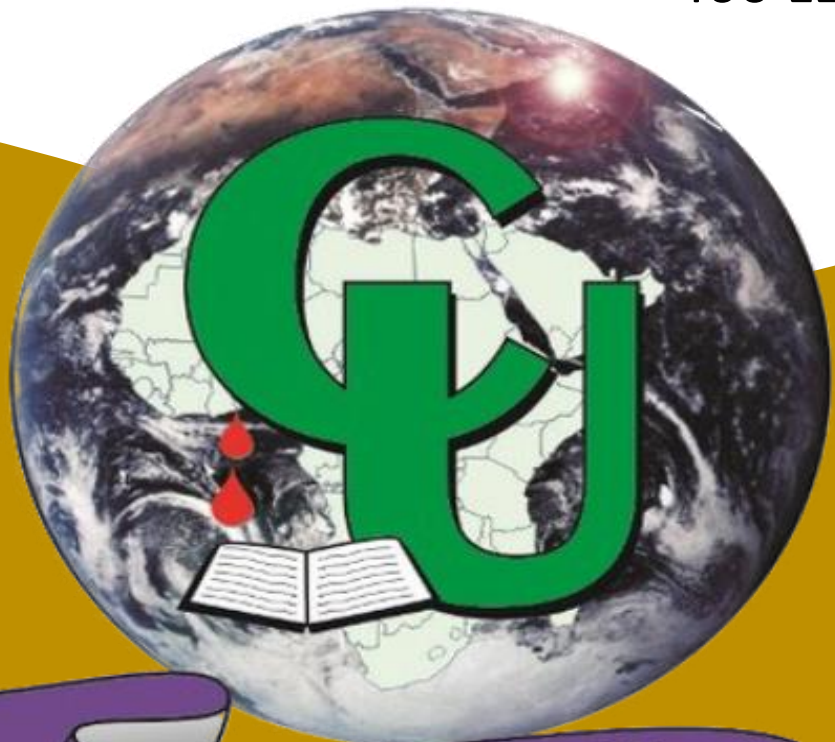


COVENANT UNIVERSITY

ALPHA SEMESTER TUTORIAL KIT
(VOL. 2)

PROGRAMME: ESTATE MANAGEMENT
400 LEVEL



Raising A New Generation Of Leaders

DISCLAIMER

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LIST OF COURSES

ESM411: Property Management

ESM412: Property Development and Finance

ESM413: Comparative Land Policies

ESM414: Research Methodology

ESM415: Urban Land Economics

*ESM416: Project Planning and Development

ESM417: ICT In Real Estate

*ESM418: Public Health Engineering

ESM431: Geographic Information Systems (GIS)

*Not included



COVENANT UNIVERSITY, OTA
COLLEGE OF SCIENCE AND TECHNOLOGY
SCHOOL OF ENVIRONMENTAL SCIENCES
DEPARTMENT OF ESTATE MANAGEMENT
ALPHA SEMESTER EXAMINATION

COURSE CODE: **ESM 411**
COURSE TITLE: **PROPERTY MANAGEMENT**
TIME ALLOWED: **2 Hours**

INSTRUCTIONS: Answer ONE (1) Question from Section A and any other TWO (2) from Section B. Start each question on a new page.

SECTION A

1. You are about to embark on your industrial training and Mobil is willing to engage you with an assurance of employment after graduation. The only hurdle to your dream job is writing an essay on your functions as the property manager of their multi-tenanted office blocks in Surulere, Lagos State. In your essay, you are expected to discuss at least seven (7) of your functions. **(22 Marks)**
- (b) The estate plan is a summary of an estate's policy objectives being used for a number of reasons. Explain to your colleague the four (4) usefulness of estate plan. **(8 Marks)**
2. (a) Various studies have shown that people hardly take the issue of documentation and accounting of their spending seriously. As a property manager, what are those essential accounts that are crucial in property management and what are the implications if the accounts are not properly kept? **(15 Marks)**
- (b) You have recently been employed as the property manager of a recently completed and vacant housing estate in Lekki Phase II. Discuss the criteria you will consider in selecting tenants for the estate. **(15 Marks)**

SECTION B

3. Your father is of the opinion that the only problem that can arise in routine property management is the issue relating to rent collection. Comment on your father's opinion of routine property management. **(20 Marks)**
4. (a) Management control must normally be exercised through enforcement of the lease

covenants. Discuss the principal provisions of a lease covenant. **(10 Marks)**

(b) The instruments of financial control are the accounts. It is expected that the accounts should provide the management with some crucial information. As a property professional, you are required to explain in detail the necessary information. **(10 Marks)**

5. You have been invited for a debate in Crawford University, Igbesa, Ogun State to make a sound and reasonable case for or against leasehold system. State and justify your stand with reason(s).

(20 Marks)



COVENANT UNIVERSITY

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

TITLE OF EXAMINATION: B.Sc. DEGREE EXAMINATION

COLLEGE: COLLEGE OF SCIENCE AND TECHNOLOGY

SCHOOL: SCHOOL OF ENVIRONMENTAL SCIENCES

DEPARTMENT: ESTATE MANAGEMENT

SEMESTER: ALPHA

COURSE CODE: ESM 412

CREDIT UNIT: 2 UNITS

COURSE TITLE: PROPERTY DEVELOPMENT AND FINANCE

**INSTRUCTIONS: ANSWER ONLY ONE QUESTION FROM SECTION A
AND ANY OTHER TWO FROM SECTION B. QUESTIONS
IN SECTION A CARRY 30 MARKS; OTHERS CARRY 20
MARKS EACH.**

TIME: 2 HOURS

Section A.

1. In the property development industry, delivery of completed projects can be achieved via different modes based on clients' requirement and capacities. With your knowledge of project development, list and discuss the five major project delivery methods stating their advantages and disadvantages.
2. (a) You have been called upon to explain to a group of naive students visiting your project site on what the construction process entails. Being a budding real estate developer, explain in detail, the construction process of a simple residential building (from inception to completion) to these individuals.
(b) Being a professional in the built environment, you have been called upon to supervise an on-going construction site within the Covenant University Complex. List and discuss the four crucial technical details you would be keen at observing.

Section B

3. (a) In the quest to eliminate the issue of building collapse in the built environment, there is the need to employ the use of only professionals in a bid to ensure the safety of buildings,

lives and property while controlling cost. This can be partially attained by a fair bidding process. With your knowledge on bidding, discuss the bidding process.

- (b) Highlight and briefly explain the factors that a client may use in determining one bidder from another.
4. Provide an in-depth discussion on any four of the following real estate financing modes:
- (a) Syndicate Loan (5 marks)
 - (b) Open End Mortgage (5 marks)
 - (c) Construction Mortgage (5 marks)
 - (d) Blanket Mortgage (5 marks)
 - (e) Pledged Account Mortgage (5 marks)
 - (f) Renegotiable Rate Mortgage (5 marks)
5. The recently organised EMSA excursions to the Lekki - Epe corridor of Lagos state, revealed that, the axis is dotted with many flourishing privately owned residential estates with many sites still under construction. Despite the huge cost of capital in today's Nigeria, how do developers still have access to funds for real estate development? Discuss at least five of these options.



COVENANT UNIVERSITY

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

TITLE OF EXAMINATION: B.Sc. EXAMINATION

COLLEGE: SCIENCE AND TECHNOLOGY

SCHOOL: ENVIRONMENTAL SCIENCES

DEPARTMENT: ESTATE MANAGEMENT

SEMESTER: ALPHA

COURSE CODE: ESM 413

CREDIT UNIT: Two (2)

COURSE TITLE: COMPARATIVE LAND POLICIES

INSTRUCTION: ANSWER THREE (3) QUESTIONS IN ALL. EACH QUESTION MUST

COMMENCE ON A NEW PAGE.

