KOLEJ POLY-TECH MARA

FINAL EXAMINATION

COURSE	**: ISLAMIC INVESTMENT**
COURSE CODE	**: PIF3023**
DURATION	**: 2 HOURS**

INSTRUCTIONS TO CANDIDATES:

1. This question paper consists of **THREE (3)** parts : PART A (20 questions)
   : PART B (10 questions)
   : PART C (03 questions)
2. Answer ALL questions from PART A, PART B and PART C.
   i. Answer PART A in the True or False Answer Sheet.
   ii. Answer PART B in the Objective Answer Sheet.
   iii. Answer PART C in the Answer Booklet Sheet.
3. Please check to make sure that this examination pack consists of:
   i. The Question Paper
   ii. An Answer Booklet
   iii. An Objective Answer Sheet
   iv. A True or False Answer Sheet
   v. Appendix 1(1), Appendix 1(2), Appendix 1(3), and Appendix 1(4)
   vi. Appendix 2(1)
4. Do not bring any material into the examination hall unless permission is given by the invigilator.
5. Please write your answer using a ball-point pen**.**

MYKAD NO : _____

ID. NO. : _____

LECTURER : _____

SECTION : _____

DO NOT OPEN THIS QUESTION PAPER UNTIL YOU ARE TOLD TO DO

The question paper consists of 06 printed pages

PART A: TRUE/FALSE

1. **(1 point)**
   Shares are units of equity ownership in a corporation.

2. **(1 point)**
   Preferred stocks are a hybrid of debt and equity with both attributes.

3. **(1 point)**
   Equity-based contracts involve partnership and the sharing of risks and rewards in a venture.

4. **(1 point)**
   Common stock has no maturity period.

5. **(1 point)**
   Mudarabah and Musharakah involve sharing profits from selling shares at a lower price.

6. **(1 point)**
   Common stockholders do not have voting rights to vote for the Board of Directors of the company.

7. **(1 point)**
   The valuation model for preferred stock is similar with common stock with no dividend growth.

8. **(1 point)**
   Growth stocks are issued by small and growing firms with have the potential to expand their business.

9. **(1 point)**
   Common stock represents ownership in corporations, with each share reflecting a fractional ownership interest.

10. **(1 point)**
    Islamic private debt securities are a type of bond classification.

11. **(1 point)**
    The bond issuer raises money by issuing bonds, and the bondholder does not receive regular interest payments.

12. **(1 point)**
Unit trust is the professional company pooled investors' money then invest in selected investment.

13. **(1 point)**
The time value of money concept assumes that a dollar today is worth more than a dollar in the future due to its potential earning capacity.

14. **(1 point)**
The present value for future sum of money decreases as the discount rate increases.

15. **(1 point)**
Compounding interest means that interest is calculated only on the original principal amount and not on any accumulated interest.

16. **(1 point)**
Amount of annuity due is higher than ordinary annuity.

17. **(1 point)**
Interpolation purpose is only to determine interest rate.

18. **(1 point)**
If the annual interest rate is 8% and you invest RM1,000 for one year, the future value of this investment will be RM1,080.

19 **(1 point)**
In an ordinary annuity, payments are made at the beginning of each period.

20. **(1 point)**
An ordinary annuity has equal payments made at regular intervals for a fixed number of periods.

PART B: MULTIPLE CHOICE

1. **(1 point)**
Which of the followings is the advantage of investing in real estate?

A. Real estate appreciates in value.
B. Real estate is time consuming.
C. Real estate requires maintenance.
D. Real estate income can be variable.

2. **(1 point)**
Which of the following is the advantage of commodity?

A. Excessive can be confusing.
B. Leverage may become uncontrollable.
C. Provide facilities diversification.
D. More exposed to economic and geopolitical factors.

3. **(1 point)**
Which of the following is **NOT** the categories of commodities?

A. Metal.
B. Livestock.
C. Agriculture.
D. Real Estate.

4. **(1 point)**
What kind of investment deals with buying and selling of actual properties?

