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Reg. No.....

Name.....

**M.Sc. DEGREE (C.S.S.) EXAMINATION, FEBRUARY 2025**

**Third Semester**

Faculty of Science

Branch VIII—Zoology

ZY3CT13—MICROBIOLOGY AND BIOTECHNOLOGY

(2018 Admissions—Supplementary/2017, 2016 and 2015 Admissions—Mercy Chance)

Time : Three Hours Maximum Weight : 30

**Section I (Short Answer Type Questions)**

*Answer any* **ten** *out of twelve.*
*Weight* 1 *each.*

1. Patent and Copyright.
2. Bioremediation and biorestoration
3. Electroporation.
4. Plasmids and cosmids.
5. Virioids and prions.
6. BAC and YAC vectors.
7. Bacteriophage.
8. Monoclonal antibodies.
9. Nosocomial infection.
10. cDNA library.
11. Gene therapy.
12. Pili and fimbriae.

(10 × 1 = 10)

**Turn over**

## Section II (Short Essay Type Questions)

*Answer any* **five** *out of eight.*
*Weight* 2 *each.*

13. Describe the structure and functions of a bacterial cell wall.
14. Differentiate between RNA virus and DNA virus.
15. Briefly explain the concepts and issues of biosafety.
16. What are the applications of transgenic animals ?
17. Explain the biodegradation of xenobiotic compounds.
18. Explain the concept and basics of terminator gene technology.
19. Explain different phases of bacterial growth curve.
20. Briefly explain different types of biosensors and its applications in medical field.

(5 × 2 = 10)

## Section III (Long Essay Type Questions)

*Answer any* **two** *out of three.*
*Weight* 5 *each.*

21. Write an essay on different types PCR and its applications.
22. Write an essay on the properties, structure and chemical composition of a virus.
23. Explain the glycolysis pathway.

(2 × 5 = 10)