kasneb

ATD LEVEL III

FUNDAMENTALS OF FINANCE

THURSDAY: 16 December 2021. **Time Allowed: 3 hours.**

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

QUESTION ONE

(a) Explain the following forms of dividend:

(i) Stock dividend. (2 marks)

(ii) Scrip dividend. (2 marks)

(b) Propose three strategies a firm could use in management of cash in the context of working capital financing policies. (6 marks)

(c) The forecasted rate of return from investment in securities X and Y over the next 5 years are as follows:

Forecasted returns (%)

Year	Security X	Security Y
2022	10	12
2023	12	8
2024	8	13
2025	15	11
2026	10	6

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Required:

(i) The expected rate of return for security X and security Y. (2 marks)

(ii) The standard deviation of returns for security X and security Y. (4 marks)

(iii) The coefficient of variation of security X and security Y. (2 marks)

(iv) Interpret results in (c) (i) and (c) (ii) above. (2 marks)

(Total: 20 marks)

QUESTION TWO

(a) Explain four remedial measures to agency conflict between shareholders and debenture holders. (8 marks)

(b) Peterson Chacha borrowed Sh.5,000,000 from XYZ commercial bank at an interest rate of 14% per annum. The loan is to be repaid in equal annual instalments over a period of 4 years.
Interest on the loan is to be paid on a reducing balance basis.

Required:

Prepare a loan amortisation schedule. (4 marks)

(c) Whiteshell Ltd.'s capital structure is provided as follows:

	Sh."000"
Ordinary share capital	60,000
Reserves	20,000
10% debentures	25,000
8% preference share capital	15,000
	120,000

Additional information:

1. The firm is expected to generate annual operating profit before interest and tax of Sh.10,000,000 in perpetuity.
2. The firm has acceptable investment opportunities worth Sh.2,000,000 to be financed in each year.
3. Corporation tax rate is 30%.

Required:

(i) Total ordinary dividend payable in each year if the firm adopts residual dividend policy. (6 marks)

(ii) Total ordinary dividend payable in each year if the firm adopts 60% payout ratio policy. (2 marks)

(Total: 20 marks)

QUESTION THREE

(a) (i) Differentiate between "riba" and "gharar" as used in Islamic finance. (4 marks)

(ii) Explain three principles of Islamic finance. (6 marks)

(b) Dynamic PLC intends to invest in project Y which is expected to generate the following cash flows:

Year	Cash flows Sh.
0	–100,000
1	20,000
2	30,000
3	40,000
4	50,000
5	30,000

Additional information:

1. The cost of capital is 12% per annum.
2. The acceptable discounted payback period for Dynamic PLC is 3 years.

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Required:

Advise the management of Dynamic PLC on whether to invest in Project Y using the following methods:

(i) Net present value (NPV). (4 marks)

(ii) Profitability index. (2 marks)

(iii) Discounted payback period. (4 marks)

(Total: 20 marks)

QUESTION FOUR

(a) Propose four challenges faced by small and medium sized enterprises (SMEs) in raising capital. (8 marks)

(b) Fanuel Oketch is considering making equal annual payments into his saving account at the end of each year over a period of 5 years. He expects to earn interest on the deposit at the rate of 6% per annum, compounded annually. Oketch is targeting to raise a cumulative sum of Sh.3,000,000 after 5 years to finance an investment project.

The future value of an ordinary annuity in 5 years at the rate of 6% is 5.6371.

Required:

The annual instalment to be deposited into his account each year. (2 marks)

(c) Galaxy Ltd. are considering undertaking an expansion programme which is expected to cost Sh.20 million. The expansion will be a diversification from their mainstream activities into the mining industry.

The firm's capital structure which is considered optional is given as follows:

	Sh."000"
Equity capital	80,000
Long term debt	20,000
	100,000

Additional information:

1. The firm will finance Sh.6 million of additional funds from internal sources.
2. New ordinary shares can be issued at a price of Sh.50 each. A floatation cost of Sh.5 per share will be incurred.
   The most recent dividend paid by the firm was Sh.2. This is expected to grow at the rate of 5% each year in perpetuity.
3. New 8% irredeemable debentures can be issued at a market price of Sh.110 each. The par value of each unit is Sh.100. A floatation cost of 5% of the par value will be incurred.
4. Corporation tax rate applicable is 30%.

Required:

(i) The cost of retained earnings. (2 marks)

(ii) The after tax cost of 8% debt. (2 marks)

(iii) Cost of ordinary share capital. (2 marks)

(iv) The firm's weighted marginal cost of capital. (4 marks)

(Total: 20 marks)

QUESTION FIVE

(a) Explain the following concepts of valuation of a security:

(i) Going concern value. (2 marks)

(ii) Liquidation value. (2 marks)

(iii) Intrinsic value. (2 marks)

(b) Summarise six factors to consider when making financing decisions. (6 marks)

(c) The following information relates to Xylights Ltd. as at 31 December 2019 and 2020:

Year	**2019**	**2020**
	Sh."000"	**Sh."000"**
Closing stock of finished goods	2,000	3,000
Accounts receivables	3,500	5,500
Account payables	3,000	6,000

Additional information:

1. The total sales for the year ended 31 December 2020 were Sh.20 million.
2. From past experience 80% of firm's sales are on credit sales. This trend is not expected to change in the foreseeable future.
3. The cost of sales of the firm for the year 2020 was Sh.10 million.
4. All purchases are usually on credit basis.
5. Assume that a year has 52 weeks.

Required:

The working capital cycle (in weeks) for the year ended 31 December 2020. (8 marks)

(Total: 20 marks)

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Present Value Interest factor of 1 Received at the End of *n* Periods at r Percent:

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

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	*	*	*	*

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Present Value Interest factors for Annuity of 1 Discounted at r Percent for *n* Periods:

$PVIFA_{r,n} = [1 - 1/(1+r)^{n}] / r$

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

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ATD LEVEL II

FUNDAMENTALS OF FINANCE

TUESDAY: 31 August 2021. **Time Allowed: 3 hours.**

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

QUESTION ONE

(a) Distinguish between "agency cost" and "agency conflict". (4 marks)

(b) Describe four factors that might influence the working capital requirements of a firm. (8 marks)

(c) Akili Mingi will deposit Sh.500,000 in her savings account at the end of the year 2021. She will deposit an additional Sh.200,000 at the end of each subsequent year in that account, the sum deposited is expected to earn interest at the rate of 8% per annum, compounded annually.

Required:

(i) Determine the cumulative amount that is expected to be in her account at the end of the year 2025. (6 marks)

(ii) The rate of return expected to be earned over the projected period. (2 marks)

(Total: 20 marks)

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QUESTION TWO

(a) Summarise two advantages of lease finance. (4 marks)

(b) Describe three business activities that are prohibited under Islamic finance. (6 marks)

(c) Perks Ltd. is considering acquisition of one of the following two equipment:

- Equipment A: Has a cost of Sh.750,000 and net cash flow of Sh.200,000 per year for six years.
- Equipment B: Has a cost of Sh.500,000 and net cash flow of Sh.140,000 per year for six years.

The required rate of return on both equipment is 10%.

Required:

(i) Net present value (NPV) of each equipment. (4 marks)

(ii) The internal rate of return (IRR) of each equipment. (4 marks)

(iii) Advise the management of Perks Ltd. on which equipment should be accepted. (2 marks)

(Total: 20 marks)

QUESTION THREE

(a) Explain three functions of the securities market in your country. (6 marks)

(b) Melody Ltd. is considering raising an additional Sh.10,000,000 to finance an expansion programme.

The firm's existing capital structure which is considered to be optimal is given as follows:

	Sh."000"
Ordinary share capital	40,000
Reserves	20,000
16% debenture (Sh.100 par)	25,000
14% preference share capital (Sh.20 each)	15,000
	100,000

Additional information:

1. The firm expects to generate Sh.2,000,000 from retained earnings for this expansion programme.
2. Additional new ordinary shares will be issued at Sh.45 each subject to a floatation cost of Sh.5 per share. The most recent dividend paid by the company is Sh.2 per share. The firm's dividends are expected to grow at the rate of 5% per annum in perpetuity.
3. The company will issue new 16% debentures at a price of Sh.110.
4. New 14% preference shares will be issued at par.
5. Corporation tax rate applicable is 30%.

Required:

(i) The cost of retained earnings. (2 marks)

(ii) The cost of new ordinary share capital. (2 marks)

(iii) The cost of new 16% debentures. (2 marks)

(iv) The cost of new preference shares. (1 mark)

(v) The company's weighted marginal cost of capital (WMCC). (5 marks)

(vi) The number of new ordinary shares to be issued to raise desired external equity. (2 marks)

(Total: 20 marks)

QUESTION FOUR

(a) Explain the terms "discounted cash flow". (2 marks)

(b) Discuss three limitations of debentures as a source of finance. (6 marks)

(c) Benard Kiarie undertakes a contractual job for 5 years, in which his annual salary of Sh.1 million is payable at the end of each year. His salary has a provision of an annual increment of 8%. The required rate of return is 10% per annum.

Required:

The present value of his salary. (5 marks)

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(d) Star Computer Ltd. has forecasted return on its share with the following probability distribution:

Return (%)	Probability
–20	0.05
–10	0.05
–5	0.10
5	0.10
10	0.15
18	0.25
20	0.25
30	0.05

Required:

(i) The expected return. (3 marks)

(ii) The standard deviation of return. (4 marks)

(Total: 20 marks)

QUESTION FIVE

(a) Summarise two disadvantages of the profit maximisation as an objective of a firm. (4 marks)

(b) Explain three factors that might influence the dividend policy of a firm. (6 marks)

(c) Bafana Ltd. currently operates with terms of net 72 days. The firm's current average investment in account receivables is Sh.4,800,000. 60% of the firm's sales are always on credit. The current total sales amount to Sh.38,400,000.

Additional information:

1. The company is considering introducing terms of 3/15 net 90 days.
2. The firm's total turnover is expected to increase by 30% as a result of relaxing the terms of sale.
3. All cash customers and 60% of the credit customers will take advantage of the cash discount offer.

