KISM AND KASNEB

CERTIFIED PROCUREMENT AND SUPPLY PROFESSIONAL (CPSP)

PART I

FINANCE FOR PROCUREMENT

TUESDAY: 24 November 2015. **Time Allowed: 3 hours.**

Answer ALL questions. Marks allocated to each question are shown at the end of the question.

SECTION A

QUESTION ONE

(a) Discuss FOUR sources of funds for a business. (8 marks)

(b) (i) Define the term "agency relationship". (2 marks)

(ii) Discuss ways in which agency conflicts could be resolved. (10 marks)

(Total: 20 marks)

SECTION B

QUESTION TWO

(a) Highlight the role of budgets in an organisation. (3 marks)

(b) Describe the relationship between "functional budget" and "master budget". (3 marks)

(c) You are a trainee at Jua Kali Ceramics Ltd. You have been asked to prepare a cash budget for the months of January, February and March 2016. Assume the actual revenue and costs for the year 2015 and 2016 are as follows:

Month	Sales	Wages	Purchases	Overheads
Year 2015	**Sh."000"**	**Sh."000"**	**Sh."000"**	**Sh."000"**
September	2,000	400	2,000	1,000
October	3,000	400	3,000	1,200
November	3,000	400	2,500	1,400
December	4,000	400	3,500	1,600
Year 2016				
January	8,000	600	3,500	1,800
February	9,000	600	3,200	2,000
March	10,000	600	3,000	2,200
April	11,000	600	2,800	2,400

Additional information:

1. Assume the cash balance as at 31 December 2015 is Sh.2,500,000.
2. The company pays wages in the month they accrue.
3. The company pays creditors two months after purchase.
4. 75% of sales are in cash, 15% is received a month later and 10% two months later.
5. Included in the overheads is Sh.100,000 for depreciation. Overheads are paid for in the month they occur.
6. A commission of 5% is paid to the sales representatives for credit sales in the month the debtors pay.

Required:

Prepare a cash budget for January, February and March 2016. (14 marks)

(Total: 20 marks)

QUESTION THREE
Evaluate the range of approaches a private sector organisation could use to assist in the effective management of its working capital. **(20 marks)**

SECTION C

QUESTION FOUR
Ngozi Ltd. is a business organisation that buys, processes and sells hides and skins. Its capital structure is as shown below:

	Sh.“million”
Ordinary share capital @ Sh.10 par value	500
Retained earnings	300
10% preference share capital @ Sh.20 per share	100
12% debentures Sh.100 par value	300
	1,200

Additional information:
1. Corporate tax rate is 30%.
2. Preference shares are selling at par value.
3. Debentures have a maturity life of 10 years and are currently retailing at Sh.90 in the market.
4. The firm has been paying dividend at Sh.5 per share and this is expected to grow at a rate of 5% p.a. Current market price per share is Sh.40.

   The firm has been making profits and wants to expand the business by investing in a machine. The firm is considering two alternatives machine A and B. The cost and expected cash flows for the two machines over the next 5 years are shown below. The cost of capital is 10%.

	Machine A (Sh.)	Machine B (Sh.)
Cost	10,000,000	14,000,000
Cash flows expected		
Year 1	6,000,000	1,800,000
Year 2	5,000,000	2,400,000
Year 3	3,000,000	3,200,000
Year 4	2,000,000	4,800,000
Year 5	1,000,000	5,200,000

Required:
(a) Calculate the weighted average cost of capital. (14 marks)

(b) (i) Calculate the net present value (NPV) of the two machines. (8 marks)

(ii) Advise the management on the machine they should purchase. Justify your advice. (2 marks)

(c) Explain the factors to consider while selecting a financing option. (8 marks)

(d) Evaluate the importance of time value of money. (8 marks)
(Total: 40 marks)

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KISM AND KASNEB

CERTIFIED PROCUREMENT AND SUPPLY PROFESSIONAL (CPSP)

PART I

FINANCE FOR PROCUREMENT

WEDNESDAY: 25 May 2016. **Time Allowed: 3 hours.**

Answer ALL questions. Marks allocated to each question are shown at the end of the question. Show ALL your workings.

