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KIRIRI WOMENS' UNIVERSITY OF SCIENCE AND TECHNOLOGY
UNIVERSITY EXAMINATION, 2019/2020 ACADEMIC YEAR
FOURTH YEAR, FIRST SEMESTER EXAMINATION
FOR THE DEGREE OF BACHELOR OF SCIENCE
BUSINESS ADMINISTRATION

Date: 4th December, 2019
Time: 8.30am – 10.30am

KBA 400 - RESEARCH METHODOLOGY

INSTRUCTIONS TO CANDIDATES
ANSWER QUESTION ONE (COMPULSORY) AND ANY OTHER TWO QUESTIONS

QUESTION ONE (30 MARKS)

a)   The following extract preceded conceptual framework of a research proposal:
Kombo (2004): Girl parents in secondary schools in Kenya: An evaluation of pre and post pregnancy performance.
'In Kenya, the major yardstick used to measure educational output is performance in examinations. This output, however, is achieved after the various inputs into the education process undergo what is referred to as the educational production process. The inputs into the educational process include the student, the teacher and the necessary educational resources e.g. books, facilities, among others Thus educational output, in this case denoted by performance is a function of how these educational inputs interact. If the interaction is healthy, then output (performance) should be good and vice versa. This study seeks to establish the kind of interaction taking place in schools with regard to the girl parents and the bearing it has on performance.

(a) With reference to the above research extract:
   i.   Outline the general objective of the study (2 marks)
   ii.   Formulate four specific objectives related to the above research extract. (4 Marks)
   iii. Formulate a two paragraph statement of the problem based on the research title and extract above. (4 Marks)
   iv.   Design an appropriate conceptual framework showing the relationship between the various variables that you have come up with (6 Marks)
   v.   Highlight the significance of the study clearly describing three beneficiaries of your study. (6 Marks)

(b) Descriptive statistics can be divided into two groups: Measures of central tendency and measures of dispersion.
   i.   Describe measures of central tendency. (3 marks)
   ii.   Define measures of central dispersion. (3 marks)

c) Differentiate between Conceptual Framework and Theoretical Framework (2 Marks)

QUESTION TWO (20 MARKS)
  a) Using example, discuss three types of research design. (6 Marks)
  b) Analyze three types of probability sampling. (6 Marks)
  c) Highlight the advantages and disadvantages of stratified random sampling (8 marks)

QUESTION THREE (20 MARKS)
  a) Assume you are carrying out a study to establish the **Effect of Training on Employee Performance.** A Case Study of Equity Bank. Using an illustration, identify four independent variables and show the relationship between the study variables (8 Marks).
  b) Refer to the research topic in (a) and consider employee engagement, job satisfaction and employee motivation as the study independent variables. You have completed your data analysis and below is the model summary derived from the study regression results.
  Model summary

Model	R	R Squared	Adjusted R squared	STD error of estimate
1	.834	.695	0.689	0.521

Required:
  i)   Multiple regression model, showing clearly the interpretation of the variables (6 marks)
  ii) Define coefficient of determination (2 marks)
  iii) Interpret the regression results   (2 marks)
  iv) Explain the significance of the Adjusted R Squared in a regression model. (2 marks)

QUESTION FOUR (20 MARKS)
 (a) Referencing is a standardized method of acknowledging the information sources used in research, assignments or term paper. American Psychological Association (APA) style is an academic format specified in the publication manual of the American Psychological Association. Explain the importance for including references for your research work. (**10 Marks).**

 (b) Research reports may contain statistical materials of great importance that are presented poorly. Discuss five ways of improving statistical presentation in your research project. (**10 marks**).

QUESTION FIVE (20 MARKS)

  (a) You are analysing data collected from the field where the ages of respondents are as follows;
    R16=20,R21=25,R39=30,R48=21,R59=32,R63=40,R74=45,R83=30,R91=50,R10=57.
    (i) Calculate the mean age of the respondents (3 Marks)
    (ii) Calculate the median age of the respondents (**2 Marks**)
    (iv) Calculate the standard deviation of age of respondents? (**5 Marks**).
  c) Your fellow research student has requested you to help in identifying quality literature review for her research proposal. Examine five qualities of an effective literature review. (**10 Marks**).

