



TECHNICAL UNIVERSITY OF MOMBASA

Faculty of Business & Social Studies

DEPARTMENT OF HOSPITALITY & TOURISM

DIPLOMA IN TOURISM MANAGEMENT

(DTM M12)

BAC 2207: QUANTITATIVE METHODS

END OF SEMESTER EXAMINATIONS

SERIES: APRIL 2013

TIME: 2 HOURS

INSTRUCTIONS:

- This paper consists of Sections **A** and **B**.
- Section **A** is **Compulsory**. Answer any **TWO** questions in Section **B**.
- Mobile phones are not allowed into the examination room.
- Cheating leads to disqualification.
- ***This paper consists of Three printed pages.***

SECTION A (Compulsory) 30 Marks

QUESTION 1

- a) Distinguish between the following concepts: (10 marks)
- i) Measure of dispersion and measure of central tendency
 - ii) Positive and negative skew
 - iii) Mean deviation and standard deviation
 - iv) Regression and correlation analysis
- b) Using scatter diagrams, illustrate the positive negative, curvilinear and no relationship between two variable x and y. (10 marks)
- c) Explain the terms in a typical linear regression model. (10 marks)
- $$y_i = \beta_0 + \beta_1 X_i$$

SECTION B (Answer any TWO questions) 40 Marks

QUESTION 2

- a) Write brief notes on any **FOUR** types or scales quantitative data. (10 marks)
- b) Compute the median of the following data. (10 marks)

Age (years)	No. of students
20 – 25	2
26 – 30	14
31 – 35	30
36 - 40	46
41 - 45	36
46 - 50	19

QUESTION 3

- a) Explain **THREE** properties of the mean. (9 marks)
- b) What does the correlation coefficient (R) of +1 imply. (2 marks)

- c) In a survey to profile guests to a restaurant a manager computed the following means for ages of dinners on three different days of the week.

Day	N	(\bar{X})
Wednesday	16	35.5
Thursday	7	41.8
Friday	20	30.5

Compute weighted mean for the guest.

(9 marks)

QUESTION 4

The HR Manager of Whitesands Resort was concerned about the time employees was concerned about the time employees spend on facebook during working hours. He sampled 40 employees and recorded the time each spent on facebook in minutes between morning and lunch time daily:

43, 11, 54, 25, 21, 15, 33, 13, 17, 56, 12, 90, 5, 32, 15, 67, 17, 12, 120, 34, 128, 5, 76, 34, 135, 45, 87, 106, 19, 69, 37, 94, 10, 25, 31, 57, 28, 100, 32, 80.

- a) Classify the data into intervals of 0 – 9, 10 – 19 etc and construct a frequency table. **(4 marks)**
 b) Compute mean of the time spent on social media by employees. **(6 marks)**
 c) What is the model class for the data? **(2 marks)**
 d) Sketch a graphical illustration of the managers findings. **(8 marks)**

QUESTION 5

- a) Differentiate between inferential and descriptive statistics. **(4 marks)**
 b) Using a graphical illustration, show negatives, positive and platykurtic distributions. **(6 marks)**
 c) The following scores were recorded for students who sat a quantitative methods exam.
 56, 18, 35, 19, 25, 35, 26, 14, 25, 38, 60, 99, 54, 12, 13, 22, 49, and 13
 i) What is the mode for the above set of scores? **(2 ½ marks)**
 ii) What is the median of the scores? **(2 ½ marks)**
 iii) What is the range of the scores? **(2 ½ marks)**
 iv) Compute the mean of the scores. **(2 ½ marks)**