SULIT

KEMENTERIAN PENDIDIKAN TINGGI
JABATAN PENDIDIKAN POLITEKNIK DAN KOLEJ KOMUNITI

BAHAGIAN PEPERIKSAAN DAN PENILAIAN
JABATAN PENDIDIKAN POLITEKNIK DAN KOLEJ KOMUNITI
KEMENTERIAN PENDIDIKAN TINGGI

JABATAN PERDAGANGAN

PEPERIKSAAN AKHIR

SESI I : 2023/2024

DPA40103 : FINANCIAL MANAGEMENT 2

TARIKH : 30 DISEMBER 2023
MASA : 8.30AM – 10.30PM (2 JAM)

Kertas ini mengandungi **SEMBILAN (9)** halaman bercetak.
Bahagian A: Subjektif (4 soalan)
Dokumen sokongan yang disertakan : Jadual Nilai Kini & Formula

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JANGAN BUKA KERTAS SOALAN INI SEHINGGA DIARAHKAN

(CLO yang tertera hanya sebagai rujukan)

INSTRUCTION:
This section consists of **FOUR (4)** subjective questions. Answer **ALL** questions.

ARAHAN:
*Bahagian ini mengandungi **EMPAT (4)** soalan bersubjektif. Jawab **SEMUA** soalan.*

QUESTION 1

CLO 1 a) State **FIVE (5)** reasons for a company to keep inventory.

[5 marks]

CLO 1 b) Explain **THREE (3)** reasons for holding cash with **TWO (2)** examples for each.

[10 marks]

CLO 1 c) You are required to prepare a cash budget for each of the first two quarters of 2024. The information is as follows:

	RM
Opening cash balance	100,000
Payment of income tax (2nd quarter)	30,000
Salaries:	
1st quarter	200,000
2nd quarter	220,000
Interest on investment (2nd quarter)	17,000
Overhead cost:	
1st quarter	60,000
2nd quarter	85,000
Selling and administrative cost (*including RM4,000 on depreciation of fixtures and fittings*):	
1st quarter	80,000
2nd quarter	96,000
Purchase of equipment (2nd quarter)	220,000
Sale of equipment (1st quarter)	30,000
Cash collection from client:	
1st quarter	250,000
2nd quarter	500,000
Interest payments (2nd quarter)	3,500

The company must maintain a **minimum cash balance of RM60,000** at the end of each quarter.

[10 marks]

SOALAN 1

CLO 1 *a)* *Nyatakan **LIMA (5)** sebab syarikat perlu menyimpan inventori.*

[5 markah]

CLO 1 *b)* *Terangkan **TIGA (3)** sebab pemegangan tunai berserta **DUA (2)** contoh bagi setiap satu.*

[10 markah]

CLO 1 *c)* *Anda dikehendaki menyediakan Belanjawan Tunai bagi dua sukuan tahun 2024. Maklumat berkaitan adalah seperti di bawah :*

	RM
Baki awal tunai	*100,000*
Bayaran cukai (Sukuan 2)	*30,000*
Gaji:	*200,000*
Sukuan 1	*220,000*
Sukuan 2	
Faedah atas pelaburan (Sukuan 2)	*17,000*
Kos overhead:	
Sukuan 1	*60,000*
Sukuan 2	*85,000*
Belanja jualan dan pentadbiran (termasuk RM4,000 susutnilai ke atas Lekapan dan Kelengkapan) :	
Sukuan 1	*80,000*
Sukuan 2	*96,000*
Belian peralatan (Sukuan 2)	*220,000*
Jualan peralatan (Sukuan 1)	*30,000*
Kutipan daripada pelanggan:	
Sukuan 1	*250,000*
Sukuan 2	*500,000*
Bayaran faedah (Sukuan 2)	*3,500*

*Syarikat perlu mengekalkan **baki akhir minimum sebanyak RM60,000** pada setiap akhir sukuan.*

[10 markah]

QUESTION 2

CLO 1 a) Describe short-term financing and give **THREE (3)** examples.

[5 marks]

CLO 1 b) Below are the details of Bond PP, QQ and RR.