KIRIRI WOMEN UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF BUSINESS AND MANAGEMENT

COURSE CODE: KBA 400
COURSE TITLE: RESEARCH METHODOLOGY-<mark>MARKING SCHEME</mark>
TIME: 2 HOURS

INSTRUCTIONS: <u>ANSWER ALL QUESTIONS IN *SECTION A* AND *ANY OTHER TWO QUESTIONS IN SECTION B*</u>
<u>*SECTION A*</u>
QUESTION 1: (30 Marks)
A) The following extract preceded conceptual framework of a research proposal:
Kombo (2004): Girl parents in secondary schools in Kenya: An evaluation of pre and post pregnancy performance.
 'In Kenya, the major yardstick used to measure educational output is performance in examinations. This output, however, is achieved after the various inputs into the education process undergo what is referred to as the educational production process. The inputs into the educational process include the student, the teacher and the necessary educational resources e.g. books, facilities, e.t.c. Thus educational output, in this case denoted by performance is a function of how these educational inputs interact. If the interaction is healthy, then output (performance) should be good and vice versa. This study seeks to establish the kind of interaction taking place in schools with regard to the girl parents and the bearing it has on performance.

   a) Formulate a 3 Paragraph statement of the problem based on the research title and extract above. (6 Marks)
SUGGESTED SOLUTION

   b) Formulate 4 specific objectives related to the above research extract. (4 Marks)
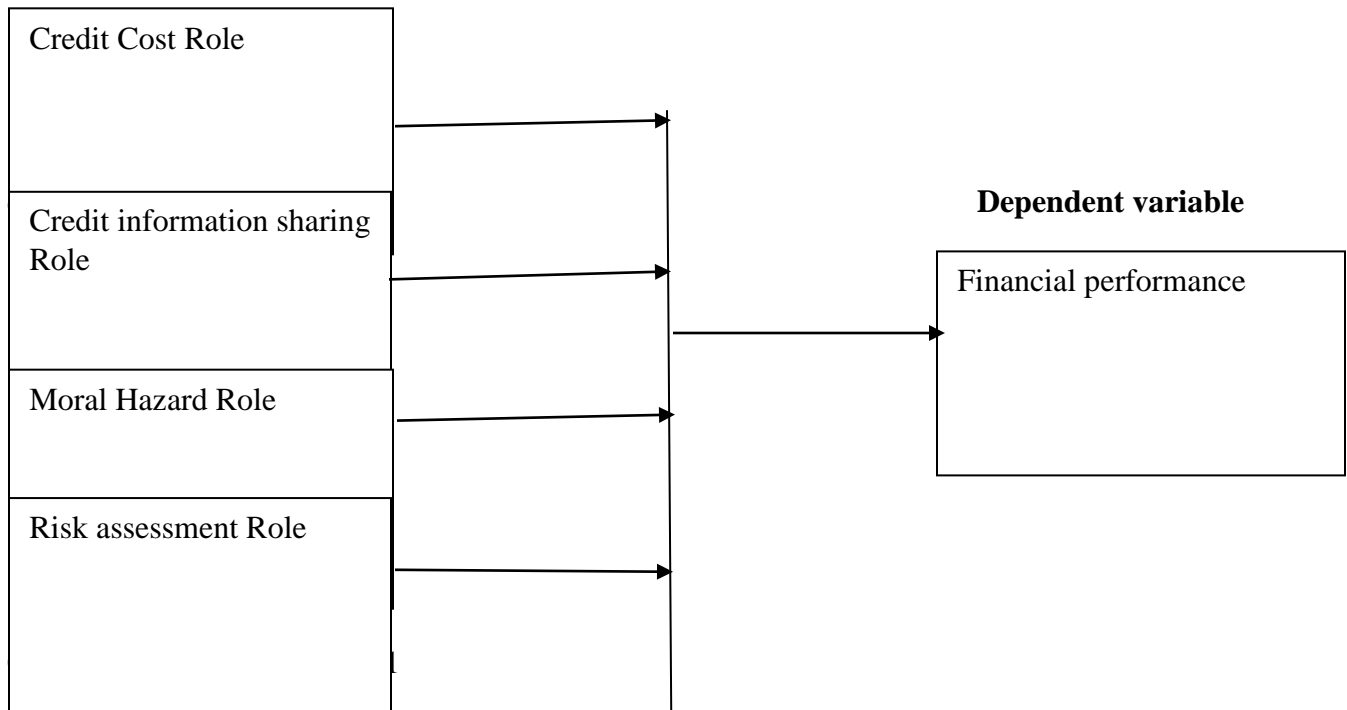***SUGGESTED SOLUTION***