SECTION A

QUESTION ONE

(a) Outline FOUR limitations of Accounting Rate of Return (ARR) method of appraising new investments. (4 marks)

(b) Discuss FIVE factors that should be taken into account by organisations in making a decision between using short term or long term sources of finance. (10 marks)

(c) Differentiate between primary market and secondary market. (2 marks)

(d) Highlight FOUR emerging issues and trends in finance for procurement. (4 marks)

(Total: 20 marks)

SECTION B

QUESTION TWO

Ratio analysis is one of the many tools of financial statement analysis used as a basis for decision making by users of financial statements.

(a) Explain the significance of the following ratios in decision making:

(i) Return on Investment (ROI). (2 marks)

(ii) Current ratio. (2 marks)

(iii) Capital gearing ratio. (2 marks)

(b) Comment on the limitation of ratio analysis. (4 marks)

(c) Mobilemoney Limited currently operates with terms of 30 days net. The company has sales of Sh.12 million and its average collection period is 45 days. To stimulate demand, the company is considering the possibility of offering terms of net 60 days. If it offers these terms, sales will increase by 20%.

After the change, the average collection period is expected to increase to 75 days with no difference in payment habits for both old and new customers. The company has variable costs of Sh.70 for every Sh.100 of sale. The required rate of return on receivables is 20%.

Required:

(i) Advise Mobilemoney Limited on whether they should extend the credit period (Note a year has 360 days). (8 marks)

(ii) Explain TWO advantages of budgetary control system in an organisation. (2 marks)

(Total: 20 marks)

QUESTION THREE

(a) The following is the capital structure of a firm:

Source	Amount Sh.	Proportion
Ordinary share capital Sh.1 each	300,000	50.00%
Retained earnings	150,000	25.00%
Preference share capital	100,000	16.67%
10% debentures	50,000	8.33%
	600,000	100.00%

Corporation tax rate is 50%

The cost of various sources of capital are:

Sources	Cost
Ordinary share capital	15%
Retained earnings	15%
Preference share capital	10%
Debentures (10% less tax element)	5%

Required:

Calculate the weighted average cost of capital. (10 marks)

(b) Proper management of current assets is one of the most important functions of a finance manager in any organisation.

(i) Outline what would constitute "current assets". (4 marks)

(ii) Describe how best any three current assets could be managed in order to maximise business profits. (6 marks)

(Total: 20 marks)

SECTION C

QUESTION FOUR

The following income statement and the statement of financial position were extracted from the books of ABC Limited for the year ended 31 December 2015:

ABC Limited

Income statement for the year ended 31 December 2015

		Sh. "000"	Sh. "000"
Sale	- Cash		300,000
	- Credit		600,000
			900,000
Less:	Cost of sale		
	Opening stock	210,000	
	Purchases	660,000	
		870,000	
	Closing stock	(150,000)	720,000
	Gross profit		180,000
Less:	Expenses		
	Depreciation	13,100	
	Director emoluments	15,000	
	General expenses	20,900	
	Interest on loan	4,000	(53,000)
Net profit before tax			127,000
Corporation tax			(35,100)
Net profit after tax			88,900
Preference dividends		4,800	
Ordinary dividends		10,000	14,800
Retained profit for the year			74,100

ABC Limited
Statement of financial position as at 31 December 2015

	Sh. "000"	Sh. "000"	Sh. "000"
Fixed assets			213,900
Current assets			
Stock	150,000		
Debtors	35,900		
Cash	20,000	205,900	
Current liabilities			
Accrued creditors	60,000		
Corporation tax payable	63,500		
Proposed dividends	14,800	138,300	67,600
			281,500
Financed by:			
Ordinary share capital (Sh.10 per share)		100,000	
8% preference share capital		60,000	
Revenue reserves		81,500	
10% bank loan		40,000	
			281,500

Additional information:
1. The company's ordinary shares are selling at Sh.20 in the stock market.
2. The company has constant dividend payout policy of 10%.

Required:
(a) Determine the following ratios:

(i) Acid test ratio. (3 marks)

(ii) Operating profit ratio. (3 marks)

(iii) Return on total capital employed. (3 marks)

(iv) Price earning ratio. (3 marks)

(v) Interest coverage ratio. (3 marks)

(vi) Total asset turnover. (3 marks)

(b) Outline SIX limitations of using financial ratios as the basis for financial statement analysis. (6 marks)

(c) (i) Distinguish between profit maximisation and shareholder wealth maximisation. (4 marks)

(ii) Explain FIVE limitations of profit maximisation goal. (10 marks)

(d) Explain TWO instances where depreciation is said to be a source of finance to an organisation. (2 marks)

(Total: 40 marks)

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CERTIFIED PROCUREMENT AND SUPPLY PROFESSIONAL (CPSP)

PART I

FINANCE FOR PROCUREMENT

WEDNESDAY: 29 November 2017. **Time Allowed: 3 hours.**

Answer ALL questions. Marks allocated to each question are shown at the end of the question. Show ALL your workings.

