20100478

QP CODE: 20100478

Reg No : .....

Name : .....

## BSc DEGREE (CBCS) EXAMINATION, MARCH 2020

### Sixth Semester

### Core course - ZY6CRT11 - BIOTECHNOLOGY, BIOINFORMATICS AND MOLECULAR BIOLOGY

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

2017 Admission Onwards

991E5001

Time: 3 Hours Marks: 60

**Part A**

*Answer any ten questions.*

*Each question carries 1 mark.*

1. What is phagemid? Give an example.
2. Define gene cloning.
3. What is Zoo blotting?
4. Define stems cells and their properties.
5. Which two patents India's biological resources have been revoked ?
6. What is Bioinformatics.
7. Define BLAST.
8. Differentiate cladogram and phylogram.
9. Distinguish between euchromatin and heterochromatin.
10. What is an Exon?

11. What is central dogma reverse?

12. Define a genetic code.

(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 procedure of DNA fingerprinting and ennumerate its applications.

16. Comment on protein database and classify it.

17. Comment on Computer Aided drug Discovery (CADD).

18. Explain Griffith's transformation experiments

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

20. Explain the steps in Reverse Transcription.

21. What are the functions of enzymes encoded by lac operon structural genes?

(6×5=30)

## Part C

*Answer any **two** questions.*

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

22. Define gene library. Explain the different types of gene libraries.

23. Highlight five areas where biotechnology has influenced our lives.

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

25. Explain about different levels of eukaryotic gene regulation.

(2×10=20)