Student should demonstrate use of active verbs e.g. To examine, To assess, To investigate, To determine e.t.c

    c) Design an appropriate conceptual framework clearly showing the relationship between the various variables that you have come up with (6 Marks)

SUGGESTED SOLUTION
Independent variable

Credit Cost Role
Credit information sharing Role
Moral Hazard Role
Risk assessment Role

Dependent variable

Financial performance

    d) Prepare a 3 Paragraph significance of the study clearly identifying and describing at least three beneficiaries of your study. (6 Marks)

SUGGESTED SOLUTION
- Future scholars
- Ministry of education policy makers
- Girl parents and their parents
- School principals/administrators
- Education stakeholders-church,society

B) Statistics can be divided into two groups: Measures of central tendency and measures of dispersion.
    a) Identify and describe any 3 types/measures of central tendency. (3 marks)

SUGGESTED SOLUTION
- Mean-average
- Median –middle value of entire distribution
- Mode-value that occurs most often

    b) Identify and describe any 3 types/measures of central dispersion. (3 marks)

SUGGESTED SOLUTION
- Range-difference between the highest and lowest values
- Variance-difference from the mean
- Standard deviation-square root of the variance

- Co-efficient of variability-standard deviation as a percentage of the mean

C) Differentiate between Conceptual Framework and Literature Framework (2 Marks)

SUGGESTED SOLUTION

Conceptual framework	Theoretical framework
Based on ideas formulated from researchers perception	Based on recognized theories
Cannot be refuted or tested through research	It is testable and can be rejected or revised
Ideas only proponent is the researcher	Ideas have proponents
It's an idea stated	It's discussion of related theories attempting to predict a phenomenon

SECTION B

QUESTION 2: (20 Marks)

A) Identify and describe any 3 types of research designs while discussing the advantages and disadvantages of each. (10 Marks)

SUGGESTED SOLUTION

Descriptive Research Designs

This design describes phenomena as they exist. Descriptive studies generally take raw data and summarize it in a useable form. Descriptive Research addresses issues of who, what, where, how related to research. It provides further insight into the research problem by describing the variables of interest. This method can be used for profiling, defining, segmentation, estimating, predicting, and examining associative relationships. In a descriptive study, no attempt is made to change behavior or conditions. One measures things as they are. This method describes the state of affairs as they are. It results in the formulation of knowledge and solutions to problems. The focus of interest is the respondent's opinion and views. Questionnaires/interviews are mainly used to gather information. Descriptive research is used to obtain information concerning the current status and to describe 'what exists' with respect to variables or conditions in a situation.

Experimental Research Design

This design is used to test the cause-effect relationship through the manipulation of variables. The experimental group is manipulated while the control group is not. Environmental factors are also controlled. It involves the systematic manipulation of some characteristics and examination of the outcome. In experimental study one take measurements, try some sort of intervention, then take measurements again to see what happened. This is a blue print of a procedure that enables the researcher to maintain control over all factors that may affect the result of an experiment. In doing this, the researcher attempts to determine or predict what may occur.