SECTION A

QUESTION ONE

(a) State FOUR principles of corporate governance. (4 marks)

(b) Explain THREE unique features of microfinance institutions. (6 marks)

(c) Suggest FOUR reasons why a firm may opt to supply goods on credit terms. (4 marks)

(d) Explain the importance of financial statements analysis to the following users:

(i) Suppliers. (2 marks)
(ii) Customers. (2 marks)
(iii) Lenders. (2 marks)

(Total: 20 marks)

SECTION B

QUESTION TWO

(a) Debt financing has been a major source of long-term finance for business.

Discuss THREE drawbacks of debt financing. (6 marks)

(b) ABC Ltd. intends to invest in a project with the following cash flows:

Year	**Cash flow (Sh.)**
0	(600,000)
1	200,000
2	180,000
3	160,000
4	140,000
5	100,000

The company's required rate of return is 12% per annum.

Required:

(i) Pay-back period. (3 marks)
(ii) Net-present value. (3 marks)
(iii) Profitability index. (2 marks)

(c) Kabambe Industries wishes to list on a securities exchange. They have stated that they pay a dividend of Sh.3.50 per share although they forecast the dividend to grow at a rate of 5.4%. The market's expected rate of return is 11.9% while listed companies comparable to Kabambe Industries have a share price of Sh.75.

Required:

Calculated the cost of equity for Kabambe Industries using the dividend growth model. (6 marks)

(Total: 20 marks)

QUESTION THREE

Philip imports fish from China and distributes to other parts of the country. A market survey provides an estimated annual demand for the next two years as 100,000 tonnes of fish. The cost of placing an order is Sh.50,000, storage is 10% of the price of each ton and the price per ton is Sh.24,000.

The exchange rate between the Kenyan shilling and the Chinese Yuan is 15.05.

Required:

(a) Examine FIVE factors that determine the exchange rate of the Kenyan shilling and the Chinese Yuan. (10 marks)

(b) Calculate the Economic Order Quantity (EOQ) using the details given above. (5 marks)

(c) Highlight FIVE financial challenges that Philip is likely to face when transacting business with Chinese suppliers. (5 marks)

(Total: 20 marks)

SECTION C

QUESTION FOUR

(a) A company produces two products namely; A and B. Two types of material M and N are used in manufacturing of these products.

The following information is provided by the company for the year 2017:

	Budgeted sales	
Product	**Quantity (units)**	**Prices (Sh.)**
A	9,000	120
B	10,000	150

Material used (per unit)	M	N
A	6	12
B	10	8
Unit cost (Sh.)	5	3

The opening and closing stock were as follows:

Finished product	**Opening**	**Closing**
A	5,000	2,500
B	4,000	6,000
Material		
M	6,500	7,000
N	4,500	3,500

Required:

Prepare the following budgets:

(i) Sales budget. (3 marks)

(ii) Production budget. (3 marks)

(iii) Material usage in quantity budget. (4 marks)

(iv) Materials purchase in quantity and value budget. (4 marks)

(b) Explain FOUR factors influencing the capital expenditure decision. (8 marks)

(c) The following financial statements were extracted from the books of ABC Company Ltd. for the year 2017:

Income statement

	Sh.	Sh.
Sales		550,000
Less: Cost of sales:		
Opening stock	170,000	
Purchases	465,000	
	635,000	
Less: Closing stock	(165,000)	470,000
Gross profit		80,000
Less: Expenses		(90,000)
Net loss		(10,000)

Statement of financial position

Fixed assets	**Cost**	**Depreciation**	**Net book value**
Premises	610,000	300,000	310,000
Fixtures	85,000	40,000	45,000
Motor vehicles	105,000	35,000	70,000
			425,000
Current assets			
Inventories		152,000	
Accounts receivable		183,000	335,000
Total assets			760,000
Financed by:			
Capital		120,000	
Retained profits		160,000	280,000
Non-current liabilities:			
Long-term loan			160,000
Current liabilities:			
Creditors		146,000	
Bank overdraft		174,000	320,000
Total equity and liabilities			760,000