TIME: Two (2) Hours

1. (a) In Nigeria, there are different types of Land Tenure Systems. Identify the various Land Tenure Systems available in Nigeria. (13 marks)
(b) Explain their Social, economic and political implications on Land Use (10 Marks)
2. (a) The Land Use Act has been seen as a clog in the wheel of economic progress, discuss. (13 Marks)
(b) The Land Use Act No 6 of 1978 was promulgated based on a number of objectives. In your own opinion, can you say that it has achieved the stated objectives? (10 Marks)
3. (a) What were the features of the customary Land Tenure Systems in Yoruba land prior to the promulgation of the Land Use Act in 1978? (13 Marks)
(b) What questions should a good land tenure system strive to answer? (10 Marks)
4. Some un-informed critics commenting about matters regarding land management and administration in Nigeria have expressed their notion that “land belongs to God and not to the Government or any of its agencies”. Thus to them, the idea of introducing land policy in the country is not needed and seen as counter-productive. As an expert in the field of land management, justify

the need for putting in place land policy instruments for proper land administration in the country. **(23 Marks)**

5. (a) Compare and contrast the systems of land policy in Nigeria and South Africa **(10 Marks)**

(b) Land Policy is all about the rules and regulations guiding the use of Land in any country, discuss the land use policy in Nigeria, with emphasis on its objectives and the challenges with these objectives. **(13 Marks)**

ANSWERS

- 1) Students are expected to discuss the prevailing land tenure systems in Nigeria, placing emphasis in their social, economic and political implications on land use
- 2) Students are expected to highlight the various objectives of the land use act expressing their opinion as to whether it has been achieved or not
- 3) Students are expected to explain in details the features of the Land tenure system in the Yoruba part of Nigeria before the enactment of the Land Use Act
- 4) Student are expected to discuss in details their understanding of the land policy and the various instruments used to control land administration
- 5) Students are expected to compare and contrast the systems of land management and administration through the land policy in Nigeria and Kenya
- 6) Students are expected to critically analyze the land use act

COVENANT UNIVERSITY

CANAALAND, KM 10, IDIROKO ROAD

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

TITLE OF EXAMINATION: B.Sc EXAMINATION

COLLEGE: SCIENCE AND TECHNOLOGY

DEPARTMENT: ESTATE MANAGEMENT

SEMESTER: ALPHA

COURSE CODE: ESM 414

CREDIT UNIT: 3

COURSE TITLE: RESEARCH METHODOLOGY

INSTRUCTION: (ANSWER FOUR QUESTIONS IN ALL). ANSWER ANY TWO

QUESTIONS IN PART A AND ANY TWO OTHERS IN PART B. SHOW ALL

WORKINGS. BORROWING OF CALCULATOR IS HIGHLY PROHIBITED.

NOTE: STASTISTICAL TABLES WILL BE PROVIDED FOR THE EXAMINATION.

THERE SHOULD BE NO USE OF PERSONAL STATISTICAL TABLES. WHEN

NECESSARY YOUR RESULTS SHOULD BE AT A 95% CONFIDENCE LEVEL

TIME: 3 HOURS

SECTION A (TENETS OF RESEARCH)

- (a) How do you carry out a well structured review of related literatures in your Chapter Two (6 Marks)

(b) Research begins and ends with a very good literature base. Discuss (5 Marks)

(c) Diffentiate between Research Methodology and Research Methods (2.5 Marks)

(d) Discuss the Objectives of handling any given research? (4 Marks)
- (a) Research is carried out through an organized process. Discuss (16.5 Marks)

(b) What is the principal reason for justifying any given study? (1 Mark)
- (a) In a second model of research classification, this systematic endeavour is grouped under purpose and method. Discuss (16 Marks)

- (b) Differentiate amongst Primary, Secondary and Tertiary Sources of Data? (1.5 Marks)
4. (a) Differentiate between reference and bibliography (2 Marks)
- (b) How do you write the abstract of a work (2.5 Marks)
- (c) You are requested to reference the works below using the 6th Edition of the APA Style:
- Dr. Iroham Chukwuemeka Osmond, Dr. Oloyede Samuel Adesiyon, Dr. Ajibola Mayowa Olusola and Dr. Durodola Daniel Olufemi recently in June 2014 got one of their articles titled “Towards an effective real estate agency education: A stride to efficiency in Nigeria” published within pages 176 and 181 of the fifth issue of the first volume of “African Journal of Estate and Property Management”. (2.5 Marks)
 - Dr. Olawale Gbadegesin Sunday published a book in 2013 titled “Salvaging a battered Nation” published by “Adeyoung Press” Located in Irepo Area, Oyo State. (2.5 Marks)
 - Iroham Chukwuemeka Osmond carried out A Master’s Thesis in March 2007 which is yet to be published titled “The influence of valuers and valuations in the workings of commercial property investment in Lagos metropolis“ from the Department of Estate Management, School of Environmental Sciences, College of Science and Technology, Covenant University, Ota ,Ogun State, Nigeria (2.5 Marks)
 - Osaji Emeka Efe, Hudson John, Chynoweth Paul and Lee Angela had their conference paper titled “The spheroidal form in architectural morphology; focus on the greater London authority building, the prolate-oblate concept and the 3D to ND modelling methodology” published in 2006 in pages 500 to 510 of a conference proceeding published by Covenant University Press Ota Ogun State Nigeria titled “The Built Environment: Innovation Policy and Sustainable Development” edited by Okewole, I. Afolabi; Daramola, S. Adedeji; Ajayi, Cyril A.; Ogunba, Olusegun A. and Odusami, Koleola Tunwase after a conference organised by The School of Environmental Sciences College of Science and Technology, Covenant University, Ota Ogun State, Nigeria in January of the said year (2.5 Marks)
- (d) Discuss the segments of “Statement of Research Problem” (3 Marks)

SECTION B (STATISTICS OF RESEARCH)

5. (a) Determine the relationship between the scores of certain students in both Chemistry and Physics test as given in Table 1 (5.5 Marks)

Table 1: Scores of certain students in Chemistry and Physics Test

Student	Moji	Femi	Sam	Wale	Bola	Ola	Kunle	Yemi	Ade	Tunji
Physics	9	12	17	19	5	16	13	14	10	18
Chemistry	18	5	7	19	14	16	8	17	11	12

- (b) What would have been the difference in the relationship, if any, assuming the teacher decides to rank the scores in Table 1? (4 Marks)
- (c) You are required to determine the equation line from the relationship between peoples Income and their expenditure limit for the month. Table 2 gives details (6 Marks)

Table 2: Average Monthly Income and Expenditure of certain Families

Income (N'000)	40	63	39	71	98	84	73	28	34	91
Expenditure (N'000)	29	55	27	43	69	81	77	15	31	88

(d) With the pattern of expenditure from given income in Table 2 predict the expenditure of Mr. Oladeji whose income is ₦61, 000 (Sixty One Thousand Naira) Only. (2 Marks)

6(a) From readings as revealed in Table 3 is there any significant difference between the average light showers in millimetres experienced between two nearby towns in certain days? (9 Marks)

Table 3: Daily light showers in (MM) from selected days between two nearby Towns

DAYS	1	2	3	4	5	6	7	8	9	10	11
TOWN A	160	145	219	412	315	401	116	496	233	512	311
TOWN B	118	172	188	207	711	398	287	307	149		417

(b) With the aid of a diagram, mathematical and operational definition, discuss the sampling error (4 Marks)

(c) Discuss the Central Limit Theorem (2 Marks)

(d) Before choosing the right statistical tool to use in analysis, what are the conditions to look out for? (2.5 Marks)

7. (a) Discuss the major types of data readily used in research (4 Marks)

(b) Discuss the Sampling Theory (1.5 Marks)

(c) Calculate the appropriate sample size for a study to determine the average age of Covenant University Students having a total population of about 7, 369. A differential of 6% would not be misleading while presurvey investigations reveals that the youngest student is 14 years while the oldest student is 25 years. (5 Marks)

(d) From results gotten from a health research as revealed in Table 4, you are requested to determine if the weights of individuals has an effect on the number of stoppages in climbing the staircase (7 Marks)

Table 4: Weight vs Stoppages in Climbing the Staircase

No of Stoppages	Weight of Individuals (Kg)								
	<50	51-55	56-60	61-65	65-70	71-75	76-80	>80	
0	705	634	621	598	574	491	403	366	

	1	13	26	21	34	50	62	77	86
	2	9	31	11	18	24	33	41	50
	3	4	11	24	12	19	25	29	36
	4	2	9	7	11	14	18	19	22

8. (a) Determine the quartile deviation of scores in a degree examination as grouped by the examiner. Details are evident in Table 5 (5 Marks)

Table 5: Group Scores in a degree Examination

Scores (%)	Frequency
<40	8
41-50	15
51-60	23
61-70	19
71-80	11
81-90	8
>90	3

- (b) Is there any significant difference amongst the scores of an aptitude test of ten boys each from three selected schools? The details of the scores are given in Table 6 (7.5 Marks)

Table 6: Scores from an Aptitude Test from three selected schools

School 1	School 2	School 3
12	18	11
15	13	17
8	16	12
17	19	18

19	14	15
14	12	11
15	11	6
13	9	19
11	15	14
10	7	19

(c) In the determination of appropriate sample size, discuss the factors to be considered by the researcher? (5 Marks)

COVENANT UNIVERSITY

CANAALAND, KM 10, IDIROKO ROAD

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

TITLE OF EXAMINATION: B.Sc EXAMINATION MARKING SCHEME

COLLEGE: SCIENCE AND TECHNOLOGY

DEPARTMENT: ESTATE MANAGEMENT

SEMESTER: ALPHA

COURSE CODE: ESM 414

CREDIT UNIT: 3

COURSE TITLE: RESEARCH METHODOLOGY

PART A (TENETS OF RESEARCH)

QUESTION ONE

6. How do you carry out a well structured review of related literatures in your Chapter Two (6 Marks)

ANSWER

- Sub topics formulated from general to specific (1 Mark)
 - Reviewed Chronologically (1 Mark)
 - Surname of authors alone (1 Mark)
 - Date of Publication in bracket (1 Mark)
 - Each paper is a paragraph (1 Mark)
 - Each paragraph has the statement problem; aim, methodology, findings and recommendation/conclusion of each paper (1 Mark)
7. Research begins and ends with a very good literature base. Discuss (5 Marks)