Correlational Research Design

This method determines whether or not and to what extent an association exists between two or more variables. Data is collected from varied groups of subjects and then compared for their similarities and differences. It provides procedures for understanding relationships. It enables the researcher to assess the degree of relations that exist between two or more variables.

Case study This is an intensive, in-depth analysis of a single entity. It aims at gaining in-depth insight of an issue using smaller samples. The findings can be generalized to a wider population. It seeks to describe a unit in details. In a case study a great deal can be learned from a few examples of a phenomenon under study. It is an in-depth study of an individual group, institution, organization or program. Data gathering include interviews, field notes of observations, archival data and biographical data. . It is often used to narrow down a very broad field of research into one or a few

easily researchable examples. The case study research design is also useful for testing whether a specific theory and model actually applies to phenomena in the real world. It is a useful design when not much is known about a phenomenon.

Survey Design This is an investigation of views from a wider population such as the opinion polls. These are general views affecting a wider group in general. The method is used to analyze and discover occurrences. It explains events as they are; were or will be.

Exploratory Research An exploratory design is conducted about a research problem when there are few or no earlier studies to refer to. The focus is on gaining insights and familiarity for later investigation or undertaken when problems are in a preliminary stage of investigation. It is designed to generate basic knowledge, clarify relevant issues uncover variables associated with a problem, uncover information needs, and/or define alternatives for addressing research objectives. This is a very flexible, open-ended process. **Historical research** This refers to exploration, explanation and understanding of past phenomenon from data already available. It is the Collection and evaluation of data related to past events that are used to describe causes, effects and trends that may explain present or future events. Data are often archival. It aims at arriving at conclusions about causes, trends, and effects of past phenomenon in order to explain the present and predict and control the future. This method is useful where primary data cannot be collected.

Cross sectional Design This has three distinctive features: no time dimension, a reliance on existing differences rather selected based on existing differences rather than change following intervention; and, groups are selected based on existing differences rather than random allocation. The cross-sectional design can only measure differences between or among a variety of people, subjects, or phenomena rather than change. As such, researchers using this design can only employ a relative passive approach to making causal inferences based on findings.

Longitudinal Design Longitudinal study follows the same sample over time and makes repeated observations. With longitudinal surveys, the same group of people is interviewed at regular intervals, enabling researchers to track changes over time and to relate them to variables that might explain why the changes occur. Longitudinal research designs describe patterns of change and help establish the direction and magnitude of causal relationships. Measurements are taken on each variable over two or more distinct time periods. This allows the researcher to measure change in variables over time. It is a form of observational study and sometimes referred to as a panel study.

Cross cultural research design This method is mainly used to analyze to what extent cultural beliefs and practices in ones immediate environment influences ones attitude hence development.

B) Identify and describe any 3 types of probability sampling while discussing the advantages and disadvantages of each. (6 Marks)

SUGGESTED SOLUTION

a) **Simple Random Sampling** In this case, each member of the population has an equal chance of being chosen. The method is used when the group is homogeneous. There are several ways of achieving a random sample. Simple random sampling is simple to accomplish and is easy to explain to others. This includes the lottery method when names or numbers are written on pieces of paper and the lucky number is selected. Using this method, each population element has the same chance of selection in the sample. Assuming that the researcher wants to draw a sample of 20 listed companies, the researcher would randomly select 20 companies from the list of 54 listed companies. Since the selection is random each member has the same chance of selection.

b) **Systematic random sampling:** The researcher calculates a sampling interval, and the interval becomes his or her own quasi random selection method. The starting number is an integer that must be less than the total number of individuals in the population. This integer will correspond to the first subject. The interval will serve as the constant difference between any two consecutive numbers in the progression.)Systematic sampling is a probability sampling procedure

in which a random selection is made of the first element for the sample, and then subsequent elements are selected using a fixed or systematic interval until the desired sample size is reached.

