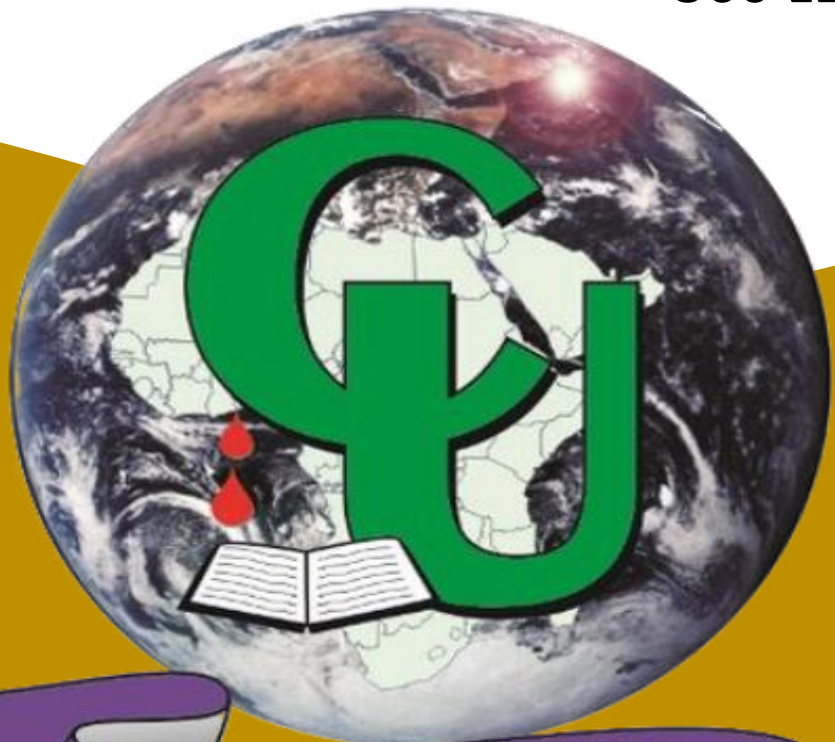


# COVENANT UNIVERSITY

OMEGA SEMESTER TUTORIAL KIT  
(VOL. 2)

PROGRAMME: ESTATE MGT.  
500 LEVEL



*Raising A New Generation Of Leaders*

## **DISCLAIMER**

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## **LIST OF COURSES**

ESM521: Advanced Valuation II

ESM522: Land Use and Resources Management II

ESM523: Applied Property and Facilities Management II

\*ESM525: Project Dissertation

ESM524: Feasibility and Viability Studies II

ESM526: Plant and Machinery Valuation II

ESM529: Professional Practice and Code of Conduct

**\*Not included**



# COVENANT UNIVERSITY, OTA

CANAANLAND, KM 10, IDIROKO RAOD  
P.M.B 1023, OTA, OGUN STATE, NIGERIA

**TITLE OF EXAMINATION:** B. Sc. DEGREE EXAMINATION  
**COLLEGE:** COLLEGE OF SCIENCE AND TECHNOLOGY  
**DEPARTMENT:** DEPARTMENT OF ESTATE MANAGEMENT  
**SESSION:** 2015/2016 **SEMESTER:** OMEGA  
**COURSE CODE:** ESM 521 **CREDIT UNIT:** 3  
**COURSE TITLE:** ADVANCED VALUATION II  
**INSTRUCTIONS:** Answer FOUR (4) questions in all. Start each question on a new page. Show all workings as part of your answer. Borrowing in any format is not allowed.

**TIME:** 3 Hours

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**SECTION A:** Answer ONE question in this Section

- 1a. In carrying out development valuation, it is important for the Valuer to understand some terms that are used in relation to such an assignment. List and explain any four of such terms. **(10 Marks)**
- b. Your client intends to acquire a site along Itele Road, Ota. However, he desires to know how much he should offer for the site. Before going into the transaction, he consulted you for the advice. Your market survey revealed that when developed, the rental value of the completed building would be ₦100,000.00 p.a. total building costs (including all fees) are expected to be ₦700,000.00. The building works would be completed within 2 years while total development period is expected to be 2½ years. If freehold yield is 8% and cost of fund is 15%, advice your client on what the value of the site should be today. **(15 Marks)**
- 2a. In carrying out mineral valuation, using royalty approach, the Valuer has to pay particular attention to the different types of rent stated in the mining lease. Identify and explain any three (3) of such rents. **(10marks)**
- b. A 15-acre chalk quarry site is leased to ADUDU & Co. on a mining lease for a period of 40 years or until the quarry is exhausted. The total chalk content is estimated at 50,000tonnes/acre and the expected rate of working is 25,000tonnes p.a. The operator pays a surface rent of ₦35.00/acre and certain rent of ₦2,000.00 p.a. The royalty payment has been agreed at 25k/tonne. Information made available to you includes the followings:
- Value of Plant and Machinery estimated at ₦10,000,000.00
  - Intangible assets valued at ₦200,000.00

- iii. Cost of fund at 15%
  - iv. Sinking Fund and Tax are to be provided for at 3% and 40% respectively.
- What is the value of ADUDU & Co. interest in the mining business? **(15 Marks)**

**SECTION B:** Answer THREE questions in this Section

- 3a. The boundaries of a market area determine the areas that influence value of a subject property. In identifying the market area boundary the Valuer should start by examining the subject property surroundings. He would have to extend the search to encompass all the influences the market indicates will affect the property's value. The process of identifying the boundaries of a market area requires the Valuer to follow specified stages. List and explain the stages involved. **(5 Marks)**
- b. There are forces that influence value in any particular market area which must be critically examined by the Valuer when carrying out market area analysis. Identify and explain these forces. **(10 Marks)**
- 4a. Technical reports are usually written with specific intentions. In your own opinion, what are the reasons for which such reports could be called for? **(5 Marks)**
- b. It could be said that a report is the exact replica of the writer. Therefore, for the client/reader to have a good picture of the writer in mind, the writer should pay particular attention to the qualities of the report. List and explain any five (5) of such qualities. **(10 Marks)**
5. Your uncle who has a total of ₦300,000.00 wants to invest in quarry business at Onibuku area of Ota. From forecasting, it was discovered that he can obtain the following pattern of net incomes from the investment for the first six (6) years.
- |         |            |
|---------|------------|
| Year 1: | ₦44,000.00 |
| Year 2: | ₦63,500.00 |
| Year 3: | ₦63,250.00 |
| Year 4: | ₦68,400.00 |
| Year 5: | ₦57,470.00 |
| Year 6: | ₦30,000.00 |
- His bankers would advance loan to him at the cost of 2½%. Using the IRR approach, advice your uncle accordingly **(15 Marks)**
6. Conducting market research is not a one-stream activity. Market research considers the market in terms of physical and human characteristics. Therefore, the various techniques of market research can be considered under two main categories. List and explain these two categories. **(15marks)**



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DEPARTMENT: DEPARTMENT OF ESTATE MANAGEMENT  
SESSION: 2015/2016 SEMESTER: OMEGA  
COURSE CODE: ESM521 CREDIT UNIT: 3  
COURSE TITLE: ADVANCED VALUATION II  
COURSE COORDINATOR: DR. M. O AJIBOLA  
COURSE LECTURERS: DR. M. O. AJIBOLA

## MARKING GUIDES

### SECTION A

#### 1 TOPIC: RESIDUAL AND DEVELOPMENT VALUATION

a. Answer to this question should include:

- i. Development (2½ Marks)
- ii. Period of Development (2½ Marks)
- iii. Developer (2½ Marks)
- iv. Construction Period (2½ Marks)

b.	<b>Expected Value</b>	₦	₦	
	Income		100,000.00p.a.	(1 Mark)
	YP in perp. @ 8%		12.5000	(2 Marks)
	Capital Value (Gross Development Value)		1,250,000.00	(1 Mark)
	<b>Expected Costs</b>			
	i. Construction	700,000.00		(1 Mark)
	ii. Short term finance over ½ the building period @ say 15% p.a.	112,875.00		(1 Mark)
	iii. Return to cover Risks and profit @ say 20% of GDV	250,000.00		(1 Mark)
	Total Development Costs		1,062,875.00	(1 Mark)
			187,125.00	(2 Marks)
	<b>Site Value</b>		₦	
	Maximum Site Value on completion of development		187,125.00	(1 Mark)
	PV of ₦1 in 2½ years @ 15%p.a.		0.7051	(2 Marks)
	Maximum Site Value Today		131,941.84	(1 Mark)

2 **TOPIC: MINERAL VALUATION** Say N132,000.00 (1 Mark)

a. Answer to this question should include:

- Surface Rent (3 Marks)
- Royalty Payments (3 Marks)
- Certain Rent (3 Marks)

b. Expected Life of Reserves

Total Reserves = 15 acres @ 50,000/acre = 750,000tonnes (1 Mark)

Annual Output = 25,000 tonnes

Life of Quarry =  $\frac{\text{Total Output}}{\text{Annual Output}}$  =  $\frac{750,000 \text{ tonnes}}{25,000 \text{ tonnes}}$  (1 Mark)

= 30 years. (1 Mark)

Annual Royalty Payment

Annual Output 25,000tonnes (1 Mark)

Annual Royalty 25k/tonne 6,250.00p.a. (1 Mark)

Less: Certain Rent 2,000.00p.a. (½ Mark)

Net Payment 4,250.00p.a. (1 Mark)

Valuation

i. Surface Rent N N  
 15acres @ N35.00/acre 525.00 (1 Mark)  
 YP 30 years @ 15% 6.5660 3,447.15 (1 Mark)

ii. Certain Rent 2,000.00 (1 Mark)  
 YP 30 years @ 15% & 3% tax @ 4% 5.4054 10,810.80 (1 Mark)

iii. Royalty Payment (Net Payments) 4,250.00 (1 Mark)  
 YP 30 years @ 20% & 3% tax @ 4% 4.2553 18,085.02 (1 Mark)  
 Capital Value of Rents 32,342.97 (½ Mark)  
**ADD:** Value of Plant and Machinery 10,000,000.00 (1 Mark)  
 Intangible assets valued at 200,000.00 (1 Mark)  
10,232,342.97 (1 Mark)

**Total Value of Mining Interest**

Say N10,232,340.00

3. **TOPIC: SITE ANALYSIS AND SITE VALUATION**

Answer to this question should include:

- i. Examines the subject property (1 Mark)
  - ii. Examines the area's physical characteristics (1 Mark)
  - iii. Draws preliminary boundaries on a map (1 Mark)
  - iv. Determines how well the preliminary boundaries correspond to the demographic data (2 Marks)
- b.
- i. Social Influences (2½ Marks)
  - ii. Economic Influences (2½ Marks)

- iii. Governmental Influences (2½ Marks)
  - iv. Environmental Influences (2½ Marks)
4. **TOPIC: REPORT WRITING**
- a. Answer to this question should include:
    - i. Provides a record of the building (1 Mark)
    - ii. Gives the reader a balanced view of the property (1 Mark)
    - iii. Gives advice on the necessary repairs or modification required (1 Mark)
    - iv. Express an opinion on the development or described condition and where appropriate, the effects or indicated preventive measures (1 Mark)
    - v. The report must be capable of use to satisfy the client's need (1 Mark)
  - b. **Qualities of a Good Report**
    - i. The Chronological Order of Events
    - ii. Language
    - iii. Clarity
    - iv. Simplicity
    - v. Correctness
    - vi. Completeness

List the above 6 points = (4 Marks)

Explanation on each point 1 Mark each = (6 Marks)

5. **TOPIC: DISCOUNTED CASHFLOW ANALYSIS**

Year	Outflow (N)	Inflow (N)	PV @ 2½%	PV (N)
0	300,000.00	-	1.0000	(300,000.00)
1	-	44,000.00	0.9756	43,316.64
2	-	63,500.00	0.9518	60,439.30
3	-	63,250.00	0.9286	58,733.95
4	-	68,400.00	0.9060	61,970.40
5	-	57,470.00	0.8838	50,791.99
6	-	30,000.00	0.8623	25,869.00

**For the table (2 Marks)**

NPV = PV of Cash Inflows - PV of Cash Outflows (1 Mark)

= N(301,121.20 - 300,000.00) (½ Mark)

= N1,121.28 (½ Mark)

Form the above calculation, there is a positive NPV which suggests that the 2½% yield adopted is lower than the yield for the investment. Therefore there is need to apply a higher yield, and this will require repeating the above calculation using a higher yield.



Year	Outflow (₦)	Inflow (₦)	PV @ 5%	PV (₦)
0	300,000.00	-	1.0000	(300,000.00)
1	-	44,000.00	0.9524	42,286.56
2	-	63,500.00	0.9070	57,594.50
3	-	63,250.00	0.8638	54,635.35
4	-	68,400.00	0.8227	56,272.68
5	-	57,470.00	0.7835	45,027.75
6	-	30,000.00	0.7462	22,386.00

For the table

(2 Marks)

$$\text{NPV} = \text{PV of Cash Inflows} - \text{PV of Cash Outflows}$$

(1 Mark)

$$= \text{₦}(278,282.84 - 300,000.00)$$

(½ Mark)

$$= \text{₦}(21,797.16)$$

(½ Mark)

With a negative NPV at 5% yield, it is evident that the yield is less than 5% but higher than 2½% earlier adopted. Therefore there is the need to determine the actual yield using interpolation

$$\text{IRR} = R_1 + (R_2 - R_1) \left[ \frac{\text{NPV}_1}{\text{NPV}_1 - \text{NPV}_2} \right] \quad (1\frac{1}{2} \text{ Marks})$$

$$= 2\frac{1}{2} + (5 - 2\frac{1}{2}) \left[ \frac{1,121.28}{1,121.28 - (21,797.16)} \right] \quad (1\frac{1}{2} \text{ Marks})$$

$$= 2\frac{1}{2} + (2\frac{1}{2}) \left[ \frac{1,121.28}{22,918.44} \right] \quad (1 \text{ Mark})$$

$$= 2\frac{1}{2} + (2\frac{1}{2})(0.0489) \quad (1 \text{ Mark})$$

$$= 2\frac{1}{2} + 0.1223 \quad (1 \text{ Mark})$$

$$= 2.6223\% \quad (1 \text{ Mark})$$

6. **TOPIC: MARKET SURVEY AND ANALYSIS**

i. **Area Research** (5 Marks)

ii. **Consumer Research** (1 Mark)

a. **Pre-Opening Research** (3 Marks)

b. **Consumer Surveys** (3 Marks)

c. **Post-Opening Research** (3 Marks)



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**TITLE OF EXAMINATION: B.Sc DEGREE EXAMINATION**

**COLLEGE: SCIENCE AND TECHNOLOGY**

**DEPARTMENT: ESTATE MANAGEMENT**

**SESSION: 2015/2016**

**SEMESTER: OMEGA**

**COURSE CODE: ESM522**

**CREDIT UNIT: 2**

**COURSE TITLE: LAND USE AND RESOURCES MANAGEMENT 1I**

**INSTRUCTION: Answer ONE (1) Question from Section A and any other TWO (2) from Section B.  
TIME: 2 Hours**

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## SECTION A

1. (a) Conservation is the sustainable use and management of natural resources including wildlife, water, air and earth deposits. Some of these resources may be renewable while others are not. Discuss with examples the different classifications of land resources for the purpose of conservation.

*(20marks)*

- (b) Provide your friend with at least five (5) reasons why development control measures are necessary.

