



TECHNICAL UNIVERSITY OF MOMBASA

School of Humanities and Social Sciences

Department of HOSPITALITY & Tourism MANAGEMENT

UNIVERSITY EXAMINATION FOR THE DEGREE OF:

DIPLOMA IN TOURISM MANAGEMENT (DTM S23)

BHT 2201: QUANTITATIVE TECHNIQUES

SERIES: DECEMBER 2024

TIME: 2 HOURS

DATE: Pick Date DECEMBER 2024

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of **FIVE** questions. Attempt **Choose instruction**.

Do not write on the question paper.

SECTION A (Answer all the questions)

30 POINTS

QUESTION ONE

- a) Explain the following concepts (10 marks)
 - i. Mean
 - ii. Variance
 - iii. Nominal Data
 - iv. Media
 - v. Mode
- b) Outline FIVE (5) advantages of using quantitative data in analysis (10 marks)
- c) The following scores were recorded for students who took an economics examination
56, 18, 35, 19, 25, 35, 26, 14, 25, 35, 60, 99, 54, 13, 22, 49 and 13
 - i. What is the mode for the above set of scores? (2 Marks)
 - ii. What is the median of the scores? (2 Marks)
 - iii. What is the range of the score? (2 Marks)
 - iv. Compute the mean of the above scores (2 Marks)
 - v. What is the variation ratio (VR) (2 marks)

SECTION B (Answer only TWO questions)

QUESTION TWO

- a) Distinguish between the following (10 Marks):
- Range and percentile range
 - Mean deviation and Standard deviation
 - Asymmetrical and Symmetrical distribution
 - Quantitative and qualitative data
 - Unimodal and bimodal distribution
- a) Outline FIVE scales of measurement for data used in quantitative analysis (10 marks)

QUESTION THREE

- a) A botanist collected data on diameter of tree trunk (x) and tree height (y), he estimated a regression model for y and x and found a regression equation is: $y_i = -3.6 + 3.1 x_i$
- Identify the dependent and independent variables (2 marks)
 - What is your estimate of the average height of all trees having a trunk diameter of 7 inches? (3 marks)
 - Comment on the slope of the regression line (2)
 - Present his findings on a graph (3)
- b) Sketch illustrations to show:
- An inverse linear association between variable x and y (2 marks)
 - A curvilinear relationship of variable x and y (2 marks)
 - Positive skew in a distribution (2 marks)
 - Negative skewed distribution (2 marks)
 - Normal distribution (2 marks)

QUESTION FOUR

- a) The manager of Kiziwi Restaurant recorded the following lunch sales on Monday, 26th October, 2017. From his observations, compute

Table No.	1	2	3	4	5	6	7	8	9	10
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Sale (Kshs)	280	350	450	450	450	200	250	260	540	580
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- i. Median price of meals sold (2 marks)
- ii. Simple Arithmetic Mean of sales (2 marks)
- iii. Mode of the lunch sales (2 marks)
- iv. Range of sales (2 marks)
- v. Standard Deviation (2 marks)

b) Explain the following concepts as applied in Quantitative Analysis (10 marks)

- i. Measures of central tendency;
- ii. Measures of dispersion;
- iii. Measures of association;
- iv. Univariate statistics;
- v. Multivariate statistics

QUESTION FIVE

- a) Eight students scored the following in marks in their CAT and final Exams for their economics exams; find the association between the two score. What does the computed correlation coefficient tell us about the association (20 marks)

Student NO.	CAT Score	
	(x)	Exam Score (y)
1	19	76
2	23	72
3	20	77
4	16	69
5	24	75
6	29	81
7	16	59
8	15	65