c) **Stratified random sampling** This method involves the division of a population into smaller groups known as strata. It is used when the group is heterogeneous with the aim of ensuring that all categories participate in the study. The researcher looks at the variables that are likely to affect the results, and stratifies the population in such a way that each stratum becomes a homogeneous group within itself. Then draw the required sample by using the table of random numbers. A stratum is a subset of the population that share at least one common characteristic. This method involves dividing the population into various groups that differ in important ways. Using this approach the target population is separated into mutually exclusive, homogeneous segments.

d) **Cluster Random Sampling This** is a survey method in which groups i.e. clusters of sampling units but not individual units, are selected from a population for analysis. The purpose of cluster sampling is to sample economically while retaining the characteristics of a probability sample. Groups or chunks of elements that, ideally, would have heterogeneity among the members within each group are chosen for study in cluster sampling. This is in contrast to choosing some elements from the population as in the other methods described above

C) Identify and describe any 2 types of non-probability sampling while discussing the advantages and disadvantages of each. (4 Marks)

SUGGESTED SOLUTION

1. Judgmental/purposive sampling

In this form of sampling the researcher targets respondents that may provide the information being sought for. There is a specific predefined group that the researcher is seeking. The selection of respondents is based on whether they fit in the researcher's judgment of an appropriate group. The researcher relies on his/her expertise to select respondents that the researcher thinks are representative of the target population. Participants are selected according to an experienced individual's belief that they will meet the requirements of the study.

2. Accidental/Haphazard /convenience sampling

This is the use of clients who are available at the time of study for example, the media interviewing someone on the street to get a quick response on an issue. The researcher simply selects a number of respondents who are conveniently available when the researcher is around. This method is simple to use as it saves time and cost. However it is difficult to determine to whom the results apply. In this method samples are drawn at the convenience of the researcher or interviewer. The assumptions are that the target population is homogeneous and the individuals interviewed are similar to the overall defined target population with regard to the characteristics being studied.

3. Quota Sampling

Respondents are selected according to a fixed quota. Parkash (2007) explains that, Quota sampling involves dividing the population into sub-groups based on variables known about them and then purposively selecting samples from each sub-group or strata. The quota sampling method involves the selection of prospective participants according to pre-specified quota regarding either demographic characteristic.

4. Snowball Sampling

In this method a researcher identifies a respondent who meets the criteria for inclusion in the study. The respondent identifies others. This method is useful when a researcher is trying to reach an inaccessible or hard to find respondents. Snowball Sampling involves the practice of identifying and qualifying asset of initial prospective respondents who can, in turn, help the researcher identify

additional people to be included in the study. This method of sampling is also called referral sampling, because one respondent refers other potential respondents. Snowball sampling is a reasonable method of identifying and selecting prospective respondents who are members of small, hard-to-reach, uniquely defined target population. Snowball sampling is typically used in research situations where: The defined target population is very small and unique, and compiling a complete list of sampling units is a nearly impossible task.

QUESTION 3: (20 Marks)

A) Your fellow research student has requested you to help in identifying quality literature review for her research proposal. Identify and describe 4 qualities expected of an effective literature review. (10 Marks).

SUGGESTED SOLUTION
- It is critical ,organized and analytical in orientation
- It justifies the need for the study
- It highlights the relationship between the past and current study
- It puts the research problem into perspective

B) Define the term 'conceptual framework'. Identify and describe 4 qualities expected of an effective conceptual framework. (10 Marks).

