NAN-003-001612 Seat No. _____

B. Sc. (Sem. VI) (CBCS) Examination

March / April - 2017

Paper - 602 : Botany

(Phy. Biochem, Biostat., Micro.)

(New Course)

Faculty Code : 003

Subject Code : 001612

Time : $2\frac{1}{2}$ Hours] [Total Marks : **70**

Instructions : (1) Draw neat and labelled diagrams wherever necessary.

(2) Figures to the right side indicate full marks for the questions.

1 Answer in short : **20**

(1) What is odd out of the following four ?
Glucose, Galactose, Mannose and Fructose

(2) Which alkaloid is first synthesized ?

(3) Why does a seed become dormant ?

(4) What is oligopeptide ? How is it different from a polypeptide ?

(5) In a non competitive inhibitors reversible ?

(6) How is biodiversity important for ecosystem functioning ?

(7) How many National park and wild life sanctuaries in India ?

(8) How do seeds germinate ?

(9) Define : Phytochrome.

(10) What do you mean by growth ?

(11) What is the shape of E.coli ?

(12) How do you get a pure culture ?

(13) How do the autoclave and hot air oven kill the microorganism ?

(14) What is ex-situ conservation of biodiversity ?

(15) What is the rank of India in Asia in plant diversity ?

(16) Name two bacteria used in Vinegar industry.

(17) Write Merits of mode.

(18) Who introduced concept of standard deviation ?

(19) Give formula to calculate coefficient of variation.

(20) Write the application of the t-test.

2 (a) Answer in short : (any **three**) **6**

(1) Give concept of : Photobiology.

(2) Discuss : Primary structure of protein.

(3) Distinguish between : Meand and Median

(4) Define : α-diversity and β-diversity.

(5) Who coined the word bacteriophage and what does it mean ?

(6) Explain : Cryopreservation.

(b) Answer in brief : (any **three**) **9**

(1) Write properties of Alkaloids.

(2) Explain : Phase of elongation.

(3) Find out the mean and mode of following numbers :

6, 1, 3, 2, 5, 3, 7, 5, 2, 6, 1, 7, 7

(4) Discuss : Chemical sterilization.

(5) Give significance of seed dormancy.

(6) Write merits and demerits of standard deviation.

(c) Answer in detail : (any **two**) **10**

(1) Discuss : Biological significance of lipids

(2) Discuss : Photoperiodic induction

(3) Discuss : The conservation strategies of biodiversity of plant in their natural habitat.

(4) Explain : Microbial culture medium.

(5) What is chi-square test ? Explain degree of freedom and how it calculated ?

3 (a) Answer in short : (any **three**) **6**

(1) Enlist only : Causes for seed dormancy.

(2) Explain : Concept of student's "t" test.

(3) Explain : Wax

(4) Write equation : Formation of dipeptide.

(5) Explain : Vital staining of microbes.

(6) What are the unique features of Indian biodiversity ?

(b) Answer in brief : (any **three**) **9**

(1) Explain : Fatty acid and its types.

(2) Describe : Growth kinetics.

(3) Find out the SD of following :

8, 6, 7, 5, 6, 10, 8, 6, 7, 7

(4) Give medicinal value of biodiversity.

(5) How farmers can overcome problems of seed dormancy ?

(6) Explain : Alcoholic fermentation and microbes.

(c) Describe in detail : (any **two**) **10**

(1) Explain : Enzyme inhibition and its types.

(2) Discuss : Role of Alkaloids in plants.

(3) Explain : Dry heat and moist heat sterilization.

(4) Calculate the mean, Median, Mode, SD and coefficient variation from following data :

Class interval	10-19	20-29	30-39	40-49	50-59	60-69	70-79
Frequency	5	19	10	13	04	04	02

(5) What is seed germination ? Give its type and explain epigeal germination in plants.