*(10marks)*

2. (a) Location is one of the major factors an investor considered in citing his/her factory for profit maximisation. In your opinion, discuss at least five (5) factors to be considered in the selection process of a suitable site for manufacturing industry.

*(20marks)*

(b) Existing studies have revealed acute housing situation in Nigeria, especially in the urban areas. Discuss five of these problems. *(10marks)*

## **SECTION B**

3. (a) Why do you think a property manager should be well informed *(5 marks)*

(b) Explain at least five types of the information he/she requires. *(10 marks)*

(c) Discuss any five sources of information to a property manager. *(10 marks)*

4. The Nigerian Government indirectly controls the property market through several means. Discuss the different ways by which the government can accomplish this task. *(20marks)*

5. Write a short note on the following:

(a) Residential property market *(5 marks)*

(b) Commercial property market *(5 marks)*

(c) Development property market *(5marks)*

(d) Industrial property market *(5marks)*



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**COLLEGE: SCIENCE AND TECHNOLOGY**

**DEPARTMENT: ESTATE MANAGEMENT**

**SESSION: 2015/2016**

**SEMESTER: OMEGA**

**COURSE CODE: ESM522**

**CREDIT UNIT: 2**

**COURSE COORDINATION: Dr. A. O. Oluwunmi**

**COURSE LECTURERS: Dr. A. O. Oluwunmi & Dr. C. A. Ayedun**

## MARKING GUIDES

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**6. (a) Topics - Conservation of Land Resources/Land Use Resource Development Control**

(ai) Brief discussion on conservation of land resources (2marks)

(bii) Students are expected to discuss extensively on the following classification of land resources. Each discussion with suitable examples attracts 6marks.

i. Fund Resources

ii. Flow Resources

iii. Composite Resources

(b) Students are expected to discuss any five of the following reasons for development control measures. Each reason attracts 2marks,

- a important natural resources are preserved.
- b. urban settlement is contained to ensure that roads and other infrastructure such as water, sewerage, power, and telecommunications are provided efficiently.
- c. the economy is supported by maintaining a hierarchy of business centres.
- d. community services, facilities and open space are fairly distributed.
- e. incompatible land uses are separated
- d Health & Welfare

**7. (a) A. (a) Topic - Urban Housing**

(ai) Students are expected to discuss any five out of the underlisted points. Each point attracts 4marks,

- i. a. Land - Area, Physical Characteristics and Price
- b. Labour
- c. Raw Material
- d. Nearness or Proximity to Source of Power
- e. Nearness to Market
- f. Transportation

(b) Students are expected to discuss five housing problems. Each point attracts 2marks,

- 1 Problems of Land Acquisition
- 2. Poor Infrastructure Facilities
- 3. Poor Accessibility
- 4. Pollution Effects
- 5. Qualitative and Quantitative Deficiencies
- 6. High Population Concentration

7. High Occupation Rate

8. Illegal Conversion e.t.c.

## **SECTION B**

8. (a) Topic - Property Market

(ai) Brief discussion on why a property manager should be well informed (5marks)

(aia) Students are expected to discuss the information in the property market that a property manager will require. Each of the following point attracts 1mark

a. Information on demand and supply

b. The price level and their trend

c. Availability of credit.

d. Interest rates payable on loans.

e. Rate of return on investments.

(aiaa) Students are expected to discuss any five out of the following sources of information to a property manager. Each point attract 2marks.

a. Office Records.

b. Expert Advice.

c. Press Reports.

d. Newsletters.

e. Building Societies and Finance Institutions Reports

f. Information from Public Authorities - Public agencies like Housing Corporations, Ministries of lands, Town planning Authorities e.t.c.

9. (a) Topic - Public Control of Property Market

(ai) Brief discussion on public control of property market (2.5marks)

(aii) Students are expected to discuss the following. Each point attract 3.5marks.

- a. Physical Control
- b. Taxation - Property taxes and rates.
- c. Credit Control
- d. Land use controls - Zoning regulations
- e. Provision of New Estates

10. (a) Topic - Property Market

(ai) Brief discussion of the property market (2marks)

(ai1) Students are expected to discuss the following types of property market. Each discussion including the features that differentiate the property market. Discussion on each attract 4.5marks

- a. Residential property market
- b. Commercial property market
- c. Development property market
- d. Industrial property market



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COLLEGE: COLLEGE OF SCIENCE AND TECHNOLOGY  
DEPARTMENT: ESTATE MANAGEMENT  
SESSION: 2015/2016  
SEMESTER: OMEGA  
COURSE CODE: ESM 523  
CREDIT UNIT: 2  
COURSE TITLE: APPLIED PROPERTY AND FACILITIES  
MANAGEMENT II

INSTRUCTION: Attempt One Question from Section A and Any Two Questions from Section B. Commence each of the questions on a new page. Clarity and neatness carry additional marks.

**TIME: 2 Hours**

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## SECTION A

### Question 1

Space planning and management are crucial elements in ensuring that an organisation achieves its corporate goals and objectives.

- What factors must be considered in order to achieve proper space management in an organisation? *(10 marks)*
- Which principles are involved in space planning and management? *(10 marks)*
- With clear illustrations, describe the various forms of space arrangements in use in office environments and discuss their relative advantages and disadvantages. *(10 marks)*



## Question 2

- (a) Explain the usefulness of 'Life Cycle Costing' and outline the various factors which must be considered in applying the concept. *(7 marks)*
- (b) As useful as 'Life Cycle Costing' is, its use is often fraught with problems which limit its application in many organization. Discuss. *(7.5 marks)*
- (c) Prepare a submission on the application of Public/Private Partnership (PPP) method of facilities procurement detailing the various options available and the common problems inherent in its adoption as a procurement option. *(15 marks)*

## SECTION B

### Question 3

One of your major clients has two identical properties which are located in different locations within the same city where your firm is practising has just appointed you as the Managing Agent for the properties. The two properties at the moment are commanding different rents and occupancy rates while the client feels that the properties ought to be enjoying the same rental and occupancy rates. You are required to educate him on why his two properties may be commanding different rents and occupancy rates. *(20 marks)*

### Question 4

The management of Covenant University in an attempt to have time to concentrate on its core business product which is academic activities is contemplating on contracting out majority of facilities and services currently being handled and managed by the staff of the university.

- i. Highlight and discuss the various options or strategies that can be adopted by the university authority to achieve the best facility management. *(12 marks)*
- ii. Discuss the merits and demerits of the various options or strategies. *(8 marks)*

### Question 5

- (a) Your immediate boss is a very conservative Estate Surveyor and Valuer who argues that there is no difference between Facilities Management and Property Management. Outline your counterargument highlighting the key issues which make facilities management so vital in today's corporate environment. *(12 marks)*
- (b) Highlight key issues that make facilities management so vital in today's corporate environment. *(8 marks)*



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**DEPARTMENT: ESTATE MANAGEMENT**

**SESSION: 2015/2016**

**SEMESTER: OMEGA**

**COURSE CODE: ESM 526**

**CREDIT UNIT: 2**

**COURSE TITLE: PLANT AND MACHINERY VALUATION II**

**INSTRUCTION: (ANSWER ANY THREE QUESTIONS).**

**TIME: 2 HOURS**

**ONE BONUS MARK WILL BE GIVEN ACROSS BOARD**

- 
- (a) Compare and Contrast the computational provisions and outcome of the four major basis of plant and machinery valuation **(6 marks)**

(b) Throw more light on the division of total insurance into grouping while carrying out plant and machinery valuation **(10 marks)**

(c) A solenoid pneumatic valve manufactured 7 years ago is now out of production. However, suitable market evidence reveals that a similar machine with 10 more active years in such state and level of wear and tear sells for ₦11, 508, 342. Value such a machine for purpose of internal performance analysis **(7 marks)**
  - (a) For the purpose of Floatation, value a chemical dryer, Model YXP-3J7 belonging to TopZest Industries Nigeria Limited. The Machine, which was manufactured 12 years ago at a historical cost of ₦1, 031, 236 has a useful life of 10 years, is still in use by the company and is likely to be used for

the next two production years due to the company's high profile maintenance culture (Assume Price Index to be 2.314). **(7 marks)**

(b) Discuss the various Government Policies that are likely to affect the number of valuation of plant and machinery being carried out **(10 marks)**

c) Why do you think insurance valuation of plant and machinery can be regarded as being a peculiar type **(6 marks)**

3 (a) Calculate the actual sum payable by the insurer of the value at risk on the Plant and Machinery of Stonepad PLC at ₦7, 147, 208, 399. Contents of the factory at the time of an inferno were insured for ₦2, 039, 844, 132. At the time of the peril, it was agreed by both parties that the actual loss sustained is valued at ₦1, 336, 024, 738 **(4 marks)**

(b) Differentiate between residual and salvage value **(2 marks)**

(c) What is the value of an Acetylene plant manufactured 18 years ago at a historical cost of N2, 039, 140. The machine has outlived its useful life is no longer used in the company's operations (Assume price Index from the date of manufacturing is 2.704).