SUGGESTED SOLUTION
Conceptual framework is asset of broad ideas and principles taken from relevant fields of enquiry and used to structure a subsequent presentation
- Should be clear and concise
- Language should be simple and straight forward
- It should be self-explanatory
- Should have supportive evidence of ideas used
- Should be logical and address the title, research objectives and statement of the problem
- Should be consistent with the literature review
- Should show a link between the literature review and the study problem
- Should develop a set of guiding principles against which judgements and predictions might be made
- Should act as reference point from which to locate the research questions within contemporary theorizing
- Should provide a structure within which to organize the context of research and to frame conclusions within context

QUESTION 4: (20 Marks)

(i) Referencing is a standardized method of formatting the information sources used in assignments or written work and serves the purpose of acknowledging the source and allowing the reader to trace the source. American Psychological association (APA) style is an academic format specified in the publication manual of the American Psychological Association.
Identify and explain the importance for including references for your research work? (10 Marks).

SUGGESTED SOLUTION
- It is ethical to credit others for their contributions to one's writing.
- It may be a legal obligation in the case of copyright.
- To protect one in the case of questionable allegations.

- To reflect prior reading effort.
- To show the sequence of events involved in the resolution of a scientific problem, as part of one's argument.
- To show adherence to academic writing standards
- To allow validation and confirmation of sources used
- To give credibility to work.

(ii) Research reports often contain statistical materials of great importance that are presented poorly. Discuss ways to improve statistical presentation in your research project. (10 marks).
SUGGESTED SOLUTION
1. **Text Presentation:** This is probably the most common when there are only a few statistics. The writer can direct the reader's attention to certain numbers or comparisons and emphasize specific points. The drawback is that the statistics are submerged in the text, requiring the reader to scan the entire paragraph to extract the meaning. The following material has a few simple comparisons but becomes more complicated when text and statistics are combined.
2. **Semi tabular Presentation:** When there are just a few figures, they may be taken from the text and listed. Lists of quantitative comparisons are much easier to read and understand than embedded statistics.
3. **Tabular Presentation:** Tables are generally superior to text for presenting statistics, although they should be accompanied by comments directing the reader's attention to important figures. Tables facilitate quantitative comparisons and provide a concise, efficient way to present numerical data.
   Tables are either general or summary in nature. General tables tend to be large, complex and detailed. They serve as the repository for the statistical findings of the study and are usually in the appendix of a research report.
4. **Graphics:** Compared with tables, graphs show less information and often only approximate values. However, they are more often read and remembered than tables. Their great advantage is that they convey quantitative values and comparisons more readily than tables. With personal computer charting programs, you can easily turn a set of numbers into a chart or graph.

QUESTION 5: (20 Marks)

A) You are analysing data collected from the field where the ages of respondents are as follows; R16=20,R21=25,R39=30,R48=21,R59=32,R63=40,R74=45,R83=30,R91=50,R10=57.
   (i) Calculate the mean age of the respondents? (3 Marks)
SUGGESTED SOLUTION

Respondent	Age
R16	20
R21	25
R39	30
R48	21
R59	32
R63	40
R74	45
R83	30
R91	50
R10	57
N=10	350

Mean=350/10;=35

(ii) Calculate the median age of the respondents? (2 Marks)

SUGGESTED SOLUTION
=20, 21, 25, 30, 30, 32, 40,45,50,57

=30+32

=62/2

=31

(iii) Define the range of the respondent's age? (2 Marks).

SUGGESTED SOLUTION
=57-20

=37

(iv) Calculate the standard deviation of age of respondents? (5 Marks).

SUGGESTED SOLUTION

Respondent	Age	x-mean	(x-mean)2	
R16	20	-15	225	
R21	25	-10	100	
R39	30	-5	25	
R48	21	-14	189	
R59	32	-3	9	
R63	40	5	25	
R74	45	10	100	
R83	30	5	25	
R91	50	15	225	
R10	57	22	484	
N=10	350		1,407	

=n-1;10-1;9

=1407/9

=156.333

=square root of 156.333

=12.50.

(B) The following table shows the enrolment in the various departments at Kiriri University.