4. The firm's average collection period will rise from current level 75 days to 80 days.
5. Bad debts are expected to remain at 5% of credit sales.
6. Inventory levels are estimated to be 5% of the firm's total turnover.
7. The gross margin on sales is 40%.
8. The cost of capital is 18%.
9. Corporation tax rate applicable is 30%.

(Assume that a year has 360 days).

Required:
Advise the management of Bafana Ltd. whether to adopt the new credit policy. (10 marks)
(Total: 20 marks)

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Present Value Interest factor of 1 Received at the End of *n* Periods at r Percent:

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

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	*	*	*	*

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Present Value Interest factors for Annuity of 1 Discounted at r Percent for *n* Periods:

$PVIFA_{r,n} = [1 - 1/(1+r)^n] / r$

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

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ATD LEVEL II

FUNDAMENTALS OF FINANCE

TUESDAY: 18 May 2021. **Time Allowed: 3 hours.**

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

QUESTION ONE

(a) Distinguish between the following sets of terms as used in financial markets:

(i) "Quoted companies" and "unquoted companies". (2 marks)

(ii) "Bonus issue" and "rights issue". (2 marks)

(b) Summarise two advantages of the internal rate of return (IRR) method used in evaluation of the viability of an investment project. (4 marks)

(c) Kopex Ltd.'s capital structure is as follows:

	Sh."million"
Ordinary share capital (Sh.20 each)	1,920
12% preference share capital (Sh.20 each)	1,440
9% debentures	960
	4,320

Additional information:

1. The ordinary shares are currently trading on the securities exchange at Sh.75 per share.
2. The ordinary dividend for the previous financial year was Sh.10.60 per share. The dividends are expected to grow at an annual growth rate of 8% for the foreseeable future.
3. The preference shares have a current market value of Sh.20 per share.
4. The debentures are irredeemable and have a current market value of Sh.1,080 per Sh.1,000 nominal value.
5. Corporation tax rate is 30%.

Required:

(i) Kopex Ltd.'s market weighted average cost of capital (MWACC). (8 marks)

(ii) Explain two reasons why Kopex Ltd. could prefer to use market weights instead of book value weights in the computation of the weighted average cost of capital. (4 marks)

(Total: 20 marks)

QUESTION TWO

(a) Describe four factors to be taken into account in the design of a firm's credit policy. (8 marks)

(b) The following balances were extracted from the books of Ushauri Ltd. for the year 2020:

	Balances as at	
	Beginning of year Sh."000"	**End of year Sh."000"**
Finished goods stock	1,000	4,000
Accounts receivable	1,500	4,500
Accounts payable	1,200	2,800

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Additional information:

1. The firm's sales and cost of sales are Sh.20 million and Sh.15 million respectively. 80% of the firm's sales are credit sales.
2. All purchases of stock are on credit basis.
   (Assume that a year has 360 days).

Required:

The firm's working capital operating cycle for the year 2020. (6 marks)

(c) Kevin Machokah obtained a loan of Sh.1,200,000 from a commercial bank at an interest rate of 12.5% per annum. The loan is to be repaid in equal semi-annual installments over a period of 3 years. The loan interest is to be amortised on a reducing balance basis.

Required:

Loan amortisation schedule for Kevin Machokah. (6 marks)

(Total: 20 marks)

QUESTION THREE

(a) Explain three areas where the concept of time value of money might be applied. (6 marks)

(b) Explain three reasons why organisations prefer retained earnings as a source of finance. (6 marks)

(c) Maize Mills Ltd. expects to generate net income of Sh.10,000,000 in the current financial year.

Additional information:

1. The firm's management has established that acceptable investment proposals of Sh.6,000,000 require financing.
2. The firm currently adopts a residual dividend policy.
3. The number of issued ordinary shares is 10,000,000.

Required:

(i) The optimal total dividend payable and dividend per share assuming the firm adopts a residual dividend policy. (3 marks)

(ii) The optimal total dividend payable and dividend per share assuming the firm adopts a 50% payout ratio policy.

(3 marks)

(iii) Advise the company on the dividend policy to adopt based on your answer in (c) (i) and (c) (ii) above.

(2 marks)

(Total: 20 marks)

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QUESTION FOUR

(a) Outline four differences between "Islamic banking" and "conventional banking". (8 marks)

(b) Kenvit Ltd. is considering investing in one of the following two projects X and Y, which require an initial cash outlay of Sh.2,200,000 each. Each of the projects has an estimated productive life of five years.

The following information relates to the two projects:

1. The projects will generate the following annual cash inflows:

Year	Project X Sh.	Project Y Sh.
1	200,000	400,000
2	600,000	900,000
3	1,200,000	800,000
4	900,000	700,000
5	500,000	600,000

2. The company's cost of capital is 10% per annum.

Required:
Advise the management of Kenvit Ltd. on the project to undertake based on the following investment evaluation methods:

(i) Net present value (NPV). (8 marks)

(ii) Profitability index (PI). (4 marks)

(Total: 20 marks)

QUESTION FIVE

(a) Explain four conflicts that could arise in the course of achieving a firm's objectives. (8 marks)

(b) Summarise four benefits of regulating financial markets in your country. (4 marks)

(c) Explain the term "unique risk" as used in finance. (2 marks)

(d) John Kim purchased shares of Barbex Ltd. at the beginning of the year at Sh.125 per share. The forecasted price per share at the end of the year and the probability of its occurrence in different economic conditions are given as follows:

Economic conditions	**Probability**	**Forecasted share price** **Sh.**
High growth	0.30	120
Low growth	0.40	130
Stagnation	0.20	140
Recession	0.10	160

Required:

(i) Expected rate of return of the company's shares. (2 marks)

(ii) The standard deviation of the return. (4 marks)

(Total: 20 marks)

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Present Value Interest factor of 1 Received at the End of *n* Periods at r Percent:

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

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	-	-	-	-

Present Value Interest factors for Annuity of 1 Discounted at r Percent for *n* Periods:

$PVIFA_{r,n} = [1 - 1/(1+r)^{n}] / r$

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

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ATD LEVEL II

FUNDAMENTALS OF FINANCE

TUESDAY: 24 November 2020. **Time Allowed: 3 hours.**

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

QUESTION ONE

(a) Highlight four applications of the cost of capital to a firm. (4 marks)

(b) Citing three reasons, justify why the accounting profit might not be the best measure of a company's performance. (6 marks)

(c) Riziki Ltd. borrowed Sh.15,000,000 from Zaidi Bank at an annual compound interest rate of 18% on the reducing balance. The loan was repayable in annual installments over a period of six years. The installments were payable at the end of each year.

Required:
A loan amortisation schedule for Riziki Ltd. (6 marks)

(d) At the beginning of year 2015, Chiaro Kwekwe deposited Sh.1,000,000 in an investment account which earned compound interest at the rate of 15% per annum. At the beginning of each subsequent year, Chiaro Kwekwe deposited a further Sh.500,000 in the same account.

Required:
The amount of money in the investment account by the end of the year 2019. (4 marks)
(Total: 20 marks)

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QUESTION TWO

(a) Outline two advantages of bonus issue of shares from the viewpoint of the company. (2 marks)

(b) Discuss four dividend pay-out policies that could be adopted by different companies in your country. (8 marks)

(c) Explain the following types of risks:

(i) Market risk. (1 mark)

(ii) Interest rate risk. (1 mark)

(iii) Default risk. (1 mark)

(d) Barry Otipha plans to buy shares of Lightway Ltd. that are currently selling at Sh.20 each at the Securities Exchange. The forecasted price per share and probability of their occurrence in different states of nature are as follows:

State of nature	Probability	Forecasted share price Sh.
Excellent	0.30	25
Normal	0.20	22
Poor	0.35	21
Very poor	0.15	18

Required:

(i) Expected rate of return of the company's share. (3 marks)

(ii) The standard deviation of return. (4 marks)
(Total: 20 marks)

QUESTION THREE

(a) Explain four features of ordinary shares. (8 marks)

(b) Orbitech Ltd's capital structure which is considered to be optimal is given as follows:

	%
Equity	60
Debt	40
	100

The firm is planning to raise an additional Sh.5,000,000 to finance an expansion programme. This project is expected to generate additional net operating cash inflows of Sh.700,000 in each year in perpetuity.

Additional information:

1. New ordinary shares could be issued at Sh.40 each and incur a floatation cost of Sh.2 per share issued.
2. The firm's current earnings per share is Sh.5 and adopts a 50% payout ratio as its dividend policy. The firm's future dividend is expected to grow at a constant rate of 4% each year indefinitely.
3. New irredeemable 10% debentures can be issued at par at Sh.100 each. Floatation cost of Sh.3 per debenture issued will be incurred.
4. Corporation tax rate is 30%.
5. Retained earnings available to finance this activity are estimated at Sh.1,000,000.

Required:

(i) Cost of retained earnings. (2 marks)

(ii) Cost of ordinary share capital. (2 marks)

(iii) Effective cost of 10% debenture capital. (2 marks)

(iv) Weighted marginal cost of capital (WMCC) of a firm. (4 marks)

(v) The number of ordinary shares to be issued to raise external equity. (2 marks)

(Total: 20 marks)

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QUESTION FOUR

(a) Explain three approaches to financing working capital that could be adopted by different firms. (6 marks)

(b) Outline four features of a sound investment appraisal technique. (4 marks)

(c) Banita Ltd. is considering the selection of a project from two mutually exclusive projects with an estimated productive life of five years.

The following information relates to the two projects:

Project A: The project costs Sh.9,920,000 and is expected to generate annual cash flows of Sh.2,400,000 with an estimated residual value of Sh.1,180,000.

Project B: The project costs Sh.4,800,000 and is expected to generate annual cash flows of Sh.1,200,000 with an estimated residual value of Sh.405,000.

The company's cost of capital is 14% per annum.