A. Gold Investment.
B. Unit Trust Investment.
C. Real Estate Investment.
D. Commodity *Murabahah* Investment.

5. **(1 point)**
What is the disadvantage of investing in physical gold?

A. High liquidity.
B. High storage and insurance costs.
C. No potential for price appreciation.
D. It is easy to purchase.

6. **(1 point)**
Commodity markets can include physical trading and derivatives trading **EXCEPT**

_____

A. Swaps
B. Futures
C. Options
D. Spot prices

7. **(1 point)**
Which of the following investments is considered risk free?

A. Unit trust
B. Government Bond
C. Shares
D. Commodities

8. **(1 point)**
Which of the followings clearly explain the pooled investment vehicles that aim to acquire controlling stakes in private and public companies?

A. Yankee Bond
B. Private Equity Funds
C. Venture Capital Funds
D. Malaysian Islamic Treasury Bills (MITB)

9. **(1 point)**
A series of payments or deposits made at the end of each period is referring to?

A. Interpolation
B. Perpetuity
C. Annuity due
D. Ordinary annuity

10. **(1 point)**
What is the present value of RM2,000 to be received 4 years from now if the annual discount rate is 6%?

A. RM1,584.20
B. RM1,587.30
C. RM1,587.73
D. RM1,677.36

PART C: STRUCTURED

1. **(10 point)**
   a. Pertima Holding has just paid a dividend of RM0.50 per share. The company's current stock price is RM5.00. If the dividend is expected to grow at 10% constant rate and the required rate of return is 20%, find the intrinsic value of the company's common shares.
   (4 points)

   b. Abu owns a bond that pays RM150 in interest anually, with a par value of RM1000 and mature in 20 years. Find:

      i. value of the bond if Abu's required rate of return is 10%
      ii. value of the bond if Abu's required rate of return is 16%

   (6 points)

2. **(10 points)**
   Ganesh just won a lucky draw amount to RM100,000. He is thinking of growing the money. As a friend you suggested him to invest in an alternative investment. Therefore, you need to illustrate **FIVE (5)** advantages of investment in gold.

3. **(10 point)**
   a. Kasih plans to invest an equal amount of RM5,000 in an equity fund at year-end start from this year. The annual return on the fund is 10%.

      i. How much could if she expects to have at the end of 10 years?
      ii. How much could if she expects to have at the end of 15 years?
      iii. How much could if she expects to have at the end of 20 years?

   (5 points)

   b. Farez wants to take a personal loan amounting RM5,000. He has to make annual payment of RM1,500 within six years to settle the loan. How much interest rate charged by the bank?
   (5 points)

END OF QUESTION PAPER

Table 1: Future Value Interest Factors, FVIF (i, n)