ANSWER

- From literature problems are formulated (1 Mark)

- From literature one can know the extent of previous work done so as to fill the gap and not to reinvent the wheel **(1 Mark)**
- From literature one can adopt hypothesis to be tested **(1 Mark)**
- From literature one can know the methodology to even adopt **(1 Mark)**
- The finished work becomes a literature to recourse to as it opens up areas of further studies **(1 Mark)**

8. Differentiate between Research Methodology and Research Methods **(2.5 Marks)**

ANSWER

Research methods may be understood as all those methods/techniques that are used for conduction of research *use in performing research operations*. In other words, all those methods which are used by the researcher during the course of studying his research problem are termed as research methods. Since the object of research, particularly the applied research, is to arrive at a solution for a given problem, the available data and the unknown aspects of the problem have to be related to each other to make a solution possible. Keeping this in view, research methods can be put into the following three groups: **(0.6 Marks)**

1. In the first group we include those methods which are concerned with the collection of data. These methods will be used where the data already available are not sufficient to arrive at the required solution; **(0.3 Marks)**
2. The second group consists of those statistical techniques which are used for establishing relationships between the data and the unknowns; **(0.3 Marks)**
3. The third group consists of those methods which are used to evaluate the accuracy of the results obtained. Research methods falling in the above stated last two groups are generally taken as the analytical tools of research. **(0.3 Marks)**

Research methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically. In it we study the various steps that are generally adopted by a researcher in studying his research problem along with the logic behind them. **(1 Mark)**

9. Discuss the Objectives of handling any given research? **(4 Marks)**

ANSWER

- To gain familiarity with a phenomenon or to achieve new insights into it (studies with this object in view are termed as *exploratory* or *formulative* research studies); **(1 Mark)**
- To portray accurately the characteristics of a particular individual, situation or a group (studies with this object in view are known as *descriptive* research studies); **(1 Mark)**
- To determine the frequency with which something occurs or with which it is associated with something else (studies with this object in view are known as *diagnostic* research studies); **(1 Mark)**
- To test a hypothesis of a causal relationship between variables (such studies are known as *hypothesis-testing* research studies). **(1 Mark)**

QUESTION TWO

- (a) Research is carried out through an organized process. Discuss (16.5 Marks)

ANSWER

- (1) Formulating the research problem; (1.5 Marks)
- (2) Extensive literature survey; (1.5 Marks)
- (3) Developing the hypothesis; (1.5 Marks)
- (4) Preparing the research design; (1.5 Marks)
- (5) Determining sample design; (1.5 Marks)
- (6) Collecting the data; (1.5 Marks)
- (7) Execution of the project; (1.5 Marks)
- (8) Analysis of data; (1.5 Marks)
- (9) Hypothesis testings; (1.5 Marks)
- (10) Generalisations and interpretation, (1.5 Marks)
- (11) Preparation of the report or presentation of the results, (Write up of conclusions reached) (1.5 Marks)

- (b) What is the principal reason for justifying any given study? (1 Mark)

ANSWER

- It is principally to fill a gap in literature (1 Mark)

QUESTION THREE

- (a) In a second model of research classification, this systematic endeavour is grouped under purpose and method. Discuss (16 Marks)

ANSWER

CLASSIFICATION BY PURPOSE

- *Basic Research*- Concerned with the development of theories. Example of such research include: A study on the required human behaviour as a motivational force that increases workers productivity (1 Mark)
- *Applied Research*- Concerned with testing and applying theories. Moreso evaluating the efficacy of established theory in solving problem. Example of such research includes: A study on whether the principle of demand and supply is applicable to trade by barter. (1 Mark)

- *Evaluation Research*- This type of research is aimed at collecting and analysing data that will aid decision making. Example of evaluation research is to find out if the National Youth Service Corps has fulfilled why it was established. **(1 Mark)**
- *Research and Development*- The main aim of this research is to produce goods/products. An example of this type of research is the production of teaching materials that will aid learning. **(1 Mark)**
- *Action Research*- This research which is usually carried out on a small scale is geared towards solving specific problems through the application of scientific methods. Example of such research is how to curb the menace of Boko Haram in Nigeria. **(1 Mark)**

CLASSIFICATION BY METHOD

- *Historical Research*- This is concerned with studying past events, evaluating and synthesising evidence in order to establish facts. Some critics view this type of research as not being research because it is viewed as a compilation of past occurrences/events. However, when properly carried out, it entails a thorough collection and analysis of data which leads the researcher to the acceptance and rejection of hypothesis. The research method of historical research is not in administering questionnaires to gather data but rather seeks to find already available data. Example of Historic research is the Development of University Education in Nigeria: 1948-2013 **(1 Mark)**
- *Descriptive Research*- Descriptive research involves collecting data in order to test hypotheses and answer research questions raised in the study. This type of research tends to report things the way they are. Examples of research that are descriptive in nature include: Desirable teachers attributes as perceived by administrators and students; job satisfaction amongst University lecturers in a given Institution. There are kinds of descriptive research. These are: **(1 Mark)**

-Survey Research- A survey research generally collects data from a defined population to describe the present condition of the population using the variables under study. Surveys are either sample survey or census survey. The former entails the study of a section of the population while in census survey the whole population is studied. **(1 Mark)**

-Developmental Studies- These are studies geared towards describing the nature and degree of growth, maturity and variations in behaviour amongst members of a group. This is with the main aim of investigating progress made in the group using laid down yardsticks. **(1 Mark)**

-Follow-up Studies- This is a research that attempts to review results of a given study after a given period of time. **(1 Mark)**

-Sociometric Studies- This is more applied in the behavioural sciences where findings are sought for the type of relations that exist between individuals in a group **(1 Mark)**

-Observational Research- In Observational research there is an attempt to observe a given phenomenon or subject. **(1 Mark)**

- ***Correlational Research-*** This research tends to identify the degree of relationship or the extent of relationship between two or more variables. Examples of such researches include: The relationship between academic qualifications and teacher's performance in the classroom; relationship between job satisfaction and teachers performance in schools; is teaching techniques related to the performance of students? **(1 Mark)**
- ***Casual -Comparative or Ex-Post- Facto Research-*** This research is geared towards discovering the cause-and-effect relationships by examining conditions and tracking back the information and available data for probable causes. The research is given the name as most times the alleged causes and noticeable effects had occurred earlier before the researcher begins to dig into the issue. 'Ex-post-facto' is a Latin word meaning 'after the fact'. Example of such research can be the study of ethnic crises in a given community. Students should note that Casual-Comparative research determines cause-effect relationships while correlational research determines the extent or degree of relationship. **(1 Mark)**
- ***Experimental Research-*** This type of research has a distinctive feature in that the researcher deliberately controls and manipulates the conditions which determine the interested events. Experiment makes changes in a variable known as the independent variable then observation is made on the changes on the dependent variable. Example of an experimental research is to investigate the effect of a certain drug on the performance of athletes. **(1 Mark)**
- ***Quasi-Experimental Research-*** This is a research where total control of variables is totally impossible as compared the experimental research. This can be as a result of the presence of other uncontrollable factors that might affect the derived result. For instance teachers' qualification being a function of students performance might not be easily experimented as other socio-cultural factors like family background, teaching methods adopted and intelligence of students can be trigger factors. However, while conducting quasi-experimental research controls are placed as true experiment as far as possible making room for partial control of variables. Quasi-experimental research is usually found in education and behavioural science research. **(1 Mark)**

(b) Differentiate amongst Primary, Secondary and Tertiary Sources of Data? **(1.5 Marks)**

ANSWER

- **Primary Sources of Data: (First hand information for current research)** Observation, Questionnaire, Interview, Measurement **(0.5 Marks)**
- **Secondary Sources of Data: (Second hand information for current research)** Text-Books, Journals, Seminar-papers, Bulletin, etc **(0.5 Marks)**

- **Tertiary Sources of Data: (Second hand information not specific for current research)** Almanacs, Atlas, Guide books, Survey articles, Timelines, User guides, Dictionary, Encyclopedia, Directory etc. **(0.5 Marks)**

QUESTION FOUR

- (a) Differentiate between reference and bibliography **(2 Marks)**

ANSWER

- Reference involves only materials cited **(1 Mark)**
- Bibliography also involves apart from materials cited but those cited by those one cited. **(0.5 Marks)**
- Also materials made recourse to that were not actually reviewed. **(0.5 Marks)**

- (b) How do you write the abstract of a work **(2.5 Marks)**

ANSWER

Abstract is like the summary of any given work which must contain:

- The problem of study **(0.5 Marks)**
- The aim of study **(0.5 Marks)**
- The methodology used **(0.5 Marks)**
- The findings **(0.5 Marks)**
- The recommendations/conclusions **(0.5 Marks)**

- (c) You are requested to reference the works below using the 6th Edition of the APA Style:

- Dr. Iroham Chukwuemeka Osmond, Dr. Oloyede Samuel Adesiyon, Dr. Ajibola Mayowa Olusola and Dr. Durodola Daniel Olufemi recently in June 2014 got one of their articles titled “Towards an effective real estate agency education: A stride to efficiency in Nigeria” published within pages 176 and 181 of the fifth issue of the first volume of “African Journal of Estate and Property Management”. **(2.5 Marks)**

