BOWEN UNIVERSITY, IWO NIGERIA

FACULTY OF SOCIAL AND MANAGEMENT SCIENCES

DEPARTMENT OF BANKING AND FINANCE

B.Sc. DEGREE PROGRAM

SECOND SEMESTER EXAMINATION, 2013/2014 SESSION

COURSE TITLE: INVESTMENT ANALYSIS AND PORTFOLIO MANAGEMENT

COURSE CODE: BFN 420   TIME ALLOWED : 2HRS 30MINS

INSTRUCTIONS: ANSWER QUESTION ONE AND ANY OTHER THREE

1a. Write short notes on the followings:

(I) Methods of estimating Beta factor   (ii) Assumptions of Markowitz Portfolio Theory

(iii)Alpha Factor   (iv) Security Market Line   (v) Business Risk 5mks

b. Mention three non probability and two probability methods of treating risk and uncertainty

in investment analysis.   5mks

2 a. Explain five theorems of bond that you know and justify your explanation with

relevant computation.   (10mks)

b. Use the understated data to clearly illustrate and demonstrate the condition under which

Bond price in any market will be traded: i. At Par   ii. At Discount.   iii. At Premium

The following assumptions should be taken into consideration.

Coupon Rate -8%;   Interest Rate -9%;   Maturity Period -10 years ;   Coupon is paid annually;

Interest Rate move up to 10%;   and Interest Rate move down to 8%. 6mks

c. Mention eight factors that affect the value of a bond. 4mks

3. a List six differences between forward and future contract. 6mks

b Define financial derivatives, state the function, users and characteristics of derivatives. 8mks

c. Explain Option and discuss the concept of 'Honest mistake' in risk hedging. 6mks

4 a Clearly define investment and discuss four determinants of investments. 5mks

b. Write short note on Investment decision and Investment financing. 4mks

c. You are given two securities in a single portfolio. Security X and Y. The following data relating to the two securities

SECURITIES	X	Y
Expected Return	10	15
Standard Deviation	14	22
Weight	60%	40%
Correlation Co- efficient	0.25	

You are require to calculate the expected return from the portfolio and also a combination of security X and Y that will give a minimum risk in the portfolio 6mks

d. HOLY LIFE AND HEAVEN is considering a project that has the following future cash flows

Year	0	1	2	3
Cash flows (N)	400	300	200	100

If the estimated beta is 1.5 and the **market return** is 12% and the **risk free rate** is 6%

Calculate the **project cost of capital and the NPV of the project** 5mks

5. ABSTAIN FROM YOUTHFUL LUST PLC is considering whether to accept one of the major new investment opportunities. stock 1 and stock 11, each stock will require an immediate outlay of N20,000 and ABSTAIN FROM YOUTHFUL LUST PLC expects to have enough available resources to undertake one of them. The Directors of ABSTAIN FROM YOUTHFUL LUST PLC believes that returns from existing activities and from the new project will depend on which of the three economic environments prevailing during the coming year.

The estimated cash flow return from the coming years and the probabilities of the three possible environments are as follows;

ENVIRONMENT	A	B	C
Probabilities of Environment	0.3	0.4	0.3
	N	N	N
Return from Project I	12,500	12,500	9,500
Return from Project II	10,000	11,750	13,000
Aggregate Return from existing Portfolio stock	90,000	120,000	130,000

The company has a current market value of N100, 000. The Directors of ABSTAIN FROM YOUTHFUL LUST PLC believes that the risk of return per Naira or market value of their existing activities is similar to those of the stock market as a whole, including their dependence on which ever economic environment prevails. The current rate of interest on short dated Government securities and on Bank deposit accounts is 10% annum.

