

**2023**  
**B.A./B.Sc.**  
**Sixth Semester**  
DISCIPLINE SPECIFIC ELECTIVE – 4  
**BOTANY**  
*Course Code: BOD 6.21*  
(Biostatistics)

*Total Mark: 70*  
*Time: 3 hours*

*Pass Mark: 28*

*Answer five questions, taking one from each unit.*

**UNIT-I**

1. What is biostatistics? What are its uses? 4+10=14
2. What is statistical method? Discuss why there can be distrust of statistic. 4+10=14

**UNIT-II**

3. What is primary data? What are the different methods by which primary data can be collected? 4+10=14
4. What are the preliminary conditions and criteria to be considered in the process of data collection? 14

**UNIT-III**

5. Write a note on quartile deviation and mode. State how the mode of a distribution can be located graphically. 5+5+4=14
6. Define standard deviation and coefficient of variation. What are the uses of coefficient of variation? 5+5+4=14

**UNIT-IV**

7. What is probability? Define priori probability. 6+8=14

8. If in a population  $\frac{1}{20}$  is classified as tall and  $\frac{1}{6}$  as smart. What is the probability of choosing a person at random who is both tall and smart?

14

### UNIT-V

9. What is a student's  $t$ -test? The following data shows the number of nodes on ten bamboo plants. The bamboo plants were treated with growth hormone and after one month the number of nodes were recorded again. Test whether there was any significant increase in the number of nodes due to hormone treatment. ( $t = 2.262$  at 5% level of significance)

4+10=14

Before treatment	12	13	10	11	13	15	16	13	14	18
After treatment	14	13	8	11	14	16	16	16	15	18

10. What is chi-square test? A vaccine for covid was developed and trial results are given. Test whether the vaccine is effective against covid or not. ( $\chi^2 = 3.84$  at 5% level of significance)

4+10=14

	Affected	Not affected
Vaccinated	10	30
Not vaccinated	40	20