

B.Sc. SEM-5 (Hons.) Examination-2020
Subject- Botany (Hons)
Paper – DSE-2
DSE- 2 (Bioinformatics)

Full Marks –40

Time – 2 hrs

ANSWER ANY EIGHT QUESTIONS-

5 X 8 = 40

1. Briefly discuss the application of Bioinformatics in healthcare industry.
2. Write a short note on Biological Databases.
3. Define Database. Classify different types of databases with examples.
4. Give the full form of the following terminologies- NCBI, BLAST, PIR, PAM, QSAR.
5. What is a Database Retrieval Tool? Give one example. Give one example of nucleotide and protein Database.
6. What do you mean by Multiple Sequence Alignment? What is meant by BLOSUM 62 and PAM250?
7. What is meant by Scoring Matrices? Differentiate between the applications of PAM and BLOSUM.
8. How bioinformatics aids in phylogenetic analysis? Name one software used for Phylogenetic Analysis.
9. What is structural Bioinformatics? How Bioinformatics helps in crop improvement?
10. How bioinformatics is useful in sequence study?

B.Sc. SEM-5 (Hons.) Examination-2020
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Biostatistics

Full Marks –40

Time – 2 hrs

1. Answer any eight of the following:

8 X 5=40

i) Define standard deviation. Mention the steps of calculation of standard deviation in a small size sample. 2+3=5

ii) What are the criteria for good sampling? Why sampling is essential? 3+2=5

iii) Distinguish between Primary data and secondary data. Classify different types of data. $2\frac{1}{2}+2\frac{1}{2}=5$

iv) In a hybridization experiment, among the F₂ hybrid seeds, the following results are observed: 5

Brown and Large	-	54
Brown and Small	-	18
White and Large	-	18
White and Small	-	6

Make a pie diagram of this observation.

v) What is Mode? Write down the Merits and demerits of mode. 2+3=5

vi) Distinguish between skewness and Kurtosis with suitable diagram. 5

vii) What is coefficient of correlation? Write down the steps to calculate the value of 'r' 2+3=5

viii) What is coefficient of variation? Calculate coefficient of variation of the following observed data in a population of the seed number/Fruit: 2+3=5

7,9,6,8,6,5,7,8,6,8

ix) Write short notes on:

a) Standard Error

b) Regression

$2\frac{1}{2}+2\frac{1}{2}=5$

x) Write a short note on application of Biostatistics.

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B.Sc. SEM-5 (Hons.) Examination-2020
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Natural Resource Management

Full Marks –40

Time – 2 hrs

Answer any eight Question-

5 X 8= 40

1. Briefly describe about renewable natural resources.
2. Write a short note on ecological sustainable utilization.
3. Write down the management strategy of water conservation.
4. Write short note on Bio-Prospecting.
5. Write short note on IPR (Internal property Right).
6. Write short note on waste management.
7. Write down two international and two national efforts in resource management.
8. Briefly describe the major forest products.
9. Describe the ex-situ conservation with suitable examples.
10. Briefly describe the role of land utilization in Agriculture.