



MAASAI MARA UNIVERSITY

REGULAR UNIVERSITY EXAMINATIONS

2018/2019 ACADEMIC YEAR

FIRST YEAR SECOND SEMESTER

SCHOOL OF BUSINESS AND ECONOMICS

BSc. IN HUMAN RESOURCE MANAGEMENT

COURSE CODE: BHR 1206

COURSE TITLE: STATISTICS FOR HRM

DATE: 25/04/2019

TIME: 1100-1300 HRS

INSTRUCTION TO CANDIDATES

Answer Question **ONE** and any other **THREE** Questions

This paper consists of 4 printed pages. Please turn over.

Question one

- a) Define the following terms:
- i) Sample space **(1 mark)**
 - ii) Type I error **(1 mark)**
 - iii) Type II error **(1 mark)**
 - iv) Hypothesis **(1 mark)**
- b) State two uses of index numbers. **(2 marks)**
- c) Write the conditions for a binomial distribution function. **(4 marks)**
- d) A discrete random variable X has the following distribution

| | | | | | |
|--------|---|------|------|------|---|
| X=x | 1 | 2 | 3 | 4 | 5 |
| P(X=x) | a | 0.30 | 0.10 | 0.20 | b |

- i) If $E(X)=2.34$ find the values of a and b. **(2 marks)**
- ii) Find the variance of X. **(2 marks)**
- e) If 20% passes the sickle trait out of population of 5yrs old school children, what is the standard error of the population of sickle cell patients in repeated sample of 150 from this population at 95% confidence interval. **(3 marks)**
- f) A machine fills packets with spice which are supposed to have a mean weight of 40 grams. A random sample of 36 packets is taken and the mean weight is found to be 42.4 grams with a standard deviation of 6 grams. Test the hypothesis that there no difference in the means at 5% level of significance. **(7 marks)**

Question two

- a) Explain the uses of statistics in management. **(8 marks)**
- b) Write short notes on the following terms:
- i) Sampling **(2 marks)**
 - ii) Observation **(2 marks)**
 - iii) Standard deviation **(3 marks)**

Question three

The following information was obtained from an NGO which was advancing small loans to some small-scale business enterprises in 2017. The loans are in the form of thousands of Ksh.:

| Loans (in Kshs. '000' | No of enterprises |
|-----------------------|-------------------|
| 1 - 20 | 6 |
| 21 - 40 | 18 |
| 41 - 60 | 32 |
| 61 - 80 | 48 |
| 81 - 100 | 27 |
| 101 - 120 | 13 |
| 121 - 140 | 2 |

Required: Calculate the following

- a) Arithmetic mean. **(3 marks)**
- b) Median. **(3 marks)**
- c) Mode. **(4 marks)**
- d) Standard deviation. **(5 marks)**

Question four

- a) The following data was observed and it is required to establish if there exists a relationship between X and Y.

| | | | | | | | | | | |
|---|----|----|----|----|----|----|----|----|----|----|
| X | 15 | 24 | 25 | 30 | 35 | 40 | 45 | 65 | 70 | 75 |
| Y | 60 | 45 | 50 | 35 | 42 | 46 | 28 | 20 | 22 | 15 |

Required

Compute the product moment coefficient of correlation(r) and give the interpretation of your answer. **(7 marks)**

- b) The following information was obtained from an exam that was done by a group of students at Maasai Mara University.

| Marks | No. Students |
|-------|--------------|
| 46-50 | 48 |
| 51-55 | 53 |
| 56-60 | 58 |
| 61-65 | 63 |
| 66-70 | 68 |
| 71-75 | 73 |
| 76-80 | 78 |
| 81-85 | 83 |
| 86-90 | 88 |
| 91-95 | 93 |
| Total | 610 |

Required

Calculate the coefficient of skewness and hence comment briefly on the nature of the distribution of the loans. **(8 marks)**

Question five

- a) Outline reasons why sampling is preferred other than census. **(4 marks)**
- b) 80 students did an exam and the following results were obtained

| | | | | | | | | |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|
| Class | 10-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60-69 | 70-79 | 80-89 |
| Frequency | 1 | 7 | 11 | 20 | 10 | 20 | 7 | 4 |

- i) Draw a histogram and use it to estimate the mode. **(8marks)**
- ii) Comment on the nature of the distribution. **(3marks)**

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