Period	Interest Rate																							
	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	16%	18%	20%	21%	22%	23%	24%	25%
1	1.0100	1.0200	1.0300	1.0400	1.0500	1.0600	1.0700	1.0800	1.0900	1.1000	1.1200	1.1400	1.1600	1.1800	1.2000	1.2100	1.2200	1.2300	1.2400	1.2500
2	1.0201	1.0404	1.0609	1.0816	1.1025	1.1236	1.1449	1.1664	1.1881	1.2100	1.2544	1.2996	1.3456	1.3924	1.4400	1.4641	1.4884	1.5129	1.5376	1.5625
3	1.0303	1.0612	1.0927	1.1249	1.1576	1.1910	1.2250	1.2597	1.2950	1.3310	1.4049	1.4815	1.5609	1.6430	1.7280	1.7716	1.8158	1.8609	1.9066	1.9531
4	1.0406	1.0824	1.1255	1.1699	1.2155	1.2625	1.3108	1.3605	1.4116	1.4641	1.5735	1.6890	1.8106	1.9388	2.0736	2.1436	2.2153	2.2889	2.3642	2.4414
5	1.0510	1.1041	1.1593	1.2167	1.2763	1.3382	1.4026	1.4693	1.5386	1.6105	1.7623	1.9254	2.1003	2.2878	2.4883	2.5937	2.7027	2.8153	2.9316	3.0518
6	1.0615	1.1262	1.1941	1.2653	1.3401	1.4185	1.5007	1.5869	1.6771	1.7716	1.9738	2.1950	2.4364	2.6996	2.9860	3.1384	3.2973	3.4628	3.6352	3.8147
7	1.0721	1.1487	1.2299	1.3159	1.4071	1.5036	1.6058	1.7138	1.8280	1.9487	2.2107	2.5023	2.8262	3.1855	3.5832	3.7975	4.0227	4.2593	4.5077	4.7684
8	1.0829	1.1717	1.2668	1.3686	1.4775	1.5938	1.7182	1.8509	1.9926	2.1436	2.4760	2.8526	3.2784	3.7589	4.2998	4.5950	4.9077	5.2389	5.5895	5.9605
9	1.0937	1.1951	1.3048	1.4233	1.5513	1.6895	1.8385	1.9990	2.1719	2.3579	2.7731	3.2519	3.8030	4.4355	5.1598	5.5599	5.9874	6.4439	6.9310	7.4506
10	1.1046	1.2190	1.3439	1.4802	1.6289	1.7908	1.9672	2.1589	2.3674	2.5937	3.1058	3.7072	4.4114	5.2338	6.1917	6.7275	7.3046	7.9259	8.5944	9.3132
11	1.1157	1.2434	1.3842	1.5395	1.7103	1.8983	2.1049	2.3316	2.5804	2.8531	3.4785	4.2262	5.1173	6.1759	7.4301	8.1403	8.9117	9.7489	10.6571	11.6415
12	1.1268	1.2682	1.4258	1.6010	1.7959	2.0122	2.2522	2.5182	2.8127	3.1384	3.8960	4.8179	5.9360	7.2876	8.9161	9.8497	10.8722	11.9912	13.2148	14.5519
13	1.1381	1.2936	1.4685	1.6651	1.8856	2.1329	2.4098	2.7196	3.0658	3.4523	4.3635	5.4924	6.8858	8.5994	10.6993	11.9182	13.2641	14.7491	16.3863	18.1899
14	1.1495	1.3195	1.5126	1.7317	1.9799	2.2609	2.5785	2.9372	3.3417	3.7975	4.8871	6.2613	7.9875	10.1472	12.8392	14.4210	16.1822	18.1414	20.3191	22.7374
15	1.1610	1.3459	1.5580	1.8009	2.0789	2.3966	2.7590	3.1722	3.6425	4.1772	5.4736	7.1379	9.2655	11.9737	15.4070	17.4494	19.7423	22.3140	25.1956	28.4217
16	1.1726	1.3728	1.6047	1.8730	2.1829	2.5404	2.9522	3.4259	3.9703	4.5950	6.1304	8.1372	10.7480	14.1290	18.4884	21.1138	24.0856	27.4462	31.2426	35.5271
17	1.1843	1.4002	1.6528	1.9479	2.2920	2.6928	3.1588	3.7000	4.3276	5.0545	6.8660	9.2765	12.4677	16.6722	22.1861	25.5477	29.3844	33.7588	38.7408	44.4089
18	1.1961	1.4282	1.7024	2.0258	2.4066	2.8543	3.3799	3.9960	4.7171	5.5599	7.6900	10.5752	14.4625	19.6733	26.6233	30.9127	35.8490	41.5233	48.0386	55.5112
19	1.2081	1.4568	1.7535	2.1068	2.5270	3.0256	3.6165	4.3157	5.1417	6.1159	8.6128	12.0557	16.7765	23.2144	31.9480	37.4043	43.7358	51.0737	59.5679	69.3889
20	1.2202	1.4859	1.8061	2.1911	2.6533	3.2071	3.8697	4.6610	5.6044	6.7275	9.6463	13.7435	19.4608	27.3930	38.3376	45.2593	53.3576	62.8206	73.8641	86.7362
21	1.2324	1.5157	1.8603	2.2788	2.7860	3.3996	4.1406	5.0338	6.1088	7.4002	10.8038	15.6676	22.5745	32.3238	46.0051	54.7637	65.0963	77.2694	91.5915	108.420
22	1.2447	1.5460	1.9161	2.3699	2.9253	3.6035	4.4304	5.4365	6.6586	8.1403	12.1003	17.8610	26.1864	38.1421	55.2061	66.2641	79.4175	95.0413	113.574	135.525
23	1.2572	1.5769	1.9736	2.4647	3.0715	3.8197	4.7405	5.8715	7.2579	8.9543	13.5523	20.3616	30.3762	45.0076	66.2474	80.1795	96.8894	116.901	140.831	169.407
24	1.2697	1.6084	2.0328	2.5633	3.2251	4.0489	5.0724	6.3412	7.9111	9.8497	15.1786	23.2122	35.2364	53.1090	79.4968	97.0172	118.205	143.788	174.631	211.758
25	1.2824	1.6406	2.0938	2.6658	3.3864	4.2919	5.4274	6.8485	8.6231	10.8347	17.0001	26.4619	40.8742	62.6686	95.3962	117.391	144.210	176.859	216.542	264.698

