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BBG-003-1016047 Seat No. _____

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

July – 2021

Botany : B-602

(Plant Physiology, Biochemistry, Biostatistics, Microbiology and Biodiversity)

(New Course)

Faculty Code : 003
Subject Code : 1016047

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

Instructions :

(1) Attempt any five questions out of the following questions.
(2) Answer with draw neat and labelled diagram wherever necessary.
(3) Figures to the right side indicate total marks for the questions.

1 (a) Answer the following objective type questions : **4**
- (1) From which fungus Gibberellins was first isolated ?
- (2) Name the plant hormone which is responsible for the ripening of fruits ?
- (3) In the pentose phosphate pathway, the major products are _____.
- (4) Optimum temperature for seed germination is _____.

(b) Give any two function of Gibberellin. **2**

(c) Write any six physiological functions of ethylene. **3**

(d) Describe Auxin in detail. **5**

2 (a) Answer the following objective type questions : **4**
- (1) Conversion of xylulose 5-phosphate to ribulose 5-phosphate is catalyzed by _____.
- (2) When the seeds show hypogeal germination, the part that pushes the cotyledons into the soil is
- (3) Leaf senescence is delayed by :
- (4) Mention true or false : Abscisic acid was isolated for first time from mature cotton fruits.

(b) Write a name of write only name of different phases of germination. **3**

(c) Explain any six physiological function of Cytokinins. **3**

(d) Describe Pentose phosphate pathway. **5**

3 (a) Answer the following objective type questions : **4**

(1) Maltose is disaccharides of _____.

(2) Give the general formula of monosaccharides.

(3) Xanthoproteic test give positive test for which kind of protein ?

(4) A molecule that binds to an enzyme and decreases its activity is called _____.

(b) Write any two function of protein. **2**

(c) Write a note on enzyme inhibition. **3**

(d) Describe – outline classification of carbohydrates. **5**

4 (a) Answer the following objective type questions. **4**

(1) Define Enzyme

(2) What are Waxes ?

(3) What is basic unit of protein ?

(4) Give example of two hexose sugar.

(b) Write any two functions of carbohydrates. **2**

(c) Give information about conjugated protein. **3**

(d) Describe – primary structure of protein. **5**

5 (a) Answer the following objective type questions : **4**

(1) Enlist types of central tendency.

(2) Define Mode.

(3) Find out the mode of given data :

30, 32, 31, 38, 35, 37, 35, 42, 33, 36, 38, 35, 39, 44 and 35

(4) Define : Median

5 (a) Write any two demerits of mean. **2**

(c) Find out the arithmetic mean of the given data of Azadirachta plant : **3**

Plant with no. of twig (x)	2	16	20	30	39	40	45	49	50	65	70	79	80
No. of leaf present on twig (f)	3	4	7	7	1	3	5	1	2	2	5	1	2

(d) Find out SD of the following data : **5**

Variable	5	10	15	20	25	30	40	45	50	60
Frequency	2	4	6	6	10	10	10	6	4	2

6 (a) Answer the following objective type questions : **4**

(1) Define : Mean

(2) Water percentage of 15 fishes of a fish was recorded as 60, 64, 62, 76, 70, 74, 70, 84, 82, 72, 76, 84, 78, 84 and 86. Find mode of given data.

(3) Statistics word was first used by _____.

(4) What is sampling Unit ?

(b) Write a note on – cluster sampling. **2**

(c) Compute the mean of the given data. **3**

The height of 12 students in class is like 148.0 cm, 148.5 cm, 150.0 cm, 151.0 cm, 156.0 cm, 155.5 cm, 151.6 cm, 153.4 cm, 159.6 cm, 154.4 cm, 150 cm, 150.1 cm.

(d) Find out SD of the following data : **5**

23, 22, 20, 24, 16, 17, 18, 19, and 21

7 (a) Answer the following objective type questions. **4**

(1) Who discovered bacteriophage ?

(2) How many parts are present in flagellum of E. Coli bacteria ?

(3) The protein coat of viruses that enclose the genetic material is called _____.

(4) Mention True or False : The cell wall of Gram negative bacteria contain low peptidoglycan and high lipid.

(b) Give only name of any four chemicals which can be used in sterilization of microorganisms. **2**

(c) Explain in detail – T4 phage. **3**

(d) Discuss ultra-structure of E. Coli. **5**

8 (a) Answer the following objective type questions : **4**

(1) How many Protein submits are present in head of T4 phage ?

(2) What is the role of Agar ?

(3) What is solid media ?

(4) Define – Sterilization.

(b) What is pure culture ? **2**

(c) Describe the pour plate and spread plate method. **3**

(d) Describe – Physical sterilization method in microbiology. **5**

9 (a) Answer the following objective type questions. **4**

(1) Which wild life sanctuary is located in Rajasthan ?

(2) _____ refers to the diversity on the smallest scale.

(3) Biodiversity termed was coined by _____.

(4) Where Kaziranga national park is located ?

(b) Write a note on α-diversity. **2**

(c) Write a note on – NBPGR. **3**

(d) Justify the statement Biodiversity is for "Human welfare". **5**

10 (a) Answer the following objective type questions : **4**

(1) Which are common flora and fauna of Gir National Park ?

(2) Where is the Sunderbans is located ?

(3) Define Biodiversity.

(4) What is Species Diversity ?

(b) Write the salient features of National parks. **2**

(c) Explain in detail – Wild life sanctuary. **3**

(d) Describe different zones of biosphere reserves. **5**