Bond	Par value (RM)	Annual coupon interest rate (%)	Years to maturity	Required return (%)
PP	1,000	7	9	8
QQ	1,000	9	5	9
RR	1,000	6	7	5

Calculate the value of each bond and examine whether it is a discount bond, par value bond or premium bond.

[10 marks]

CLO 1 c) Muqrizz Berhad requires additional short term funds of RM750,000. It has excellent relationships with its bank and its suppliers and a highly respectable credit rating in general. The company maintains a normal deposit balances of RM50,000 in their account. The credit sources available are as follows:

Source #1 : Muqrizz Berhad makes a credit purchase on credit terms of 3/15 net 45.

Source #2 : 14% discounted interest loan from BBSN Bank and 10% compensating balance is required by the bank.

Source #3 : Commercial paper bearing a 15% interest rate. The dealer will charge a placement fee of 2% from the amount issued.

You are required to calculate the effective cost of each alternative. Which source of funds should Muqrizz Berhad utilized?

[10 marks]

SOALAN 2

CLO 1 *a)* *Huraikan maksud pembiayaan jangka pendek dan berikan **TIGA (3)** contoh.*

[5 markah]

CLO 1 *b)* *Berikut merupakan maklumat berkaitan Bon PP, QQ dan RR.*

Bon	*Nilai Par (RM)*	*Kadar Faedah Kupon Tahunan (%)*	*Tempoh matang*	*Pulangan Diperlukan (%)*
PP	*1,000*	*7*	*9*	*8*
QQ	*1,000*	*9*	*5*	*9*
RR	*1,000*	*6*	*7*	*5*

Kirakan nilai bagi setiap Bon tersebut dan nilaikan sama ada ia adalah bon pada diskaun, bon pada nilai par atau bon pada premium.

[10 markah]

CLO 1 *c)* *Muqrizz Berhad memerlukan tambahan dana jangka pendek sebanyak RM750,000. Syarikat ini mempunyai hubungan yang sangat baik dengan bank dan pembekalnya serta penarafan kredit yang sangat baik secara amnya. Syarikat biasanya mengekalkan baki deposit sebanyak RM50,000 dalam akaun mereka. Sumber kredit yang ada adalah seperti berikut:*

Sumber #1 : Muqrizz Berhad membuat pembelian kredit dengan syarat kredit 3/15 bersih 45.

Sumber #2 : Pinjaman faedah diskaun 14% daripada BBSN Bank dan baki pampasan 10% diperlukan oleh bank.

Sumber #3 : Kertas perdagangan dengan kadar faedah 15%. Peniaga akan mengenakan bayaran penempatan sebanyak 2% daripada jumlah yang dikeluarkan.

Anda dikehendaki mengira kos efektif bagi setiap alternatif. Sumber dana manakah yang harus digunakan oleh Muqrizz Berhad ?

[10 markah]

QUESTION 3

CLO 1

a) Capital budgeting process involved determining the cash flow associated with any proposed investment project before it can be analyzed to decide whether the investment is approved or rejected. Explain the item below with the examples of cash outflow and inflow for each item:

(i) initial outlay

(ii) annual cash flow

(iii) terminal cash flow

[10 marks]

b) Ainanations Sdn. Bhd. is considering these two mutually exclusive investments which involving an initial outlay of RM160,000. Below are the cash flows expected from each type of investment. The rate of return is 14%.

Year	Project A (RM)	Project B (RM)
1	38,000	42,000
2	42,000	42,000
3	44,000	42,000
4	45,000	42,000
5	48,000	42,000
6	49,000	42,000

CLO 1

For each type of project above, calculate:

i. Net Present Value (NPV)

[4 marks]

ii. Internal rate of return (IRR)

[6 marks]

CLO 1

c) Based on your answer in (b), determine which project will be chosen and why?