Required:
Calculate:

(i) Debtors collection period. (2 marks)

(ii) Credit payment period. (2 marks)

(iii) Gross profit margin. (2 marks)

(iv) Return on equity. (2 marks)

(d) Discuss FIVE reasons why plastic money usage has increased in the developed countries. (10 marks)

(Total: 40 marks)

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KISM AND KASNEB

CERTIFIED PROCUREMENT AND SUPPLY PROFESSIONAL (CPSP)

PART I

FINANCE FOR PROCUREMENT

WEDNESDAY: 23 November 2016. **Time Allowed: 3 hours.**

Answer ALL questions. Marks allocated to each question are shown at the end of the question. Show ALL your workings.

SECTION A

QUESTION ONE

(a) Define the following financial terms:

(i) Whole life costing. (2 marks)

(ii) Procurement and supply budget. (2 marks)

(iii) Commercial bank. (2 marks)

(b) Differentiate between "fixed costs" and "variable costs". (2 marks)

(c) Identify FIVE long term sources of finance for a private organisation. (5 marks)

(d) State FOUR factors that determine the working capital needs of a firm. (2 marks)

(e) Propose FIVE ways in which a procurement function can manage foreign exchange risks. (5 marks)

(Total: 20 marks)

SECTION B

QUESTION TWO

(a) Budgetary control is a system of controlling costs which include the preparation of budgets, coordinating the departments, establishing responsibility, comparing actual performance with the budget and acting upon results to achieve maximum profitability.

State FOUR essentials of a sound budgetary control system. (4 marks)

(b) A firm that is involved in international supply chain is faced with risks that may lead to losses to the company, even closure of the business.

Explain FOUR risk mitigating strategies that a firm may adopt. (4 marks)

(c) A company is considering two projects M and N. Each of the projects require an initial capital outlay of Sh.240 million. The expected cash inflows from these projects are as follows:

Year	Project M Sh. "million"	Project N Sh. "million"
1	85	100
2	120	110
3	180	120
4	100	90

Required:

(i) Calculate the payback period for each of the projects. (2 marks)

(ii) Assume the two projects are mutually exclusive and the cost of capital is 15%. Indicate the project to be invested in. (6 marks)

(iii) Compute the modified IRR of each project if the cost of capital is 13%. (4 marks)

(Total: 20 marks)

QUESTION THREE

A supplier who wants to be prequalified has been invited to make a presentation to a committee of a buying organisation. The cash flow budget was as follows:

(The amounts quoted are in millions of shillings)

Quarter of the year	1	2	3	4
Opening balance	37	(415)	(247)	(79)
Receipts				
Debtors	240	480	480	480
Total cash for use	277	65	233	401
Less payments				
Equipment	500	-	-	-
Creditors	120	240	240	240
Wages/salaries	48	48	48	48
Fixed overheads	24	24	24	24
Total payments	692	312	312	312
Closing balance	(415)	(247)	(79)	89

Required:

(a) Explain in details what the cash budget reveals about the supplier. (8 marks)

(b) Explain the risks that may arise after the supplier has been awarded the business. (12 marks)

(Total: 20 marks)

SECTION C

QUESTION FOUR

(a) The Procurement Officer of ABC Limited wishes to buy a modern projector costing Sh.5,000 at the end of 5 years and a digital cardless printer costing Sh.6,000 at the end of 6 years. The Procurement Officer wishes to leave a zero balance in the account after withdrawal.

If the money invested in the account can earn 5% per annum on the balances, how much must the Procurement Officer deposit today to satisfy his procurement needs in future. (8 marks)

(b) The following information has been obtained from the books of Kucheza Limited.

	Sh. per unit
Raw materials	160
Direct labour	60
Overheads	120
Total cost	340
Profit	60
Selling price	400

Additional information:

1. Raw materials are held in stock on an average for one month. Materials are in process on average for half a – month.
2. Finished goods are in stock on average for one month. Credit allowed by suppliers is one month and credit allowed to debtors is two months. Time lag in payment of wages is 1½ weeks. Time lag in payment of overhead expenses is one month.
3. One fourth of the sales are made on cash basis.
4. Cash in hand and at bank is expected to be Sh.50,000.
5. Expected level of production amounts to 104,000 units for a year of 52 weeks.
6. You may assume that production is carried out evenly throughout the year and a time period of 4 weeks is equivalent to one month.