ANSWER

Iroham, C. O., Oloyede, S. A., Ajibola, M. O., & Durodola, D. O. (2014). Towards an effective

real estate agency education: A stride to efficiency in Nigeria. *African Journal of Estate and Property Management*, 1(5), 176-181 **(2.5 Marks)**

- Dr. Olawale Gbadegesin Sunday published a book in 2013 titled “Salvaging a battered Nation” published by “Adeyoung Press” Located in Irepo Area, Oyo State. **(2.5 Marks)**

ANSWER

Olawale, G. S. (2013). *Salvaging a battered nation*. Irepo Area, Oyo State: Adeyoung Press. **(2. 5 Marks)**

- Iroham Chukwuemeka Osmond carried out A Master’s Thesis in March 2007 which is yet to be published titled “The influence of valuers and valuations in the workings of commercial property investment in Lagos metropolis“ from the Department of Estate Management, School of Environmental Sciences, College of Science and Technology, Covenant University, Ota ,Ogun State, Nigeria **(2.5 Marks)**

ANSWER

Iroham, C. O. (2007). *The influence of valuers and valuations in the workings of commercial*

property investment in Lagos metropolis (Unpublished Master’s Thesis). Covenant University, Ota, Ogun State, Nigeria. **(2. 5 Marks)**

- Osaji Emeka Efe, Hudson John, Chynoweth Paul and Lee Angela had their conference paper titled “The spheroidal form in architectural morphology; focus on the greater London authority building, the prolate-oblate concept and the 3D to ND modelling methodology” published in 2006 in pages 500 to 510 of a conference proceeding published by Covenant University Press Ota Ogun State Nigeria titled “The Built Environment: Innovation Policy and Sustainable Development” edited by Okewole, I. Afolabi; Daramola, S. Adedeji; Ajayi, Cyril A.; Ogunba, Olusegun A. and Odusami, Koleola Tunwase after a conference organised by The School of Environmental Sciences College of Science and Technology, Covenant University, Ota Ogun State, Nigeria in January of the said year **(2.5 Marks)**

ANSWER

Osaji, E. E., Hudson, J., Chynoweth, P., & Lee, A. (2006). The spheroidal form in architectural

morphology; focus on the greater London authority building, the prolate-oblate concept and the 3D to ND modelling methodology. In I. A. Okewole, S. A. Daramola, C. A. Ajayi, O. A. Ogunba, & K. T. Odusami (Eds.), *The Built Environment: Innovation Policy and Sustainable Development* (pp. 500-510). Covenant University, Ota, Nigeria: Covenant University, Press **(2. 5 Marks)**

(d) Discuss the segments of “Statement of Research Problem” **(3 Marks)**

ANSWER

- Point statement **(0.75 Marks)**
- Manifestation of problem **(0.75 Marks)**
- Implication if problem is not solved **(0.75 Marks)**
- Research questions **(0.75 Marks)**

PART B (STATISTICS OF RESEARCH)

QUESTION FIVE

- (a) Determine the relationship between the scores of certain students in both Chemistry and Physics test as given in Table 1 (5.5 Marks)

Table 1: Scores of certain students in Chemistry and Physics Test

Student	Moji	Femi	Sam	Wale	Bola	Ola	Kunle	Yemi	Ade	Tunji
Physics	9	12	17	19	5	16	13	14	10	18
Chemistry	18	5	7	19	14	16	8	17	11	12

ANSWER

Students	Physics (x)	Chemistry (y)	x^2	Y^2	xy
Moji	9	18	81	324	162
Femi	12	5	144	25	60
Sam	17	7	289	49	119
Wale	19	19	361	361	361
Bola	5	14	25	196	70
Ola	16	16	256	256	256
Kunle	13	8	169	64	104
Yemi	14	17	196	289	238
Ade	10	11	100	121	110

Tunji	18	12	324	144	216
Total	$\sum x=133$	$\sum y=127$	$\sum x^2=1945$	$\sum y^2=1829$	$\sum xy=1696$

(Table 2 Marks)

Formular for Pearson r (Whole Score Method) =

$$r = \frac{\sum xy - XY}{$$

$$\frac{N \dots \dots \dots}{$$

$$S_x S_y$$

$$\sum xy = 1696$$

$$X = 13.3 \text{ (0.25 Marks)}$$

$$Y = 12.7 \text{ (0.25 Marks)}$$

$$N = 10$$

$$S_x = \sqrt{\frac{\sum x^2 - X^2}{$$

$$N}$$

$$S_x = \sqrt{\frac{1945 - 13.3^2}{10}} = 4.1964 \text{ (0.5 Marks)}$$

$$10$$

$$S_y = \sqrt{\frac{1829 - 12.7^2}{10}} = 4.6486 \text{ (0.5 Marks)}$$

$$10$$

From the formula

$$r = \frac{\sum xy - XY}{$$

$$\frac{N \dots \dots \dots}{$$

$$S_x S_y$$

$$= 1696 - (13.3 \times 12.7)$$

10..... (1 Mark)

$$4.1964 \times 4.6486$$

$$= 169.6 - 168.91 = 0.69$$

$$19.5071 \quad 19.5071$$

$$= 0.0354 \text{ (1 Mark)}$$

(A weak positive relationship) (0.5 Marks)

(b) What would have been the difference in the relationship, if any, assuming the teacher decides to rank the scores in Table 1? (4 Marks)

ANSWER

Students	Ranking in Physics Test(x)	Ranking in Chemistry Test(y)	Difference in Ranking (d)	d ²
Moji	9	2	7	49
Femi	7	10	-3	9
Sam	3	9	-6	36
Wale	1	1	0	0
Bola	10	5	5	25
Ola	4	4	0	0
Kunle	6	8	-2	4
Yemi	5	3	2	4
Ade	8	7	1	1

Tunji	2	6	-4	16
Total			0	144

(Table 2 Marks)

Spearman Rank Correlation formula=

$$r_s = 1 - \frac{6 \sum d^2}{n(n^2 - 1)}$$

$$n(n^2 - 1)$$

$$= 1 - \frac{6 \times 144}{10(990)} = 1 - \frac{864}{990} \quad (1 \text{ Mark})$$

$$1 - 0.87 = 0.13$$

1-0.87 (1 Mark)S

=0.13 (Although a weak positive relationship ranking the scores gives a higher relationship)

- (c) You are required to determine the equation line from the relationship between peoples Income and their expenditure limit for the month. Table 2 gives details (6 Marks)

Table 2: Average Monthly Income and Expenditure of certain Families

Income (N'000)	40	63	39	71	98	84	73	28	34	91
Expenditure (N'000)	29	55	27	43	69	81	77	15	31	88

ANSWER

Income (N'000) x	Expenditure (N'000) y	Xy	X ²
40	29	1160	1600

63	55	3465	3969
39	27	1053	1521
71	43	3053	5041
98	69	6762	9604
84	81	6804	7056
73	77	5621	5329
28	15	420	784
34	31	1054	1156
91	88	8008	8281
Total =621	515	37400	44341

(Table 2 Marks)

$$b = \frac{n\sum xy - \sum x \sum y}{n\sum x^2 - (\sum x)^2}$$

$$n\sum x^2 - (\sum x)^2$$

$$a = Y - bX$$

$$b = \frac{(10 \times 37400) - (621 \times 515)}{(10 \times 44341) - (621)^2} \quad \text{(1 Mark)}$$

$$(10 \times 44341) - (621)^2$$

$$= 374000 - 319815$$

$$443410 - 385641$$

$$= 54185$$

$$57769$$

$$= 0.9380 \quad \text{(0.5 Marks)}$$

$$Y = 515/10 = 51.5 ; X = 621/10 = 62.1$$

$$a = 51.5 - (0.9380)62.1 \text{ (1 Mark)}$$

$$a = 51.5 - 58.2498$$

$$a = -6.7498 \text{ (0.5 Marks)}$$

$$\text{Equation Line} = y = a + bx$$

$$y = -6.7498 + 0.9380x \text{ (1 Mark)}$$

- (d) With the pattern of expenditure from given income in Table 2 predict the expenditure of Mr. Oladeji whose income is ₦61,000 (Sixty One Thousand Naira) Only. **(2 Marks)**

ANSWER

$$\text{Since } y = -6.7498 + 0.9380x$$

$$\text{Expenditure}(y) = -6.7498 + 0.9380(61,000) \text{ (1 Mark)}$$

$$= -6.7498 + 57218$$

$$= \text{₦}57,211 \text{ (1 Mark)}$$

QUESTION SIX

- (a) From readings as revealed in Table 3 is there any significant difference between the average light showers in millimetres experienced between two nearby towns in certain days? **(9 Marks)**

Table 3: Daily light showers in (MM) from selected days between two nearby Towns

DAYS	1	2	3	4	5	6	7	8	9	10	11
TOWN A	160	145	219	412	315	401	116	496	233	512	311
TOWN B	118	172	188	207	711	398	287	307	149		417

