[Time: $2\frac{1}{2}$ Hours]   **[Marks:75]**

Please check whether you have got the right question paper.

N.B: 1.   All questions are compulsory.
         2.   Figures to the right indicate full marks.
         3.   Draw neat labelled diagrams wherever necessary.
         4.   Use of simple calculator is allowed.

Q. 1   Attempt **any two**   **(15)**
    a) Define growth. Explain external factors affecting growth.
    b) Give a brief account of cytokinins as plant growth regulators.
    c) Describe in detail assimilation of ammonia.
    d) Explain the interrelationship of Nitrogen assimilation and carbohydrate utilization.

Q. 2   Attempt **any two**   **(15)**
    a) What is an Operon? Describe the Jacob and Monod's lac Operon model in detail.
    b) What is catabolite repression? Explain.
    c) Calculate coefficient of correlation and conclude for the given data:

X	13.4	15.1	15.3	16.8	17.5	19.2	21.2
Y	2.1	2.3	2.3	2.6	2.7	3.0	3.3

    d) Means of two samples are given below. Analyse with unpaired t-test and infer.

A	2.5	2.1	1.9	2.4	1.8	2.6	2.5	2.3	0.9	1.7
B	1.8	1.7	1.9	2.2	2.3	2.0	1.9	1.8	2.1	1.9

(Table value for 't' at 5% = 2.31)

Q. 3   Attempt **any two**   **(15)**
    a) What is a toxicant? Explain the physiological effects of parathion as a toxicant.
    b) Explain ozone depletion as a global environmental problem. Add a note on its remedial measures.
    c) What are pesticides? Explain the significance of pesticides in agriculture and public health
        programmes.
    d) Explain waste management with reference to e-waste.

Q. 4   Attempt **any two**   **(15)**
    a) Explain fodder yielding plants with examples.
    b) Enlist and describe with examples minor forest products studied by you.
    c) Give an account of timber yielding plants in India.
    d) Mention the raw materials used in paper making. Describe in detail the process of paper making.

[P.T.O]

Q. 5   Attempt **any three**   **(15)**

     a) Commercial applications of Gibberellins.
     b) Growth curves
     c) Types of Correlation
     d) GMO
     e) Air pollution in metro cities
     f) Types of paper.