



**COU4113|COM301 STATISTICS**

**JANUARY SEMESTER 2021 END TERM EXAM ONLINE**

**DURATION: 3 HOURS**

**INSTRUCTIONS**

- i) This exam contains 6 questions containing 10 marks each.**
- ii) The exam is divided into two sections: Section A and B.**
- iii) Answer ALL questions in section A and any 3 questions in section B.**
- iv) Round off your answers to the nearest 1 Decimal Place**
- v) Show all your workings on the Answer Sheet**

**SECTION A: ANSWER ALL QUESTIONS IN THIS SECTION**

**QUESTION 1:**

- a) Outline two limitations of statistics (2 marks)
- b) Describe two ways you can present statistical data visually (2 marks)
- c) Illustrate the difference between a normal distribution and skewed distribution (2 marks)
- d) Distinguish between range and interquartile range (2 marks)
- e) Differentiate between descriptive statistics and inferential statistics (2 marks)

**SECTION B: ANSWER ANY THREE QUESTIONS**

**QUESTION 2:**

The following dataset relates to the number of students who received Christ during chapel services over the semester.

Week	1	2	3	4	5	6	7	8	9	10	11
No. of students	2	3	4	3	3	5	6	3	3	2	1

Calculate:

- a) Absolute skewness (4 marks)
- b) Interquartile range (6 marks)

### QUESTION 3

The following dataset relate to the number of teenage pregnancies recorded from a random sample of six schools.

(2, 9, 11, 5, 4, 7, 10)

Compute:

- a) Variance (7 marks)
- b) Standard Deviation (3 marks)

### QUESTION 4

- a) Discuss two levels of measurement in statistics (4 marks)
- b) Using a well, labelled diagram, explain the concept of “Statistical Inquiry as a Cycle” (6 marks)

### QUESTION 5:

- a) Outline three uses of correlation analysis in research (3 marks)
- b) The following pairs of data show the number of hours seven students spent revising and their corresponding score on a Continuous Assessment Test (CAT).

Number of hours	5	2	5	4	3	3	6
Score (out of 10)	4	1	7	4	4	3	8

Required:

- i. Determine the correlation coefficient (5 marks)
- ii. Interpret the result (2 marks)

### QUESTION 6:

The following data relates to the number of campaigns against alcohol and its prevalence

Number of campaigns	2	1	3	4	5	3	6
Alcohol prevalence	4	3	3	3	2	4	1

Required:

- a) Determine the regression equation of the line for the dataset (7 marks)
- b) Calculate the prevalence level when there is no campaign (3 marks)