APPENDIX 1(1)

Table 2: Present Value Interest Factors, PVIF (i, n)

	Interest Rate																							
Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	16%	18%	20%	21%	22%	23%	24%	25%
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	0.8621	0.8475	0.8333	0.8264	0.8197	0.8130	0.8065	0.8000
2	0.9803	0.9612	0.9426	0.9246	0.9070	0.8900	0.8734	0.8573	0.8417	0.8264	0.7972	0.7695	0.7432	0.7182	0.6944	0.6830	0.6719	0.6610	0.6504	0.6400
3	0.9706	0.9423	0.9151	0.8890	0.8638	0.8396	0.8163	0.7938	0.7722	0.7513	0.7118	0.6750	0.6407	0.6086	0.5787	0.5645	0.5507	0.5374	0.5245	0.5120
4	0.9610	0.9238	0.8885	0.8548	0.8227	0.7921	0.7629	0.7350	0.7084	0.6830	0.6355	0.5921	0.5523	0.5158	0.4823	0.4665	0.4514	0.4369	0.4230	0.4096
5	0.9515	0.9057	0.8626	0.8219	0.7835	0.7473	0.7130	0.6806	0.6499	0.6209	0.5674	0.5194	0.4761	0.4371	0.4019	0.3855	0.3700	0.3552	0.3411	0.3277
6	0.9420	0.8880	0.8375	0.7903	0.7462	0.7050	0.6663	0.6302	0.5963	0.5645	0.5066	0.4556	0.4104	0.3704	0.3349	0.3186	0.3033	0.2888	0.2751	0.2621
7	0.9327	0.8706	0.8131	0.7599	0.7107	0.6651	0.6227	0.5835	0.5470	0.5132	0.4523	0.3996	0.3538	0.3139	0.2791	0.2633	0.2486	0.2348	0.2218	0.2097
8	0.9235	0.8535	0.7894	0.7307	0.6768	0.6274	0.5820	0.5403	0.5019	0.4665	0.4039	0.3506	0.3050	0.2660	0.2326	0.2176	0.2038	0.1909	0.1789	0.1678
9	0.9143	0.8368	0.7664	0.7026	0.6446	0.5919	0.5439	0.5002	0.4604	0.4241	0.3606	0.3075	0.2630	0.2255	0.1938	0.1799	0.1670	0.1552	0.1443	0.1342
10	0.9053	0.8203	0.7441	0.6756	0.6139	0.5584	0.5083	0.4632	0.4224	0.3855	0.3220	0.2697	0.2267	0.1911	0.1615	0.1486	0.1369	0.1262	0.1164	0.1074
11	0.8963	0.8043	0.7224	0.6496	0.5847	0.5268	0.4751	0.4289	0.3875	0.3505	0.2875	0.2366	0.1954	0.1619	0.1346	0.1228	0.1122	0.1026	0.0938	0.0859
12	0.8874	0.7885	0.7014	0.6246	0.5568	0.4970	0.4440	0.3971	0.3555	0.3186	0.2567	0.2076	0.1685	0.1372	0.1122	0.1015	0.0920	0.0834	0.0757	0.0687