Required:

(i) Payback period for each project. (4 marks)

(ii) Net present value (NPV) of each project. (4 marks)

(iii) Advise the management of Banita Limited on the project to undertake under each of the investment valuation methods in (c) (i) and (c) (ii) above. (2 marks)

(Total: 20 marks)

QUESTION FIVE

(a) In relation to Islamic Finance, distinguish between the following terminologies:

(i) Istna and salam. (2 marks)

(ii) Ijara and sukuk. (2 marks)

(iii) Mudhaaraba and mushaaraka. (2 marks)

(b) Explain three methods of listing a company at the Securities Exchange. (6 marks)

(c) Blaze Ltd. requires 20,000 units of a component "Y" in its manufacturing process in the coming year which costs Sh.50 each. The items are available locally and hence the lead time is one week. Each order costs Sh.20 to prepare and process while the holding cost is Sh.15 per unit per year for storage plus 10% of the purchase price as opportunity cost.

Required:

(i) Optimal quantity of the component "Y" to be ordered in each order. (4 marks)

(ii) The re-order level. (Assume 50 weeks in a year). (3 marks)

(iii) The number of orders to be placed per year. (1 mark)

(Total: 20 marks)

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Present Value Interest factor of 1 Received at the End of *n* Periods at r Percent:

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

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	*	*	*	*

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Present Value Interest factors for Annuity of 1 Discounted at r Percent for *n* Periods:

$PVIFA_{r,n} = [1 - 1/(1+r)^n] / r$

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

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ATD LEVEL II

FUNDAMENTALS OF FINANCE

WEDNESDAY: 27 November 2019. **Time Allowed: 3 hours.**

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

QUESTION ONE

(a) Describe the functions of the following financial market participants:

(i) Brokers. (2 marks)

(ii) Investment banks. (2 marks)

(iii) Securitisers. (2 marks)

(b) Discuss four ways in which the potential agency problems between shareholders and the management could be resolved. (8 marks)

(c) Christopher Omondo borrowed Sh.2,500,000 from Betacom Bank Ltd. at an interest rate of 15% per annum. The loan is to be repaid semi-annually over a period of 3 years. The interest on the loan is to be paid on a reducing balance basis.

Required:

(i) The amount of each semi-annual instalment payable for the loan. (2 marks)

(ii) A loan amortisation schedule. (4 marks)

(Total: 20 marks)

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QUESTION TWO

(a) (i) In relation to time value of money, describe three interpretations of interest rates. (3 marks)

(ii) In 1988, the average cost of an asset was Sh.1,800. Thirty years later, in 2018, the average cost of the same asset was Sh.13,700.

Required:

The growth rate in the asset value over the 30 year period. (2 marks)

(b) Propose four factors that could influence a firm's cost of capital. (8 marks)

(c) Juhudi Ltd. is considering investing in a new machine that will cost Sh.1,000,000 at time 0. The machine can be sold after three years for Sh.100,000. To operate the machine, Sh.200,000 must be invested at time 0 in inventories. These funds will be recovered when the machine is retired at the end of year 3. The machine will produce sales revenue of Sh.900,000 per year for 3 years. Variable operating costs excluding depreciation will be 50% of sales. Operating cash inflows will begin in year 1 from today (at time 1). The machine will have depreciation expenses of Sh.500,000, Sh.300,000 and Sh.200,000 in years 1, 2 and 3 respectively. The company has a 30% tax rate and a 10% cost of capital. Assume inflation is zero.

Required:

(i) The projects net present value (NPV). (6 marks)

(ii) Advise the management of Juhudi Ltd. on whether to undertake the project based on your result in (c) (i) above. (1 mark)

(Total: 20 marks)

QUESTION THREE

(a) Summarise five rights of equity shareholders of a company. (5 marks)

(b) Highlight four disadvantages of Islamic finance. (4 marks)

(c) Oak Ltd. is considering undertaking a project that has an upfront cost and a series of positive cash flows. The project's estimated cash flows are summarised below:

Year	Project cash flow Sh."000"
0	?
1	500
2	300
3	400
4	600

The project has a regular payback period of 2.25 years.

Required:

The project's internal rate of return (IRR). (5 marks)

(d) Explain three reasons why a company might prefer to issue bonus shares instead of paying cash dividend. (6 marks)

(Total: 20 marks)

QUESTION FOUR

(a) Suggest five reasons for prolonged working capital operating cycle. (5 marks)

(b) Lakers Ltd. has annual sales of Sh.50,735,000 and maintains an average inventory level of Sh.15,012,000. The average accounts receivable balance outstanding is Sh.10,008,000. The company makes all purchases on credit and has always paid on the 30th day. The company is now going to take full advantage of trade credit and pay its suppliers on the 40th day. Its sales can be maintained at existing levels but inventory can be reduced by Sh.1,946,000 and accounts receivable reduced by Sh.1,946,000. There are 365 days in a year.

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Required:

Determine the net change in the cash conversion cycle. (6 marks)

(c) A prospective investor bought shares of Kenland Paints Ltd. at the start of the year for Sh.25 each. The forecasted price of each share at the end of the year and probability of their occurrence in different states of nature are given as follows:

State of nature	Probability	Forecasted share price Sh.
Good	0.20	30
Fair	0.40	27
Poor	0.40	24

Required:

(i) Expected rate of return. (3 marks)

(ii) The standard deviation of return. (4 marks)

(iii) The relative risk. (2 marks)

(Total: 20 marks)

QUESTION FIVE

(a) Distinguish between "systematic risk" and "unsystematic risk". (4 marks)

(b) Omena Ltd's capital structure which is considered to be optimal is given as follows:

	Sh. "000"
Ordinary share capital (Sh.10 each)	5,000
Reserves	1,000
14% Debenture (Sh.100 each)	3,000
12% Preference share capital (Sh.20 each)	1,000
	10,000

The firm is contemplating raising an additional Sh.5,000,000 to finance a capital investment which is expected to generate annual net cash flows of Sh.1,600,000 over its 5 years useful life. No resale value is expected at the end of its useful life.

The firm expects to generate Sh. 1,000,000 from internal sources to finance the investment activity.

Additional information:

1. New ordinary shares can be issued at Sh.50 each. A floatation cost of Sh.5 per share will be incurred. The most recent dividend paid was Sh.2 per share.
2. The firm's future dividends are expected to grow at a constant rate of 5% each year in perpetuity.
3. New 10%, redeemable debentures will be issued at Sh.105 per unit. The par value for each unit is Sh.100 and a floatation cost of 10% of par value will be incurred. The debenture will mature after 10 years.
4. New 12% irredeemable preference shares will be issued at Sh.28 each subject to a floatation cost of Sh.3 per share issued. The par value is Sh.20 per share.
5. Corporation tax rate is 30%.

Required:

(i) The cost of retained profit. (2 marks)

(ii) The cost of ordinary share capital. (2 marks)

(iii) The after tax cost of new 10% redeemable debentures. (3 marks)

(iv) The cost of new 12% irredeemable preference share capital. (2 marks)

(v) The firm's weighted marginal cost of capital (WMCC). (4 marks)

(vi) Using the Net Present Value (NPV) technique, advise on the suitability or otherwise of the proposed project (3 marks)

(Total: 20 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

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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

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ATD LEVEL II

FUNDAMENTALS OF FINANCE

TUESDAY: 21 May 2019. **Time Allowed: 3 hours.**

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

QUESTION ONE

(a) Explain the following terms as used in finance:

(i) Financial intermediaries. (2 marks)

(ii) Risk-return trade off. (2 marks)

(iii) Stakeholder management. (2 marks)

(b) Describe three motives of holding inventory. (6 marks)

(c) Zeltex Ltd.'s shares cost Sh.120 each and pay no dividends. The possible prices that the company's shares might sell for at the end of the year with the respective probabilities are provided below:

Price Sh.	Probability
115	0.10
120	0.10
125	0.20
130	0.30
135	0.20
140	0.10

Required:

(i) The expected return of the company's shares. (4 marks)

(ii) The standard deviation of return. (4 marks)

(Total: 20 marks)

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QUESTION TWO

(a) Firms strive to achieve objectives which at times overlap with each other and in some cases conflict with each other.

With reference to the above statement, discuss four overlaps that could arise in the course of a firm's effort to achieve its objectives. (8 marks)

(b) Umbo Ltd. is evaluating two mutually exclusive projects, A and B. Both projects are expected to cost Sh.8 million. However, an additional Sh.1 million investment in working capital will be required if the firm were to invest in project A and Sh.1.5 million for Project B.

Project A has an estimated useful life of five years while Project B has an estimated useful life of 4 years. Estimated net operating cash flows (NOCF) from each investment in each year are given as follows:

Year	PROJECT	
	A	B
	Sh."000"	Sh."000"
1	2,500	3,500
2	3,000	3,500
3	3,500	3,500
4	2,800	3,500
5	2,000	-

Additional information:

1. The resale values for Project A and Project B at the end of their useful life are estimated at Sh.200,000 and Sh.300,000 respectively.
2. Cost of capital is projected at 14%.

Required:

(i) Net present value (NPV) for Project A and Project B. (10 marks)

(ii) Advise the company on which project to undertake. (2 marks)

(Total: 20 marks)

QUESTION THREE

(a) Describe four forms of dividend payments that a company could utilise to pay its shareholders. (8 marks)

(b) Mazeras Ltd. is considering an investment of Sh.20,000 that will generate a perpetual after tax annual cash flow of Sh.2,000. The required rate of return is 8%.

Required:

(i) The investment's profitability Index (PI). (3 marks)

(ii) Advise the company whether to undertake the investment, based on the profitability index obtained in (b) (i) above. (2 marks)

(c) Explain two advantages of using private placement when issuing long-term debt. (4 marks)

(d) John Malech deposits the following amounts at the end of each year in a savings account paying an annual interest rate of 4% compounded semi annually:

Year	End of year deposits (Sh.)
1	4,000
2	8,000
3	7,000
4	10,000

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Required:

The value of the account at the end of year 4. (3 marks)

(Total: 20 marks)

QUESTION FOUR

(a) In relation to financial markets, outline four benefits that could accrue to investors from using the Central Depository System in securities trading. (4 marks)

(b) Kingstone Omondi plans to make a constant deposit into his savings account at the start of each year over a period of four years.

He expects the sum deposited to earn interest at the rate of 8% each year compounded annually. Omondi expects to raise Sh.1,500,000 after four years in order to finance a capital investment.