ANSWER

TOWN A (x_1)	X_1^2	TOWN B (x_2)	X_2^2
160	25600	118	13924
145	21025	172	29584
219	47961	188	35344
412	169744	207	42849
315	99225	711	505521
401	160801	398	158404
116	13456	287	82369
496	246016	307	94249
233	54289	149	22201
512	262144	-	-
311	96721	417	173889
Total= 3320	1196982	2954	1158334

(Table 2 Marks)

Mean for Town A (X_1) = 3320

$$11 = 301.8182 \text{ (0.5 Marks)}$$

Mean for Town B (X_2) = 2954

$$10 = 295.4 \text{ (0.5 Marks)}$$

Variance for Town A (S_1^2) = 1196982 - $(301.8182)^2$

$$11$$

$108816.5455 - 91094.2259 = 17722.3196 \text{ (1 Mark)}$

Variance for Town B (S_2^2) = 1158334 - $(295.4)^2$

$$115833.4 - 87261.16 = 28572.24 \text{ (1 Mark)}$$

Next is to find Homogeneity of variance

$$\frac{28572.24}{17722.3196} = 1.6122$$

$$17722.3196 = 1.6122$$

$$F\text{-ratio } df = (n_1 - 1) \text{ numerator} / (n_2 - 1) \text{ denominator} = 3.02$$

Since $Cal < Tab$ it means Variance equal **(1 Mark)**

Since $n_1 \neq n_2$ and $S_1^2 \neq S_2^2$ we will use Pooled Variance Formula with degree of freedom equal to $n_1 + n_2 - 2$

$$\text{Student } t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{(n_1 - 1)S_1^2 + (n_2 - 1)S_2^2}{n_1 + n_2 - 2}}}$$

$$\frac{301.8182 - 295.4}{\sqrt{\frac{(10 - 1)S_1^2 + (9 - 1)S_2^2}{10 + 9 - 2}}}$$

$$\frac{301.8182 - 295.4}{\sqrt{\frac{(10 \times 17722.3196) + (9 \times 28572.24)}{19}}}$$

$$\frac{301.8182 - 295.4}{\sqrt{22861.7556 \times (0.19091)}}$$

$$\frac{301.8182 - 295.4}{\sqrt{4364.5378}}$$

19 **(1 Mark)**

$$\frac{301.8182 - 295.4}{\sqrt{4364.5378}}$$

$$\frac{6.4182}{66.0646}$$

$$= 0.0972 \text{ (0.5 Marks)}$$

$$Cal t = 0.0972$$

$$Cal t = 0.0972$$

$$Cal t = 0.0972$$

$$= 0.0972 \text{ (0.5 Marks)}$$

$$Cal t = 0.0972$$

Tab $t_{df 19} = 2.09$ (0.5 Marks)

Since Cal t is $<$ Tab t , we accept the null meaning there is no significance difference in the rainfall level between the two towns. (1 Mark)

(b) With the aid of a diagram, mathematical and operational definition, discuss the sampling error (4 Marks)

ANSWER

(1) Sampling Error = Frame error + Chance error + Response error (1 Mark)

= $z \times$ Standard Error of sample (1 Mark)

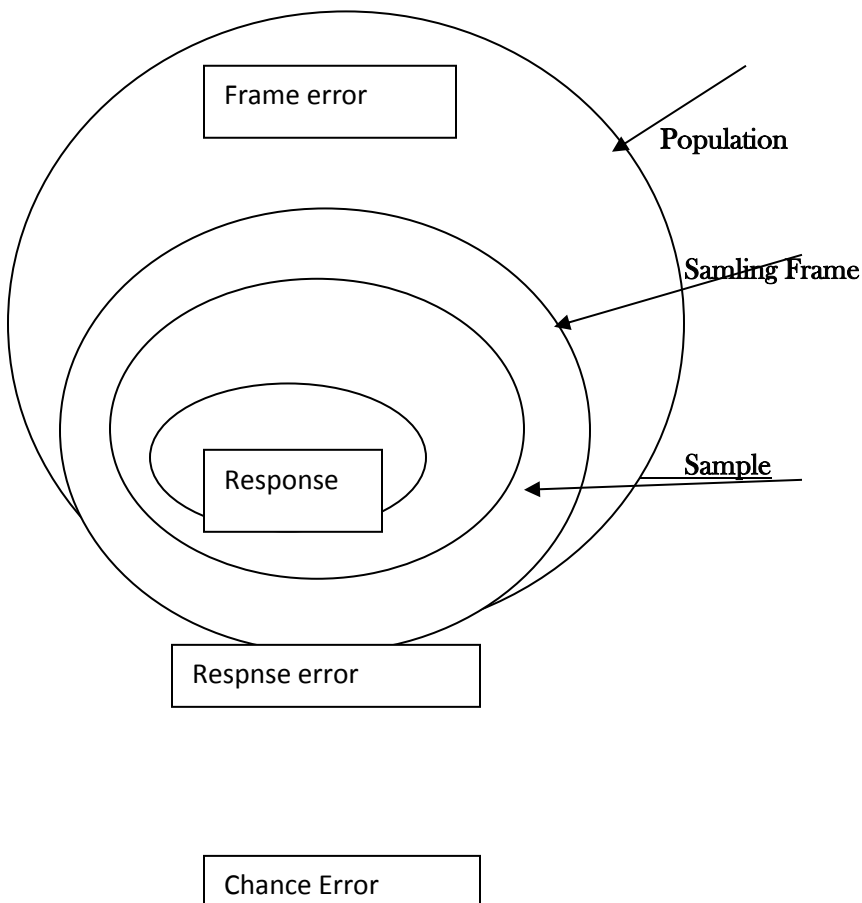


Diagram 2Marks

- (c) Discuss the Central Limit Theorem (2 Marks)

ANSWER

When sampling is from a normal population, the means of samples drawn from such a population are themselves normally distributed. But when sampling is not from a normal population, the size of the sample plays a critical role. When n is small, the shape of the distribution will depend largely on the shape of the parent population, but as n gets large ($n > 30$), the shape of the sampling distribution will become more and more like a normal distribution, irrespective of the shape of the parent population. The theorem which explains this sort of relationship between the shape of the population distribution and the sampling distribution of the mean is known as the central limit theorem. This theorem is by far the most important theorem in statistical inference. It assures that the sampling distribution of the mean approaches normal distribution as the sample size increases. In formal terms, we may say that the central limit theorem states that “the distribution of means of random samples taken from a population having mean μ and finite variance σ^2 approaches the normal distribution with mean μ and variance σ^2/n as n goes to infinity.”¹ “The significance of the central limit theorem lies in the fact that it permits us to use sample statistics to make inferences about population parameters without knowing anything about the shape of the frequency distribution of that population other than what we can get from the sample. (2 Marks)

- (d) Before choosing the right statistical tool to use in analysis, what are the conditions to look out for? (2.5 Marks)

ANSWER

- Which type of data do you have? (Nominal, Ordinal, Interval, Ratio) (0.5 Marks)
- What are you looking for? (a) Difference or (b) Relationship: Correlations, Regression) (0.5 Marks)
- Between Groups or Within Groups? (a.k.a. Independent Groups or Correlated Groups) (0.5 Marks)
- One Group, Two Groups, or More than Two Groups? (0.5 Marks)
- Selecting the Test (0.5 Marks)

QUESTION SEVEN

- (a) Discuss the major types of data readily used in research (4 Marks)

ANSWER

- Nominal (1 Mark)
- Ordinal (1 Mark)
- Interval (1 Mark)
- Ratio (1 Mark)

(b) Discuss the Sampling Theory (1.5 Marks)

ANSWER

Sampling theory is a study of relationships existing between a population and samples drawn from the population. Sampling theory is applicable only to random samples. For this purpose the population or a universe may be defined as an aggregate of items possessing a common trait or traits. In other words, a universe is the complete group of items about which knowledge is sought. The universe may be finite or infinite. finite universe is one which has a definite and certain number of items, but when the number of items is uncertain and infinite, the universe is said to be an infinite universe. Similarly, the universe may be hypothetical or existent. In the former case the universe in fact does not exist and we can only imagine the items constituting it. Tossing of a coin or throwing a dice are examples of hypothetical universe. Existent universe is a universe of concrete objects i.e., the universe where the items constituting it really exist. On the other hand, the term sample refers to that part of the universe which is selected for the purpose of investigation. The theory of sampling studies the relationships that exist between the universe and the sample or samples drawn from it. The main problem of sampling theory is the problem of relationship between a parameter and a statistic. The theory of sampling is concerned with estimating the properties of the population from those of the sample and also with gauging the precision of the estimate. This sort of movement from particular (sample) towards general (universe) is what is known as statistical induction or statistical inference. In more clear terms “from the sample we attempt to draw inference concerning the universe. In order to be able to follow this inductive method, we first follow a deductive argument which is that we imagine a population or universe (finite or infinite) and investigate the behaviour of the samples drawn from this universe applying the laws of probability (1.5 Marks)