**(3 marks)**

(d) Discuss the concept of 'product dedicated items' while handling insurance valuation for plant and machinery **(5 marks)**

(e) Discuss the problems encountered in handling plant and machinery valuation in Nigeria **(5 marks)**

(f) A machine that is redundant is not necessarily obsolete. Discuss **(4 marks)**

4. (a) On the Basis of Reinstatement, Value a laboratory centrifuge Model: SVR719 belonging to ZIGLAY Chemicals LTD. Information from the plant manufacturers in Germany, indicates that the historic cost of the plant manufactured in 2008 was €70192. Other incidental costs for the plant are

as follows: Insurance @ 4% of cost, Freight @ 2.2% of cost, Import Duty @ 2.8% of cost, port charges @ 3.1% of cost, transport and insurance to site @ 1.9% of cost, cost of installation @ 2.4% of cost. Take inflation rate on plant to be 9.6% and take the plant reconstruction period as 8 months. (Assume Price Index to be 1.713 and the Plant has a useful life of 12 years, with an exchange rate put at ₦304 to the Euro). **(7 marks)**

(b) Assuming you were asked to value the machine in question 4(a) above on the basis of indemnity, what value would you place on the machine? **(6 marks)**

(c) Discuss the 'Condition of Average' in insurance valuation of plant and machinery **(2 marks)**

(d) Discuss the main sources of information for the ex-works costs in reinstatement basis of plant and machinery valuation **(6 marks)**

(e) Depreciation is an intrinsic loss in the value of an asset while obsolescence is an extrinsic loss in the value of the said asset. Discuss? **(2 marks)**

5. (a) An Electric Butter Churn belonging to Home care Dairy manufactured 8 years ago still has 7 more years to run. However, a modern version of the machine has the tendency of turning cream into butter two and half times more efficiently as much as the earlier model. Information regarding the earlier machine is extinct. Nevertheless, the modern machine supplied four years ago directly from the manufacturer, has a historical cost of ₦83, 550 (Assume Price Index from date of Manufacturing is 1.704). Value the earlier model for published financial statement **(10 marks)**

(b) Discuss the provision of motor vehicles in the insurance policy of plant and machinery valuation **(5 marks)**

(c) Discuss the provision of uncompleted plant in the insurance policy of plant and machinery valuation **(5 marks)**

(d) List the barest minimum items that must be evident in the valuation report of plant and machinery for the purpose of insurance **(3 marks)**



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**COLLEGE: COLLEGE OF SCIENCE AND TECHNOLOGY**

**SCHOOL: ENVIRONMENTAL SCIENCES**

**DEPARTMENT: ESTATE MANAGEMENT**

**SESSION: 2015/2016**

**SEMESTER: OMEGANEW**

**COURSE CODE: ESM 524**

**CREDIT UNIT: 2**

**COURSE TITLE: FEASIBILITY AND VIABILITY STUDIES II**

**INSTRUCTION: Attempt One Question in Section A and Any Two Questions in Section B. Commence each of the questions on a new page. Clarity and organization of responses carry additional marks.**

**TIME: 2 Hours**

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**SECTION A: Answer either Question 1 or Question 2**

## **Question No 1**

Your Company, BCOS Property Development Company Ltd, completed Ibadan Recreational and Cinematography with a total floor space of 1650 m<sup>2</sup> in December 2013. The project lasted two years. The final account when broken down is as shown in Table 1 below: -

Table 1: - Ibadan Recreational and Cinematography Centre

Elements	Cost (Millions)	Remarks
Preliminaries	112.77	
Main frame and walls	193.43	
Finishes	290.15	
Electrical Installations	50.30	
Airconditioning	20.24	
Plumbing Works	11.07	
Water Supply	17.35	
External Services	15.52	
Telephone System	5.18	
Roofing	4.68	

A similar project but double the size of the Ibadan centre is to be built at Ikoyi, Lagos commencing January, 2016. The project is to last three years. Other areas of Lagos State to benefit from this business development are Ikeja and Surulere. Ikeja and Surulere edifices are to run concurrently with Ikoyi project and are to be completed within three years. The retail price index (RPI) as published by the Central Bank of Nigeria is shown in Table 2. Generally, Lagos cost structures are known to be 15% higher than Ibadan while cost differentials in Lagos in relation to Ikoyi are shown in Table 3.

Table 2: - Retail Price Index as Published by the CBN

	Quarter	Quarter	Quarter	Quarter
Year	(i)	(ii)	(iii)	(iv)
2013	100	107	113	118
2014	124	132	139	143
2015	147	152	163	169
2016	175	180	186	189
2017	193	197	204	211

2018	213	218	218	220
2019	215	218	220	225

Table 3: - Cost Differential in Relation to Ikoyi, Lagos

S/No	Location	Differential
1	Ikorodu	-15
2	Lekki	+10
3	Apapa	+7
4	Isolo	-15
5	Magodo	-5
6	Ikeja	+10
7	Mushin	-15
8	Agege	-20
9	Omole	-5
10	Gbagada	-15
11	Jibowu	-5
12	Pedro	-17
13	Surulere	-7

Your company is eager to complete the new centres as scheduled and also willing to sell them outrightly provided they are able to get 20% margin over cost expended. They now seek your advice as to:

- a) The likely cost of the new Ikoyi Recreational and Cinematography Centre on completion (10 Marks)
- b) The likely cost of the new Surulere Recreational and Cinematography Centre on completion (5 Marks)
- c) The likely cost of the new Ikeja Recreational and Cinematography Centre on completion (5 Marks)
- d) The likely selling price of the Ikoyi Recreational and Cinematography Centre (5 Marks)

- e) The likely selling price of Surulere Recreational and Cinematography Centre (5Marks)

### Question 2

A vacuum cleaner costing N650,000.00 was purchased by a property manager with a borrowed fund for a shopping mall he manages at an interest rate of 15%. The money is to be repaid within 5 years at the rate of N130,000.00 per annum. The Property Holding Company, the owners of the complex expects 7.5% returns on the fund invested. The shopping mall currently has 10 tenants. The tenants occupy similar suites in the complex and the yearly service and running cost of the vacuum cleaner is N80,000.00. If the machine is to reach its end of service at the end of the 10<sup>th</sup> year and sold off at 5% of purchase price, show how much each tenant is to pay yearly during his tenancy. Then, generate a cash-flow for the ten-year period for Property Holding Company the owner of the complex if each tenant pays a yearly rent of N150,000.00 reviewable by 15% at the end of every three years. Fifteen percent (15%) of annual rent is also paid as service charge by each tenant apart from the recovery of cost associated with vacuum cleaner earlier highlighted. (30 Marks)

