QP CODE: 24018796

24018796

Reg No : .....

Name : .....

MSc DEGREE (CSS) EXAMINATION , APRIL 2024

Second Semester

M Sc ZOOLOGY

CORE - ZL010204 - MICROBIOLOGY AND BIOTECHNOLOGY

2019 Admission Onwards

60555589

Time: 3 Hours

Weightage:

Part A (Short Answer Questions)

*Answer any **eight** questions.*

*Weight **1** each.*

1. Explain the difference between capsules and slime layers.
2. What are the different methods of isolation of microorganism?
3. How do microorganisms protect themselves against damage from UV and visible light?
4. Comment on mutualism.
5. What is Restriction Endonuclease?
6. Write briefly on SV40 vector.
7. Describe briefly the construction and role of shuttle vectors.
8. What are cell lines? Mention its significance.
9. How does DMSO help in preserving animal cells?
10. What is the importance of IPR ?

(8×1=8 weigh

Part B (Short Essay/Problems)

*Answer any **six** questions.*

*Weight **2** each.*

11. Give an illustrated account of structure and functions of plasma membrane.
12. Discuss any two negative interactions within microbial popoulation.
13. Write short notes on Electroporation and liposome mediated gene transfer.
14. Write short notes on
    a)chromosome jumping
    b)gene cloning
15. Describe Maxam and Gilberts method of Sequencing. Mention its applications.
16. Comment on various *In vitro* cytotoxicity testing and cell viability assays.
17. What is gene therapy? What are the limitations and prospects of its use in medicine.
18. Explain principles of autonomy, beneficence and justice.

(6×2=12 weigh

Part C (Essay Type Questions)

*Answer any **two** questions.*

*Weight **5** each.*

19. Explain different methods of sterilization.

20. Write an essay on microbial communication system.

21. Write in detail on biological gene transfer methods.

22. Describe in detail, the role of biofertilizers and bioinsecticides in protecting the environment.

(2×5=10 weigh