(c) Calculate the appropriate sample size for a study to determine the average age of Covenant University Students having a total population of about 7, 369. A differential of 6% would not be misleading while presurvey investigations reveals that the youngest student is 14 years while the oldest student is 25 years. (5 Marks)

ANSWER

$3.92\infty =$ The given range

$3.92\infty = 25-14 = 11$

$\infty = 11/3.92 = 2.8061$ (1 Mark)

$$n = \frac{Z^2 \times N \times \infty^2}{(N-1)e^2 + (Z^2 \times \infty^2)}$$

$$(N-1)e^2 + (Z^2 \times \infty^2)$$

$$n = \frac{(1.96)^2 7369 \times (2.8061)^2}{((7368) \times (0.06^2)) + ((1.96)^2 \times (2.8061)^2)} \text{ (1 Mark)}$$

$$= \frac{(3.8416 \times 7369 \times 7.8742)}{26.5248 + 30.2495}$$

$$= \frac{222908.7624}{56.7743} \text{ (1 Mark)}$$

$$= 3,926 \text{ (2 Marks)}$$

- (d) From results gotten from a health research as revealed in Table 4, you are requested to determine if the weights of individuals has an effect on the number of stoppages in climbing the staircase **(7 Marks)**

Table 4: Weight vs Stoppages in Climbing the Staircase

No of Stoppages	Weight of Individuals (Kg)								
	<50	51-55	56-60	61-65	65-70	71-75	76-80	>80	
0	705	634	621	598	574	491	403	366	
1	13	26	21	34	50	62	77	86	
2	9	31	11	18	24	33	41	50	
3	4	11	24	12	19	25	29	36	
4	2	9	7	11	14	18	19	22	

ANSWER

No. of Stoppages	<50	51-55	56-60	61-65	65-70	71-75	76-80	>80	RST
0	705	634	621	598	574	491	403	366	4392
	(a)	(b)	©	(d)	(e)	(f)	(g)	(h)	
1	13	26	21	34	50	62	77	86	369

		(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	
	2	9	31	11	18	24	33	41	50	217
		(q)	(r)	(s)	(t)	(u)	(v)	(w)	(x)	
	3	4	11	24	12	19	25	29	36	160
		(y)	(z)	(z1)	(z2)	(z3)	(z4)	(z5)	(z6)	
	4	2	9	7	11	14	18	19	22	102
		(z7)	(z8)	(z9)	(z10)	(z11)	(z12)	(z13)	(z14)	
	CST	733	711	684	673	681	629	569	560	GT
										5240

To get the cell expected frequency

= subtotal of column × subtotal of row

Grand total

a= 614.3771; b= 595.9374; c=573.3069; d=564.0870; e=570.7924; f=527.2076; g=476.9176; h=469.3740; i=51.6177; j=50.0685; k=48.1672; l=47.3926; m=47.9560; n=44.2941; o=40.0689; p=39.4351; q=30.3552; r=29.4441; s=28.3260; t=27.8704; u=28.2017; v=26.0483

w=23.5635; x=23.1908; y=22.3817; z=21.7099; z1=20.8855; z2=20.5496; z3=20.7939; z4=19.2061; z5=17.3740; z6=17.0992; z7=14.2683; z8=13.8401; z9=13.3145; z10=13.1004; z11=13.2561; z12=12.2439; z13=11.0760; z14=10.9008 (3 Marks)

$$X^2 = \sum \frac{(O-E)^2}{E}$$

E

a=13.3672; b= 2.4311; c=3.9676; d=2.0389; e=0.0180; f=2.4867; g=11.4565; h=22.7669; i=28.8918; j=11.5700; k=15.3228; l=3.7846; m=0.0871; n=7.0777; o=34.0390; p=54.9838; q=15.0236; r=0.0822; s=10.5977; t=3.4956; u=0.6260; v=1.8553; w=12.9026; x=30.9922; y=15.0966; z=5.2834; z1=0.4644; z2=3.5570; z3=0.1548; z4=1.7478; z5=7.7797; z6=20.8922; z7=10.5486; z8=1.6927; z9=2.9947; z10=0.3368; z11=0.0417; z12=2.7061; z13=5.6690; z14=11.3012

Sum of all chi-square result = 380.3016 (3 Marks)

df= (r-1) × (c-1) = (5-1) × (8-1) = 4 × 7= 28 @0.05 table = 41.337 (0.5 Marks)

Since Cal > Tab we reject null.

Hence, the weight of the people is related to stoppages while climbing the staircase.

(0.5 Marks)

QUESTION EIGHT

- (a) Determine the quartile deviation of scores in a degree examination as grouped by the examiner. Details are evident in Table 5 (5 Marks)

Table 5: Group Scores in a degree Examination

Scores (%)	Frequency
<40	8
41-50	15
51-60	23
61-70	19
71-80	11
81-90	8
>90	3

ANSWER

Raw Score (%)	Frequency	Cummulative Frequency
<40	8	8
41-50	15	23
51-60	23	46
61-70	19	65

71-80	11	76
81-90	8	84
>90	3	87

First quartile is on the $(87+1/4)= 22^{\text{nd}}$ term

Ist quartile class =41-50 **(1 Mark)**

1st quartile = $40.5 + (14/15)10 = 40.5+9.33= 49.83$ **(1 Mark)**

Third quartile is on the $3(87+1/4)= 66^{\text{th}}$ term

3rd quartile class= 71-80 **(1 Mark)**

3rd quartile = $70.5 + (1/11)10 = 70.5+ 0.9091=71.4091$ **(1 Mark)**

Quartile deviation = $\frac{1}{2}(Q_3-Q_1)$

(71.4091-49.83)

2

= 10. 78955 **(1 Mark)**

(b) Is there any significant difference amongst the scores of an aptitude test of ten boys each from three selected schools? The details of the scores are given in Table 6 **(7.5 Marks)**

Table 6: Scores from an Aptitude Test from three selected schools

School 1	School 2	School 3
12	18	11
15	13	17
8	16	12
17	19	18

19	14	15
14	12	11
15	11	6
13	9	19
11	15	14
10	7	19

ANSWER

X_1	X_1^2	X_2	X_2^2	X_3	X_3^2
12	144	18	324	11	121
15	225	13	169	17	289
8	64	16	256	12	144
17	289	19	361	18	324
19	361	14	196	15	225
14	196	12	144	11	121
15	225	11	121	6	36
13	169	9	81	19	361
11	121	15	225	14	196
10	100	7	49	19	361
Total=134	1894	134	1926	142	2178

Table (1 Mark)

$$SS_r = \sum X^2 - \frac{(\sum X)^2}{n}$$

n

$$\sum x^2 = 1894 + 1926 + 2178 = 5998$$

$$\underline{(\sum x)^2} = \underline{(134 + 134 + 142)^2}$$

$$n \quad 30$$

$$\underline{(\sum x)^2} = \underline{(410)^2}$$

$$n \quad 30$$

$$\underline{168100}$$

$$30 = 5603.3333$$

$$SS_r = \sum x^2 - \underline{(\sum x)^2}$$

n

$$= 5998 - 5603.3333 = 394.6667$$

$$SS_b = \sum (\sum x)^2 - \underline{(\sum x)^2}$$

$$ng \quad n$$

$$\underline{(\sum x)^2} =$$

$$ng$$

$$\underline{(134)^2} = 1^{\text{st}} \text{ group} = 1795.6$$

$$10$$

$$\underline{(134)^2} = 2^{\text{nd}} \text{ group} = 1795.6$$

$$10$$

$$\underline{(142)^2} = 3^{\text{rd}} \text{ group} = 2016.4$$

$$10$$

$$\underline{(\sum x)^2} = 1795.6 + 1795.6 + 2016.4 = 5607.6$$

ng

$$(\sum x)^2 = \frac{(134+134+142)^2}{30} = \frac{168100}{30} = 5603.3333$$

$$SS_B = 5607.6 - 5603.3333 = 4.2667 \text{ (1.5 Marks)}$$

$$SS_W = \sum \sum x^2 - \frac{(\sum x)^2}{n}$$

n

$$1^{\text{st}} \text{ Group} = 1894 - \frac{(134)^2}{10} = 1894 - 1795.6 = 98.4$$

10

$$2^{\text{nd}} \text{ Group} = 1926 - \frac{(134)^2}{10} = 1926 - 1795.6 = 130.4$$

10

$$3^{\text{rd}} \text{ Group} = 2178 - \frac{(142)^2}{10} = 2178 - 2016.4 = 161.6$$

10

$$SS_W = 98.4 + 130.4 + 161.6 = 390.4 \text{ (1.5 Marks)}$$

To calculate the Between Mean Squares, we divide the SS_B by the degree of freedom (df)

$$MS_B = \frac{SS_B}{df} = \frac{4.2667}{2} = 2.13335$$

$$SS_B (df) = \text{number of groups} - 1 = 3 - 1 = 2 \text{ (0.5 Marks)}$$

$$\text{Mean of Square for } SS_B = \frac{4.2667}{2} = 2.13335$$

To calculate the Within Mean Squares, we divide the SS_W by the degree of freedom (df)

$$MS_W = \frac{SS_W}{df} = \frac{390.4}{27} = 14.4593 \text{ (0.5 Marks)}$$

$$SS_W (df) = \text{number of subjects} - \text{number of groups} = 30 - 3 = 27 \text{ (0.5 Marks)}$$

$$\text{Mean of Square for } SS_W = \frac{390.4}{27} = 14.4593 \text{ (0.5 Marks)}$$

