

2022
M.Sc.
Third Semester
DISCIPLINE SPECIFIC ELECTIVE – 2
BOTANY
Course Code: MBOD 3.21 (A)
(Research Methodology & Biostatistics)

Total Mark: 70

Pass Mark: 28

Time: 3 hours

Answer five questions, taking one from each unit.

UNIT-I

1. What are the objectives of conduction research? Using appropriate examples explain the difference between descriptive and empirical research. 4+5+5=14
2. What is a research problem? What are the components and techniques involved in proposing a research problem? Why is it necessary to define research problem? 2+8+4=14

UNIT-II

3. What is intellectual property? Explain how intellectual property rights are protected? 4+10=14
4. Write brief accounts on the following: 7×2=14
 - (a) Geographical indications
 - (b) International convention on biological diversity (ICBD)

UNIT-III

5. To test the yield of two varieties of maize using three levels of fertilizer in a location with spatial variability, what would be an appropriate experimental design, replication, treatment plan, and statistical design? Give justification for each choice. Show the design in figure. 4+8+2=14

6. What is primary and secondary data? Briefly explain the methods of primary data collection? 4+10=14

UNIT-IV

7. Briefly explain your understanding of standard deviation? Calculate the standard deviation of the following problem: 6+8=14

Items	30	38	45	54	62	78	94
Frequency	2	4	3	2	2	3	1

8. How is t-test applied in research? Based on field experiments, a new variety of green gram was known to yield 12.0 quintals per hectare. The variety was tested on 10 randomly selected farm fields. The yield (quintals/hectare) were recorded as 14.3, 12.6, 13.7, 10.9, 13.7, 12.0, 11.4, 12.0, 12.6, 13.1. Is there a statistically significant difference between the population mean and the sample mean? 6+8=14

UNIT-V

9. Outline the structure of dissertation. Discuss the importance and objective of each section in the dissertation. 4+10=14
10. Briefly explain the components of a primary research article. Why is it important to publish research articles? 10+4=14
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