### SECTION B: Answer 2 Questions only in this section

#### Question No 3

A property developer is considering developing proto-type 3-Bedroom flats at Agbara Estate and Dolphin Estate all in Lagos Metropolis. The cost of each unit at Agbara is N3,350,000.00 while at Dolphin it costs N4,650,000.00. The cost recovery plan is ten years land exclusive. The cash flow for each site is as shown below:



Table 1: Cashflow for Agbara Estate

Year	1	2	3	4	5	6	7	8	9	10
Rent	475200	475200	546480	546480	601128	601128	692000	692222	796000	796000
Repair	78,000	36,500	50000	80,000	70000	56,500	56000	80000	80000	150,000

Table 2: Cashflow for Dolphin Estate

Year	1	2	3	4	5	6	7	8	9	10
Rent	690000	690000	759000	759000	872850	872850	960000	960000	980000	980000
Repair	140,000	85,500	70000	66,500	90000	43,800	96000	98000	98000	67,500

The major problem of the developer is deciding on the most profitable site for a start if the cost of borrowing is 15%. Advise him with reasons. (20 marks)

#### Question No 4

Supposing the developer in Question 3 above is willing to go ahead with Dolphin project with his own money without borrowing; he is now interested in knowing the yield if the cash flow remains as in Table 2 of Question 4 above before venturing at all. Advise him. (20 marks)

#### Question No 5

A semi-detached residential project is likely to be embarked upon by your company on build, operate and transfer principle for Covenant University. The house when completed would have a gross floor area of

480 m<sup>2</sup>. Currently, cost of construction is given as N75,000 per m<sup>2</sup>. Current rent stands at N3,200,000.00 per annum with rents reviewable every three years by 10%. Project money is slated to be borrowed from CUMFB bank at an interest rate of 20% per annum. Initial administrative charge of 17% of borrowed money is to be charged by the Bank. Borrowed money is to be fully repaid in ten years while the house is to be fully returned to the University at the expiration of 20 years. Your Investment Director would like you to evaluate the project and advise as to desirability of the project. (20 marks)



# COVENANT UNIVERSITY, OTA

CANAANLAND, KM 10, IDIROKO ROAD

P.M.B 1023, OTA, OGUN STATE, NIGERIA

TITLE OF EXAMINATION: B.Sc EXAMINATION

COLLEGE: COLLEGE OF SCIENCE AND TECHNOLOGY

SCHOOL: ENVIRONMENTAL SCIENCES

DEPARTMENT: ESTATE MANAGEMENT

SESSION: 2015/2016

SEMESTER: OMEGA

COURSE CODE: ESM 524

CREDIT UNIT: 2

COURSE TITLE: FEASIBILITY AND VIABILITY STUDIES II

COURSE COORDINATOR:

COURSE LECTURERS:

## MARKING GUIDES

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### Question 1

Topics Covered: Use of Approximate Estimating, Cost and value determination; Decision Making

### Question No 1(a)

Were the projects to commence concurrently with Yaba project and at the same cost, their costs would have been as follows:

**(a). Magodo**

Detached 10 Nos @ 20,000,000	= 200,000,000
Semi-Detached 5 Nos @ 20,625,000	= 103,125,000
Duplex 6 Nos @ 10,400,000	= 62,400,000
Luxury Homes 3 Nos @ 7,500,000	= 22,500,000
Total	₦ 388,025,000

If price differential is +40%, then the base price at year 2010 =  $1.40 \times 388,025,000$

= 543,235,000

Cost adjustment due to inflation by end of 2015 would be  $543,235,000 \times 250/118$

= ₦ 1,150,921,610 .00

(5 marks))

**(b). Ikorodu**

Semi-Detached 6 Nos @ 20,625,000	= 123,750,000
3 - Bedroom 6 Nos @ 34,560,000	= 207,360,000
2 - Bedroom 8 Nos @ 51,840,000	= 414,720,000
Duplex 4 Nos @ 10,400,000	= 41,600,000
Total	₦ 787,430,000

If price differential is -5%, then the base price at year 2010 =  $0.95 \times 787,430,000$

= 748,058,500

Cost adjustment due to inflation by end of 2015 would be  $748,058,500 \times 250/118$

= ₦1,584,869,703.00

(5 marks)

**(c). Gbagada**

Detached 5 Nos @ 20,000,000	= 100,000,000
Semi-Detached 3 Nos @ 20,625,000	= 61,875,000
3 - Bedroom 4 Nos @ 34,560,000	= 138,240,000
2 - Bedroom 8 Nos @ 51,840,000	= 414,720,000
Duplex 2 Nos @ 10,400,000	= 20,800,000
Luxury Homes 1 Nos @ 7,500,000	= 7,500,000
Total	₦ 743,135,000

If price differential is +28%, then the base price at year 2010 =  $1.28 \times 743,212,800$

= ₦ 951,212,800.00

Cost adjustment due to inflation by end of 2015 would be  $951,212,800.00 \times 250/118$

= ₦ 2,015,281,356.00

(5 marks)

**Question No 1(b)**

**Schedule of Likely Sale Prices is as follows:**

**(a). Magodo**

Detached  $20,000,000 \times 1.4 \times 250/118 \times 1.15 = ₦ 68,220,339.00$

Semi-Detached  $20,625,000 \times 1.4 \times 250/118 \times 1.13 = ₦ 69,128,708$

Duplex  $10,400,000 \times 1.4 \times 250/118 \times 1.26 = ₦ 38,867,796.61$

Luxury Homes  $7,500,000 \times 1.4 \times 250/118 \times 1.3 = ₦ 28,919,491.53$

(5 marks)

(b). Ikorodu

Semi-Detached  $20,625,000 \times 0.95 \times 250/118 \times 1.13 = ₦ 46,908,765.89$

3 – Bedroom  $34,560,000 \times 0.95 \times 250/118 \times 1.16 = ₦ 80,688,813.56$

2 – Bedroom  $51,840,000 \times 0.95 \times 250/118 \times 1.18 = ₦ 123,120,000.00$

Duplex  $10,400,000 \times 0.95 \times 250/118 \times 1.26 = ₦ 26,374,576.27$

(5 marks)

(c). Gbagada

Detached  $20,000,000 \times 1.28 \times 250/118 \times 1.15 = ₦ 62,371,584.00$

Semi-Detached  $20,625,000 \times 1.28 \times 250/118 \times 1.13 = ₦ 63,202,075.20$

3 – Bedroom  $34,560,000 \times 1.28 \times 250/118 \times 1.16 = ₦ 108,715,298.00$

2 – Bedroom  $51,840,000 \times 1.28 \times 250/118 \times 1.18 = ₦ 165,884,549.50$

Duplex  $10,400,000 \times 1.28 \times 250/118 \times 1.26 = ₦ 35,535,532.03$

Luxury Homes  $7,500,000 \times 1.28 \times 250/118 \times 1.3 = ₦ 26,440,128.00$

(5 marks)

## Question No 2

Topics Covered: Data Generation, Interest Calculation, Use of NPV Analysis

### Data Generation from Available Information

Gross Floor Area 375 m<sup>2</sup>

Cost per m<sup>2</sup> N85,000.00

Construction Cost = 85,000.00 x 375 = 31,875,000.00

Rent going N2,500,000.00 reviewable every 3 years by 10%

Cost of capital 20%

Construction cost to be borrowed @ 20% per annum

Loan fully repaid in 10 years

### Cost Generation

Construction Cost = 85,000.00 x 375 = 31,875,000.00 = Io

Borrowed Fund 31,875,000.00

Yearly repayable capital and interest would be as follows:

Year	Capital Balance	Interest Payable @ 20%
1	31,875,000.00	6,375,000.00
2	28,687,500	5,737,500
3	25,500,000	5,100,000
4	22,312,500	4,462,500
5	19,125,000	3,825,000
6	15,937,500	3,187,500
7	12,750,000	2,550,000

