



KENYATTA UNIVERSITY
UNIVERSITY EXAMINATIONS 2017/2018
DIGITAL SCHOOL OF VIRTUAL AND OPEN LEARNING
FIRST SEMESTER EXAMINATION FOR THE DEGREE OF
MASTER OF SCIENCE
HTM 802: STATISTICS

DATE: Sunday, 17th December 2017

TIME: 9.00a.m-12.00p.m

INSTRUCTIONS:

Answer ALL questions

1. Statistics is an important aspect in the management of hospitality and tourism industry.
Answer the following questions;
 - a) Describe 4 specific areas in the hospitality and tourism industry where one can apply the knowledge of statistics (8 marks)
 - b) Explain why is data analysis is stated as incomplete if inferential statistics is not done (2 marks)
 - c) Explain three limitations of statistics (6 marks)
2. We clean data before analysis.
 - a) Discuss 3 reasons as to why data collected may not be accurate (6 marks)
 - b) State one test you can undertake to clean data (2 marks)
3. Under what circumstances would you use a confidence level of 99% (2 marks)
4. Using 7 classes, calculate the mean, mode, medium and standard deviation of the following set of data (16 marks)
61, 72, 25, 27, 32, 16, 36, 61, 42, 37, 50, 28, 46, 35, 40, 55, 41, 14, 42, 51, 44, 67, 45, 31, 23, 74, 53, 63, 17, 36, 51
5. The population mean for number of units sold is 28. A research was done in 8 stores and the mean was 35 with a standard deviation of 0.45. Determine if there is a significant difference between the population mean and the sample mean at 95% confidence level (10 Marks)
6. Interpret the following results (8 Marks)
 - a) Chi square = 22.3; P value = 0.021 (Result for gender and occupation of clients)
 - b) $r = 0.78$ (Result for age and weight of students)
 - c) t-test = 28.4 P value = 0.52 (Result for income from hotel A and hotel B)
 - d) $R^2 = 0.587$ = (Result for amount of capital invested and the profit margin)

STATISTICAL TABLES

Table A.1. The t-distribution.

The value of t for a confidence interval of	90%	95%	98%	99%
Critical value of (t) for P values of	0.10	0.05	0.02	0.01
Number of degrees of freedom				
1	6.31	12.71	31.82	63.66
2	2.92	4.30	6.96	9.92
3	2.35	3.18	4.54	5.84
4	2.13	2.78	3.75	4.60
5	2.02	2.57	3.36	4.03
6	1.94	2.43	3.14	3.71
7	1.89	2.36	3.00	3.50
8	1.86	2.31	2.90	3.36
9	1.83	2.26	2.82	3.25
10	1.81	2.23	2.76	3.17
12	1.78	2.18	2.68	3.05
14	1.76	2.14	2.62	2.98
16	1.75	2.12	2.58	2.92
18	1.73	2.10	2.55	2.88
20	1.72	2.09	2.53	2.85
30	1.70	2.04	2.46	2.75
50	1.68	2.01	2.40	2.68
∞	1.64	1.96	2.33	2.58

The critical values of (t) are appropriate for a two-tailed test. For a one-tailed test the value is taken from the column for twice the desired P-value e.g. for a one-tailed test, $P=0.05$, 5 degrees of freedom, the critical value is read from the $P=0.10$ column and equal to 2.02.

STATISTICAL TABLES

Q- Test

Table A.4 – Critical values of Q ($P = 0.05$)

Sample size	Confidence level
4	0.831
5	0.717
6	0.621
7	0.570
8	0.524
9	0.492
10	0.464

Taken from E.P King, J. Am. Statist. Assoc. 1953, 43, 531, by permission of the American Statistical Association.