OBAFEMI AWOLOWO UNIVERSITY
DEPARTMENT OF ESTATE MANAGEMENT
BACHELOR OF SCIENCE (ESTATE MANAGEMENT) PROGRAMME
2011/2012 RAIN SEMESTER EXAMINATIONS

COURSE TITLE: ESM 502 – Advanced Valuation II   TIME ALLOWED: 3 Hours

INSTRUCTION: Answer 4 (FOUR) questions in all. At least 1 (ONE) Question must be answered in **each section.**

SECTION A

1. The information below in Table 1 shows the historic performances of seven property investments and market portfolio for a particular period:

Table 1. Descriptive data on return/risk profile of some investments.

Investment portfolio	Value (N'000000)	Mean Return (%)	Standard Deviation (%)	Variance	Covariance with the market portfolio	Correlation with the market portfolio
A	140	17.382	4.538	20.592	33.451	0.692
B	2722.014	21.605	11.008	121.175	115.543	0.986
C	106.500	19.247	8.519	72.572	87.447	0.964
D	98	17.913	8.781	77.113	90.911	0.972
E	201.300	23.158	11.809	139.472	121.977	0.970
F	138'1.95	22.435	6.771	45.846	59.786	0.829
Market Portfolio	------------	21.73'1	10.648	113.377	113.377	1.000

Note: The risk free rate for the period averaged 15.60%.

You are to:

(a) (i) Calculate the Beta for each of the portfolios/investments.   [3 marks]
   (ii) Choose the best four to select and reason out your selection. Budget is expected to be investors' friendly and a fall in the market index is anticipated in the future.   [5 marks]

(b) Obtain the expected return from each of the property investments using Capital Asset Pricing Model, assuming the expected market portfolio return now averaged 17.67% and highlight the best four.   [7 marks]

2. (a) Madam Do Good and Co., an unquoted company issued N2.5m shares, purchased and let out different properties. After 8 years, the company will be shut down and 50% of the proceeds returned to shareholders; while the remaining used to settled outstanding credits. The fully-subscribed book value of the company is N2.5m, the amount of cash offered for the shares. Based on market trends, it is estimated that the capital will appreciate by about 24%, simple interest, on liquidation and rental income after tax will be N1,850,000 p.a. All net income flows (profit) will be paid out as dividends. Calculate the company value and share price assuming the shareholders required 10.5% return.   **[7marks]**

(b) Describe briefly the method(s) you will adopt in determining the market value of the following specialised properties stating clearly the reason(s) for your choice(s).

(i)   Agricultural or woodland Land   [2 marks]   (ii)   Mineral Extraction and Land Fill **[2 marks]**

(iii) Private & Public Leisure Properties   [2 marks]   (iv)   Churches and Mosques   **[2 marks]**

SECTION B

3. You have been asked lo value the freehold interest in a limestone quarry in Akure area in Ondo state. The quarry is capable of producing 200,000 tonnes of limeston: per annum and has proven reserves of 2.5 million tonnes. Your client's expected output' over the next three years will be 75,000, 100,000 and 125,000 tonnes building up to full production of 200,000 tonnes in the fourth year. One nectare of surface land is occupied for the purpose of processing the limestone. Other terms of the lease are as follows: Term: 20 years unexpired with break clause if minerals become exhausted. Total area under lease: 25 hectares. Rent for surface land occupied N120 per hectare. The minimum rent is N13,000 while the royalties are stipulated as follows: first 100,000 tonnes @ 15k/tonne, remainder @ 10k/tonne. There are shortworkings to dale to the tune of N10,000. The property is to be restored to agricultural use after the expiry of the mining iease. Employ a layer style DCF approach to the valuation, taking the YPs for the layers to be 10%, 13% and 14% respectively. The YP for the agricultural should be 5%. **[15 marks]**

4. Assume you have been asked by the Bauchi state government to value the economic benefit to visitors of Yankari games reserve used for recreation in Bauchi state on the basis of total economic value rather than market value and you have accordingly decided to use the travel cost/travel time technique (the zonal travel cost/time approach). Calculate the capital value based on the following information.

: Zone	Total Visits/Year	Zone population from census figures	Visits11000
0	400	1000	400
1	400	2000	200
2	400	4000	100
3	400	8000	50
Beyond 3	0		
Total Visits	1600		

Assume that the round trip travel distance for zones 0, 1, 2 and 3 are 0km, 20km, 40km and 80km respectively, and that the cost per km is N 0.30. The cost ot time is N G 15/minute, for all zones. The entrance fee = N10. Take the required regression equation as V = 330 – 7.755C. **[15 marks]**

SECTION C

5. Two investment opportunities are available with expected income flows as follows:

Year	Investment A(N)	Investment B(N)
0		
1	7,000	6,000
2	8,000	6,000
3	9,000	9,000
4	10,000	9,000
5	11,000	12,000