Required:

Calculate the amount of working capital requirement by Kucheza Limited. (12 marks)

(c) The money market is where firms are able to borrow funds for the short term usually between 1 day and not more than 1 year.

Identify THREE instruments used in the money markets. (3 marks)

(d) Wajukuu Limited is a company dealing in fast moving consumer goods. The company has been experiencing difficulties in control and management of the business. The management tasked the Procurement Manager to source for a good ERP system and he managed to get one at a cost of Sh.25 million. The manager is not sure if Wajukuu Limited can purchase the system given that the cash in bank is Sh.3 million.

(i) Explain to the Procurement Manager THREE financing methods that can be used to acquire the system. (3 marks)

(ii) Outline the steps in a financial planning process. (6 marks)

(e) Investment decision making is critical to an organisation and there are several appraisal methods that can be used to decide where to invest.

Explain the following investment appraisal methods and the decision rules applying to each:

(i) Net Present Value (NPV). (2 marks)

(ii) Internal Rate of Return (IRR). (2 marks)

(f) Agency problem is a conflict that arises when separate parties in a business relationship, such as corporation managers and shareholders have divergent interests.

Explain FOUR measures that can be applied to resolve the agency problem. (4 marks)

(Total: 40 marks)

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Present Value of 1 Received at the End of n Periods:

$$PVIF_{r,n} = 1/(1+r)^n = (1+r)^{-n}$$

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	15%	16%	18%	20%	24%	28%	32%	36%
1	.9901	.9804	.9709	.9615	.9524	.9434	.9346	.9259	.9174	.9091	.8929	8772	.8696	.8621	.8475	.8333	.8065	.7813	.7576	.7353
2	.9803	.9612	.9426	.9246	.9070	.8900	.8734	.8573	.8417	.8264	.7972	.7695	.7561	.7432	.7182	.6944	.6504	.6104	5739	.5407
3	.9706	.9423	.9151	.8890	.8638	.8396	.8163	.7938	.7722	.7513	.7118	.6750	.6575	.6407	.6086	.5787	.5245	.4768	.4348	.3975
4	.9610	.9238	.8885	.8548	.8227	.7921	.7629	.7350	.7084	.6830	.6355	.5921	.5718	.5523	.5158	.4823	.4230	.3725	.3294	.2923
5	.9515	.9057	.8626	.8219	.7835	.7473	.7130	.6806	.6499	.6209	.5674	5194	.4972	.4761	.4371	.4019	.3411	.2910	.2495	.2149