REQUIRED

a(i) Prepare calculation which will allow you to make a proper recommendation for the director of the company, sowing which of either of the two proposed stock should be accepted, assuming a portfolio comprising 70% of stock I and 30% of stock II and   6 Mks

(ii)   A portfolio comprising of 0.09% for project 1 and 2 and 0.91% of project Z.   10 Mks

b. Write a brief report to the Directors of ABSTAIN FROM YOUTHFUL LUST PLC explaining the principle you have used in arriving at your recommendation.   4 Mks

6a. SIN THE GATEWAY TO HELL PLC is considering an investment in a project that requires an investment of N6000 with a projected after- tax cash inflow generated over the next three years as follow:

	1		11		111
Prob.	Cash flow	Prob.	Cash flow	Prob.	Cash flow
	N		N		N
0.1	1000	0.2	1000	0.3	1000
0.3	2000	0.4	2000	0.4	2000
0.2	3000	0.3	3000	0.1	3000
0.4	4000	0.1	4000	0.2	4000

Assume the probability distribution are independent and the after- tax risk free rate of return is 6%

Calculate:

a. The expected NPV of the project
b. The standard deviation of the expected NPV

c. The probability that NPV will be **zero or less**(assume the probability distribution is normal and continuous)

d. The probability that NPV will be **greater** than zero

e. The probability that NPV will be **greater than the expected value**   **10 marks**

6b. GENUINE REPENTANCE FROM SIN, THE HALLMARK OF REAL CHILD OF GOD PLC is considering

a project with the following cash flows.

Year	plant cost	operating cost	cash revenue
	N'000	N'000	N'000
0	250	-	-
1	-	120	220
2	-	125	240
3	-	135	275
4	-	140	290

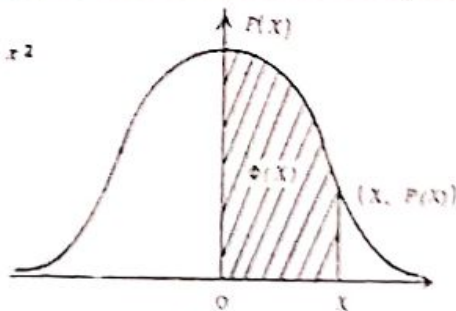The project cost of capital is 15%.

You are required to measure:

i. The sensitivity of the project to changes in the level of expected operating cost and revenue   **8mks**