Required:

The annual deposit into his savings account. (4 marks)

(c) Ushindi Ltd.'s capital structure which is considered optimal, is as follows:

	Sh."000"
Ordinary share capital (Sh.10 Par value)	40,000
Reserves	20,000
12% Debenture (Sh.100 Par value)	40,000
	100,000

The firm's management are considering raising an additional Sh.20 million to finance an expansion programme. The company expects to generate Sh.2 million from internal sources.

Additional information:

1. The firm will issue new ordinary shares at Sh.25 each to raise desired external equity. A floatation cost of Sh.2 per share will be incurred.
2. The company will issue new 14% redeemable debentures to raise desired debt capital. The issue price will be at Sh.90 subject to a floatation cost of Sh.10 per unit issued. The debentures will mature after 10 years. Par value of each unit is Sh.100.
3. Corporation tax rate applicable is 30%.
4. The most recent ordinary dividend paid is Sh.3.0 per share, while future dividends shall grow at the rate of 5% each year in perpetuity.

Required:

(i) The cost of retained profit. (2 marks)

(ii) The cost of new ordinary share capital. (2 marks)

(iii) The cost of new 14% redeemable debt. (3 marks)

(iv) The firm's weighted marginal cost of capital (WMCC). (5 marks)

(Total: 20 marks)

QUESTION FIVE

(a) Explain the following principles of Islamic Banking and Finance:

(i) Paying or charging an interest (Riba). (2 marks)

(ii) Investing in businesses involved in prohibited activities (Haram). (2 marks)

(iii) Speculation (Maisir). (2 marks)

(iv) Uncertainty and risk (Gharar). (2 marks)

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(b) Summarise four roles of the Capital Markets Authority (CMA) or similar authority in your country. (4 marks)

(c) Baraka Ltd. has provided the following forecasted financial information for the year ending 30 June 2019:

	Sh."000"
Sales – (all credit)	7,200
Average trade receivables	612
Finished goods	400
Work-in-progress (WIP)	700
Raw materials (balance held)	300
Trade payables	260

The gross profit margin is 25% on sales. Raw materials are 80% of the cost of sales. All purchases are also made on credit.

Assume that the calendar year has 365 days and that inventory levels are constant throughout the year.

Required:

Calculate the following:

(i) Raw material holding period. (2 marks)

(ii) Trade payable days. (1 mark)

(iii) Work-in-progress (WIP) period. (1 mark)

(iv) Finished goods holding period. (1 mark)

(v) Trade receivables collection period. (1 mark)

(vi) Cash operating cycle (2 marks)

(Total: 20 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

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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	3.7556	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

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ATD LEVEL II

FUNDAMENTALS OF FINANCE

TUESDAY: 27 November 2018. **Time Allowed: 3 hours.**

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

QUESTION ONE

(a) Differentiate between "primary market" and "secondary market". (4 marks)

(b) In relation to Islamic finance, explain four sources of finance. (8 marks)

(c) A businessman wants to save for the university education of his son. The businessman estimates that the education expenses will be Sh.1 million per year for four years when his son joins university in 16 years time. The expenses will be payable at the beginning of the years. He expects the annual interest rate of 8% over the next two decades. (Assume that the deposit is made at the end of the year).

Required:
Calculate the amount of money that he should deposit in the bank each year for the next 15 years to take care of his son's university education expenses. (4 marks)

(d) Baldwin Ronny borrowed Sh.5 million from a bank at the rate of 15% per annum. The loan is to be repaid in equal instalments at the end of each year for the next three years. Interest on the loan is to be paid on a reducing balance basis.

Required:
Prepare a loan amortisation schedule. (4 marks)
(Total: 20 marks)

QUESTION TWO

(a) Outline two reasons for the time preference for money. (2 marks)

(b) Explain four factors to be considered while formulating the dividend policy. (8 marks)

(c) The following is an extract from the statement of financial position of EPSY Ltd. as at 30 June 2018:

	Sh."000"
Ordinary shares of Sh.50 each	5,200
Reserves	4,850
9% preference shares of Sh.100 each	4,500
14% loan notes	5,000
Total long-term funds	19,550

Additional information:
1. The ordinary shares are quoted at Sh.80 per share. Ordinary shareholders expect cash dividend of Sh.4 per share and a dividend growth at the rate of 12% at the end of every year.
2. The preference shares which are unredeemable are quoted at Sh.72 per share.
3. The loan notes are quoted at par.
4. The corporate rate of tax is 33% per annum.

Required:
The weighted average cost of capital using market value. (10 marks)
(Total: 20 marks)

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QUESTION THREE

(a) Explain three reasons for the regulation of financial markets in your country. (6 marks)

(b) The following is an extract from the financial statements of Takuy Ltd. for the year ended 31 December 2016 and 2017:

	Year 2017 Sh. "Million"
Sales	80
Cost of sales	56

	Year 2016 Sh. "Million"	**Year 2017 Sh. "Million"**
Inventory	9	12
Accounts receivable	12	16
Accounts payable	7	10

The financial year for Takuy Ltd. has 365 days.

Required:

Calculate the following:

(i) Operating cycle. (4 marks)

(ii) Cash operating cycle. (2 marks)

(c) Jimia Brothers have provided the following information regarding their business:

1. The estimated sales are Sh.50,000 in December 2018, Sh.55,000 in January 2019 and Sh.60,000 in February 2019. All sales will be in cash.
2. Their estimated purchases are Sh.20,000 in December 2018, Sh.22,000 in January 2019 and Sh.25,000 in February 2019. The payments for the purchases will be made after a lag of one month. Outstanding on the account of purchases in November 2018 is Sh.22,000.
3. The rent per month is Sh.5,000.
4. Salaries and other expenses, payable in cash are expected to be Sh.15,000 in December 2018, Sh.18,000 in January 2019 and Sh.20,000 in February 2019.
5. They expect to buy furniture worth Sh.25,000 on cash payment in January 2019.
6. The cash balance at present is Sh.5,000. Their target cash balance, however is Sh.8,000.

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Required:

Prepare a statement showing the surplus or deficit in relation to the minimum cash balance required. (8 marks)

(Total: 20 marks)

QUESTION FOUR

(a) Distinguish between "internal sources of finance" and "external sources of finance", giving an example in each case. (4 marks)

(b) Outline four advantages of retained earnings as a source of finance. (4 marks)

(c) Mahdady Ltd. are evaluating two mutually exclusive projects, x and y.

The details of the projects are given as follows:

Project x:

The cost of project is Sh.2,000,000. It is expected to generate an annual net cash inflow of Sh.250,000 each year to perpetuity.

Project y:

This project will cost Sh.1,500,000. It is expected to have a useful life of 3 years with a scrap value of Sh.300,000 after 3 years.

This investment will require an initial investment of working capital of Sh.200,000 at the start (Year 0) which will however be recovered at the end of the asset's useful life.

The estimated pre-tax cash flow from this project excluding provision for depreciation in each year are given as follows:

Year:	**1**	**2**	**3**
	Sh."000"	**Sh."000"**	**Sh."000"**
Pre-tax cash flow	1,200	1,400	1,300

Additional information:

1. The firm provides for depreciation on a straight line basis.
2. Cost of capital is 10% and the corporation tax rate applicable is 30%.

Required:

(i) Net present value (NPV) for project x and y. (10 marks)

(ii) Advise the company on which project to undertake. (2 marks)

(Total: 20 marks)

QUESTION FIVE

(a) State four causes of agency conflict between shareholders and independent auditors. (4 marks)

(b) Citing three reasons, explain why firms should focus on value maximisation as their main objective instead of profit maximisation. (6 marks)

(c) Harold Mutiso bought shares of ABC Ltd. at a price of Sh.40 each. The forecasted market price for each share and dividend payable on each share in each year over the next three years from now are given as follows:

Year	**Market price per share (MPS) Sh.**	**Dividend per share (DPS) Sh.**
1	42	2
2	44	2.5
3	45	3.5

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Required:

(i) Expected rate of return from the shares. (4 marks)

(ii) Standard deviation of return. (4 marks)

(iii) Coefficient of variation. (2 marks)

(Total: 20 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	.0033
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

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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

Future Value Factor for an Ordinary Annuity

(Interest rate = r, Number of periods = n)