6	.9420	.8880	.8375	.7903	.7462	.7050	.6663	.6302	.5963	.5645	.5066	.4556	.4323	.4104	.3704	.3349	.2751	.2274	.1890	.1580
7	.9327	.8706	.8131	.7599	.7107	.6651	.6227	.5835	.5470	.5132	.4523	.3996	.3759	.3538	.3139	.2791	.2218	.1776	.1432	.1162
8	.9235	.8535	.7894	.7307	.6768	.6274	.5820	.5403	.5019	.4665	.4039	.3506	.3269	.3050	.2660	.2326	.1789	.1388	.1085	.0854
9	.9143	.8368	.7664	.7026	.6446	.5919	.5439	.5002	.4604	.4241	.3606	3075	.2843	.2630	.2255	.1938	.1443	.1084	.0822	.0628
10	.9053	.8203	.7441	.6756	.6139	.5584	.5083	.4632	.4224	.3855	.3220	.2697	.2472	.2267	.1911	.1615	.1164	.0847	.0623	.0462
11	.8963	.8043	.7224	.6496	.5847	.5268	.4751	.4289	.3875	.3505	.2875	.2366	.2149	.1954	.1619	.1346	.0938	.0662	.0472	.0340
12	.8874	.7885	.7014	.6246	.5568	.4970	.4440	.3971	.3555	.3186	.2567	.2076	.1869	1685	.1372	.1122	.0757	.0517	.0357	.0250
13	.8787	.7730	.6810	.6006	.5303	.4688	.4150	.3677	.3262	.2897	.2292	.1821	.1625	.1452	.1163	.0935	.0610	.0404	.0271	.0184
14	.8700	.7579	.6611	.5775	.5051	.4423	.3878	.3405	.2992	.2633	.2046	.1597	.1413	.1252	.0985	.0779	.0492	.0316	.0205	.0135
15	.8613	.7430	.6419	.5553	.4810	.4173	.3624	3152	.2745	.2394	.1827	.1401	.1229	.1079	.0835	.0649	.0397	.0247	.0155	0099
16	.8528	.7284	.6232	.5339	.4581	.3936	.3387	.2919	.2519	.2176	.1631	.1229	.1069	.0930	.0708	.0541	.0320	.0193	.0118	.0073
17	.8444	.7142	.6050	.5134	.4363	.3714	.3166	.2703	.2311	.1978	.1456	.1078	.0929	.0802	.0600	.0451	.0258	.0150	.0089	.0054
18	.8360	.7002	.5874	.4936	.4155	.3503	.2959	.2502	.2120	.1799	.1300	.0946	.0808	.0691	.0508	.0376	.0208	.0118	.0068	.0039
19	.8277	.6864	.5703	.4746	.3957	.3305	.2765	.2317	.1945	.1635	.1161	.0829	.0703	.0596	.0431	.0313	.0168	.0092	.0051	.0029
20	.8195	.6730	.5537	.4564	.3769	.3118	.2584	.2145	.1784	.1486	1037	.0728	.0611	.0514	.0365	.0261	.0135	.0072	.0039	.0021
25	.7798	.6095	.4776	.3751	.2953	.2330	.1842	.1460	.1160	.0923	.0588	.0378	.0304	.0245	.0160	.0105	.0046	.0021	.0010	0005
30	.7419	.5521	.4120	.3083	.2314	.1741	.1314	.0994	.0754	.0573	.0334	.0196	.0151	.0116	.0070	.0042	.0016	.0006	.0002	.0001
40	.6717	.4529	.3066	.2083	.1420	.0972	.0668	0460	.0318	.0221	.0107	.0053	.0037	.0026	.0013	.0007	.0002	.0001	*	*
50	.6080	.3715	.2281	.1407	.0872	.0543	.0339	.0213	.0134	.0085	.0035	.0014	.0009	.0006	.0003	.0001	*	*	*	*
60	.5504	.3048	.1697	.0951	.0535	.0303	.0173	.0099	.0057	.0033	.0011	.0004	.0002	.0001	*	*	*	*	*	*