8	9,562,500	1,912,500
9	6,375,000	1,275,000
10	3,187,500	637,500
Total Interest Payable		35,062,500

Yearly income generation over 20 Years

Year	Income	Cumulative Income
1	2,500,000	2,500,000
2	2,500,000	5,000,000
3	2,500,000	7,500,000
4	2,750,000	10,250,000
5	2,750,000	13,000,000
6	2,750,000	15,750,000
7	3,025,000	18,775,000
8	3,025,000	21,800,000
9	3,025,000	24,825,000
10	3,327,500	28,152,500
11	3,327,500	31,480,000
12	3,327,500	34,807,500
13	3,660,250	38,467,750



14	3,660,250	42128,000
15	3,660,250	45,788,250
16	4,026,275	49,814,525
17	4,026,275	53,840,800
18	4,026,275	57,867,075
19	4,428,903	62,295,978
20	4,428,903	66,724,881

#### Generation of Net Cash-flow Over 20 Years

Year	Income	Cumulative Income	Net Cash-flow
1	2,500,000	6,375,000.00	-3,875,000
2	2,500,000	5,737,500	-3,237,500
3	2,500,000	5,100,000	-2,600,000
4	2,750,000	4,462,500	-1,712,500
5	2,750,000	3,825,000	-1,075,000
6	2,750,000	3,187,500	-437,500
7	3,025,000	2,550,000	475,000
8	3,025,000	1,912,500	1,112,500
9	3,025,000	1,275,000	1,750,000
10	3,327,500	637,500	2,690,000
11	3,327,500	0.00	3,327,500
12	3,327,500	0.00	3,327,500
13	3,660,250	0.00	3,660,250
14	3,660,250	0.00	3,660,250

15	3,660,250	0.00	3,660,250
16	4,026,275	0.00	4,026,275
17	4,026,275	0.00	4,026,275
18	4,026,275	0.00	4,026,275
19	4,428,903	0.00	4,428,903
20	4,428,903	66,724,881	4,428,903

Applying Net Present Value (NPV) Principle:

$$\sum C_t / (1 + i)^n - I_0$$

Where

$C_t$  = Net cash-flow on yearly basis

$i$  = Cost of capital or interest rate

$I_0$  = Initial Investment

Applying the formula therefore, we have:

$$[-3,875,000/(1.2)^1 - 3,237,500/(1.2)^2 - 2,600,000/(1.2)^3 - 1,712,500(1.2)^4 - 1,075,000(1.2)^5 - 437,500(1.2)^6 + 475,000(1.2)^7 + 1,112,500(1.2)^8 + 1,750,000(1.2)^9 + 2,690,000(1.2)^{10} + 3,327,500(1.2)^{11} + 3,327,500(1.2)^{12} + 3,660,250(1.2)^{13} + 3,660,250(1.2)^{14} + 3,660,250(1.2)^{15} + 4,026,275(1.2)^{16} + 4,026,275(1.2)^{17} + 4,026,275(1.2)^{18} + 4,428,903(1.2)^{19} + 4,428,903(1.2)^{20} =$$

$$-3,229,167 - 2,248,264 - 1,504,630 - 825,858 - 432,018 - 146,518 + 132,564 + 258,732 + 339,161 + 434,450 + 447,842 + 373,201 + 342,101 + 285,084 + 237,570 + 217,773 + 181,477 + 151,231 + 138,628 + 115,524] - 31,875,000 = -36,606,117$$

Going by NPV rule that if the NPV is positive, accept the proposal; if negative, then reject the proposal. The proposal here is negative, we therefore reject the proposal.

**Question No 3**

Topics Covered: Cost in Use and Value of Money; Life cycle Costing

Generate two Tables one for system A and the other for system B and then compare

System A Analysis

	Present Value	Future Expenditure					
Plant	Yr 0	5 <sup>th</sup> Yr	10 <sup>th</sup> Yr	15 <sup>th</sup> Yr	20 <sup>th</sup> yr	25 <sup>th</sup> Yr	30 <sup>th</sup> Yr
Initial Cost	40.00	-	-	-	-	-	-
Schedule repair	4.59	6	6	6	6	6	-
Major Overhaul	0.84	-	-	10	-	-	-
Duct							
Initial Cost	10.50						
Repairs (0.50 Yrly)	45.515	8.25					
Fuel (3.75 Yrly)							
Staff(3.0 Yrly)							
Total PV Syst A	101.445m						

Calculations

PV of Schedule Repairs use PV formula - 3 marks

PV of Major Overhaul use PV formula - 3 marks

PV of Repairs + Fuel + Staff yearly all amounting to 7.25 million yearly for 30 years. Use YP term

3 marks

Add total of PV amounting to 101.44 million 3 marks

Decision 3 marks

System B Analysis

	Present Value	Future Expenditure					
		Yr 0	5 <sup>th</sup> Yr	10 <sup>th</sup> Yr	15 <sup>th</sup> Yr	20 <sup>th</sup> yr	25 <sup>th</sup> Yr
Plant	Yr 0	5 <sup>th</sup> Yr	10 <sup>th</sup> Yr	15 <sup>th</sup> Yr	20 <sup>th</sup> yr	25 <sup>th</sup> Yr	30 <sup>th</sup> Yr
Initial Cost	45.00	-	-	-	-	-	-
Major Overhaul (5 Yearly)	1.1981	2.25	2.25	2.25	2.25	2.25	-
Schedule Repair (Every 3 Yrs)	4.61	-	-	-	-	-	-
Duct							
Initial Cost	12.50						
Repairs (2.50 Yrly)	6.80						
Fuel (3.50 Yrly)							
Staff(3.0Yrly)							
Total PV Syst A	70.11 'm						

Calculations

PV of Schedule Repairs use PV formula - 3 marks  $[1/(1+i)^n]$

PV of Major Overhaul use PV formula - 3 marks

PV of Repairs + Fuel + Staff yearly all amounting to 7.25 million yearly for 30 years. Use YP term

3 marks  $[(1- pv)/i]$

Add total of PV amounting to 70.11 million - 3 marks

Decision 3 marks

System B is far cheaper and therefore recommended for adoption.

**Question No 4**

**Topic Covered: Cash-flow Generation**

Prel	IPI	RC	FLPS	M1	M2	M3	M4	M5	M6
600000	210000	300000	90000	85000	85000	85000	85000	85000	175000
75000	26250	37500	11250	10625	10625	10625	10625	10625	21875
250000	87500	125000	37500	35417	35417	35417	35417	35417	72917
1800000	0	1530000	270000	255000	255000	255000	255000	255000	525000
1380000	0	1173000	207000	195500	255000	255000	255000	255000	462000
420000	147000	210000	63000	59500	59500	59500	59500	59500	122500
280000	98000	140000	42000	39667	39667	39667	39667	39667	81667
1500000	0	1275000	225000	212500	212500	212500	212500	212500	437500
300000	105000	150000	45000	42500	42500	42500	42500	42500	87500
560000	0	476000	84000	79333	79333	79333	79333	79333	163333
450000	0	382500	67500	63750	63750	63750	63750	63750	131250
400000	140000	200000	60000	56667	56667	56667	56667	56667	116667
660000	231000	330000	99000	93500	93500	93500	93500	93500	192500
390000	136500	195000	58500	55250	55250	55250	55250	55250	113750
300000	105000	150000	45000	42500	42500	42500	42500	42500	87500
9365000	1286250	6674000	1404750	1326708	1386209	1386209	1386209	1386209	2790959

### Summary

Month	Cash-Flow
1	1,326,708
2	1,386,209
3	1,386,209
4	1,386,209
5	1,386,209
6	2,790,959

## Question No 5(a)

Topic Covered: Residual Valuation/Developer's Budget and Feasibility Report Structure

### A. Gross Development Value

Estimated annual rent N980,000,000.00

Capitalization Rate 8%

Gross Development Value  $980,000,000 \times 100/8 = 12,250,000,000.00$

### B. Cost of Development

### C. Residual Cost of Land

Thus:

