



OFFICE OF THE DEPUTY VICE CHANCELLOR
ACADEMICS, STUDENT AFFAIRS AND RESEARCH

UNIVERSITY EXAMINATIONS

2025 /2026 ACADEMIC YEAR

SECOND YEAR FIRST SEMESTER MAIN EXAMINATION

FOR THE DEGREE OF BACHELOR OF
EDUCATION ARTS, BACHELOR OF BUSINESS
MANAGEMENT AND BACHELOR OF
HOSPITALITY MANAGEMENT

COURSE CODE: BBM 211/BHM 213/BUS 211

COURSE TITLE: BUSINESS STATISTICS

DATE:16/12/2025

TIME: 9.00 TO 12.00 P.M

INSTRUCTION TO CANDIDATES

- SEE INSIDE

THIS PAPER CONSISTS OF 3 PRINTED PAGES

PLEASE TURN OVER

MAIN EXAM

BBM 211/BHM 213/BUS 211: BUSINESS STATISTICS

STREAM: BED (Arts), BBM, BHM

DURATION: 3 Hours

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

- a. Explain the following terms used in business statistics [6 marks]
 - i. Statistics
 - ii. Sampling
 - iii. Skewness
- b. Briefly describe any five functions of statistics [10 marks]
- c. The following table shows the distribution of hours worked in a month by a number of employees of ABC Construction Company.

Hours	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-120
No of employees	4	12	18	11	7	5	2	1

- i. Find the standard deviation and variance. (5 marks)
- ii. Determine the co-efficient of variation (2 marks)
- d. The table below gives the prices of a set of products sold in a particular supermarket.

Year	2008		2009	
Items	Price (Ksh.)	Quantity	Price (Ksh.)	Quantity
A	72	100	80	95
B	160	12	180	10
C	90	16	82	18
D	10	1100	12	1200

Calculate the Fisher's Ideal Index (7 marks)

QUESTION TWO

The following data was obtained from a certain school showing the grades obtained by students

Class	0-5	5-10	10-15	15-20	20-25	0-5	25-30	30-35
Marks	45	62	12	28	92	84	73	3

- a) Calculate the mean (3 Marks)
- b) Calculate the median and mode (3 Marks)
- c) Calculate variance and Standard deviation of your frequency distribution(6 Marks)

- d) Calculate geometric mean (4 Marks)
 e) Calculate harmonic mean (4 Marks)

QUESTION THREE

The data in the table below relates to the weekly maintenance to the age (in months) of ten similar machines in a non-governmental manufacturing project.

Machines	1	2	3	4	5	6	7	8	9	10
A	5	10	15	20	30	30	30	50	50	60
B	190	240	250	300	310	335	300	300	350	395

- i) The regression equation (a) Y on X and X of Y [12 marks]
 ii) Correlation coefficient between the age of the machine and maintenance cost and give its interpretation [8 marks]

QUESTION FOUR

Smoother Limited has been concerned by the absenteeism of its employees. A study produced the data below

Number of days absent	0-2	3-5	6-8	9-11	12-14	15-17
Number of employees	3	8	20	12	6	1

- a) Using a Provisional Mean of 7, find:
- Arithmetic mean [3 marks]
 - The standard deviation [3 marks]
 - Find the Pearson's coefficient of skewness [5 marks]
 - Find the Bowley's coefficient of skewness [3 marks]
- b) Briefly describe the following [6 marks]
- Leptokurtic
 - Mesokurtic
 - Platykurtic

QUESTION FIVE

- a. Explain the following terms as used in probability theory:
- Events (2marks)
 - Mutually exclusive events. (2marks)
 - Complementary events (2marks)
 - Bayes theorem (4 marks)
- b. A woven cloth is liable to contain faults and is subjected to an inspection procedure. Any fault has a probability of 0.7 that it will be detected by the procedure, independent of whether any other fault is detected or not. If a piece of cloth contains three faults, A, B and C, Calculate the probability that A and C are detected, but that B is undetected (8 marks)