ii. What is sensitivity analysis   **2mks**

TABLE 21: NORMAL DISTRIBUTION PROBABILITIES

$$X \to \Phi(X) = \int_0^X P(X)\,dX$$

X	0	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
0.0	.0000	.0040	.0080	.0120	.0160	.0199	.0239	.0279	.0319	.0359	4	8	12	16	20	24	28	32	36
0.1	.0398	.0438	.0478	.0517	.0557	.0596	.0636	.0675	.0714	.0754	4	8	12	16	20	24	28	32	36
0.2	.0793	.0832	.0871	.0910	.0948	.0987	.1026	.1064	.1103	.1141	4	8	12	15	19	23	27	31	35
0.3	.1179	.1217	.1255	.1293	.1331	.1368	.1406	.1443	.1480	.1517	4	8	11	15	19	23	26	30	34
0.4	.1554	.1591	.1628	.1664	.1700	.1736	.1772	.1808	.1844	.1879	4	7	11	14	18	22	25	29	33
0.5	.1915	.1950	.1985	.2019	.2054	.2088	.2123	.2157	.2190	.2224	3	7	10	14	17	21	24	27	31
0.6	.2258	.2291	.2324	.2357	.2389	.2422	.2454	.2486	.2518	.2549	3	6	10	13	16	19	23	26	29
0.7	.2580	.2612	.2642	.2673	.2704	.2734	.2764	.2794	.2823	.2852	3	6	9	12	15	18	21	24	27
0.8	.2881	.2910	.2939	.2967	.2996	.3023	.3051	.3078	.3106	.3133	3	6	8	11	14	17	19	22	25
0.9	.3159	.3186	.3212	.3238	.3264	.3289	.3315	.3340	.3365	.3389	3	5	8	10	13	15	18	20	23
1.0	.3413	.3438	.3461	.3485	.3508	.3531	.3554	.3577	.3599	.3621	2	5	7	9	12	14	16	18	21
1.1	.3643	.3665	.3686	.3708	.3729	.3749	.3770	.3790	.3810	.3830	2	4	6	8	10	12	14	16	19
1.2	.3849	.3869	.3888	.3907	.3925	.3944	.3962	.3980	.3997	.4015	2	4	5	7	9	11	13	15	16
1.3	.4032	.4049	.4066	.4082	.4099	.4115	.4131	.4147	.4162	.4177	2	3	5	6	8	10	11	13	14
1.4	.4192	.4207	.4222	.4236	.4251	.4265	.4279	.4292	.4306	.4319	1	3	4	6	7	8	10	11	13
1.5	.4332	.4345	.4357	.4370	.4382	.4394	.4406	.4418	.4429	.4441	1	2	4	5	6	7	8	10	11
1.6	.4452	.4463	.4474	.4484	.4495	.4505	.4515	.4525	.4535	.4545	1	2	3	4	5	6	7	8	9
1.7	.4554	.4564	.4573	.4582	.4591	.4599	.4608	.4616	.4625	.4633	1	2	3	3	4	5	6	7	8
1.8	.4641	.4649	.4656	.4664	.4671	.4678	.4686	.4693	.4699	.4706	1	2	2	3	4	5	5	6	7
1.9	.4713	.4719	.4726	.4732	.4738	.4744	.4750	.4756	.4761	.4767	1	1	2	2	3	4	4	5	5
2.0	.4772	.4778	.4783	.4788	.4793	.4798	.4803	.4808	.4812	.4817	0	1	1	2	2	3	3	4	4
2.1	.4821	.4826	.4830	.4834	.4838	.4842	.4846	.4850	.4854	.4857	0	1	1	2	2	2	3	3	4
2.2	.4861	.4864	.4868	.4871	.4875	.4878	.4881	.4884	.4887	.4890	0	1	1	1	2	2	2	3	3
2.3	.4893	.4896	.4898	.4901	.4904	.4906	.4909	.4911	.4913	.4916	0	1	1	1	1	2	2	2	2
2.4	.4918	.4920	.4922	.4925	.4927	.4929	.4931	.4932	.4934	.4936	0	0	1	1	1	1	2	2	2
2.5	.4938	.4940	.4941	.4943	.4945	.4946	.4948	.4949	.4951	.4952	0	0	0	1	1	1	1	1	1
2.6	.4953	.4955	.4956	.4957	.4959	.4960	.4961	.4962	.4963	.4964	0	0	0	0	1	1	1	1	1
2.7	.4965	.4966	.4967	.4968	.4969	.4970	.4971	.4972	.4973	.4974	0	0	0	0	0	1	1	1	1
2.8	.4974	.4975	.4976	.4977	.4977	.4978	.4979	.4979	.4980	.4981	0	0	0	0	0	1	1	1	1
2.9	.4981	.4982	.4982	.4983	.4984	.4984	.4985	.4985	.4986	.4986	0	0	0	0	0	0	0	1	1
3.0	.4987	.4987	.4987	.4988	.4988	.4989	.4989	.4989	.4990	.4990									
3.1	.4990	.4991	.4991	.4991	.4992	.4992	.4992	.4992	.4993	.4993									
3.2	.4993	.4993	.4994	.4994	.4994	.4994	.4994	.4995	.4995	.4995									
3.3	.4995	.4995	.4995	.4996	.4996	.4996	.4996	.4996	.4996	.4997									
3.4	.4997	.4997	.4997	.4997	.4997	.4997	.4997	.4997	.4997	.4998									
3.5	.4998	.4998	.4998	.4998	.4998	.4998	.4998	.4998	.4998	.4998									
3.6	.4998	.4998	.4999	.4999	.4999	.4999	.4999	.4999	.4999	.4999									
3.7	.4999	.4999	.4999	.4999	.4999	.4999	.4999	.4999	.4999	.4999									
3.8	.4999	.4999	.4999	.4999	.4999	.4999	.4999	.4999	.4999	.4999									
3.9	.5000	.5000	.5000	.5000	.5000	.5000	.5000	.5000	.5000	.5000									
X	0	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9

$$P(X) = \frac{1}{\sqrt{2\pi}}\, e^{-\frac{1}{2}X^2}$$

Values in the table give probability $\Phi(X)$ that a Normally distributed random variable (X) with zero mean and unit variance will have a value between O and X.

37