

EDB 200



OFFICE OF THE DEPUTY PRINCIPAL
ACADEMICS, RESEARCH AND STUDENTS' AFFAIRS

UNIVERSITY EXAMINATIONS

2021 /2022 ACADEMIC YEAR

SECOND YEAR FIRST SEMESTER REGULAR EXAMINATION

BACHELOR OF EDUCATION (ARTS)

COURSE CODE: EDB 200

COURSE TITLE: BUSINESS STATISTICS IN EDUCATION

DATE: 31/01/2022

TIME: 9.00am-12.00 pm

INSTRUCTION TO CANDIDATES

- SEE INSIDE

THIS PAPER CONSISTS OF 4 PRINTED PAGES

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INSTRUCTIONS TO CANDIDATES

- i. Answer Question **ONE** and any other **TWO** questions.
- ii. Maps and diagrams should be used whenever they serve to illustrate the answer.
- iii. Do not write on the question paper.

QUESTION ONE

The data below on retirement benefits and number of retirees relates to Neflits Company;

Retirement benefits	10-20	20 -30	30 -40	40 -50	50 -60	60-70	70 – 80
No of retirees	10	13	15	17	14	12	9

- a) Calculate the mean (3marks)
- b) Calculate the median and mode (6marks)
- c) Calculate variance and Standard deviation of your frequency distribution (6 marks)
- d) Calculate geometric mean (4 marks)
- e) Calculate harmonic mean (3 marks)
- f) Explain the uses of probability in the modern business environment (4 marks)
- g) Discuss the uses of regression analysis (4 marks)

QUESTION TWO

- a) Discuss three instruments of data collection (6 marks)
- b) Discuss five limitations of statistics (5 marks)
- c) From the data below calculate the product moment coefficient of correlation stating the relationship portrayed (9 marks)

X	15	20	25	30	35	40	45	65	70	75
Y	38	45	50	35	42	46	28	20	22	34

QUESTION THREE

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a) Discuss four limitations of computing index numbers (4 marks)

b) The data given below indicates the prices and production of some horticultural products in Central Territory:

Produce	Production (1000 boxes)		Price per box (Shs)	
	1980	1990	1980	1990
Cabbages	486	620	10	15
Tomatoes	220	374	22	31
Onions	470	614	18	20
Spinach	431	557	13	17

Required:

Calculate the increase or decrease in prices from 1980 on the basis of the following indices:

- a) Laspeyres index (4 marks)
- b) Paasche index (4 marks)
- c) Marshall – Hedge worth index (4 marks)
- d) Fisher's index. (4 marks)

QUESTION FOUR

- a) Distinguish between correlation and regression analysis (4 marks)
- b) Define dispersion and explain the qualities of a good average (3 marks)
- c) Explain the various statistical methods (5 marks)
- d) Draw diagrams showing positive and negative skewness. (4 marks)
- e) Distinguish between classification and tabulation (4 marks)

QUESTION FIVE

A company has a fleet of vehicles and is trying to predict the annual maintenance cost per vehicle. The following data have been supplied for a sample of vehicles:

Vehicle number	Age in years	Maintenance cost Per annum
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	(x)	£ X 10 (y)
1	3	60
2	8	132
3	5	100
4	8	120
5	10	150
6	4	84
7	4	90
8	2	68
9	6	104
10	9	140

Required:

- Using the least squares technique calculate the values of a and b in the equation $y = a + bx$, to allow managers to predict the likely maintenance cost, knowing the age of the vehicle. (15 marks)
- Estimate the maintenance costs of a 12-year-old vehicle and comment on the validity of making such an estimate. (5 marks)