Department	Number of Students
Accounting	43
Procurement	52
Information technology	63
Hospitality	56
IBM	69
Marketing	23
Human resources	46

(i) Calculate the respective percentage frequencies for respective departments. (2 Marks)

SUGGESTED SOLUTION

Department	Number of	% frequency

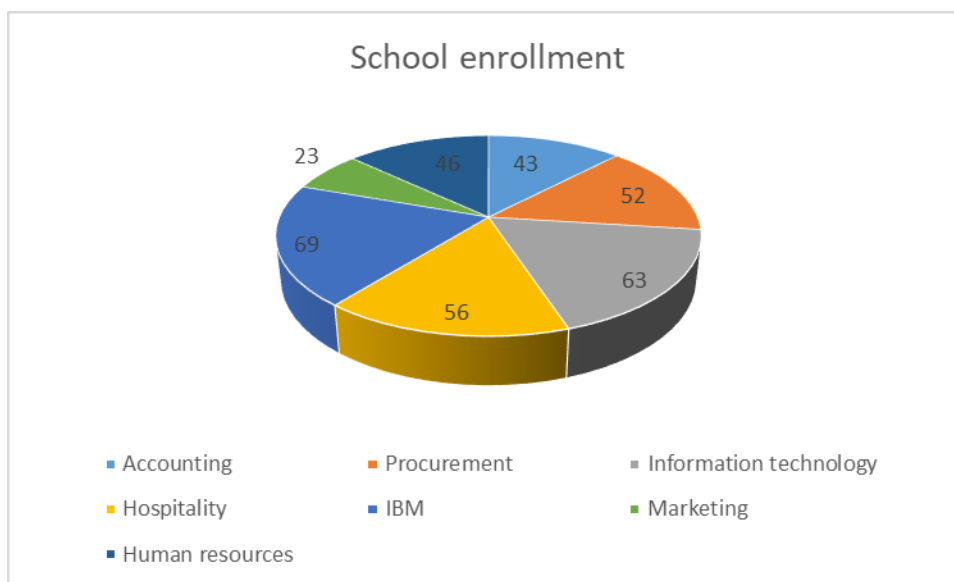|	Students	
Accounting	43	12.22
Procurement	52	14.77
Information technology	63	17.90
Hospitality	56	15.91
IBM	69	19.60
Marketing	23	06.53
Human resources	46	13.07
,n=7	352	100

(ii) Present the above data inform of a bar chart diagram clearly labelling the x and y axis. (3 Marks)

SUGGESTED SOLUTION
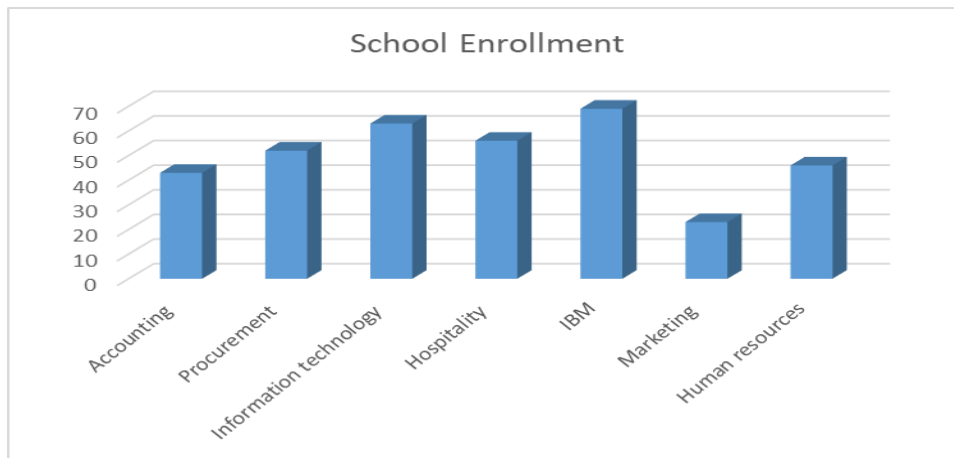
(iii) Present the above data inform of a pie chart diagram clearly labelling the classes and the degrees applicable. (3 Marks)

SUGGESTED SOLUTION

a)