13	0.8787	0.7730	0.6810	0.6006	0.5303	0.4688	0.4150	0.3677	0.3262	0.2897	0.2292	0.1821	0.1452	0.1163	0.0935	0.0839	0.0754	0.0678	0.0610	0.0550
14	0.8700	0.7579	0.6611	0.5775	0.5051	0.4423	0.3878	0.3405	0.2992	0.2633	0.2046	0.1597	0.1252	0.0985	0.0779	0.0693	0.0618	0.0551	0.0492	0.0440
15	0.8613	0.7430	0.6419	0.5553	0.4810	0.4173	0.3624	0.3152	0.2745	0.2394	0.1827	0.1401	0.1079	0.0835	0.0649	0.0573	0.0507	0.0448	0.0397	0.0352
16	0.8528	0.7284	0.6232	0.5339	0.4581	0.3936	0.3387	0.2919	0.2519	0.2176	0.1631	0.1229	0.0930	0.0708	0.0541	0.0474	0.0415	0.0364	0.0320	0.0281
17	0.8444	0.7142	0.6050	0.5134	0.4363	0.3714	0.3166	0.2703	0.2311	0.1978	0.1456	0.1078	0.0802	0.0600	0.0451	0.0391	0.0340	0.0296	0.0258	0.0225
18	0.8360	0.7002	0.5874	0.4936	0.4155	0.3503	0.2959	0.2502	0.2120	0.1799	0.1300	0.0946	0.0691	0.0508	0.0376	0.0323	0.0279	0.0241	0.0208	0.0180
19	0.8277	0.6864	0.5703	0.4746	0.3957	0.3305	0.2765	0.2317	0.1945	0.1635	0.1161	0.0829	0.0596	0.0431	0.0313	0.0267	0.0229	0.0196	0.0168	0.0144
20	0.8195	0.6730	0.5537	0.4564	0.3769	0.3118	0.2584	0.2145	0.1784	0.1486	0.1037	0.0728	0.0514	0.0365	0.0261	0.0221	0.0187	0.0159	0.0135	0.0115
21	0.8114	0.6598	0.5375	0.4388	0.3589	0.2942	0.2415	0.1987	0.1637	0.1351	0.0926	0.0638	0.0443	0.0309	0.0217	0.0183	0.0154	0.0129	0.0109	0.0092
22	0.8034	0.6468	0.5219	0.4220	0.3418	0.2775	0.2257	0.1839	0.1502	0.1228	0.0826	0.0560	0.0382	0.0262	0.0181	0.0151	0.0126	0.0105	0.0088	0.0074
23	0.7954	0.6342	0.5067	0.4057	0.3256	0.2618	0.2109	0.1703	0.1378	0.1117	0.0738	0.0491	0.0329	0.0222	0.0151	0.0125	0.0103	0.0086	0.0071	0.0059
24	0.7876	0.6217	0.4919	0.3901	0.3101	0.2470	0.1971	0.1577	0.1264	0.1015	0.0659	0.0431	0.0284	0.0188	0.0126	0.0103	0.0085	0.0070	0.0057	0.0047
25	0.7798	0.6095	0.4776	0.3751	0.2953	0.2330	0.1842	0.1460	0.1160	0.0923	0.0588	0.0378	0.0245	0.0160	0.0105	0.0085	0.0069	0.0057	0.0046	0.0038

APPENDIX 1(2)

Table 3: Future Value Interest Factors Annuity, FVIFA (i, n)