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n \ r	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%
1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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	2.1700
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	3.5389
4	4.0604	4.1216	4.1836	4.2465	4.3101	4.3746	4.4399	4.5061	4.5731	4.6410	4.7097	4.7793	4.8498	4.9211	4.9934	5.0665	5.1405
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	6.6101	6.7424	6.8771	7.0144
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	9.2068
7	7.2135	7.4343	7.6625	7.8983	8.1420	8.3938	8.6540	8.9228	9.2004	9.4872	9.7833	10.0890	10.4047	10.7305	11.0668	11.4139	11.7720
8	8.2857	8.5830	8.8923	9.2142	9.5491	9.8975	10.2598	10.6366	11.0285	11.4359	11.8594	12.2997	12.7573	13.2328	13.7268	14.2401	14.7733
9	9.3685	9.7546	10.1591	10.5828	11.0266	11.4913	11.9780	12.4876	13.0210	13.5795	14.1640	14.7757	15.4157	16.0853	16.7858	17.5185	18.2847
10	10.4622	10.9497	11.4639	12.0061	12.5779	13.1808	13.8164	14.4866	15.1929	15.9374	16.7220	17.5487	18.4197	19.3373	20.3037	21.3215	22.3931
11	11.5668	12.1687	12.8078	13.4864	14.2068	14.9716	15.7836	16.6455	17.5603	18.5312	19.5614	20.6546	21.8143	23.0445	24.3493	25.7329	27.1999
12	12.6825	13.4121	14.1920	15.0258	15.9171	16.8699	17.8885	18.9771	20.1407	21.3843	22.7132	24.1331	25.6502	27.2707	29.0017	30.8502	32.8239
13	13.8093	14.6803	15.6178	16.6268	17.7130	18.8821	20.1406	21.4953	22.9534	24.5227	26.2116	28.0291	29.9847	32.0887	34.3519	36.7862	39.4040
14	14.9474	15.9739	17.0863	18.2919	19.5986	21.0151	22.5505	24.2149	26.0192	27.9750	30.0949	32.3926	34.8827	37.5811	40.5047	43.6720	47.1027
15	16.0969	17.2934	18.5989	20.0236	21.5786	23.2760	25.1290	27.1521	29.3609	31.7725	34.4054	37.2797	40.4175	43.8424	47.5804	51.6595	56.1101
16	17.2579	18.6393	20.1569	21.8245	23.6575	25.6725	27.8881	30.3243	33.0034	35.9497	39.1899	42.7533	46.6717	50.9804	55.7175	60.9250	66.6488
17	18.4304	20.0121	21.7616	23.6975	25.8404	28.2129	30.8402	33.7502	36.9737	40.5447	44.5008	48.8837	53.7391	59.1176	65.0751	71.6730	78.9792
18	19.6147	21.4123	23.4144	25.6454	28.1324	30.9057	33.9990	37.4502	41.3013	45.5992	50.3959	55.7497	61.7251	68.3941	75.8364	84.1407	93.4056
19	20.8109	22.8406	25.1169	27.6712	30.5390	33.7600	37.3790	41.4463	46.0185	51.1591	56.9395	63.4397	70.7494	78.9692	88.2118	98.6032	110.2846
20	22.0190	24.2974	26.8704	29.7781	33.0660	36.7856	40.9955	45.7620	51.1601	57.2750	64.2028	72.0524	80.9468	91.0249	102.4436	115.3797	130.0329
21	23.2392	25.7833	28.6765	31.9692	35.7193	39.9927	44.8652	50.4229	56.7645	64.0025	72.2651	81.6987	92.4699	104.7684	118.8101	134.8405	153.1385
22	24.4716	27.2990	30.5368	34.2480	38.5052	43.3923	49.0057	55.4568	62.8733	71.4027	81.2143	92.5026	105.4910	120.4360	137.6316	157.4150	180.1721
23	25.7163	28.8450	32.4529	36.6179	41.4305	46.9958	53.4361	60.8933	69.5319	79.5430	91.1479	104.6029	120.2048	138.2970	159.2764	183.6014	211.8013
24	26.9735	30.4219	34.4265	39.0826	44.5020	50.8156	58.1767	66.7648	76.7898	88.4973	102.1742	118.1552	136.8315	158.6586	184.1678	213.9776	248.8076
25	28.2432	32.0303	36.4593	41.6459	47.7271	54.8645	63.2490	73.1059	84.7009	98.3471	114.4133	133.3339	155.6196	181.8708	212.7930	249.2140	292.1049
26	29.5256	33.6709	38.5530	44.3117	51.1135	59.1564	68.6765	79.9544	93.3240	109.1818	127.9988	150.3339	176.8501	208.3327	245.7120	290.0883	342.7627
27	30.8209	35.3443	40.7096	47.0842	54.6691	63.7058	74.4838	87.3508	102.7231	121.0999	143.0786	169.3740	200.8406	238.4993	283.5688	337.5024	402.0323
28	32.1291	37.0512	42.9309	49.9676	58.4026	68.5281	80.6977	95.3388	112.9682	134.2099	159.8173	190.6989	227.9499	272.8892	327.1041	392.5028	471.3778
29	33.4504	38.7922	45.2189	52.9663	62.3227	73.6398	87.3465	103.9659	124.1354	148.6309	178.3972	214.5828	258.5834	312.0937	377.1697	456.3032	552.5121
30	34.7849	40.5681	47.5754	56.0849	66.4388	79.0582	94.4608	113.2832	136.3075	164.4940	199.0209	241.3327	293.1992	356.7868	434.7451	530.3117	647.4391
31	36.1327	42.3794	50.0027	59.3283	70.7608	84.8017	102.0730	123.3459	149.5752	181.9434	221.9132	271.2926	332.3151	407.7370	500.9569	616.1616	758.5038
32	37.4941	44.2270	52.5028	62.7015	75.2988	90.8898	110.2182	134.2135	164.0370	201.1378	247.3236	304.8477	376.5161	465.8202	577.1005	715.7475	888.4494
33	38.8690	46.1116	55.0778	66.2095	80.0638	97.3432	118.9334	145.9506	179.8003	222.2515	275.5292	342.4294	426.4632	532.0350	664.6655	831.2671	1040.486
34	40.2577	48.0338	57.7302	69.8579	85.0670	104.1838	128.2588	158.6267	196.9823	245.4767	306.8374	384.5210	482.9034	607.5199	765.3654	965.2698	1218.368
35	41.6603	49.9945	60.4621	73.6522	90.3203	111.4348	138.2369	172.3168	215.7108	271.0244	341.5896	431.6635	546.6808	693.5727	881.1702	1120.713	1426.491
36	43.0769	51.9944	63.2759	77.5983	95.8363	119.1209	148.9135	187.1021	236.1247	299.1268	380.1644	484.4631	618.7493	791.6729	1014.346	1301.027	1669.994
37	44.5076	54.0343	66.1742	81.7022	101.6281	127.2681	160.3374	203.0703	258.3759	330.0395	422.9825	543.5987	700.1867	903.5071	1167.498	1510.191	1954.894
38	45.9527	56.1149	69.1594	85.9703	107.7095	135.9042	172.5610	220.3159	282.6298	364.0434	470.5106	609.8305	792.2110	1030.998	1343.622	1752.822	2288.225
39	47.4123	58.2372	72.2342	90.4091	114.0950	145.0585	185.6403	238.9412	309.0665	401.4478	523.2667	684.0102	896.1984	1176.338	1546.165	2034.273	2678.224
40	48.8864	60.4020	75.4013	95.0255	120.7998	154.7620	199.6351	259.0565	337.8824	442.5926	581.8261	767.0914	1013.704	1342.025	1779.090	2360.757	3134.522
41	50.3752	62.6100	78.6633	99.8265	127.8398	165.0477	214.6096	280.7810	369.2919	487.8518	646.8269	860.1424	1146.486	1530.909	2046.954	2739.478	3668.391
42	51.8790	64.8622	82.0232	104.8196	135.2318	175.9505	230.6322	304.2435	403.5281	537.6370	718.9779	964.3595	1296.529	1746.236	2354.997	3178.795	4293.017
43	53.3978	67.1595	85.4839	110.0124	142.9933	187.5076	247.7765	329.5830	440.8457	592.4007	799.0655	1081.083	1466.078	1991.709	2709.246	3688.402	5023.830
44	54.9318	69.5027	89.0484	115.4129	151.1430	199.7580	266.1209	356.9496	481.5218	652.6408	887.9627	1211.813	1657.668	2271.548	3116.633	4279.546	5878.881
45	56.4811	71.8927	92.7199	121.0294	159.7002	212.7435	285.7493	386.5056	525.8587	718.9048	986.6386	1358.230	1874.165	2590.565	3585.128	4965.274	6879.291

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ATD LEVEL II

FUNDAMENTALS OF FINANCE

TUESDAY: 22 May 2018. **Time Allowed: 3 hours.**

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

QUESTION ONE

(a) Distinguish between a "risky asset" and a "risk-free asset". (2 marks)

(b) In relation to financial markets, describe four characteristics of a good market. (8 marks)

(c) Stanely Kamaki is considering buying ordinary shares of ABC Ltd. which are currently trading at a market price per share (MPS) of Sh.25. The forecasted market price of each share after one year and their probability of occurrence in different states of nature are given as follows:

State of nature	Probability	Forecasted MPS at the end of the year
Boom	0.4	30
Average	0.3	28
Recession	0.3	20

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Required:

(i) The expected rate of return from investment in the shares. (4 marks)

(ii) The standard deviation of the expected return. Comment on the result. (4 marks)

(iii) Coefficient of variation. (2 marks)

(Total: 20 marks)

QUESTION TWO

(a) Discuss four differences between Islamic banking and conventional banking. (8 marks)

(b) Johnstone Muli plans to retire in 15 years time and intends to receive an annuity of Sh.50,000 per annum for the next 20 years after retirement. The annual interest rate is 6%. He expects to receive the first annuity payment at the end of the 15th year from today which is the same day as his retirement date.

Required:

The amount that he should invest today in order to receive his expected retirement annuity. (6 marks)

(c) Fanisi Limited borrowed Sh.10,000,000 from Nisil Bank Ltd. The loan has an interest rate of 14% and it is to be repaid in four equal instalments payable at the end of each year for the next four years.

Required:

Prepare a loan amortisation schedule. (6 marks)

(Total: 20 marks)

QUESTION THREE

(a) Explain three types of dividend policy that could be adopted by firms in your country. (6 marks)

(b) The earnings per share (EPS) and dividend per share (DPS) for Mogotio Ltd. for each of the years ended 31 December 2014, 2015, 2016 and 2017 were as follows:

Year ended 31 December	EPS (Sh.)	DPS (Sh.)
2014	12.50	5.50
2015	14.60	6.05
2016	13.50	6.66
2017	16.00	7.32

Required:
The dividend cover and the dividend payout ratio for each of the years ended 31 December 2014, 2015, 2016 and 2017. (4 marks)

(c) Online Ltd. sells goods currently in terms of "net 45". The firm is considering relaxing its terms of sale to "net 60". The firm's annual sales is currently estimated at Sh.5,000,000. However, it is expected to increase by 20% if the terms of sale are relaxed. The variable cost to sales ratio is 40%.

Additional information:
1. Bad debts are expected to remain at 5% of the firm's credit sales.
2. Debt management and collection expenses are expected to increase by 5% per annum from the current level of Sh.400,000.
3. Credit sales are estimated to be 80% of total sales. The remainder of the sales are cash sales.
4. The minimum required rate of return by investors is 12% per annum.
5. Corporate tax rate applicable is 30%.
6. The average collection period is currently 50 days. This is expected to increase to 75 days after relaxing the terms of sale.

