



UNIVERSITY EXAMINATIONS

**SECOND YEAR EXAMINATION FOR THE AWARD OF BACHELOR
COMMERCE**

BCOM 262: BUSINESS STATISTICS

STREAMS: BCOM (ODEL)

TIME: 2 HOURS

DAY/DATE: FRIDAY 12/4/2024

8.30A.M. – 10.30A .M.

INSTRUCTIONS: Answer Question ONE and any other TWO Questions

QUESTION ONE

- (a) Explain three differences between correlation and regression analysis. (6 marks)
- (b) The following data gives the age and blood pressure of ten women in ABC Meridian Hospital.

Age	56	42	36	47	49	42	60	70	65	58
Blood pressure	147	125	118	128	145	140	165	160	150	153

Required:

- i) Find the correlation coefficient between age and blood pressure. (5 marks)
- ii) Explain the meaning of your results. (2 marks)
- (c) Discuss the steps followed in data collection using a questionnaire. (7 marks)
- (d) The following distribution gives the pattern of overtime work per week by 100 employee of a certain company

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Overtime hours	10-15	15-20	20-25	25-30	30-35	35-40
Noof employees	11	20	35	20	8	6

Required:

- i) Calculate the mean. (2 marks)
- ii) Median (2 marks)

(e) Discuss five areas of the application of statistics in management of businesses. (5 marks)

QUESTION TWO

(a) The following data relates to the number of days it takes for an evaluation process for tender to be completed in a firm 30,30,31,32,35,24

Required:

Prepare a stem-leaf diagram to represent the data. (5 marks)

(b) After investigations it has been found out that the demand for automobiles in a city depends mainly if not entirely upon the number of families residing in that city. Below are given figures for the sale of automobile in five cities for the year 2023 and number of families residing in those cities.

City	No of families	Sale of automobile (000)
A	70	25.2
B	75	28.6
C	80	30.2
D	60	22.3
E	90	35.4

Required:

- i) Fit a linear regression equation by the method of least squares. (6 marks)
 - ii) Estimate the sales for the year 2023 for a city A which is estimated to have 100 families assuming the same relationship holds time.
- (c) Discuss five assumptions of linear regression analysis. (5 marks)

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QUESTION THREE

- (a) Explain five functions of index numbers in an economy.
- (b) The following data represents prices of various commodities in a certain city.

2021			2022	
Commodity	Price	Quantity	Price	Quantity
A	20	8	10	6
B	50	10	60	5
C	40	15	50	15
D	20	20	20	25

Required:

Determine the index number using:

- i) Paasche's method
 - ii) Lespeyres method
 - iii) Fisher's ideal method
- (c) Discuss the three types of correlation. (6 marks)

QUESTION FOUR

- (a) You have conducted a market research with a sample of 50 shoes regarding the acceptability of new product which your company has launched. The scores of the responds on the appropriate scale are as follows.

40	45	41	45	45	30	39	8	48	25
26	9	23	24	26	29	8	40	41	42
39	35	18	25	35	40	42	43	44	36
27	32	28	27	25	26	38	47	36	35
32	28	40	41	43	44	45	40	39	41

Required:

- i) Prepare a frequency table to represent the above information starting with 5-10 class interval. (6 marks)
 - ii) Present the same information using a histogram. (6 marks)
- (b) Discuss two sources of data for statistical analysis and give examples in each case. (4 marks)
- (c) Discuss the following terms as used in statistics.
- i) Sampling (1 mark)

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- ii) Census (1 mark)
 - iii) Discrete variable (1 mark)
 - iv) Parameter (1 mark)
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