Period	Interest Rate																							
	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	16%	18%	20%	21%	22%	23%	24%	25%
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	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	2.1200	2.1400	2.1600	2.1800	2.2000	2.2100	2.2200	2.2300	2.2400	2.2500
3	3.0301	3.0604	3.0909	3.1216	3.1525	3.1836	3.2149	3.2464	3.2781	3.3100	3.3744	3.4396	3.5056	3.5724	3.6400	3.6741	3.7084	3.7429	3.7776	3.8125
4	4.0604	4.1216	4.1836	4.2465	4.3101	4.3746	4.4399	4.5061	4.5731	4.6410	4.7793	4.9211	5.0665	5.2154	5.3680	5.4457	5.5242	5.6038	5.6842	5.7656
5	5.1010	5.2040	5.3091	5.4163	5.5256	5.6371	5.7507	5.8666	5.9847	6.1051	6.3528	6.6101	6.8771	7.1542	7.4416	7.5892	7.7396	7.8926	8.0484	8.2070
6	6.1520	6.3081	6.4684	6.6330	6.8019	6.9753	7.1533	7.3359	7.5233	7.7156	8.1152	8.5355	8.9775	9.4420	9.9299	10.1830	10.4423	10.7079	10.9801	11.2588
7	7.2135	7.4343	7.6625	7.8983	8.1420	8.3938	8.6540	8.9228	9.2004	9.4872	10.0890	10.7305	11.4139	12.1415	12.9159	13.3214	13.7396	14.1708	14.6153	15.0735
8	8.2857	8.5830	8.8923	9.2142	9.5491	9.8975	10.2598	10.6366	11.0285	11.4359	12.2997	13.2328	14.2401	15.3270	16.4991	17.1189	17.7623	18.4300	19.1229	19.8419
9	9.3685	9.7546	10.1591	10.5828	11.0266	11.4913	11.9780	12.4876	13.0210	13.5795	14.7757	16.0853	17.5185	19.0859	20.7989	21.7139	22.6700	23.6690	24.7125	25.8023
10	10.4622	10.9497	11.4639	12.0061	12.5779	13.1808	13.8164	14.4866	15.1929	15.9374	17.5487	19.3373	21.3215	23.5213	25.9587	27.2738	28.6574	30.1128	31.6434	33.2529
11	11.5668	12.1687	12.8078	13.4864	14.2068	14.9716	15.7836	16.6455	17.5603	18.5312	20.6546	23.0445	25.7329	28.7551	32.1504	34.0013	35.9620	38.0388	40.2379	42.5661
12	12.6825	13.4121	14.1920	15.0258	15.9171	16.8699	17.8885	18.9771	20.1407	21.3843	24.1331	27.2707	30.8502	34.9311	39.5805	42.1416	44.8737	47.7877	50.8950	54.2077
13	13.8093	14.6803	15.6178	16.6268	17.7130	18.8821	20.1406	21.4953	22.9534	24.5227	28.0291	32.0887	36.7862	42.2187	48.4966	51.9913	55.7459	59.7788	64.1097	68.7596
14	14.9474	15.9739	17.0863	18.2919	19.5986	21.0151	22.5505	24.2149	26.0192	27.9750	32.3926	37.5811	43.6720	50.8180	59.1959	63.9095	69.0100	74.5280	80.4961	86.9495
15	16.0969	17.2934	18.5989	20.0236	21.5786	23.2760	25.1290	27.1521	29.3609	31.7725	37.2797	43.8424	51.6595	60.9653	72.0351	78.3305	85.1922	92.6694	100.815	109.687
16	17.2579	18.6393	20.1569	21.8245	23.6575	25.6725	27.8881	30.3243	33.0034	35.9497	42.7533	50.9804	60.9250	72.9390	87.4421	95.7799	104.935	114.983	126.011	138.109
17	18.4304	20.0121	21.7616	23.6975	25.8404	28.2129	30.8402	33.7502	36.9737	40.5447	48.8837	59.1176	71.6730	87.0680	105.931	116.894	129.020	142.430	157.253	173.636
18	19.6147	21.4123	23.4144	25.6454	28.1324	30.9057	33.9990	37.4502	41.3013	45.5992	55.7497	68.3941	84.1407	103.740	128.117	142.441	158.405	176.188	195.994	218.045
19	20.8109	22.8406	25.1169	27.6712	30.5390	33.7600	37.3790	41.4463	46.0185	51.1591	63.4397	78.9692	98.6032	123.414	154.740	173.354	194.254	217.712	244.033	273.556
20	22.0190	24.2974	26.8704	29.7781	33.0660	36.7856	40.9955	45.7620	51.1601	57.2750	72.0524	91.0249	115.380	146.628	186.688	210.758	237.989	268.785	303.601	342.945
21	23.2392	25.7833	28.6765	31.9692	35.7193	39.9927	44.8652	50.4229	56.7645	64.0025	81.6987	104.768	134.841	174.021	225.026	256.018	291.347	331.606	377.465	429.681
22	24.4716	27.2990	30.5368	34.2480	38.5052	43.3923	49.0057	55.4568	62.8733	71.4027	92.5026	120.436	157.415	206.345	271.031	310.781	356.443	408.875	469.056	538.101
23	25.7163	28.8450	32.4529	36.6179	41.4305	46.9958	53.4361	60.8933	69.5319	79.5430	104.603	138.297	183.601	244.487	326.237	377.045	435.861	503.917	582.630	673.626
24	26.9735	30.4219	34.4265	39.0826	44.5020	50.8156	58.1767	66.7648	76.7898	88.4973	118.155	158.659	213.978	289.494	392.484	457.225	532.750	620.817	723.461	843.033
25	28.2432	32.0303	36.4593	41.6459	47.7271	54.8645	63.2490	73.1059	84.7009	98.3471	133.334	181.871	249.214	342.603	471.981	554.242	650.955	764.605	898.092	1,054.8

