MACHAKOS UNIVERSITY

University Examinations 2020/2021
SCHOOL OF HOSPITALITY AND TOURISM MANAGEMENT
DEPARTMENT OF HOSPITALITY MANAGEMENT
FIRST YEAR SPECIAL/SUPPLEMENTARY EXAMINATION FOR
DIPLOMA IN HOSPITALITY AND TOURISM MANAGEMENT
DTM 031-INTRODUCTION TO STATISTICS IN TOURISM

DATE: 24/2/2021 **TIME: 8.30-10.30 AM**

INSTRUCTIONS

Answer question one and any other two questions

QUESTION ONE (30 MARKS)

a) Explain the meaning of the following terms as applied in Statistics

i. Statistics.

ii. Inferential and descriptive.

iii. Independent events.

iv. Mutually exclusive events. (8 marks)

b) The table below shows goals scored by teams in a competition

Goals scored	1	3	4	5	6
Frequency	6	10	25	11	2

Calculate the mean and standard deviation (6 marks)

c) A fair six faced dice is tossed once. Determine the probability of getting an even number. (3 marks)

d) A small company is interested in analyzing the effects of advertising on its sales, over a 5-month period. The results are as follows

Advertising (x)	5	8	10	15	22
Sales (y)	6	15	20	30	39

Calculate the correlation coefficient between sales and advertising. (8 marks)

e) Define Kurtosis ;discuss types . (5 marks)

QUESTION TWO (20MARKS)

The following are the speeds, in miles per, of a group of cars on a high-way as measured with radar gun.

58,62,59,53,61,55,57,54,59,53,66,60,58,60,61,58,56,60,58,62,57,55,53,55,61,57,52,58,49, 54,52,55,57,60,64,67.

a) Construct a frequency distribution table with class interval by 45-49,…etc. (4 marks)

b) use the table in (a) above to calculate

i. the mode (3 marks)

ii. the median (3 marks)

iii. the quartile deviation (7 marks)

iv. the 2^{nd} and 8^{th} percentile (3 marks)

QUESTION THREE (20 MARKS)

a) Explain the meaning of each of the following terms as used in probability theory.

(i) Random experiment

(ii) An event

(iii) Mutually exclusive events

(iv) Independent events. (8 marks)

b) Given the following set of data, construct the analysis of variance (ANOVA) table (12 marks)

A	B	C
15	18	6
10	20	15
15	22	10

QUESTION FOUR (20 MARKS)

a) Discuss the statistical application in tourism.

b) Discuss the data presentation methods in statistics

c) Discuss computer application in statistics.

QUESTION FIVE (20MARKS)

a) It is known that 10% of the article coming out of ta manufacturing process are defective and must therefore be discarded. Determine the probability of obtaining ; (10 marks)

i. at least one defective article if two articles are drawn at random;

ii. at least two defective articles if three articles are drawn at random;

iii. Exactly two defective article if three articles are drawn at random;

iv. at least one article if three articles are drawn at random.

b) In a school music competition, choirs were to be awarded points on scale of 1-50.The choirs were later to be ranked in order to identify and reward the best .Two music judges were assigned to asses the choir and award each choir points to reflect his assessment .A random sample of 12 choir was take and the points were as shown in the table below. (10 marks)

Choir	A	B	C	D	E	F	G	H	I	J	K	L
Judge X	12	8	35	44	24	32	35	18	48	25	15	28
Judge y	24	12	30	40	18	30	25	23	42	30	10	20

i. compute the Spearman's rank co-efficient of correlation between the points awarded by the two music judges.

ii. Evaluate the consistency in assessment between the two judges.