

2019

AEB

Answer all questions: Answer should be brief and precise.

Total marks =100

1. For any positive number a , show that the mean and the standard deviation of the numbers 0 and a are equal. What will be the results if a is a negative number? [6+4]
2. In order to study the relationship between temperature and rainfall, data were collected on the average temperature in the Celsius scale (x) and rainfall (y) for 30 consecutive days. The standard deviation of x was 5°C and the correlation between x and y was 0.35. Suppose the temperatures are converted to the Fahrenheit scale (z). Find:
 - a) the variance of z .
 - b) the correlation between x and z .
 - c) the correlation between y and z . [4+3+3]
3. Distinguish between:
 - a) C_3 and C_4 plant.
 - b) Synthetic chemical and natural agrochemicals in agriculture. [5+5]
4. Write short notes on:
 - a) Root-microbe interaction.
 - b) RNA polymerase. [5+5]
5. What is food poisoning? Discuss the mycotoxins and bacterial toxins in food and their impact on human health. Describe the role of microorganisms in organic matter decomposition. [2+3+5]
6. a) Discuss briefly on any two plant pathogenic bacteria. b) TCA cycle is an amphibolic pathway. Explain. [5+5]
7. Write short notes on:
 - a) Biosynthesis of auxin

b) Use of Blue green Algae in Agriculture.

[5+5]

8. Differentiate biotic and abiotic stress. Explain the effects of various stresses on morphological, anatomical and biochemical changes in plants. [3+7]
9. Comment on Aromatic plants with two suitable examples. What are the different strategies of plant conservations? [5+5]
10. Describe the pattern of embryogenesis. Give an account of post embryogenesis changes in the embryo sac upto zygote formation. [3+7]