APPENDIX 1(3)

Table 4: Present Value Interest Factors Annuity, PVIFA (i, n)

	Interest Rate																					
Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	16%	18%	20%	21%	22%	23%	24%	25%
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	0.8621	0.8475	0.8333	0.8264	0.8197	0.8130	0.8065	0.8000
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	1.6052	1.5656	1.5278	1.5095	1.4915	1.4740	1.4568	1.4400
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	2.2459	2.1743	2.1065	2.0739	2.0422	2.0114	1.9813	1.9520
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	2.7982	2.6901	2.5887	2.5404	2.4936	2.4483	2.4043	2.3616
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	3.2743	3.1272	2.9906	2.9260	2.8636	2.8035	2.7454	2.6893
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	3.6847	3.4976	3.3255	3.2446	3.1669	3.0923	3.0205	2.9514
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	4.0386	3.8115	3.6046	3.5079	3.4155	3.3270	3.2423	3.1611
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	4.3436	4.0776	3.8372	3.7256	3.6193	3.5179	3.4212	3.3289
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	4.6065	4.3030	4.0310	3.9054	3.7863	3.6731	3.5655	3.4631
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	4.8332	4.4941	4.1925	4.0541	3.9232	3.7993	3.6819	3.5705
11	10.368	9.7868	9.2526	8.7605	8.3064	7.8869	7.4987	7.1390	6.8052	6.4951	5.9377	5.4527	5.0286	4.6560	4.3271	4.1769	4.0354	3.9018	3.7757	3.6564
12	11.255	10.575	9.9540	9.3851	8.8633	8.3838	7.9427	7.5361	7.1607	6.8137	6.1944	5.6603	5.1971	4.7932	4.4392	4.2784	4.1274	3.9852	3.8514	3.7251
13	12.134	11.348	10.635	9.9856	9.3936	8.8527	8.3577	7.9038	7.4869	7.1034	6.4235	5.8424	5.3423	4.9095	4.5327	4.3624	4.2028	4.0530	3.9124	3.7801
14	13.004	12.106	11.296	10.563	9.8986	9.2950	8.7455	8.2442	7.7862	7.3667	6.6282	6.0021	5.4675	5.0081	4.6106	4.4317	4.2646	4.1082	3.9616	3.8241
15	13.865	12.849	11.938	11.118	10.380	9.7122	9.1079	8.5595	8.0607	7.6061	6.8109	6.1422	5.5755	5.0916	4.6755	4.4890	4.3152	4.1530	4.0013	3.8593
16	14.718	13.578	12.561	11.652	10.838	10.106	9.4466	8.8514	8.3126	7.8237	6.9740	6.2651	5.6685	5.1624	4.7296	4.5364	4.3567	4.1894	4.0333	3.8874
17	15.562	14.292	13.166	12.166	11.274	10.477	9.7632	9.1216	8.5436	8.0216	7.1196	6.3729	5.7487	5.2223	4.7746	4.5755	4.3908	4.2190	4.0591	3.9099
18	16.398	14.992	13.754	12.659	11.690	10.828	10.059	9.3719	8.7556	8.2014	7.2497	6.4674	5.8178	5.2732	4.8122	4.6079	4.4187	4.2431	4.0799	3.9279
19	17.226	15.678	14.324	13.134	12.085	11.158	10.336	9.6036	8.9501	8.3649	7.3658	6.5504	5.8775	5.3162	4.8435	4.6346	4.4415	4.2627	4.0967	3.9424
20	18.046	16.351	14.877	13.590	12.462	11.470	10.594	9.8181	9.1285	8.5136	7.4694	6.6231	5.9288	5.3527	4.8696	4.6567	4.4603	4.2786	4.1103	3.9539
21	18.857	17.011	15.415	14.029	12.821	11.764	10.836	10.017	9.2922	8.6487	7.5620	6.6870	5.9731	5.3837	4.8913	4.6750	4.4756	4.2916	4.1212	3.9631
22	19.660	17.658	15.937	14.451	13.163	12.042	11.061	10.201	9.4424	8.7715	7.6446	6.7429	6.0113	5.4099	4.9094	4.6900	4.4882	4.3021	4.1300	3.9705
23	20.456	18.292	16.444	14.857	13.489	12.303	11.272	10.371	9.5802	8.8832	7.7184	6.7921	6.0442	5.4321	4.9245	4.7025	4.4985	4.3106	4.1371	3.9764
24	21.243	18.914	16.936	15.247	13.799	12.550	11.469	10.529	9.7066	8.9847	7.7843	6.8351	6.0726	5.4509	4.9371	4.7128	4.5070	4.3176	4.1428	3.9811
25	22.023	19.523	17.413	15.622	14.094	12.783	11.654	10.675	9.8226	9.0770	7.8431	6.8729	6.0971	5.4669	4.9476	4.7213	4.5139	4.3232	4.1474	3.9849