[5 marks]

SOALAN 3

CLO 1

a) *Dalam proses belanjawan modal, penyediaan aliran tunai berkaitan dengan projek pelaburan yang ingin dilabur perlu disediakan terlebih dahulu sebelum ia dapat dianalisa untuk menentukan samada pelaburan tersebut diterima atau ditolak. Terangkan item di bawah berserta contoh aliran tunai masuk dan keluar bagi setiap item:*

(i) aliran tunai permulaan

(ii) aliran tunai tahunan

(iii) aliran tunai penamat

[10 markah]

b) *Ainanations Sdn Bhd sedang mempertimbangkan untuk melabur dalam dua projek yang berasingan melibatkan modal awal bernilai RM160,000. Berikut adalah anggaran aliran tunai dari kedua-dua projek. Kadar pulangan ialah 14%.*

Tahun	***Pelaburan A (RM)***	***Pelaburan B (RM)***
1	*38,000*	*42,000*
2	*42,000*	*42,000*
3	*44,000*	*42,000*
4	*45,000*	*42,000*
5	*48,000*	*42,000*
6	*49,000*	*42,000*

CLO 1
C3

Bagi setiap projek di atas, kirakan:

i. Nilai Kini Bersih (NKB)

[4 markah]

ii. Kadar pulangan dalaman (KPD)

[6 markah]

CLO 1 c) *Berdasarkan jawapan anda di (b), tentukan projek mana yang perlu dipilih dan mengapa?*

[5 markah]

QUESTION 4

CLO 1 a) Define the meaning of leverage and list down **THREE (3)** types of leverage in finance.

[5 marks]

CLO 1 b) Below is the data of Company A. Expand the following information to an income statement format.

	Company A
Financial Leverage	4 :1
Operating leverage	3:1
Contribution margin	RM240,000
Interest	RM600,000
Variable cost to sales	60%
Income tax	30%

[10 marks]

CLO1 c) Ahmad owned 2 companies which is MIA and UIA. Below is the information of both companies.

	MIA	**UIA**
Revenue	RM400,000	RM6,610,000
Contribution margin	RM240,000	RM2,974,500
Fixed cost	RM80,000	RM1,800,000

You are required to:

i) Calculate the degree of operating leverage for both companies.

[3 marks]

ii) By referring to your answer in (i), if UIA intends to increase the sales by 15%, calculate the effect on profit of UIA using the leverage's concept.

[2 marks]

iii) Construct an income statement to prove your findings in (ii).

[5 marks]

QUESTION 4

a) *Definisikan leveraj dan senaraikan **TIGA (3)** jenis leveraj dalam kewangan.*

[5 markah]

b) *Berikut adalah data dari Syarikat A. Kembangkan maklumat berikut kepada format penyata pendapatan.*

	Syarikat A
Leveraj kewangan	*4 :1*
Leveraj operasi	*3:1*
Margin sumbangan	*RM240,000*
Faedah	*RM600,000*
Kos berubah kepada jualan	*60%*
Cukai pendapatan	*30%*

[10 markah]

c) *Ahmad memiliki 2 syarikat iaitu MIA dan UIA. Berikut adalah maklumat bagi kedua-dua syarikat.*

	MIA	**UIA**
Jualan	RM400,000	RM6,610,000
Margin sumbangan	RM240,000	RM2,974,500
Kos tetap	RM80,000	RM1,800,000

Anda dikehendaki untuk:

(i) Mengira leveraj operasi bagi kedua-dua syarikat.

[3 markah]

(ii) Berpandukan jawapan anda di (i), sekiranya UIA bercadang untuk meningkatkan jualannya sebanyak 15%, kirakan kesan kepada keuntungan UIA menggunakan konsep dalam leveraj?

[2 markah]

(iii) Bentukkan sebuah penyata pendapatan untuk membuktikan penemuan anda di (ii).

