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SCHOOL OF BUSINESS AND ECONOMICS
UNIVERSITY EXAMINATION FOR DIPLOMA IN BUSINESS ADMINISTRATION
2ND YEAR 1ST SEMESTER 2016/2017 ACADEMIC YEAR
MAIN CAMPUS

COURSE TITLE: STATISTICS AND QUANTITATIVE METHODS IN BUSINESS

COURSE CODE: BBM 2216

VENUE:

DATE:

TIME:

Instructions

1. Answer question 1 (compulsory) and ANY other 2 questions.
2. Candidates are advised not to write on the question paper.
3. Candidates must hand in their answer booklets to the invigilator while in the examination room.
4. Marks allocated to each question are shown at the end of the question.
5. Show **ALL** your workings.

QUESTION ONE.

a). Define the following terms as used in statistics.

- I. Inferential statistics. (2 mks)
- II. Descriptive statistics. (2 mks)
- III. Sampling (2 mks)

b). Distinguish between qualitative data and quantitative data. (4 mks)

c) Suppose a sample of 200 students is required from a group of students in a university who could be stratified as follows.

PhD	400
Masters	600
Undergraduate	1,000
Diploma	600.

Obtain the proportion of each students in the sample. (8 mks)

- c). State the levels of measurement. (4 mks).
- d) State four limitations of statistics. (4 mks).
- e) state four applications of statistics (4 mks)

QUESTION TWO.

a) The monthly electricity bill at the Chez Paul Restaurant over the past 12 months has been as follows:

Month.	Amount(sh.)
December	30,770
January	27,190
February	30,570
March	30,640
April	29,730
May	31,530
June	29,720
July	33,070
August	30,010
September	27,550
October	30,130
November	27,940

Paul is considering using exponential $\alpha = 0.70$ to forecast electricity bills. (index α smoothing with).

REQUIRED. Determine next January's forecast (15 mks).

- b) State three assumptions of one- way ANOVA (3 mks).
 c) Distinguish between time series and cross sectional data. (2 mks).

QUESTION THREE.

The distribution below shows the number of complaints reported in a service center for different times in the year.

Class	105-109	110-114	115-119	120-124	125-129	130-134	135-139
frequency	5	12	18	30	17	11	7

By interpolation method, determine

- a) The mean (10 mks)
 b) Mode (3mks)
 c) Standard deviation (5 mks)
 d) Coefficient of variation. (2mks)

Question Four

The table below gives ages of randomly selected retirees.

Age at retirement	57	62	60	57	65	60	58	62	56
Age at death	71	70	66	70	69	67	69	63	70

- I. Taking age at retirement as independent variable and age at death as dependent variable, fit a regression equation of Y on X. (12 mks)
 II. Determine the correlation coefficient using a correlation factor of $1/12(m^3-m)$ (8 mks)

QUESTION FIVE.

- a) Consider an investment that is likely to yield an average cashflow of shs. 50,000. The past accounting data indicate that variability of returns / cashflow over time has always been shs. 6,000.

Required:

Determine the following probabilities,

- I. The cash flows will be less than shs. 42,000 (2 mks)
 II. Cashflow will be more than shs. 56,000 (2 mks)

- III. Cashflow will lie between shs.460,000 and shs. 54,000. (4 mks)
- IV. The cashflow will be more than shs. 68,000. (2 mks)
- b) A company has 3 production sections. S, Q and R which contributes 40%, 35% and 25% respectively to the total output. The following percentages of faulty units have been observed. S= 2%, Q= 3% and R=4%. There is a final check up before output is dispersed. Required,
Calculate the probability that a unit found faulty at this set up has come from S. (10 mks).