21101148

QP CODE: 21101148

Reg No : .....

Name : .....

B.Sc DEGREE (CBCS) EXAMINATION, APRIL 2021

Sixth Semester

CORE COURSE - ZY6CRT11 - BIOTECHNOLOGY, BIOINFORMATICS AND MOLECULAR BIOLOGY

Common for B.Sc Zoology Model I, B.Sc Zoology Model II Aquaculture, B.Sc Zoology and Industrial Microbiology Model III Double Main, B.Sc Zoology Model II Food Microbiology, B.Sc Zoology Model II Medical Microbiology & B.Sc Biological Techniques and Specimen Preparation Model III

2017 Admission Onwards

DFEAAC0D

Time: 3 Hours Max. Marks : 60

Part A

*Answer any **ten** questions.*

*Each question carries **1** mark.*

1. Who is the father of genetic engineering?
2. Define gene cloning.
3. Why PCR is called thermocycler?
4. Expand RFLP
5. What is transgenesis?
6. What are Biological Database in Bioinformatics?
7. What is pairwise alignment?
8. What is Rasmol?
9. What is TψC arm?
10. What are overlapping genes?
11. Genetic code is unambigous. Elaborate..
12. What are informosomes?

(10×1=10)

Part B

*Answer any **six** questions.*

*Each question carries **5** marks.*

13. Write a note on colony hybridization technique.

14. Explain the steps involved in Southern Blotting.

15. What are stem cells? Explain the different types of stem cells with examples?

16. Write a note on patenting in biotechnology with examples.

17. Comment on phylogenetic tree and add a note on its significance.

18. Explain Griffith's transformation experiments.

19. Distinguish between Eukaryotic and Prokaryotic genome.

20. Describe one gene-one enzyme hypothesis.

21. Explain the steps in Reverse Transcription.

(6×5=30)

Part C

*Answer any **two** questions.*

*Each question carries **10** marks.*

22. Explain the different vectors used gene cloning.

23. Describe the role and importance of Bioinformatics in life sciences.

24. Explain in detail the mechanisms involved in the replication of DNA.

25. Distinguish between inducible and repressible operon system.

(2×10=20)