BOWEN UNIVERSITY IWO
COLLEGE OF AGRICULTURE, ENGINEERING AND SCIENCE
PURE AND APPLIED BIOLOGY PROGRAMME
2021/2022 FIRST SEMESTER EXAMINATION

BLY 407: BASIC R STAT

Instructions: Answer any four questions   Time Allowed: 2hrs.

1. a. State and explain briefly five advantages of R programming language for a Data scientist
    (15 marks)

    b. Highlight the requirements for a Data scientist or analyst in successfully completing a statistical task for a research or project
    (10 marks)

2. a. Define the following terms:
      i. Data   ii. Variables   iii. Qualitative variables
      iv. Quantitative variables   v. A respondent   *(10 marks)*

    b. In a *Consumer Reports* article, there are about 25 tablets, lists each tablet's manufacturer, cost, battery life (hours), operating system (iOS/Android/RIM), and overall performance score (1-100). (i) Justify the reason(s) for your answer.
    (ii) Are these variables categorical or quantitative?
    Include units where appropriate, and give the reason(s) for this investigation.   *(15 marks)*

3. (i) Give a comprehensive account of the procedure for importing data from Microsoft Excel into R,
    (ii) Write a short note on how to call or read the imported data in R Studio   *(25 marks)*

4. For a given vector A: 2,4,5,6 and vector B: 7,8,9,10.
    a. Take a sum of vector A and B.   *(5 marks)*
    b. Compute the mean of vector A and B   *(10 marks)*
    c. Plot a Bar chart for vector A and B   *(10 marks)*

5. Below is a table showing the growth of fungi in millimeters over seven days.

    Table 1: Mycelia growth of fungi (mm) over seven days

Day	*Aspergillus niger*	*Rhizopus stolonifer*	*Fusarium* sp.
1	5.4	2.0	0.0
3	10.2	12.1	5.0
5	26.1	25	11.0
7	47.0	35.6	15.0

    Use the table above to answer the following questions.
    a. Compute the mean of the above data in Table 1   *(10 marks)*
    b. Plot a boxplot for the above data in Table 1   *(15 marks)*