F= Between Group Mean Square

Within Group Mean Square

$$= 2.13335/14.4593 = 0.1475 \text{ (0.5 Marks)}$$

For Tab F df (2/27) = 3.35 (0.5 Marks)

Hence since Cal is < Tab we accept the null. Thus, there is no significant difference amongst the scores of an aptitude test of ten boys each from the three selected schools (0.5 Marks)

- (c) In the determination of appropriate sample size, discuss the factors to be considered by the researcher? (5 Marks)

ANSWER (1 MARK EACH FOR A MAXIMUM OF FIVE)

- *Nature of universe:* Universe may be either homogenous or heterogenous in nature. If the items of the universe are homogenous, a small sample can serve the purpose. But if the items are heterogenous, a large sample would be required. Technically, this can be termed as the dispersion factor. (1 Mark)
- *Number of classes proposed:* If many class-groups (groups and sub-groups) are to be formed, a large sample would be required because a small sample might not be able to give a reasonable number of items in each class-group. (1 Mark)
- *Nature of study:* If items are to be intensively and continuously studied, the sample should be small. For a general survey the size of the sample should be large, but a small sample is considered appropriate in technical surveys. (1 Mark)
- *Type of sampling:* Sampling technique plays an important part in determining the size of the sample. A small random sample is apt to be much superior to a larger but badly selected sample. (1 Mark)
- *Standard of accuracy and acceptable confidence level:* If the standard of accuracy or the level of precision is to be kept high, we shall require relatively larger sample. For doubling the accuracy for a fixed significance level, the sample size has to be increased fourfold. (1 Mark)

- *Availability of finance:* In practice, size of the sample depends upon the amount of money available for the study purposes. This factor should be kept in view while determining the size of sample for large samples result in increasing the cost of sampling estimates. **(1 Mark)**
- *Other considerations:* Nature of units, size of the population, size of questionnaire, availability of trained investigators, the conditions under which the sample is being conducted, the time available for completion of the study are a few other considerations to which a researcher must pay attention while selecting the size of the sample. **(1 Mark)**



COVENANT UNIVERSITY

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

TITLE OF EXAMINATION:	B.Sc EXAMINATION	
COLLEGE:	SCIENCE AND TECHNOLOGY	
SCHOOL:	ENVIRONMENTAL SCIENCES	
DEPARTMENT:	ESTATE MANAGEMENT	
SEMESTER: ALPHA		
COURSE CODE:	ESM 415	CREDIT UNIT: 2
COURSE TITLE:	URBAN LAND ECONOMICS	TIME: 2 HOURS
INSTRUCTION:	Answer ONE (1) question from Section A and any TWO (2) from Section B. Start each question on a new page.	

SECTION A

1. Overpopulation occurs when a population of a species exceeds the carrying capacity of its ecological niche. Discuss extensively (i) seven (7) causes of overpopulation (ii) five (5) effects of overpopulation and (iii) three (3) solutions to overpopulation.

(30 marks)

2. Traffic congestion is a matter that needs urgent attention in most built environment around the world. Discuss extensively (i) five (5) causes of congestion (ii) five (5) negative effects and (iii) five (5) solutions to the problem of congestion on Nigerian roads.

(30 marks)

SECTION B

3. Pollution is the release of harmful substances into the environment. It can occur from natural causes or from human activities. Discuss (i) five (5) forms of Pollution and at least two (2) effects each that such type of pollution might have on human health.

(20 marks)

4. (a) Environmental quality is a measure of the condition of an environment relative to the requirements of one or more species and or to any human need or purpose. Discuss (i) Environmental Impact Assessment (ii) Environmental Law (iii) and Environmental Indicator.

(9marks)

- (b) Mention five (5) environmental characteristics best known to you. (5 marks)

- (c) Discuss Environmental Impact Assessment in Nigeria mentioning at least two (2) laws enacted to address the issue.

(6 marks)

5. Write short note on the following:

- (a) Write short note on 'Car -pooling' and 'Park and ride'

- (b) Recurrent and non-recurrent congestion

- (c) Any two (2) out of the problems of an urban area best known to you

- (d) Any two (2) consequences of Urban Sprawl that you know

- (e) Urban Policy and mention at least two aspects of urban policy (20 marks)



COVENANT UNIVERSITY

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

TITLE OF EXAMINATION: B.Sc EXAMINATION
COLLEGE: SCIENCE AND TECHNOLOGY
SCHOOL: ENVIRONMENTAL SCIENCES
DEPARTMENT: ESTATE MANAGEMENT
SEMESTER: ALPHA
COURSE CODE: ESM 417 **CREDIT UNIT:** 2
COURSE TITLE: ICT IN REAL ESTATE **TIME:** 2 HOURS
INSTRUCTION: Answer ALL Questions

1. Ways to ensure CRM success include all except
 - a. Get executive buy-in
 - b. Minimize financial risk
 - c. *Technology first, strategy second*
 - d. Look for quick wins

2. One of the biggest CRM mistakes is _____
 - a. *Paying no attention to process*
 - b. Not doing it alone
 - c. Defining CRM in the success system
 - d. Involving the sales team

3. One of the following is not an analytical step to identify various plans and the methods for implementation _____
 - a. Business objective
 - b. Daily plans
 - c. Program initiatives
 - d. *Departmental plans*

4. You cannot close MS Word application by

- a. Choosing File menu then Exit submenu
 - b. Press Alt+F4
 - c. *From File menu choose Close submenu*
 - d. Click X button on title bar
5. Which of the following is not valid version of MS Office?
- a. Office XP
 - b. *Office Vista*
 - c. Office 2007
 - d. None of the above
6. _____ makes the cell active in spread sheet navigation technique
- a. Shift + enter
 - b. Press enter
 - c. Single click cell
 - d. Tab
7. The following are the applications of ICT in real estate except for _____
- a. Filing
 - b. Tracking maintenance
 - c. Property marketing/ tenant selection
 - d. Fraud & hacking
8. All of the following are important features of excel, except _____
- a. Row, column, cells
 - b. Spreadsheet, column & row
 - c. Row, column, table
 - d. None of the above
9. What is the short cut key to open the Open dialog box?
- a. F12
 - b. SHIFT F12
 - c. Alt + F12
 - d. *Ctrl + F12*
10. Advancement in IT has facilitated the following processes, except the _____ of data
- a. Grading
 - b. Utilizing
 - c. Gathering

- d. Storing
11. Background colour or effects applied on a document is not visible in
- a. Web layout view
 - b. Print Layout view
 - c. Reading View
 - d. *Print Preview*
12. The intersection of rows and columns in excel are called _____
- a. Text
 - b. Numbers
 - c. Cells
 - d. Spread sheet
13. What keyboard shortcut bolds selected text?
- a. Cntrl A
 - b. Cntrl H
 - c. Cntrl B
 - d. Cntrl X
14. The keyboard shortcut cntrl x in Ms. Excel is used to _____
- a. Copy
 - b. Cut
 - c. Paste
 - d. Align
15. Which of the following is not a type of page margin?
- a. Left
 - b. Right
 - c. Top
 - d. Centre
16. Which of these is most suitable for preparation of locational sketches
- a. CorelDraw
 - b. Paint
 - c. AutoCAD
 - d. Pen, Drawing Board and Plain Sheet
17. The models in each implementation of CRM include the following except _____
- a. Partial CRM
 - b. Full CRM
 - c. Operational CRM
 - d. Functional CRM
18. The following are types of CRM technology, except _____
- a. Collaborative CRM

- b. Operational CRM
- c. Application CRM
- d. Analytical CRM

19. CRM is the following except _____

- a. A database for customer information
- b. A platform for social integration
- c. A tool for management strategies
- d. A way of retaining old customers

20. To start Microsoft PowerPoint application

- a. Click on Start >> Programs >> All Programs >> Microsoft PowerPoint
- b. Hit Ctrl + R then type ppoint.exe and Enter
- c. Click Start >> Run then type PowerPoint then press Enter
- d. Click on powerPoint

21. Which command will you use in PowerPoint if you need to change the color of different objects without changing content?

