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UNIVERSITY OF ESWATINI

Re-Sit EXAMINATION

(Total Marks: 100)

PROGRAMME:	:	B.Sc. ABE YEAR 2
	:	B.Sc. AG. ECON. & AGBMGT YEAR 2
	:	B.Sc. AG. EDUCATION YEAR 2
	:	B.Sc. AG. EXTENSION YEAR 2
	:	B.Sc. AGRON. YEAR 2
	:	B.Sc. ANI. SCI. YEAR 2
	:	B. Sc. ANI. SCI. (DAIRY) YEAR 2
	:	B.Sc. COS YEAR 2
	:	B.Sc. COS. ED. YEAR 2
	:	B.Sc. FSNT YEAR 2
	:	B.Sc. HORT. YEAR 2
	:	B.Sc. TADM YEAR 2
PAPER	:	**AEM202**
TITLE OF PAPER	:	**ELEMENTARY STATISTICS**
TIME ALLOWED	:	**TWO (02) Hrs.**

INSTRUCTIONS

1. ANSWER ALL QUESTIONS.
2. QUESTIONS CARRY MARKS AS INDICATED IN THIS PAPER.
3. USE ANSWER SHEET FOR ALL QUESTIONS.

THIS PAPER IS NOT TO BE OPENED UNTIL PERMISSION HAS BEEN GRANTED BY THE INVIGILATOR.

QUESTION NO. 1

(Marks: 25)

(a) Describe the advantages and disadvantages of arithmetic mean to measure the central tendency

(Marks: 10)

(b) Find the probability of winning a new car from a lottery whose prize contains 8 local old cars, 7 new cars and 5 imported used cars.

(Marks: 05)

(c) A finance committee of 6 persons is to be selected from a group of 11 men and 9 women. If the selection is made randomly, find the chance of 4 men and 2 women being picked in the financial committee.

[Marks: 10]

QUESTION NO. 2

(Marks: 25)

(i) The ranks of 10 students allocated by two judges (Judge I and Judge II) are as follows.

Judge I	:	6	5	4	8	7	2	1	3	10	9
Judge II	:	7	6	3	8	5	4	1	2	9	10

(a) Calculate the rank correlation coefficient.

(Marks: 10)

(b) Test the significance of rank correlation coefficient with t-test if tabulated value of t-test is 2.306 at 5% level of significance.

(Marks: 05)

(ii). A milk shop owner recorded the daily turnover (in Emalangeni) of his outlet for 300 trading days shown in the frequency table given below

Daily Turn Over	100-200	200-300	300-400	400-500	500-600	600-700	700-800
No. of Days	21	18	47	63	81	55	15

a. Find the average turnover (Arithmetic Mean) of the milk shop by using any method.

(Marks: 05)

b. Find out the Standard Deviation of the distribution by using any method. **(Marks: 05)**

QUESTION NO. 3

(Marks: 25)

(a) Samples of two types of electric bulb A and B were tested for length of life and the following data was obtained. **(Marks: 05)**

Type of Electric Bulb	Statistic		
	Sample Size	Average Life	Standard Deviation
Electric Bulb A	25	65 Days	31.8 Days
Electric Bulb B	25	58 Days	25.4 Days

Explain which tube has the greater relative variation?

(b) From the following table show the number of plants having certain characters, to make and test the hypothesis that the flower color is independent or dependent of the shape of the leaf. **(Marks: 20)**

Flower Color	Flat leaves	Curled leaves	Totals
Blue flowers	99	36	135
Red flowers	20	05	25
Total	119	41	160

(Tabulated value of Chi-square is 3.84 at 5% level of significance)

QUESTION NO. 4

(Marks: 25)

(a) **A. Fill in the blanks (Only write the answers) (Total Marks: 15, 03 marks each)**

i. The strength of 9 colleges in a city is 985, 1085, 1755, 1545, 1940, 1590, 2875, 1990 and 2020. Then the median strength is .....

ii. Select the correct missing value, Mode = (------- x Median + ------ Mean)

iii. ..... is/are not affected by extreme observations in measures of central tendency.

iv. The most suitable measures of dispersion is .....

v. In a Poisson distribution the Mean and variance are .....

(b) Write short answers on any **TWO** **(Total Marks: 10, 05 marks each)**

(i) Describe the Normal Distribution.

(ii) Describe the advantages of non parametric test.

(iii) Describe the Systematic Random Sampling.

GOOD LUCK