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PG-003-001612 Seat No. _____

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

July - 2018

Botany : Paper - B-602

(Plant Physiology, Biochemistry, Biostatistic, Microbiology & Biodiversity)

(New Course)

Faculty Code : 003

Subject Code : 001612

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

Instructions : (1) This question paper contains three questions. All questions are compulsory.

(2) Write answers of all the questions in main answer sheet.

(3) Draw neat and labelled diagram wherever necessary.

(4) Figures to the right side indicated full marks for the questions.

1 Objective type questions : **20**

(1) Calculate the STDV of the following data.
9.9,12,7.5,6.7,12.4,10.2,4.9,11.8,9.1

(2) Biodiversity Act of India was passed by the parliament in the _____ year.

(3) Write the correct equation of Chi – square test.

(4) Which plant hormone is responsible for the dormancy of seeds?

(5) Write the name of microorganism is used for production of citric acid in industries.

(6) Explain the term : Holoenzyme.

(7) Find out the median of following data.
56,82,42,68,74,54,44

(8) Write the name of two conjugated proteins?

(9) Define : Simple lipid.

(10) Student t – test was discovered by _____

(11) In microbial sterilization pressure cooker is a substitute for _____

(12) Write the name of three important component of biodiversity.

(13) Which specific fungal species is commercially used for the production of Ethanol ?

(14) Give the name of monosaccharides found in nucleic acids.

(15) Which regions of our country are known for their rich biodiversity ?

(16) Protective covering over radical during seed germination is _____

(17) How much land should be under forest in a country ?

(18) Which form of phytochrome promotes the germination of seeds of some species ?

(19) Who published red data list of an organism ?

(20) The red absorbing form of phytochrome gets converted to the far – red absorbing from after getting irradiated at _____ nm.

2 (A) Answer in short : (Any **Three**) **6**

(1) Give the classification of enzyme.

(2) How the seed dormancy is beneficial to plant ?

(3) Write a note on : Florigen.

(4) Distinguish between a national park and a wild life sanctuary.

(5) Write any for disadvantages of mean.

(6) Find out the mean of following numbers : 12.5,13.7,15.9,20.4,25.2,11.8,10,22.1,18.3

(B) Give the Answer : (Any **Three**) **9**

(1) Explain primary and tertiary structure of protein.

(2) Give a short essay on solid and semi-solid media.

(3) Explain the importance of sterilization method.

(4) Write the properties of monosaccharides.

(5) Applications of fertilizers were tested for the yield of rice grows in 10 plots. Another seed of 10 plots of similar size and condition were taken as control Test the effect fertilizers

Plot No:	1	2	3	4	5	6	7	8	9	10
Fertilizer applied	16	14	18	15	13	17	16	15	14	13
Fertilizer not applied	10	12	11	9	13	13	12	14	13	11

Null Hypothesis : No significant effect of fertilizer on yield of rice grown.

Alternative Hypothesis : Significant effect of fertilizer in yield of rice grown.

(1) Level of significances : 5% level i.e. 0.05.

(2) Critical value : Tabulated value at 0.05 for of $10+10-2=18$ is 2.10.

Give the following answer :

(1) The null hypothesis rejected or accepted ?

(2) Write the decision of fertilizers on rice plant growth.

(6) Name any one homopolysaccharide with its chemical structure.

(C) Answer in detail : (Any **Two**) **10**

(1) Describe the classification of plants based on photoperiodism.

(2) Explain Anaerobic fermentations.

(3) Describe general properties of alkaloids.

(4) What is pure culture ? Describe the various techniques of pure culture.

(5) Discuss the method of sterilization in microbiology.

3 (A) Answer in short : (Any **Three**) **6**

(1) Explain gram staining.

(2) Write the main objectives of the conservation of wild life (four point).

(3) Write the application of 't' test.

(4) Give the difference between saturated and unsaturated fatty acid (four point)

(5) Explain : Differential media.

(6) Write a short note on : Pasteurization.

(B) Give the Answer : (Any **Three**) **9**

(1) Explain the term with example : Null hypothesis and alternative hypothesis

(2) Describe the types of phytochrome.

(3) Write a note on : classification of carbohydrates.

(4) Write the functions of protein (any six).

(5) Find the median and median class of the data given below.

Class boundaries	15 – 25	25 – 35	35 – 45	45 – 55	55 – 65	65 – 75
Frequency	4	11	19	14	0	2

(6) Explain the process of seed germination.

(C) Answer in detail : (Any **Two**) **10**

(1) Describe the factors affecting on the growth of plants.

(2) Explain : Species diversity.

(3) Describe concept of biosphere reserves.

(4) What are cofactors and coenzymes ? Give examples.

(5) Calculate S. D. for the following distribution.

Height in inches	95 – 105	105 – 115	115 – 125	125 – 135	135 – 145
No. of Children	19	23	36	70	52