QP CODE: 22000388

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Reg No : .....

Name : .....

MSc DEGREE (CSS) EXAMINATION , JANUARY 2022

Second Semester

M Sc ZOOLOGY

CORE - ZL010204 - MICROBIOLOGY AND BIOTECHNOLOGY

2019 Admission Onwards

F18F3B9F

Time: 3 Hours Weightage: 30

Part A (Short Answer Questions)

*Answer any **eight** questions.*

*Weight **1** each.*

1. Comment on Teichoic acid.
2. Write briefly on filtration and radiation.
3. During the log phase growth of a bacterial culture, a sample is taken at 8.00 a.m. and found to contain 1,000 cells per millilitre. A second sample is taken at 6.00 p.m. and is found to contain 1,000,000 cells per millilitre. What is the generation time in hours?
4. How do predation provide protection? Cite an example.
5. Comment on YAC.
6. What is Lipofection?
7. Briefly explain chemical degradation methods of sequencing.
8. Comment on MTT cytotoxicity assay.
9. Comment on transgenic plants.
10. Write a brief note on WTO.

(8×1=8 weightage)

Part B (Short Essay/Problems)

*Answer any **six** questions.*

*Weight **2** each.*

11. Write short notes on viral and fungal classification.
12. Explain the structure and functions of biofilms.
13. What are Restriction enzymes? Explain the different types of Restriction endonucleases.
14. Write short notes on a)cosmids and b) Bacteriophages.
15. Briefly explain insertional inactivation with illustration.
16. Explain the role of glycerol and liquid nitrogen in cryopreservation.

17. Write short notes on a) Humulin, b) Interferon and c) Erythropoietin.

18. Give an account on drug delivery in nanobiotechnology along with its applications.

(6×2=12 weightage)

Part C (Essay Type Questions)

*Answer any **two** questions.*

*Weight **5** each.*

19. Describe the structure and functions of components internal to bacterial cell.

20. Describe the phenomenon of mutualism by providing examples both from plants and animals.

21. Discuss the different steps involved in PCR. Explain the various types along with its applications.

22. Give a detailed account of raw materials used and steps involved for any two industrial fermentation products.

(2×5=10 weightage)