[5 markah]

SOALAN TAMAT

FORMULA

Operating Cycle = Average age of inventory (AAI) + Average collection period (ACP)

Total carrying cost (TCC) = (inventory average) (carrying cost per unit)
= (Q / 2) C

Total ordering cost (TOC) = (times order is made) (each order cost)
= (S / Q) O

Total inventory cost (TIC) = TCC + TOC
= (Q / 2) C + (S / Q) O

$$EOQ = \sqrt{\frac{2\,(S)\,(O)}{C}}$$

Inventory average = (EOQ / 2) + safety stock

Number of annual order = annual requirement / each order quantity (EOQ)

Total inventory cost = Total Carrying Cost (TCC) + Total Ordering Cost (TOC)
= ((Q/2) + safety stock) C + (S/Q) O

Surrendered discount annual cost = (Credit effective cost) $\frac{a}{1-a} \times \frac{360}{c-b}$

Interest = Principlal (P) X Rate (R) X Time (T)

Annual effective rate = $\frac{\text{Interest}}{\text{Principlal}} \times \frac{1}{\text{Time}}$

Annual effective rate (Discounted) = $\frac{\text{Interest}}{\text{Principlal - Interest}} \times \frac{1}{\text{Time}}$

Effective cost of Interest = $\frac{\text{(Interest + Fees)}}{\text{(Principal - Interest – Fees)}} \times \frac{1}{\text{Time}}$

Vb= I (PVIFA i, n) + M (PVIF i , n)

Vb = I (PVIFA i/m , mn) + M (PVIF i/m , mn)

$Vps = \frac{D}{Rps}$, $Rps = \frac{D}{Vps}$, $Vcs = \frac{D1 + P1}{1 + Rcs}$, $Vcs = \frac{D}{Rcs}$, $Vcs = \frac{D1}{Rcs - g}$, $D1 = Do\,(1+g)$

Annual Depreciation = $\frac{\text{Cost of depreciable assets - Scrap Value}}{\text{Asset life}}$

PP = Initial outlay / ACF average

$NPV = (ACF_t \times PVIFA_{k,n}) - IO$

IRR = $IO = \sum \frac{ACF_t}{(1 + IRR)^t}$

$PI = \frac{\sum \frac{ACF_t}{(1+k)^t}}{IO}$

(P x Q) - [(V x Q) + F] = EBIT = 0

BEP (unit), $Q = \frac{F}{P - V}$, BEP ($) = BEP (unit) x sales price

BEP ($), *S = $\frac{F}{1 - \frac{V}{S}}$, BEP (unit) = BEP ($) / Sales price per unit

DOL (S) = (S – VQ) / (S – VQ – F)

DFL (S) = (S – VQ – FC) / (S – VQ – FC – I – [PD x 1 / (1 – T)])

DCL = DOL x DFL

DCL (S) = (S – VQ) / (S – VQ – FC – I – [PD / (1 – T)])