- a. Design Template
- b. Color Scheme
- c. Font Color
- d. Object Color
- e. Design Color

22. The following are keyboard shortcuts used in excel, except: _____

- a. Cntrl + A; select all
- b. Cntrl + Z; zoom
- c. Cntrl + C; copy
- d. Cntrl + V; paste

23. Is it possible to insert an image from a file into an Excel spreadsheet ?

- a. Yes
- b. No
- c. It depends
- d. Maybe

24. In MS excel, ##### means:

- a. Hash Tag
- b. You've misspelled something.
- c. The cell is not wide enough.
- d. Error

25. All these are functions of MS excel, except; _____

- a. Organize data by sorting

- b. Generate charts & graphs illustrating data
 - c. Edit pictures
 - d. Format data
26. Which of the following element's & MS excel, displays the names of the drop-down menu, contains the minimize, maximize and close option;
- a. Toolbar
 - b. Worksheet tab
 - c. Insert bar
 - d. Menu bar
27. Shift + spacebar, is keyboard shortcut to _____
- a. Highlight entire column
 - b. Highlight entire row
 - c. Highlight entire worksheet
 - d. Display contents of an entire cell
28. In Excel, Formula and a function are the same thing.
- a. True
 - b. False
 - c. Maybe
 - d. All of above
29. Which button assists in paragraphing while using MS word?
- a. Tab
 - b. Shift
 - c. Alt
 - d. Cntrl
30. Data should be sorted and segregated into separate files for easy collection, data retention and __
- a. Supply of data
 - b. Retrieval of records
 - c. Retrieval of data
 - d. All of the above
31. In order to multiply items in Excel you would use:
- a. ^
 - b. @
 - c. *
 - d. #
32. For communication purposes particularly, with a local area network (LAN), computer users in the same office can share all of the following except _
- a. Internet Connectivity

- b. Whole Programs
- c. Incoming and Outgoing Fax Messages
- d. Blueprints and Voice Messages.

33. *There is the increasing transmutation of the present day world into a more homogenized geographical entity with “no boundaries”, hence, the famous cliché “the world is a global village”. This statement is credited to _*

- a. E.W Burgess
- b. Brady, 1991 and Olowore, 1999
- c. Owasanoye, 2001
- d. Emeagwali, 2003

34. All of the following are advantages of a computerized data system over a manual system except_

- a. Economy of Space
- b. Tendency of Being Hacked
- c. Ease of Storage
- d. Reduction of Operational Cost and Time

35. Which of the following software’s is most relevant to real estate in the aspect of property marketing and tenant selection?

- a. Microsoft Word
- b. World Wide Web
- c. Argus
- d. AutoCAD

36. Personal meetings with clients are especially helpful to Estate Managers looking to_

- a. Widen scope of business
- b. Encourage growth of the construction industry
- c. Grow their Subscribers’ list
- d. Carry out project appraisal

37. *If he cannot maintain a good filing system, he will always be in difficulty. Hence, the hallmark of an efficient management office is a good filing system. This statement is credited to_____*

- a. Nwankwo, 2004
- b. Kyle, 2000
- c. Yurislavia, 1876
- d. Department of Finance, UK

38. LANs increase the efficiency of computers, software and printers, which make inter-office communication better, faster and cheaper.
- True
 - False
 - Not yet proven
 - Not totally true
39. Office automation has a variety of facets. These include only one of the following
- Printing
 - Browsing the internet
 - Publishing
 - A & B
40. *The foregoing underlines the aptness of terming this 21st century the information age, this statement was attributed to;*
- Emeagwali, 2003
 - Olawore, 1999
 - Owasanoye 2001
 - Emeagwali 2009
41. Data should be sorted and segregated into separate files for the following reasons, except;
- Collection
 - Maintenance
 - Retrieval
 - Retention
42. The steps which are to be followed in customer intelligence includes all these except
- Gathering data
 - Action
 - Analyze data
 - Retention of customer
43. The following are CRM technology EXCEPT _____
- Analytical CRM
 - Complementary CRM
 - Operational CRM
 - Collaborate CRM
44. Which of THESE is a way of ensuring the success of CRM;
- Control the unit
 - Customer pursuit

- c. Get executive buy-in
- d. Separate current interest

45. Which of these is not one of the stages of technology implementation in CRM;

- a. Functional
- b. Departmental
- c. Partial
- d. Half-CRM

46. Which Microsoft application helps you to format, organize & sort through the use of spreadsheets?

- a. MS Word
- b. AutoCAD
- c. MS Excel
- d. Microsoft PowerPoint

47. Argus software is essentially used for what purpose in real estate practice?

- a. Presentations
- b. Typing documents
- c. Designing building plans
- d. Valuation

48. What software assists the real estate practitioner to design business cards, letter head paper, and flyers etc.?

- a. Spreadsheet
- b. Microsoft PowerPoint
- c. Argus
- d. CorelDraw

49. Which keyboard combination changes selected text from lowercase to uppercase & vice versa?

- a. Cntrl + S
- b. Shift + F3
- c. Cntrl + P
- d. Cntrl + I

50. In a PowerPoint presentation the style or way in which the slides changes from one slide to the next one is indicated on the toolbar as; _____

- a. Font
- b. Evaluation
- c. Transition
- d. Movement of slide

51. CorelDraw contributes mainly to which of the following aspects of real estate practice, _____

- a. Property management

- b. Land acquisition
- c. Valuation
- d. marketing

52. Information is _____

- a. Raw data
- b. Raw knowledge
- c. Input data
- d. Organized data

53. The term communication came from which language?

- a. Greek
- b. Latin
- c. Japanese
- d. French

54. Today information is regarded as which of the following

- a. Wealth
- b. Commodity
- c. Product
- d. All of the above

55. The arrangement of elements such as title and subtitle text, pictures, tables, etc is called?

- a. color
- b. Layout
- c. PowerPoint
- d. Arrangement element

56. The vertical & horizontal lines on a spread sheet are known as _____ & _____ respectively

- a. Columns and rows
- b. Cells and work book
- c. Box and space
- d. Rows and columns

57. Which of these truly connotes the meaning of CRM?

- a. Consumer reservation maintenance
- b. Customer reliance management
- c. Customer relationship management
- d. Customer resistance maintenance

58. All of these are steps involved before implementing CRM except

- a. Program initiatives
- b. Business object
- c. Faculty plans
- d. Departmental plans
- e. Technology

59. _____ is another name for customer facing systems
- Customer brilliance
 - Customer notification
 - Customer intelligence
 - Customer smartness
60. In the relationship management, _____ is a term used to describe the progression of steps, a customer goes through when considering, purchasing, using and maintaining loyalty to a product or service
- Customer life journey
 - Business life cycle
 - Customer life cycle
 - Progression cycle
61. Cntrl + spacebar command performs which of the following tasks
- Highlights the entire column
 - Highlights the entire row
 - Highlights the entire worksheet
 - Highlights the entire workbook
62. Shift + spacebar highlights the _____
- Entire row of the worksheet
 - Entire workspace
 - Entire worksheet
 - Entire column
63. _____ navigates to different areas of an active worksheet; located on the right & bottom of the sheet;
- Worksheet tabs
 - Formula bars
 - Scroll bars
 - Cell box
64. Which software would you use for creating a set of slides to be shown to an audience?
- Microsoft access
 - Microsoft Word
 - Microsoft excel
 - Microsoft PowerPoint
65. Which tab is not available on left panel when you open a presentation?
- Outline
 - Slide
 - Notes
 - All of the above
66. In Microsoft PowerPoint in order to see all the slides on one screen use

- a. view, slide
- b. view, slide sorter
- c. view, master
- d. view, slide show

67. The demerits of ICT include all of the following except; _____

- a. Globalize job market
- b. Sedentary lifestyle
- c. Replacement of manpower
- d. Online misrepresentation
- e. High cost of operation

68. The real estate software used for creating visual tours of property is _____

- a. Argus DCF
- b. *360' tour*
- c. Visual basic
- d. MS word
- e. 180' tour

69. The relevance of ICT to real estate are all but one of the following;

- a. Filing
- b. Office automation
- c. Marketing
- d. Tenant selection
- e. Job insecurity

70. Which of the following is not a demerit of e-mail

- a. *cheap*
- b. phishing
- c. Unsolicited email
- d. Identity theft



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SEMESTER:	ALPHA		
COURSE CODE:	ESM 431	CREDIT UNIT:	2
COURSE TITLE:	GEOGRAPHIC INFORMATION SYSTEMS (GIS)		
INSTRUCTIONS:	Answer THREE (3) questions in all. Start each question on a new page.		
	TIME:	2Hours	

SECTION A: Answer ONE question in this Section

1. Your uncle has just won the governorship election of your State and sworn in as the Governor. He however wishes to set up a GIS office in the State. He has consulted with you to identify the various sectors of the State's economy that could benefit from the GIS application. Identify such sectors and the use to which GIS could be made in each of the sectors. **(30 marks)**
2. The application of Remote Sensing rests on having good platforms by which the characteristics of objects of interest can be identified, measured or analysed. Indentify and explain each of the platforms available for environmental remote sensing applications. **(30 marks)**

SECTION B: Answer TWO questions in this Section

3. In real estate practice, the use of GIS cannot be ignored in order to make accurate information available to the clients. Explain any two areas of application of GIS in real estate. **(20 marks)**
4. GIS is used for capturing, storing, querying, analysing and displaying of geographically referenced data. To do these effectively requires the use of several analytical tools. What are these tools and how are they applied in combining georeferenced data? **(20 marks)**
5. In the application of GIS there are various tasks that are performed. Indentify and explain four of such tasks. **(20 marks)**