* The factor is zero to four decimal places

Present Value of an Annuity of 1 Per Period for n Periods:

$$PVIF_{r,t} = \sum_{t=1}^{n} \frac{1}{(1+r)^t} = \frac{1 - \frac{1}{(1+r)^n}}{r}$$

Number of payments	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	15%	16%	18%	20%	24%	28%	32%
1	0.9901	0.9804	0.9709	0.9615	0.9524	0.9434	0.9346	0.9259	0.9174	0.9091	0.8929	0.8772	0.8696	0.8621	0.8475	0.8333	0.8065	0.7813	0.7576
2	1.9704	1.9416	1.9135	1.8861	1.8594	1.8334	1.8080	1.7833	1.7591	1.7355	1.6901	1.6467	1.6257	1.6052	1.5656	1.5278	1.4568	1.3916	1.3315
3	2.9410	2.8839	2.8286	2.7751	2.7232	2.6730	2.6243	2.5771	2.5313	2.4869	2.4018	2.3216	2.2832	2.2459	2.1743	2.1065	1.9813	1.8684	1.7663
4	3.9020	3.8077	3.7171	3.6299	3.5460	3.4651	3.3872	3.3121	3.2397	3.1699	3.0373	2.9137	2.8550	2.7982	2.6901	2.5887	2.4043	2.2410	2.0957
5	4.8534	4.7135	4.5797	4.4518	4.3295	4.2124	4.1002	3.9927	3.8897	3.7908	3.6048	3.4331	3.3522	3.2743	3.1272	2.9906	2.7454	2.5320	2.3452
6	5.7955	5.6014	5.4172	5.2421	5.0757	4.9173	4.7665	4.6229	4.4859	4.3553	4.1114	3.8887	3.7845	3.6847	3.4976	3.3255	3.0205	2.7594	2.5342
7	6.7282	6.4720	6.2303	6.0021	5.7864	5.5824	5.3893	5.2064	5.0330	4.8684	4.5638	4.2883	4.1604	4.0386	3.8115	3.6046	3.2423	2.9370	2.6775
8	7.6517	7.3255	7.0197	6.7327	6.4632	6.2098	5.9713	5.7466	5.5348	5.3349	4.9676	4.6389	4.4873	4.3436	4.0776	3.8372	3.4212	3.0758	2.7860
9	8.5660	8.1622	7.7861	7.4353	7.1078	6.8017	6.5152	6.2469	5.9952	5.7590	5.3282	4.9464	4.7716	4.6065	4.3030	4.0310	3.5655	3.1842	2.8681
10	9.4713	8.9826	8.5302	8.1109	7.7217	7.3601	7.0236	6.7101	6.4177	6.1446	5.6502	5.2161	5.0188	4.8332	4.4941	4.1925	3.6819	3.2689	2.9304
11	10.3676	9.7868	9.2526	8.7605	8.3064	7.8869	7.4987	7.1390	6.8052	6.4951	5.9377	5.4527	5.2337	5.0286	4.6560	4.3271	3.7757	3.3351	2.9776
12	11.2551	10.5753	9.9540	9.3851	8.8633	8.3838	7.9427	7.5361	7.1607	6.8137	6.1944	5.6603	5.4206	5.1971	4.7932	4.4392	3.8514	3.3868	3.0133
13	12.1337	11.3484	10.6350	9.9856	9.3936	8.8527	8.3577	7.9038	7.4869	7.1034	6.4235	5.8424	5.5831	5.3423	4.9095	4.5327	3.9124	3.4272	3.0404
14	13.0037	12.1062	11.2961	10.5631	9.8986	9.2950	8.7455	8.2442	7.7862	7.3667	6.6282	6.0021	5.7245	5.4675	5.0081	4.6106	3.9616	3.4587	3.0609
15	13.8651	12.8493	11.9379	11.1184	10.3797	9.7122	9.1079	8.5595	8.0607	7.6061	6.8109	6.1422	5.8474	5.5755	5.0916	4.6755	4.0013	3.4834	3.0764
16	14.7179	13.5777	12.5611	11.6523	10.8378	10.1059	9.4466	8.8514	8.3126	7.8237	6.9740	6.2651	5.9542	5.6685	5.1624	4.7296	4.0333	3.5026	3.0882
17	15.5623	14.2919	13.1661	12.1657	11.2741	10.4773	9.7632	9.1216	8.5436	8.0216	7.1196	6.3729	6.0472	5.7487	5.2223	4.7746	4.0591	3.5177	3.0971
18	16.3983	14.9920	13.7535	12.6593	11.6896	10.8276	10.0591	9.3719	8.7556	8.2014	7.2497	6.4674	6.1280	5.8178	5.2732	4.8122	4.0799	3.5294	3.1039
19	17.2260	15.6785	14.3238	13.1339	12.0853	11.1581	10.3356	9.6036	8.9501	8.3649	7.3658	6.5504	6.1982	5.8775	5.3162	4.8435	4.0967	3.5386	3.1090
20	18.0456	16.3514	14.8775	13.5903	12.4622	11.4699	10.5940	9.8181	9.1285	8.5136	7.4694	6.6231	6.2593	5.9288	5.3527	4.8696	4.1103	3.5458	3.1129
25	22.0232	19.5235	17.4131	15.6221	14.0939	12.7834	11.6536	10.6748	9.8226	9.0770	7.8431	6.8729	6.4641	6.0971	5.4669	4.9476	4.1474	3.5640	3.1220
30	25.8077	22.3965	19.6004	17.2920	15.3725	13.7648	12.4090	11.2578	10.2737	9.4269	8.0552	7.0027	6.5660	6.1772	5.5168	4.9789	4.1601	3.5693	3.1242
40	32.8347	27.3555	23.1148	19.7928	17.1591	15.0463	13.3317	11.9246	10.7574	9.7791	8.2438	7.1050	6.6418	6.2335	5.5482	4.9966	4.1659	3.5712	3.1250
50	39.1961	31.4236	25.7298	21.4822	18.2559	15.7619	13.8007	12.2335	10.9617	9.9148	8.3045	7.1327	6.6605	6.2463	5.5541	4.9995	4.1666	3.5714	3.1250
60	44.9550	34.7609	27.6756	22.6235	18.9293	16.1614	14.0392	12.3766	11.0480	9.9672	8.3240	7.1401	6.6651	6.2402	5.5553	4.9999	4.1667	3.5714	3.1250