(Assume a 360-day year)

Required:
Determine whether the firm should relax its terms of sale. (10 marks)
(Total: 20 marks)

QUESTION FOUR

(a) In relation to the goals of a firm, discuss the following:

(i) Two financial objectives of a firm. (4 marks)

(ii) Two non-financial objectives of a firm. (4 marks)

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(b) Upendo Ltd. is contemplating raising an additional Sh.5,000,000 to finance an expansion programme. The firm's capital structure which is considered to be optimal is given as follows:

	Sh."000"
Ordinary share capital (Sh.10 par value)	10,000
Reserves	5,000
14% debenture capital (Sh.100 par value)	6,000
15% preference share capital (Sh.20 par value)	9,000
	30,000

Additional information:
1. New ordinary shares will be issued at Sh.50 each, subject to a floatation cost of 10% of issue price. The firm's dividend policy is that future dividends are expected to grow at 5% each year in perpetuity. The firm paid dividend of Sh.2 per share in the current year.
2. New 14% irredeemable debentures will be issued at Sh.120 each. Floatation cost of Sh.5 per unit issued will be incurred.
3. New 15% preference shares will be issued at par. A floatation cost of Sh.2 per share issued will be incurred.
4. Corporate tax rate applicable is 30%.
5. The firm expects to generate Sh.1,000,000 from internal sources to finance this expansion programme.

Required:
Weighted marginal cost of capital (WMCC) of the firm. (12 marks)
(Total: 20 marks)

QUESTION FIVE

(a) A vast range of funding alternatives are available to companies for financing development projects.

In the light of the above statement, summarise four factors to consider when choosing methods of financing a project. (8 marks)

(b) Majani Limited intends to raise a long-term debt amounting to Sh.18,000,000 at an interest rate of 14% per annum. The money could be invested in either project A or project B. The projects are expected to generate the following net cash inflows:

Period (year)	**Project A** Sh.	**Project B** Sh.
1	3,000,000	8,000,000
2	1,000,000	7,500,000
3	4,000,000	5,000,000
4	6,000,000	2,000,000
5	8,000,000	4,500,000

Required:

(i) The net present value (NPV) for each project. (8 marks)

(ii) Giving appropriate reason(s), advise the management of Majani Ltd. on the project to invest in. (2 marks)

(iii) Highlight two disadvantages of using the NPV to evaluate investment projects. (2 marks)

(Total: 20 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

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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

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ATD LEVEL II

FUNDAMENTALS OF FINANCE

TUESDAY: 28 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.

QUESTION ONE

(a) Highlight four factors that could influence the amount of cash that a firm should hold. (4 marks)

(b) Describe three challenges faced by Islamic financial institutions (IFIs) in your country. (6 marks)

(c) The following data relates to Takymatt Ltd.:

Selling price per unit	Sh.80
Variable cost per unit	Sh.50
Fixed cost per unit	Sh.10
Annual credit sales	300,000 units
Collection period	2 months
Rate of return	16%

The company is considering a change in policy that would relax its credit policy.

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Additional information:

1. Sales were expected to increase by 20%.
2. Collection period would change to 3 months.
3. Bad debt losses were expected to be 3% of the increased sales.
4. Collection costs were expected to increase by Sh.20,000.

Required:

Determine whether Takymatt Ltd. should relax its credit policy. (10 marks)

(Total: 20 marks)

QUESTION TWO

(a) Highlight three advantages and three disadvantages of private placement as a source of finance to the issuing company. (6 marks)

(b) Explain two assumptions that justify the use of weighted average cost of capital (WACC) as a discount rate when undertaking capital budgeting decisions. (4 marks)

(c) The following extract of the statement of financial position of Mapato Ltd. shows the capital structure of the company as at 31 December 2016:

	Sh."000"
Ordinary share capital (Sh.125 par value)	62,500
Reserves	121,500
Shareholder's funds	184,000
14% debentures (Sh.500 par value)	118,500
	302,500

The management of the company consider the above capital structure optimal.

Additional information:

1. The company's earnings before interest and tax (EBIT) average is Sh.75 million per annum. These earnings are expected to be maintained in the foreseeable future.
2. The ordinary shares are currently trading at Sh.400 per share.
3. The market price of the debentures is Sh.525 per debenture.
4. The corporate tax rate is 30%.
5. The firm adopts 100% dividend payout ratio as its dividend policy.

Required:

(i) The cost of equity. (3 marks)

(ii) The after-tax cost of debt. (2 marks)

(iii) Market-weighted average cost of capital (WACC). (5 marks)

(Total: 20 marks)

QUESTION THREE

(a) Discuss three limitations of profit maximisation as an objective of a firm. (6 marks)

(b) Juma Masese receives an annuity of Sh.20,000 payable once every two years. The annuity stretches out to over 20 years. The first payment occurs two years from today. The annual interest rate is 6%.

Required:

Calculate the present value (PV) of the annuity. (4 marks)

(c) Kipande Ltd., a manufacturing company intends to invest in a new product line. This requires an investment of Sh.10 million in plant and machinery. The production is expected to last for five years and will have a salvage value of Sh.2 million at the end of this period.

Additional information:

1. The annual contribution from the product will be Sh.4,600,000.
2. Fixed operating costs excluding depreciation would amount to Sh.950,000 per annum.
3. As a result of the expansion of the product line, working capital is expected to increase by Sh.1,500,000 at the start of production and will be released at the end of the economic life of the project.
4. The company employs a straight line depreciation policy.
5. The corporate tax rate is 30% per annum.
6. The company's cost of capital is 12% per annum.

Required:

Using the Net Present Value (NPV) approach, advise Kipande Ltd. on whether to invest in the new product line. (10 marks)

(Total: 20 marks)

QUESTION FOUR

(a) Describe five functions of a financial system in your country. (10 marks)

(b) Madar Ltd. has had stable earnings growth rate of 8% per annum for the past 10 years. In year 2016, the company paid dividends of Sh.2.6 million on net income of Sh.9.8 million. However, in 2017 earnings are expected to increase to Sh.12.6 million and Madar Ltd. plans to invest Sh.7.3 million in a plant expansion. This one-time unusual earnings growth will not be maintained though, and after 2017, the company will return to its previous 8% earnings growth rate.

The company's target debt ratio is 35%.

Required:

Calculate Madar Ltd.'s total dividends for the year 2017 under each of the following policies:

(i) The company's year 2017 dividend payment is set to force dividends to grow at the long run growth rate in earnings. (2 marks)

(ii) The company continues with the year 2016 dividend payout ratio. (2 marks)

(iii) The company uses a pure residual policy with all distributions in the form of dividends. (2 marks)

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(c) Polycarp Omondi expects to make a deposit of Sh.500,000 in his savings account at the end of the year 2017. He intends to make a deposit of Sh.100,000 at the end of each subsequent year. The sum deposited will earn interest at the rate of 6% per annum compounded annually.

Required:
The cumulative amount that will be in his account at the end of the year 2020. (4 marks)

(Total: 20 marks)

QUESTION FIVE

(a) Outline four roles of a finance manager. (4 marks)

(b) Citing three reasons, justify why there is need for a company to pay stable dividends. (6 marks)

(c) Distinguish between "systematic risk" and "unsystematic risk". (4 marks)

(d) The forecasted rate of return on the stock of firm X Ltd. in different states of nature and their probability of occurrence are given as follows:

State of nature	**Probability**	**Forecasted return (%)**
Boom	0.3	15
Most likely	0.5	10
Recession	0.2	–5

Required:

(i) Expected return for the stock. (2 marks)

(ii) The standard deviation of return. (4 marks)

(Total: 20 marks)

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ATD LEVEL II

FUNDAMENTALS OF FINANCE

TUESDAY: 23 May 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.

QUESTION ONE

(a) Differentiate between "business risk" and "financial risk". (4 marks)

(b) Discuss three advantages of leasing as a source of finance. (6 marks)

(c) Ufanisi Ltd. is considering raising additional Sh.10 million to finance an expansion programme.

The firm's capital structure which is considered to be optimal is given as follows:

	(%)
Equity capital	60
8% debt capital (Sh.100 par)	30
10% preference share capital (Sh.50 par)	10
	100

The firm expects to raise Sh.2 million from internal sources.

The firm pays a constant ordinary dividend of Sh.2 per share in each year. This is expected to remain so in the foreseeable future.

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Additional information:

1. The firm will issue new ordinary shares at a current price of Sh.25 per share and will incur a floatation cost of Sh.5 per share.
2. New 8% irredeemable debentures will be issued at par of Sh.100 each. Floatation cost of 5% of par value will be incurred.
3. New 10% preference shares will be issued at Sh.60 each. Par value of each share is Sh.50. Floatation cost of Sh.2 per share will be incurred.
4. Corporate tax rate applicable is 30%.

Required:

Weighted marginal cost of capital of the firm. (10 marks)

(Total: 20 marks)

QUESTION TWO

(a) Highlight four circumstances under which a company would prefer to use debt financing to other sources of finance. (4 marks)

(b) Describe two factors that influence the credit period extended by a company to its customers. (4 marks)

(c) Kenland Ltd. is considering its capital budget for the year 2018. The following information relates to four mutually exclusive projects:

Project:		**P1**	**P2**	**P3**	**P4**
Amounts:		**Sh. "000"**	**Sh. "000"**	**Sh. "000"**	**Sh. "000"**
Initial cash outflows		(8,000)	(10,000)	(20,000)	(16,000)
Cash inflows:	Year 1	2,000	4,000	8,000	6,000
	Year 2	4,000	6,000	12,000	10,000
	Year 3	6,000	6,000	10,000	8,000

Additional information:

1. The firm has a capital budget ceiling of Sh.20 million and the cost of capital is 10%.
2. The cash flows are assumed to occur at the end of the year.

Required:

Advise the company on the project to undertake using the following investment appraisal techniques:

(i) Net present value (NPV). (6 marks)

(ii) Profitability index (PI). (6 marks)

(Total: 20 marks)

QUESTION THREE

(a) Explain the following principles that govern Islamic finance:

(i) Principle of equity. (2 marks)

(ii) Principle of participation. (2 marks)

(iii) Principle of ownership. (2 marks)

(b) Describe four financial market participants, citing the role played by each of the participants. (8 marks)

(c) A prospective investor is considering buying shares of Company X which are currently selling at the securities exchange for Sh.100.