APPENDIX 1(4)

FORMULA LISTS

$$Vp/s = \frac{D}{k}$$

$$P_0 = \frac{D_1}{k - g}$$

$$BP = \left[\left(\frac{C\ x\ Par}{m}\right)\ x\ \left(PVIFA_{\frac{k\%,}{m}\ \text{n x m}}\right)\right] + \left[(Par\ Value)\ x\ \left(PVIF_{\frac{k\%,}{m}\ \text{n x m}}\right)\right]$$

$$CY = \frac{CP}{MP}$$

$$YTM = \left[\frac{\left(\frac{CR\ X\ Par\ Value}{m}\right)\ +\ \left(\frac{Par\ Value\ -\ MP}{n\ x\ m}\right)}{\frac{Par\ Value +\ MP}{2}}\right]$$

$$YTC = \left[\frac{\left(\frac{CR\ X\ Par\ Value}{m}\right)\ +\ \left(\frac{Call\ Price\ -\ MP}{n\ x\ m}\right)}{\frac{Call\ Price +\ MP}{2}}\right]$$

$$Net\ Asset\ Value = \frac{Value\ of\ asset\ -\ liabilities}{Number\ of\ outstanding\ unit\ trust}$$

$$FV =\ PV\ (FVIF_{i,n})$$

$$PV =\ FV\ (PVIF_{i,n})$$

$$FVA =\ PMT\ (FVIFA_{i,n})$$

$$PVA =\ PMT\ (PVIFA_{i,n})$$

$$FVAD =\ PMT\ (FVIFA_{i,n})(1 + i)$$

$$PVAD =\ PMT\ (PVIFA_{i,n})(1 + i)$$

APPENDIX 2(1)