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	0.9346	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	0.5645	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	0.3759	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	0.3075	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	0.7730	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	0.1452	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	0.6050	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	0.0258	0.0225	0.0116
18	0.8360	0.7002	0.5874	0.4936	0.4155	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	0.3305	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	0.2415	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	0.0046	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	0.0356	0.0259	0.0189	0.0139	0.0102	0.0075	0.0055	0.0017	0.0005	*	*
36	0.6989	0.4902	0.3450	0.2437	0.1727	0.1227	0.0875	0.0626	0.0449	0.0323	0.0234	0.0169	0.0123	0.0089	0.0065	0.0048	0.0014	*	*	*
40	0.6717	0.4529	0.3066	0.2083	0.1420	0.0972	0.0668	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	0.9346	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	1.7355	1.7125	1.6901	1.6681	1.6467	1.6257	1.6052	1.5278	1.4568	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	2.2459	2.1065	1.9813	1.9520	1.8161
4	3.9020	3.8077	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	3.7908	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	4.7665	4.6229	4.4859	4.3553	4.2305	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	7.3255	7.0197	6.7327	6.4632	6.2098	5.9713	5.7466	5.5348	5.3349	5.1461	4.9676	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	8.9826	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	10.368	9.7868	9.2526	8.7605	8.3064	7.8869	7.4987	7.1390	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	11.255	10.575	9.9540	9.3851	8.8633	8.3838	7.9427	7.5361	7.1607	6.8137	6.4924	6.1944	5.9176	5.6603	5.4206	5.1971	4.4392	3.8514	3.7251	3.1903
13	12.134	11.348	10.635	9.9856	9.3936	8.8527	8.3577	7.9038	7.4869	7.1034	6.7499	6.4235	6.1218	5.8424	5.5831	5.3423	4.5327	3.9124	3.7801	3.2233
14	13.004	12.106	11.296	10.563	9.8986	9.2950	8.7455	8.2442	7.7862	7.3667	6.9819	6.6282	6.3025	6.0021	5.7245	5.4675	4.6106	3.9616	3.8241	3.2487
15	13.865	12.849	11.938	11.118	10.380	9.7122	9.1079	8.5595	8.0607	7.6061	7.1909	6.8109	6.4624	6.1422	5.8474	5.5755	4.6755	4.0013	3.8593	3.2682
16	14.718	13.578	12.561	11.652	10.838	10.106	9.4466	8.8514	8.3126	7.8237	7.3792	6.9740	6.6039	6.2651	5.9542	5.6685	4.7296	4.0333	3.8874	3.2832
17	15.562	14.292	13.166	12.166	11.274	10.477	9.7632	9.1216	8.5436	8.0216	7.5488	7.1196	6.7291	6.3729	6.0472	5.7487	4.7746	4.0591	3.9099	3.2948
18	16.398	14.992	13.754	12.659	11.690	10.828	10.059	9.3719	8.7556	8.2014	7.7016	7.2497	6.8399	6.4674	6.1280	5.8178	4.8122	4.0799	3.9279	3.3037
19	17.226	15.678	14.324	13.134	12.085	11.158	10.336	9.6036	8.9501	8.3649	7.8393	7.3658	6.9380	6.5504	6.1982	5.8775	4.8435	4.0967	3.9424	3.3105
20	18.046	16.351	14.877	13.590	12.462	11.470	10.594	9.8181	9.1285	8.5136	7.9633	7.4694	7.0248	6.6231	6.2593	5.9288	4.8696	4.1103	3.9539	3.3158
21	18.857	17.011	15.415	14.029	12.821	11.764	10.836	10.017	9.2922	8.6487	8.0751	7.5620	7.1016	6.6870	6.3125	5.9731	4.8913	4.1212	3.9631	3.3198
22	19.660	17.658	15.937	14.451	13.163	12.042	11.061	10.201	9.4424	8.7715	8.1757	7.6446	7.1695	6.7429	6.3587	6.0113	4.9094	4.1300	3.9705	3.3230
23	20.456	18.292	16.444	14.857	13.489	12.303	11.272	10.371	9.5802	8.8832	8.2664	7.7184	7.2297	6.7921	6.3988	6.0442	4.9245	4.1371	3.9764	3.3254
24	21.243	18.914	16.936	15.247	13.799	12.550	11.469	10.529	9.7066	8.9847	8.3481	7.7843	7.2829	6.8351	6.4338	6.0726	4.9371	4.1428	3.9811	3.3272
25	22.023	19.523	17.413	15.622	14.094	12.783	11.654	10.675	9.8226	9.0770	8.4217	7.8431	7.3300	6.8729	6.4641	6.0971	4.9476	4.1474	3.9849	3.3286
30	25.808	22.396	19.600	17.292	15.372	13.765	12.409	11.258	10.274	9.4269	8.6938	8.0552	7.4957	7.0027	6.5660	6.1772	4.9789	4.1601	3.9950	3.3321
35	29.409	24.999	21.487	18.665	16.374	14.498	12.948	11.655	10.567	9.6442	8.8552	8.1755	7.5856	7.0700	6.6166	6.2153	4.9915	4.1644	3.9984	3.3330
36	30.108	25.489	21.832	18.908	16.547	14.621	13.035	11.717	10.612	9.6765	8.8786	8.1924	7.5979	7.0790	6.6231	6.2201	4.9929	4.1649	3.9987	3.3331
40	32.835	27.355	23.115	19.793	17.159	15.046	13.332	11.925	10.757	9.7791	8.9511	8.2438	7.6344	7.1050	6.6418	6.2335	4.9966	4.1659	3.9995	3.3332
50	39.196	31.424	25.730	21.482	18.256	15.762	13.801	12.233	10.962	9.9148	9.0417	8.3045	7.6752	7.1327	6.6605	6.2463	4.9995	4.1666	3.9999	3.3333