The forecasted market price of each share at the end of one year's holding period and the corresponding probability of occurrence are given as follows:

Economic condition	Probability of occurrence	Forecasted market price per share after one year (Sh.)
Poor	0.2	90
Moderate	0.5	110
Good	0.3	120

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Required:

(i) The expected rate of return for company X's share. (2 marks)

(ii) The standard deviation of return for company X's share. (4 marks)

(Total: 20 marks)

QUESTION FOUR

(a) Explain three key dates, with reference to dividend payment chronology. (6 marks)

(b) Discuss two limitations of using a firm's overall cost of capital as an investment discount rate. (4 marks)

(c) Stelwat Onyango borrowed Sh.1,500,000 from a bank at the rate of 1.5% per month. The loan is to be repaid monthly over a period of 6 months. Interest on the loan is to be paid on a reducing balance basis.

Required:

Prepare a loan amortisation schedule. (6 marks)

(d) Billy Kamar expects to make equal annual payments into his savings account at the beginning of each year over a period of 5 years. The sum deposited will earn interest at the rate of 10% per annum, compounded annually. He will be targeting to raise a cumulative sum of Sh.2,000,000 to undertake a capital investment.

Required:

Determine the annual instalment payment into Billy Kamar's savings account. (4 marks)

(Total: 20 marks)

QUESTION FIVE

(a) Summarise the following categories of agency problem:

(i) Managers versus owners. (2 marks)

(ii) Creditors versus owners. (2 marks)

(iii) Owners versus other parties. (2 marks)

(b) Describe two benefits of shareholders' wealth maximisation as an objective of a firm. (4 marks)

(c) ABC Ltd. expects to make payments of Sh.4,500,000 in the coming year. The firm's investment in marketable securities generates an annual return of 20%.

The firm incurs a cost of Sh.20 per transaction when buying or selling marketable securities.

The minimum cash balance maintained by this company at all times is Sh.10,000.
(Assume a 360-day year).

Required:
Using Baumol's model of cash management, determine:

(i) ABC Ltd.'s optimal cash balance. (3 marks)

(ii) Total relevant cost incurred in each year. (3 marks)

(iii) The cash conversion cycle (period) in days. (2 marks)

(iv) Average cash balance that will be maintained by ABC Ltd. (2 marks)

(Total: 20 marks)

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ATD LEVEL II

FUNDAMENTALS OF FINANCE

TUESDAY: 22 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.

QUESTION ONE

(a) Summarise two differences between "accounting" and "finance". (4 marks)

(b) Discuss four ways in which the goals of a business organisation might complement each other. (8 marks)

(c) Joel borrowed a 3-year loan of Sh.1,500,000 at an interest rate of 9 per cent per annum from his employer to buy a saloon car. His employer required a three equal end-of-year repayments.

Required:

(i) Annual instalment to be paid by Joel at the end of each year. (1 mark)

(ii) Loan armotisation schedule. (3 marks)

(d) John Mativo promised to give his son Sh.1,000,000 in cash on his 25th birthday. Today is his son's 16th birthday.

Required:

(i) John Mativo intends to make annual payments into a fund after one year. Determine the annual payments, given that the fund would pay interest at the rate of 8 per cent per annum. (2 marks)

(ii) If he decides to invest a lumpsum in the account after one year and let it compound annually, compute the lumpsum. (2 marks)

(Total: 20 marks)

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QUESTION TWO

(a) Explain three reasons why a company might decide to issue bonus shares instead of paying cash dividends. (6 marks)

(b) Bright Ltd. is considering a new product line to supplement its current product line. It is anticipated that the new product line will involve an initial cash investment of Sh.1,400,000 at the beginning and Sh.2,000,000 in year 1. After tax cash inflows are expected as follows: Sh.500,000 in year 2, Sh.600,000 in year 3, Sh.700,000 in year 4 and Sh.800,000 each year thereafter through year 10. Though the product line might be viable after year 10, the company prefers to be conservative and end all projections at that time. The company's cost of capital is 15%.

Required:

Advise Bright Ltd. on whether to invest in the new product line using each of the following investment evaluation criteria:

(i) Net present value (NPV). (5 marks)

(ii) Internal rate of return (IRR). (6 marks)

(iii) Pay back period (PBP). (3 marks)

(Total: 20 marks)

QUESTION THREE

(a) In relation to Islamic finance, explain the following concepts:

(i) Hibah. (2 marks)

(ii) Ijarah. (2 marks)

(b) Describe two factors that might have contributed to the growth of financial innovation in your country. (4 marks)

(c) Wema Ltd. intends to expand its business operations. On 31 October 2016, the company had the following existing and proposed capital structure to support the expansion programme:

1. The existing 9% debentures had a book value of Sh.2,000,000 and a market value of Sh.1,800,000.

2. A 12% preference share capital stands in the books at Sh.4,000,000 (20,000 shares) and has a total market value of Sh.5,000,000.
3. There are 100,000 ordinary shares with a current market price of Sh.80 each. The dividend for the year ended 31 October 2016 is expected to be Sh.2.40 per share, and a growth rate of 8% each year for the foreseeable future.
4. The company plans to issue 50,000 ordinary shares at a market price of Sh.80 per share. The cost of floating the shares is estimated at Sh.100,000.
5. A six year loan of Sh.4,500,000 is to be raised at an interest rate of 10% per annum. A cost of Sh.150,000 will be incurred in raising this loan.

(Ignore taxation).

Required:

(i) Current weighted average cost of capital (WACC) for Wema Ltd. using market values. (6 marks)

(ii) Expected weighted average cost of capital (WACC) for Wema Ltd. after the expansion programme. (6 marks)

(Total: 20 marks)

QUESTION FOUR

(a) Outline four functions of a cash budget. (4 marks)

(b) Highlight six demerits of using ordinary share capital in financing a company's operation. (6 marks)

(c) The following information was extracted from the financial statements of Flight Company Ltd. for the years ended 31 October 2015 and 2016:

	2015	**2016**
	Sh. "000"	**Sh. "000"**
Finished goods	24,000	27,000
Work-in-progress	15,000	18,000
Stocks-Raw materials	21,000	24,000
Purchases	120,000	150,000
Cost of goods sold	180,000	236,000
Sales	324,000	372,000
Debtors	45,000	54,000
Creditors	27,000	36,000

(Assume a 365-day year).

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Required:

The operating cycle period for each of the two years. (10 marks)

(Total: 20 marks)

QUESTION FIVE

(a) Describe four advantages of establishing a central depository system (CDS). (8 marks)

(b) In the context of risk and investment, explain the following terms:

(i) Risk-free return. (2 marks)

(ii) Expected rate of return. (2 marks)

(iii) Average rate of return. (2 marks)

(c) The following data relates to share Y returns and the corresponding probabilities under different economic conditions:

	Share Y	
Economic condition	**Rate of return (%)**	**Probability**
Growth	18.5	0.20
Expansion	16.5	0.40
Stagnation	10.0	0.25
Decline	-8.0	0.15

Required:

(i) The expected rate of return for share Y. (2 marks)

(ii) The standard deviation of return for share Y. (4 marks)

(Total: 20 marks)

.....

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

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

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

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

KASNEB

ATD LEVEL II

FUNDAMENTALS OF FINANCE

TUESDAY: 24 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.

QUESTION ONE

(a) Outline four advantages that could accrue to a firm from using debt capital over equity capital as a mode of financing. (4 marks)

(b) Describe three factors that should be considered while evaluating an investment in securities. (6 marks)

(c) The management of Furaha Ltd. is evaluating five investment projects whose expected cash flows are shown below:

	Year			
Projects	**January 2016**	**December 2016**	**December 2017**	**December 2018**
	Sh. "000"	**Sh. "000"**	**Sh. "000"**	**Sh. "000"**
A	(120,000)	60,000	50,000	50,000
B	(60,000)	(40,000)	50,000	90,000
C	(80,000)	(100,000)	120,000	140,000
D	0	(160,000)	90,000	110,000
E	(100,000)	20,000	60,000	80,000

Additional information:

1. Ignore tax and depreciation.
2. The required rate of return on investment is 16%.

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Required:

Using the net present value (NPV) approach, determine the project(s) that should be undertaken, assuming that capital would be available when required. (10 marks)

(Total: 20 marks)

QUESTION TWO

(a) Highlight four types of alternative investment vehicles available in the financial markets. (4 marks)

(b) Discuss four goals of a firm in your country. (8 marks)

(c) Delight Ltd.'s capital structure as at 31 December 2014 was as follows:

	Sh. "000"
Ordinary shares at Sh.0.50 par value	12,000
Reserves	4,000
9% Preference shares at Sh.1.00 par value	6,000
14% Debentures	8,000
	30,000

Additional information:

1. The ordinary shares are quoted at Sh.0.80.
2. The next ordinary dividend is estimated at Sh.0.04 growing thereafter at 12% in perpetuity.
3. The preference shares are quoted at Sh.0.72 while debentures are quoted at par.
4. Corporate tax rate is 30%.

Required:

Weighted average cost of capital using the book value. (8 marks)

(Total: 20 marks)

QUESTION THREE

(a) Summarise five advantages of preference share capital to shareholders. (5 marks)

(b) With reference to time value of money, explain the following terms:

(i) Present value. (2 marks)

(ii) Future value. (2 marks)

(iii) Loan amortisation. (2 marks)

(c) Jvan Ltd. uses 2,000 units of stock item K each year. The cost of holding a single item for a year is Sh.2.00 and the cost of placing an order is Sh.45. The company is considering to double its ordering batches from 200 units to 400 units.

Required:

(i) Economic order quantity (EOQ). (3 marks)

(ii) Number of orders every year. (2 marks)

(iii) Number of days before an order is placed. (Assuming a 365 day - year). (2 marks)

(iv) Advise the management whether the decision to double its ordering batches should be undertaken. (2 marks)

(Total: 20 marks)

QUESTION FOUR

(a) In relation to Islamic finance, explain the following concepts:

(i) Riba. (2 marks)

(ii) Mudharaba. (2 marks)

(b) Summarise five reasons why financial markets in developing countries have experienced slow growth. (5 marks)

(c) In an investment seminar, one of the facilitators noted that "there are three categories of investors; that is, risk-averse investors, risk-neutral investors and risk-taker investors".

With reference to the above statement, explain each of the three categories of investors. (3 marks)

(d) (i) Billy Rich intends to deposit Sh.2,400,000 in a bank paying an annual interest rate of 6% compounded quarterly. Determine his bank balance and the amount of interest he will earn after six years. (4 marks)

(ii) Robert Milele is planning to invest in rental properties. He has approached the local bank for a mortgage loan, and received an offer of Sh. 8 million at an annual mortgage interest rate of 9% for a period of 15 years compounded monthly.