**Residual amount for Land is  $A - (B+C)$ .....(i)**

Where:

A is Gross Development Value

B is Cost of Development

C is Developer's Profit

Substituting available information in (i)

$$12,250,000,000 - [\text{Building Cost} + 0.3 \times 12,250,000,000 + 0.12 \times 12,250,000,000] = 55,000,000$$

$$12,250,000,000 - [\text{BC} + 3,675,000,000 + 1,470,000,000] = 55,000,000$$

$$7,105,000,000 - \text{BC} = 55,000,000$$

$$\text{Building Cost} = 7,050,000,000.00$$

Allowable building cost is ~~₦~~ 7,050,000,000.00

(10 marks)

### **Question No 5b**

#### **Structured Format for Feasibility Study Reports**

(1). Project Background (to include)

- History/nature of the business
- National economic climate
- Legal requirements
- Promoters, shareholders and management
- Technical Assistance

(2). Market analysis

- Determinants of market demand
- Data required for market analysis
- Sources of data
- Size of total market demand
- Total supply of the product and supply-gap
- Market demand and market share projections
- Production Programme
- Competitive environment
- Marketing plan

(3). Technical feasibility

Product description

- Plan layout

- Choice of technology
- Selection of machinery and equipment
- Structures and civil works
- Raw materials requirements
- Infrastructural facilities
- Manpower and training requirements and
- Plant Location

(4). Financial Feasibility and Viability (divisible into two namely Total investment and Financial Evaluation).

(a). Total Investment (include Capital Investment, Net working Capital)

(b). Financial Evaluation. Tools that could be used include:

- Payback Period
- Simple Rate of Return
- Net Present Value (NPV)
- Internal rate of return (IRR)
- Break- even Analysis
- Sensitivity Analysis
- Ratio Analysis
- Decision tree
- Profitability Index

(5). Project Financing

- Financing Structure
- Equity Financing
- Debt Financing

(6). Financial Projections



- Income statement projections
- Cash-flow Projections
- Balance sheet Projections
- Assumptions underlying the projections

(7). Conclusion and Recommendations



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**CREDIT UNIT: 2**

**COURSE TITLE: PLANT AND MACHINERY VALUATION II**

**MARKING GUIDE**

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**2. (a) (6 marks)**

<b>Gone concern</b>	<b>Going concern</b>	<b>Reinstatement</b>	<b>Indemnity</b>
Depreciation is carried out	Depreciation is carried out	No depreciation is carried out	Depreciation is carried out
Obsolescence is carried out	Obsolescence is carried out	Obsolescence is carried out	Obsolescence is carried out
The operational value is its Open Market Value	The operational value is its value-in-use	The operational value is the Open Market Value for a new one	The operational value is its Open Market Value inclusive of all ancillary cost to bring it to its state before the peril
The value represents the value of the plant as at now	The value represents the value of the plant as at now	The value represents the value of the new plant in future	The value represents the value of the plant

			as it stands now in future
The value represents value to an outsider	The value represents value to the owner	The value represents value to the owner	The value represents value to the owner
The value is an end result	The value is an end result	The value is a means to an end	The value is a means to an end

(b) (10 marks)

## ***SPECIFICATION OF INSURANCE***

-In the name of-  
**XXX COMPANY.**  
**ADDRESS**

(1)  
On the buildings  
including landlord's  
fixtures and fittings  
therein and thereon and  
on the walls. Gates and  
fences around and  
belonging thereto

(2)  
On machinery, plant  
and all other contents  
therein and thereon  
the property of  
the insured or held by  
them in trust for which  
they are responsible  
(excluding landlord's  
fixtures and fittings, stock  
materials-in-trade)

(3)  
On stock and  
materials in trade

Item No	Plan No	Description	Col.1 N '000	<b>Col.2 N '000</b>	Col.3 N '000	Total N '000
1	1-4	Machine Shop, Fabrication Shop and Compressor House	165, 000	550, 000	-	715, 000
2	5	Stacking Area	3,000	9,000	23, 000	35, 000
3	6-9	Offices and Canteen	45, 000	16, 000	-	61, 000
4	10(a)	Gate House	2, 000	600	-	2, 600
5	10(b)	Generator House	1, 500	12, 000	-	13, 500
6	12,13&18	Heavy Machine Shop	265, 000	375, 000	-	640, 000
7	14-17	Foundry	120, 00	66, 000	-	186, 000
<b>TOTAL</b>			<b>601, 500</b>	<b>1, 028, 600</b>	<b>23, 000</b>	<b>1, 653, 000</b>

(c) (7 marks)

$$D = P (1-r)^n$$

D= NCRC for the expired years or salvage value for end of years

$$P=GCRC$$

$$P = \frac{D}{(1-r)^n}$$

$$D = \text{N}11,508,342$$

$$r = 200/17 = 11.7647\% = 0.1176$$

$$\text{N}11,508,342$$

$$(1-0.1176)^7 = 0.4165$$

$$P = \text{N}27,631,073$$

GCRC (N)	TOT DEP (N)	NCRC (N)	V-I-U (N)	SALVAGE (N)	REMARK
27,631,073	16,122,731	11,508,342	<b>8,214,718</b>	3,293,624	Fair State
(1.5 Marks)	(1 Mark)	(1 Mark)	(2 Marks)	(1 Mark)	(0.5 Marks)

2 (a)  $GCRC = HC \times PI = \text{N}2,386,280$

$r = 200/10 = 20\% = 0.2$

Residual Value =  $GCRC(1-r)^n = GCRC(1-.2)^{10} = \text{N}256,286$

NCRC = Residual Value on the penultimate year

GCRC (N)	TOT DEP (N)	NCRC (N)	V-I-U (N)	SALVAGE (N)	REMARK
2,386,280	2,066,041	320,239	63,953 $\Delta$ 3%  62,034	256,286	Poor State
(1 Mark)	(1 Mark)	(1.5 Marks)	(2 Marks)	(1 Mark)	(0.5 Marks)

(b) (10 marks)

- (MONETIZATION) (2.5 marks)

Monetization may also refer to exchanging securities for currency, selling a possession, charging for something that used to be free or making money on a goods and services that were previously unprofitable.

- **(PRIVATIZATION) (2.5 marks)**  
Privatization is the incidence or process of transferring ownership of business from the public sector (government) to the private sector (business). In a broader sense, privatization refers to transfer of any government function to the private sector including governmental functions like revenue collection and law enforcement. Proponents of privatization are of the view that government has no business in business.
- **(COMMERCIALIZATION) (2.5 marks)**  
Commercialization, on the other hand, can be defined as the re-organization of enterprises, wholly and partially owned by the Government, in which such commercialized enterprises shall operate as profit-making commercial ventures without subvention from the Government.
- **(NATIONALIZATION) (2.5 marks)**  
Nationalization is the process of taking a private industry or private assets into public ownership by a national government or state. Nationalization usually refers to private assets, but may also mean assets owned by lower levels of government, such as municipalities, being transferred to be the state.

