134

UNIVERSITY OF SWAZILAND

RE-SIT / SUPPLEMENTARY EXAMINATION

(Total Marks: 100)

PROGRAMME:	:	B.Sc. ABE YEAR 2
	:	B.Sc. AG. ECON. & AGBMGT YEAR 2
	:	B.Sc. AG. EDUC. & EXT. 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 & AEM201**

TITLE OF PAPER   :   **ELEMENTARY STATISTICS**

TIME ALLOWED   :   **TWO (02) Hrs.**

INSTRUCTIONS

1. ANSWER **ALL** QUESTIONS IN **ALL** SECTIONS (A, B & C)

2. QUESTIONS CARRY MARKS AS INDICATED IN THIS PAPER.

3. USE ANSWER SHEET FOR **ALL** QUESTIONS.

4. USE A **PEN**

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SECTION – A
(Marks: 30)

I. Fill in the blanks (Only write the answers) (Total Marks: 10, 02 marks each)

a. The strength of students in 7 colleges are 1285, 1845, 1648, 2035, 1685, 2970, 2115, then the median strength is ....

b. Fill the correct missing value, Mode = (------- x Mean + ------ Median)

c. .... is/are affected by extreme observations in measures of central tendency.

d. The most suitable measure of Dispersion is ....

e. In a Binomial distribution the Mean and Variance are ....

II. Select and Write the correct answer (Total Marks: 20, 02 marks each)

1. Which statistic is/are not much affected by extreme values?

[a] Arithmetic Mean [b] Median [c] Geometric Mean [d] Standard Deviation
[e] a & b [f] c & d [g] None of these

2. If the average of ten values is 70 and nine of the values are 58, 72, 79, 56, 45, 96, 88, 70 and 66 then the tenth value will be

[a] 70 [b] 75 [c] 65 [d] 80 [e] None of these

3. Given the following nine observations 5, 6, 10, 9, 7, 8, 6, 6 and 8, then the 6 is ---------
of those observations?

[a] Mean [b] Variance [c] Mode [d] Range [ ] [e] None of these

4. The sum of the squares of deviations is the least or zero when measured from

[a] Median [b] Mean [c] Mode [d] Zero [e] One [f] None of these

5. The coefficient of correlation will be zero when

[a] X is increasing, Y is decreasing [b] Y increasing and X is decreasing
[c] Both X and Y is decreasing [d] No change in X and Y [e] None of these

6. A selection procedure of a sample having no involvement of probability is known as

[a]. Judgement sampling [b]. Stratified sampling [c]. Systematic sampling
[d]. Random sampling [e]. None of these

7. Which one is a property of Poisson distribution?

[a]. Probability p is large   [b]. No. of trials are finite   [c]. Mean = Variance
[d]. Probability (p) = 0   [e]. None of these

8. If A and B are independent events then P (A U B) is equal to

[a]. P(A) x P(B) - P (A ∩ B)   [b]. P(A) + P(B)   [c]. P(A) – P(B)
[d]. P(A)+P(B)- P (A ∩ B)   [e]. None of these

9. Which one is a property of Poisson probability distribution?

[a]. Probability p is large   [b]. No. of trials are finite   [c]. Mean ≠ Variance
[d]. Probability (p) → 0   [e]. None of these

10. If each and every unit of the population has equal chance of being included in the sample, it is known as

[a]. Random sampling   [b]. Purposive sampling   [c]. Probability sampling
[d]. Simple random sampling [e]. None of these

SECTION- B
(Total Marks: 40)

1. Find out the Mean Deviation of the following distribution

(Marks: 10)

Wages (in E)	30-40	40-50	50-60	60-70	70-80
No. of workers	14	17	30	20	19

2.

The ranks of same 15 students allotted by two judges are as follows.   (Marks: 10)

Judge I	:	1 2 4 3 5 6 7 8 9 10 12 11 13 14 15
Judge II	:	3 10 1 4 5 7 2 6 8 11 15 9 14 12 13

Calculate the rank correlation coefficient.

3.

(i) Explain the Additive & Multiplicative law of probability for two events (A & B), if events are dependent.

(Marks: 05)

(ii) Find the probability of winning a new car from a lottery whose prizes comprise 7 local old, 5 new and 3 imported used cars.

(Marks: 05)

(iii) A committee of 4 people is to be selected from a group of 08 men and 06 women. If the selection is made randomly, find the chance of 3 men and 1 woman being selected.

(Marks: 05)

(iv) Mr. Dlamini appears for an interview for two posts Grade A and Grade B for which selection is independent. The probability of his selection for post Grade A is (1/11) and for Grade B, it is (1/16). Find the probability that Mr. Dlamini is selected for at least one post.

(Marks: 05)

SECTION- C
(Total Marks: 30)

1. Samples of two types of electric light bulbs were tested for length of life and the following data was obtained.

(Marks: 10)

	Sample Size.	Sample Mean	Sample Standard deviation
Type I	8	1235 Hrs.	36 Hrs.
Type II	8	1190 Hrs.	29 hrs.

Is the difference in the means sufficient to warrant that type I is superior to type II regarding length of life?

2. Write short notes on the following   **(Total Marks: 20, 05 marks each)**

(i) Normal Distribution

(ii) Parametric Test.

(iii) Systematic Random Sampling.

(iv) Level of Significance.