Required:

Determine the monthly mortgage payments to be made by Robert Milele. (4 marks)

(Total: 20 marks)

QUESTION FIVE

(a) Discuss four dividend pay-out policies adopted by different companies in your country. (8 marks)

(b) The following information relates to the prices of security Y and security Z and the dividend per share for the last four years.

Year	Dividend per share (Security Y) Sh.	Market price (Security Y) Sh.	Dividend per share (Security Z) Sh.	Market price (Security Z) Sh.
1	2	200	1.5	60
2	3	230	2	65
3	2	210	2	80
4	4	260	3	85

Required:

(i) The rate of return of security Y and security Z. (3 marks)

(ii) Expected average return for each security. (3 marks)

(iii) Standard deviation for each security. (6 marks)

(Total: 20 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

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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

KASNEB

ATD LEVEL II

FUNDAMENTALS OF FINANCE

WEDNESDAY: 18 November 2015. **Time Allowed: 3 hours.**

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

QUESTION ONE

(a) Explain the term "agency conflict". (2 marks)

(b) Describe four roles of a finance manager. (4 marks)

(c) Analyse three motives of holding cash by an organisation. (6 marks)

(d) Discuss four factors to be considered by an organisation when choosing the source of finance. (8 marks)

(Total: 20 marks)

QUESTION TWO

(a) Citing two reasons, justify the importance of time value of money. (4 marks)

(b) Explain four factors that affect a company's dividend policy. (8 marks)

(c) Kipawa Ltd., a manufacturing company intends to invest in a new product line. This requires an investment of Sh.10 million in plant and machinery. The production is expected to last for five years and will have a salvage value of Sh.2 million.

Additional information:

1. The annual contribution margin from the product will be Sh.4,600,000.
2. Fixed production cost excluding depreciation would amount to Sh.950,000 per annum.
3. As a result of the expansion of the product line, working capital is expected to increase by Sh.1,500,000 at the start of production and will be released at the end of economic life of the project.
4. The company employs a straight line depreciation policy.
5. The corporate tax rate is 30% per annum.
6. The company's cost of capital is 12% per annum.

Required:

Using the net present value (NPV), advise Kipawa Ltd. on whether to invest in the new product line. (8 marks)

(Total: 20 marks)

QUESTION THREE

(a) Explain the following terms as used in cost of capital:

(i) Weighted average cost of capital. (2 marks)

(ii) Marginal cost of capital. (2 marks)

(b) Describe three functions of financial market in your country. (6 marks)

(c) The following information was extracted from the books of Marble Ltd.:

	Sh.
Ordinary shares (Sh.20 par value)	8,000,000
8% preference shares (Sh.24 par value)	1,200,000
10% debentures (Sh.100 par value)	2,000,000
Total capital employed	11,200,000

The current market price of the above finances are as follows:

1. Ordinary shares, Sh.32 per share inclusive of Sh.2 as floatation costs. Ordinary shareholders expect cash dividends of Sh.4 per share and a dividend growth at the rate of 5% at the end of every year.

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2. The 8% preference shares currently sell at Sh.20 per share.
3. The 10% debentures currently sell for Sh.100.
4. The corporate rate of tax is 30% per annum.

Required:
The weighted average cost of capital using market value. (10 marks)
(Total: 20 marks)

QUESTION FOUR

(a) Explain four differences between Islamic banking and conventional banking. (8 marks)

(b) Explain the following terms as used in the context of risk and investment:

(i) Risk. (2 marks)

(ii) Systematic risk. (2 marks)

(iii) Unsystematic risk. (2 marks)

(c) The following data relate to the returns of share Q traded at the securities exchange in your country:

Year	Share Q Returns
2010	-10.00%
2011	21.50%
2012	36.98%
2013	15.48%
2014	27.04%

Required:
(i) The average rate of return for share Q over the five year period. (2 marks)

(ii) The standard deviation of return for share Q. (4 marks)
(Total: 20 marks)

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QUESTION FIVE

(a) Distinguish between "working capital" and "operating cycle". (4 marks)

(b) Quest Ltd., requires 720,000 units for ten days. The ordering cost per order is Sh.450 and the carrying cost per unit is Sh.4.

Required:
The economic order quantity (EOQ). (2 marks)

(c) In an investment seminar, one of the facilitators noted that "depending on the mix of short term financing and long term financing, a company could follow either of the following approaches; matching approach, conservative approach or aggressive approach".

Required:
Discuss each of the three approaches mentioned above. (6 marks)

(d) Summarise four cases in favour of retained earnings as an internal source of finance. (8 marks)
(Total: 20 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

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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

KASNEB

ATD LEVEL II

FUNDAMENTALS OF FINANCE

PILOT PAPER

September 2015. **Time Allowed: 3 hours.**

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

QUESTION ONE

(a) Explain three factors that a company could consider when formulating its dividend policy. (6 marks)

(b) Outline four advantages of paying scrip dividends by a company. (4 marks)

(c) The following information was extracted from the books of Kogello Limited as at 31 March 2015:

	Sh. '000'
Ordinary share capital (par value Sh.25)	8,000
8% preference share capital (par value Sh.24)	6,000
10% preference share capital (par value Sh.20)	4,000
10% Debentures	4,000

Additional information:

1. The market prices per share as at 31 March 2015 were as follows:

	Sh.
Ordinary shares	30
8% preference share	20
10% preference share	25

2. The market value of 10% debentures as at 31 March 2015 was Sh.5,000,000.
3. The corporation tax rate is 30%.
4. The company has maintained a payment of an ordinary dividend per share of Sh.3.80 over the past five years.

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Required:

The weighted average cost of capital (WACC) using market weights. (10 marks)

(Total: 20 marks)

QUESTION TWO

(a) In relation to financing of firm's activities, explain the meaning and relevance of the following terms:

(i) Stock split. (3 marks)

(ii) Stock repurchase option. (3 marks)

(b) Umoja Ltd. is contemplating undertaking any of the following three mutually exclusive projects A, B and C. Each project requires an initial cash outlay of Sh.5 million. Details of each of the projects are given as follows:

Project A

This project is expected to generate an annual net operating cash flow of Sh.2,000,000 each year over its useful life of five years. Estimated re-sale value of the project after 5 years is Sh.500,000.

Project B

This project is expected to generate a net cash flow of Sh.650,000 each year in perpetuity.

Project C

This investment is expected to have a useful life of 3 years with no resale value at the end of this period. The annual contribution to be generated by the project each year are given as follows:

	Year		
	1	2	3
Contribution (Sh.'000')	2,500	3,000	3,500

The annual fixed operating costs excluding depreciation are estimated at Sh.200,000 per annum. Provide for depreciation on a straight line basis and corporation tax is payable at the rate of 30%. The minimum required rate of return from this investment is 10%.

Required:
Using net present value, advise management of the company on the project to undertake. (14 marks)
(Total: 20 marks)

QUESTION THREE
Super Products Ltd. started operations on 1 April 2014. The company raised the required equity capital of Sh.260 million and debt at an annual rate of interest of 18% before commencing business.

Given below are some statistics extracted from the books of the company in respect of the financial statements prepared to 31 March 2015:

	Sh."000"
Total fixed assets (NBV)	300,000
Operating costs (excluding debt interest)	156,000
Dividend declared and paid	16,880
Cash and bank balances	12,500

80% of the sales are on credit. The current assets on 31 March 2015 consisted of only stock, debtors, cash and bank balances as given above while current liabilities consisted of only creditors and tax provided for in respect of the year ending 31 March 2015. Taxation was provided for at the rate of 30%.

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You are provided with the following financial ratios which have been determined from the financial statements of Super Products Ltd:

Fixed assets turnover	1.8 times
Gross profit margin	45%
Stock turnover	4.4 times
Interest cover	4 times
Average debt collection (based on 360 days of the year)	84 days
Current ratio	2.5:1

Required:
(a) In respect of the year ended 31 March 2015, you are required to prepare the company's:

(i) Income statement. (8 marks)

(ii) Statement of financial position. (8 marks)

(b) The following statistics have been provided with respect to the industry in which the company operates:
- Acid test ratio 1.2:1
- Return on equity 21%
- Capital gearing ratio 35%

Required:
Comment on the performance of the company relative to these industry statistics. (4 marks)
(Total: 20 marks)

QUESTION FOUR

(a) ABC Ltd. earnings and dividends over the last five years have steadily increased as shown below:

Year	EPS Sh.	DPS Sh.
2010	6	2.5
2011	6.5	2.7
2012	7.0	2.8
2013	7.3	3.5
2014	7.5	4.0

Wambua, a prospective investor is considering buying shares of this company which are currently selling at Sh.120 each.

The investor's minimum required rate of return is 16%.

Required:
Advise the investor on whether he should buy the shares of the company or not. (10 marks)

(b) Firms strive to pursue objectives which at times overlap with each other and in some cases conflict with each other. Briefly explain overlaps and conflicts that may arise amongst objectives that firms strive to achieve. (10 marks)

(Total: 20 marks)

QUESTION FIVE

(a) AMR Ltd. makes cash payments of Sh.20,000 per week. The interest rates on marketable securities is 10% and every time the company sells marketable securities, it incurs a cost of Sh.30.

Required:
Using Baumol's model in cash management;

(i) Determine the optimal amount of marketable securities to be converted into cash every time the company makes the transfer. (4 marks)

(ii) Determine the total number of transfers from marketable securities to cash per year. (2 marks)

(iii) Determine the total cost of maintaining the cash balance per year. (2 marks)

(iv) Determine the firm's average cash balance. (2 marks)

(b) A company has invested in a project whose return distributions is given as follows:

Possible return (%)	Probability
0.10	0.05
0.02	0.10
0.04	0.20
0.09	0.30
0.14	0.20
0.20	0.10
0.28	0.05
	1.00

Required:

(i) The asset's risk using the standard deviation. (3 marks)

(ii) The expected return of the project. (2 marks)

(c) Outline five motives of leasing an asset from the point of new of a company. (5 marks)

(Total: 20 marks)

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