(c) **(6 marks)**

- Insurance valuation is the source of the greatest number of instructions received by valuers as it is willingly requested for by clients (not statutorily engendered of coarsed) **(1.5 Marks)**
- Insurance valuation is not an end but a means to an end. Required to calculate premium payable **(1.5 Marks)**
- Insurance valuation is not subject to the known going concern basis of financial valuation and gone concern basis of open market valuation rather it has its own typical bases of indemnity and reinstatement **(1.5 Marks)**
- Insurance valuation could be undertaken to capture all acclaimed assets of the company of which plant and machinery forms part as against the other purposes **(1.5 Marks)**

3 (a) ₦1, 336, 024, 738 × ₦2, 039, 844, 132

₦7, 147, 208, 399

=~~₦~~381, 307, 228 **(4 marks)**

(b) Thin line between both concepts. Residual value is the value of the machine at the end of its useful life but can still be used for operation while salvage value is the value of the machine at the end of its useful life but cannot be used for operation again **(2 marks)**

(c)  $\text{N}2,039,140 \times 2.704 = \text{N}5,513,835$  **(0.5 marks)**

$r = 200/18 = 11.1111 = 0.1111$  **(0.5 marks)**

$\text{N}5,513,835 (1-0.1111)^{18}$  **(0.5 marks)**

$\text{N}5,513,835 \times 0.1200$  **(0.5 marks)**

$\text{N}661,660$  **(1 mark)**

(d) **(5 marks)**

- ***Product- dedicated items:***

These are items used in connection with the manufacturing of an individual product. They have no general application and are not considered as part of the process plant. Insurance covers usually stipulates that in the event of loss, the basis of settlement will be the reinstatement costs for those product dedicated items in current use and which the insured would wish to replace in the event of damage or destruction by any peril insured against. The valuation will therefore need to establish the cost of replacing these items at current new prices. A great deal in this regard will depend on the accuracy and veracity of the records kept by the company, because while it may not be possible to establish an exact figure, a realistic and practical value must be provided. If the company keeps accurate records, there will likely be noticed a constant demand for such items, and with this, it should be possible to establish a level for the current new price without much difficulty. If suitable records are not available, the only way to establish quantities of these items will be to organize a physical inspection which can be time wasting. On the other hand it is crucial that a thorough investigation into the value of this asset be done, because in some industries, such as plastic moulding and foundries, the insurance value of these items could exceed that of the process plant.



**(e) 5 marks (1 mark each for any five problem)**

- Lack of data **(1 Mark)**
- Lack of proper records by clients (e.g. invoice of purchase) **(1 Mark)**
- Uniform determination of depreciation applicable **(1 Mark)**
- Problem of identification of machines **(1 Mark)**
- Difficulty in reaching manufacturers of machine **(1 Mark)**
- Argument on best professional in handling valuation of plant and machineries **(1 Mark)**

**(f) 4 marks (1 mark each for any four points)**

A redundant machine is not used in operation and does not necessary mean it is obsolete. Obsolescence can however occur in any of the following ways:

- Machines that have outlived their useful life **(1Mark)**
- Machines that are no more producing at its full capacity compared to appropriate substitute **(1 Mark)**
- Machines that have later versions produced to replace them **(1Mark)**
- Machines that are no more economically viable in production compared to others **(1Mark)**
- Machines whose design and space consumption are regarded as out of date compared to others **(1Mark)**

4(a)

REINSTATEMENT BASIS

Basic Plant Cost (say)	=	₦36, 552, 624 <b>(1 Mark)</b>
Insurance	=	₦ 1, 462, 105 <b>(0.5 Marks)</b>
Freight	=	₦ 804, 158 <b>(0.5 Marks)</b>
Import Duty	=	₦ 1, 023, 473 <b>(0.5 Marks)</b>

Port Charges	=	₦ 1, 133, 131(0.5 Marks)
Transport and Insurance to site	=	₦ 694, 450(0.5 Marks)
Cost of Installation	=	₦ 877, 263(0.5 Marks)
Gross Current Replacement Cost	=	₦ 42, 547, 204(1 Mark)
Inflationary provision	=	₦ 45, 346, 810(2 Marks)

(b)

INDENMITY BASIS

Basic Plant Cost (say) = ₦36, 552, 624 (0.5 Mark)

Depreciation

Total Depreciation = ₦ 28, 054, 139 (0.5Marks)

Basic Plant Cost (Dep) = ₦ 8, 498, 485 (1 Mark)

Other Incidental Costs

Insurance = ₦ 1, 462, 105 (0.5 Marks)

Freight = ₦ 804, 158 (0.5 Marks)

Import Duty = ₦ 1, 023, 473 (0.5 Marks)

Port Charges = ₦ 1, 133, 131 (0.5 Marks)

Transport and Insurance to site = ₦ 694, 450 (0.5 Marks)

Cost of Installation = ₦ 877, 263 (0.5 Marks)

Net Current Replacement Cost = ₦14, 493, 065 (1 Mark)

(c)

The consequences of under-insurance: **the condition of average:**

“Whenever a sum insured is declared to be subject of average, if the property covered thereby shall, at the breaking out of any fire or at the commencement of any destruction of, or damage to, such property by any peril hereby insured against, be collectively of greater value than the sum insured, then the insured shall be considered to be their own insurers for the difference and shall bear a rateable share of the loss accordingly”.

**(1 mark)**

a valuation of plant and machinery to be insured ensures that the insured party is not subject to downward adjustment due to under insurance in case he needs to make a claim, and also that he does not pay unnecessary premium. A downward adjustment will occur on a claim if the sum insured is less than the true value at risk at the time of the loss, in which case only a proportion of the proven loss will be paid, even where the loss is below the sum insured. This in insurance practice is known as the “Condition of Average”.

**(1 mark)**

(d)

- Up-to-date price lists and recent information from the surveyor’s own database **(2 marks)**
- Enquiries from direct contact with the manufacturer: **(2 marks)**
- The original purchase price (the historical cost approach) : **(2 marks)**

**(e) (2 marks)**

Depreciation is the price paid by a machine for existence as it starts depreciating once it is produced while obsolescence is principally a function of external factors such as the production of a more efficient machine

5. (a)  $\cancel{₦}83, 550 \times 1.704 = \cancel{₦}142, 369$   
 $r = 200/15 = 13.3333\% = 0.1333$

~~N~~142, 369 (1-0.1333)<sup>8</sup>

=~~N~~142, 369 × 0.3184 = ~~N~~45, 330

MODEL	GCRC ( <del>N</del> )	TOT DEP ( <del>N</del> )	NCRC ( <del>N</del> )	V-I-U ( <del>N</del> )	SALVAGE ( <del>N</del> )	REMARK
NEW	142, 369	97, 039	45, 330	28673	16, 657	Poor State
OLD	56948	38816	18132	<b>11469</b>	6669	Poor State
Marks	<b>1</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>1</b>

(b) (5 marks)

- **Motor vehicles:**

These are covered by the main policy only to the extent that they are not covered by their specific motor policy. In the case of damage due to any peril covered by the main policy, claims can only be made on the difference between the amount recoverable under the specific policy and the indemnity value. The reinstatement clause does not normally apply to motor vehicles.

Motor vehicles and their contents are usually specifically insured and as such excluded from the policy except in respect of the amount over and above that recoverable under the more specific insurance. Thus, the difference between the amount recovered on the specific motor vehicle policy and the indemnity value is equal to the amount by which the vehicle was under-insured on the motor vehicle policy at the time of loss.

However, unregistered internal transport fleets will normally be included with the plant and machinery on the fire insurance policy.

(c) (5 marks)

- **Uncompleted plant:**

During the valuation survey, there could be items, which are still being installed. If they are small items, which are quickly installed, they could be included. However, the treatment of major process plant, which could be expensive and may take months to install, will depend on the installation agreement.

If the contractor is expected to insure against risks already covered by the factory policy, the correct approach is to exclude the item from the valuation. The report will however include a recommendation to the client to amend the main policy at the time of commissioning the item.

If the client is liable for insurance cover, either the total estimated contract price is incorporated in the valuation or a suitable amount included to cover work completed up to date. A note on this should be included in the final report when submitting the valuation.

Where the valuation survey reveals that a major item is to be installed in the near future, no allowance would be made for the item in the valuation, and the report will make a note of this.

(d) (3 marks)

1. The name and address of the insured
2. The location of items in the valuation
3. Date of the valuation
4. Basis of the valuation
5. Content of the valuation
6. Grouping of the contents
7. Relevant points needed to be highlighted
8. Projections for future inflations
9. Surveyor's name and seal