ALUPE UNIVERSITY COLLEGE
Bastion of Knowledge...

OFFICE OF THE DEPUTY PRINCIPAL

ACADEMICS, RESEARCH AND STUDENTS' AFFAIRS

UNIVERSITY EXAMINATIONS

2020 /2021 ACADEMIC YEAR

...1.... YEAR ......1... SEMESTER <u>REGULAR</u> EXAMINATION

FOR THE DEGREE OF BACHELOR OF BUSINESS MANAGEMENT

COURSE CODE: IRD 101

COURSE TITLE: QUANTITATIVE SKILLS 1

DATE: 17/02/2021   **TIME: 2.00-12.00 pm**

INSTRUCTION TO CANDIDATES

- Answer Question **ONE** and any other **TWO** questions

- Question ONE carries 30 marks

QUESTION ONE(30 Marks)

a) Explain the four components of time series. (8 marks)

b) Statistics have become popular in analyzing and solving management problems. Discuss how they are used in influencing management decisions. (7 marks)

c) The table below gives the interest rates of government bonds sold over a period of 12 months.

Months	Interest Rate % per annum
January	11.5
February	11.3
March	11.4
April	11.6
May	11.8
June	11.7
July	11.8
August	12.5
September	12.0
October	11.7
November	11.6
December	11.6

    i.   Calculate the trend using 3 quarter moving averages (10 marks)

    ii.   Draw a line graph of the above time series, and comment on its movement (5 marks)

QUESTION TWO(20 Marks)

a) Discuss the main objects of classification   (8 marks)

b) Out of the total number of 2000 women who were interviewed for employment in XYZ textile, 500 were from textile areas and the rest from non-textile areas. Amongst the married women who belonged to textile areas, 300 were experienced and 100 inexperienced, while for non-textile areas the corresponding figures were 50 and 600. The total number of inexperienced women was 200 of whom 150 resided in textile areas of the total number of women 1000 were un married and of these the number of experience women in the textile and non-textile areas was 170 and 20 respectively. Prepare a neat table for the above information as per the rule of tabulation.   (12 marks)

QUESTION THREE(20 Marks)

Table 4 shows marks scored by students in a test:

Marks:	30-40	40-50	50-60	60-70	70-80	80-90
No of students:	5	20	30	25	10	5

   Required:

i)   The arithmetic mean   (4 marks)

ii)   The median   (4 marks)

iii)   The mode   (4 marks)

iv)   The variance   (3 marks)

v)   The standard deviation   (3 marks)

vi)   The co-efficient of variation   (2 marks)

QUESTION FOUR(20 Marks)

There are 120 students in a certain college 50 of them take mathematics 40 economics and 35 geography. The following additional information is provided; 10 students take mathematics and economics. 20 take maths and geography, 10 take geography and economics while 8 take mathematics and geography only.

Reuired;

i.	Write the above information in a set notation	(2 marks)
ii.	Present the above information in the form of a venn diagramme	(3 marks)
iii.	How many students take all the 3 subjects	(3marks)
iv.	How many students take none of the 3 subjects	(3marks)
v.	How many students take 2 subjects only	(3marks)
vi.	How many students take 1 subjects only	(3marks)
vii.	How many students do not take geography	(3marks)

QUESTION FIVE(20 Marks)

a) Without using table prove that;

i.	$Log_8 27 = Log_2 3$	(5 marks)
ii.	$Log_{64} 125 = Log_4 5$	(5 marks)

b) Explain the meaning of the following sampling techniques giving relevant examples;

i.	Simple Random sampling	(4 marks)
ii.	Stratified sampling	(3 marks)
iii.	Systematic sampling	(3 marks)