.253	8.760	8.308	7.887	7.499	7.139	6.805	6.485	6.207	5.938	5.687	5.453	5.234	5.029	4.836	4.656	4.486	4.32
12	11.265	10.575	9.954	9.385	8.833	8.344	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	4.43
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	4.53
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	4.61
15	13.885	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	4.67
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	4.72
17	15.562	14.292	13.166	12.166	11.124	10.477	9.763	9.122	8.544	8.022	7.549	7.120	6.729	6.373	6.047	5.749	5.475	5.222	4.990	4.77
18	16.395	14.992	13.754	12.659	11.690	10.828	10.059	9.372	8.756	8.201	7.702	7.250	6.840	6.467	6.128	5.818	5.534	5.273	5.033	4.81
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	4.84
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	4.87
21	18.857	17.011	15.415	14.029	12.821	11.764	10.936	10.017	9.292	8.649	8.075	7.562	7.102	6.710	6.312	5.973	5.685	5.384	5.127	4.85
22	19.660	17.658	15.937	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	5.149	4.90
23	20.456	18.292	16.444	14.857	13.489	12.303	11.272	10.371	9.580	8.833	8.266	7.718	7.230	6.792	6.399	6.044	5.723	5.432	5.167	4.92
24	21.243	18.914	16.936	15.247	13.799	12.550	11.469	10.529	9.707	9.965	8.348	7.784	7.283	6.835	6.434	6.073	5.746	5.451	5.182	4.92
25	22.023	19.523	17.413	15.622	14.094	12.783	11.654	10.675	9.823	9.077	8.422	7.843	7.330	6.873	6.464	6.097	5.766	5.467	5.195	4.94
26	22.795	20.121	17.877	15.963	14.375	13.003	11.826	10.810	9.929	9.161	8.488	7.895	7.372	6.906	6.491	6.118	5.783	5.480	5.206	4.95
27	23.560	20.707	18.327	16.330	14.643	13.211	11.987	10.935	10.017	9.237	8.548	7.943	7.409	6.935	6.514	6.136	5.798	5.492	5.215	4.96
28	24.316	21.281	18.764	16.663	14.893	13.406	12.137	11.051	10.016	9.307	8.602	7.984	7.441	6.961	6.534	6.152	5.810	5.502	5.223	4.97
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	4.97
30	25.808	22.396	19.600	17.292	15.372	13.765	12.409	11.258	10.274	9.427	8.694	8.055	7.496	7.003	6.566	6.177	5.829	5.517	5.235	4.97
31	26.542	22.938	20.000	17.598	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	4.98
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	4.98
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	5.522	5.246	4.98
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	7.050	6.609	6.210	5.854	5.536	5.249	4.98
35	29.409	24.999	21.487	18.665	16.374	14.948	13.655	11.655	10.567	9.644	8.835	8.176	7.586	7.070	6.625	6.215	5.888	5.559	5.251	4.98
36	30.108	25.489	21.832	18.908	16.547	14.621	13.035	11.717	10.612	9.677	8.879	8.192	7.604	7.079	6.623	6.220	5.882	5.541	5.263	4.98
37	30.800	25.969	22.167	19.143	16.711	14.737	13.117	11.775	10.653	9.706	8.900	8.206	7.609	7.087	6.629	6.224	5.885	5.543	5.255	4.98
38	31.485	26.441	22.492	19.388	16.868	14.846	13.193	11.829	10.691	9.733	8.919	8.221	7.618	7.094	6.634	6.228	5.887	5.545	5.256	4.98
39	32.163	26.903	22.808	19.584	17.017	14.949	13.265	11.879	10.726	9.757	8.936	8.233	7.627	7.100	6.638	6.231	5.889	5.547	5.257	4.98
40	32.835	27.355	23.115	19.793	17.159	15.046	13.332	11.925	10.757	9.779	8.951	8.244	7.634	7.105	6.642	6.233	5.871	5.548	5.258	4.98
41	33.500	27.799	23.412	19.993	17.294	15.138	13.394	11.967	10.787	9.799	8.965	8.253	7.641	7.110	6.645	6.236	5.873	5.549	5.259	4.98
42	34.158	28.235	23.701	20.186	17.423	15.225	13.452	12.007	10.813	9.817	8.977	8.262	7.647	7.114	6.648	6.238	5.874	5.550	5.260	4.98
43	34.810	28.662	23.982	20.371	17.546	15.306	13.507	12.043	10.861	9.834	8.989	8.270	7.652	7.117	6.650	6.239	5.875	5.551	5.260	4.98
44	35.455	29.080	24.254	20.549	17.663	15.383	13.558	12.077	10.861	9.849	8.999	8.276	7.657	7.120	6.652	6.241	5.876	5.552	5.261	4.98
45	36.095	29.490	24.519	20.720	17.774	15.456	13.606	12.108	10.881	9.881	9.008	8.283	7.661	7.123	6.654	6.242	5.877	5.552	5.261	4.98
46	36.727	29.892	24.775	20.895	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	4.98
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	4.98
48	37.974	30.673	25.267	21.195	18.077	15.650	13.730	12.189	10.934	9.897	9.030	8.297	7.671	7.130	6.659	6.245	5.880	5.554	5.262	4.98
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	4.98
50	39.196	31.424	25.730																	

### Present value interest factor (PVIF)