QP CODE: 25020506

25020506

Reg No : .....

Name : .....

B.Sc DEGREE (CBCS) REGULAR / REAPPEARANCE / MERCY CHANCE EXAMINATIONS, FEBRUARY 2025

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

B6F5FD69

Time: 3 Hours Max. Marks : 60

Part A

*Answer any **ten** questions.*

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

1. Mention the significance of linkers in genetic engineering.
2. Define gene cloning.
3. List out any two applications of PCR.
4. Mention any two applications of RFLP.
5. Bioinformatics is an interdisciplinary science-Justify.
6. What kind of sequences are stored in Nucleotide sequence database?
7. Define BLAST.
8. Differentiate cladogram and phylogram.
9. What is template DNA?
10. What are retrotransposons?
11. What is Closed promoter complex?
12. Define polycistronic mRNA.

(10×1=10)

Part B

*Answer any **six** questions.*

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

13. Elucidate the historical background of biotechnology.

14. Write a note on colony hybridization technique.

15. Describe the steps involved in animal cell culture.

16. What is fermentation technology? Discuss the uses of fermentation.

17. Give an account on Human Genome Project.

18. Distinguish between Eukaryotic and Prokaryotic genome.

19. Write the clover leaf model of tRNA with diagram.

20. Describe one gene-one enzyme hypothesis.

21. Briefly describe the contributions of Hargobind Khorana

(6×5=30)

Part C

*Answer any **two** questions.*

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

22. Write down the techniques used to transfer the desired gene of interest into the target cell.

23. How is the biotechnological inventions protected? Briefly explain different intellectual property rights related to biotechnological process and products?

24. Write an essay on various experiments that substantiates DNA as the genetic material.

25. Explain about different levels of eukaryotic gene regulation.

(2×10=20)