QP CODE: 20000680

20000680

Reg No : .....

Name : .....

MSc DEGREE (CSS) EXAMINATION , NOVEMBER 2020

Second Semester

M Sc ZOOLOGY

CORE - ZL010204 - MICROBIOLOGY AND BIOTECHNOLOGY

2019 Admission Onwards

F5BA7D3E

Time: 3 Hours

Weightage: 30

Part A (Short Answer Questions)

*Answer any **eight** questions.*

*Weight **1** each.*

1. Differentiate between gram positive and gram negative cell wall.
2. What is IMViC test?
3. Describe competitive exclusion principle.
4. What are autoinducers?
5. List the type of endonucleases. Mention their characteristic features.
6. What is calcium chloride mediated gene transfer?
7. What is cDNA library?
8. Define confluence and senescence.
9. What is a biosensor? Describe any one type.
10. What are the concepts of biosafety?

(8×1=8 weightage)

Part B (Short Essay/Problems)

*Answer any **six** questions.*

*Weight **2** each.*

11. Describe briefly the Bergey's manual of systematic classification.
12. Give an illustrative account on nitrogen cycle.
13. Write short notes on Ultrasonication and microinjection method of gene transfer.
14. Write short notes on
    a)chromosome walking and b)gene cloning.
15. Explain protein sequencing methods and their applications.
16. Explain in detail about the basic media requirements and growth factor in cell culture media.
17. Write short notes on
    a) *Rhizobium* and b) viral pesticides.
18. Explain the types and applications of nanobiosensor.

(6×2=12 weightage)

Part C (Essay Type Questions)

*Answer any **two** questions.*

*Weight **5** each.*

19. Explain the mode of action of different antimicrobial agents.

20. Give an account on positive interactions of microorganisms.

21. What are cloning and expression vectors? Explain in detail on plasmid and bacteriophage .

22. Discuss about the industrial production of various microbial fermentation products.

(2×5=10 weightage)