- 19. Elaborate in detail about the historical background, biosafety issues in biotechnology and the recommended biosafety levels for infected animals.
- 20. Give a detailed note on the National regulations and the International agreements on biosafety guidelines including Cartegana protocol.

S.No. 3106

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(For candidates admitted from 2016-2021 Batch)

B.Sc. DEGREE EXAMINATION, NOVEMBER 2023.

Part III — Biotechnology — Major

BIOSTATISTICS AND BIOSAFETY

Time: Three hours

Maximum: 75 marks

SECTION A — $(10 \times 2 = 20)$

Answer ALL the questions:

- 1. What is correlation?
- 2. State the definition of mean with formula.
- 3. What are variables?
- 4. State the types of diagrams used for data representation.
- 5. Define the term HYPOTHESIS.
- 6. State the use of Biological Safety Cabinets.
- 7. What are the uses of sampling in statistics?
- 8. What are infectious agents?

- 9. Abbreviate: GMO and state the definition.
- 10. Abbreviate: PPE and state its need.

SECTION B —
$$(5 \times 5 = 25)$$

Answer ALL questions, choosing either (a) or (b).

11. (a) Give a brief note on data collection and its merits and demerits.

Or

- (b) Explain in detail about sampling and itsdesign and essential in statistics.
- 12. (a) Illustrate in detail about the measures of dispersion.

Or

- (b) Elaborate in detail about the methods of correlation.
- 13. (a) Explain in detail about the sampling distribution.

Or

(b) Provide a brief note one-way ANOVA.

14. (a) Give a detailed note about the primary containment of biohazards.

Or

- (b) Give a detailed note on the required Biosafety levels for microorganisms.
- 15. (a) Explain in detail about applications of GMO in agriculture.

Or

(b) Elaborate in detail about the National Biosafety guidelines and regulations.

SECTION C —
$$(3 \times 10 = 30)$$

Answer any THREE questions.

- 16. Illustrate in detail about methods of sampling and the test of reliability in sampling.
- 17. Give a complete study on the REGRESSION and their similarities and dissimilarities with correlation.
- 18. Explain in detail about the tests of significance.