



23105459

**QP CODE: 23105459**

**Reg No** : .....

**Name** : .....

**B.Sc DEGREE (CBCS) REGULAR / REAPPEARANCE EXAMINATIONS,  
MARCH 2023**

**Sixth Semester**

**CORE COURSE - BO6CRT10 - CELL AND MOLECULAR BIOLOGY**

Common for B.Sc Botany Model I, B.Sc Botany Model II Food Microbiology, B.Sc Botany Model II Environmental Monitoring And Management, B.Sc Botany Model II Horticulture and Nursery Management, B.Sc Botany Model II Plant Biotechnology & B.Sc Botany and Biotechnology Model III Double Main

2017 Admission Onwards

75DDEBE7

Time: 3 Hours

Max. Marks : 60

**Part A**

*Answer any **ten** questions.*

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

1. What is nucleolus?
2. What are allosomes?
3. What are Balbiani rings?
4. Write notes on the S phase of cell division.
5. What is the significant molecular event occurring during the pachytene stage?
6. Define trisomy.
7. List any two importance of mutations.
8. Who discovered that the transforming principle is DNA?
9. What is codon?
10. What is replication?
11. Who proposed the term gene
12. Who proposed one gene one enzyme hypothesis?





(10×1=10)

**Part B**

*Answer any **six** questions.*

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

13. Discribe the structure and function of lysosome.
14. Explain the structure of centromere with suitable diagram.
15. List the differences between mitosis and meiosis.
16. What are the characteristic features of Klinefelter's syndrome?
17. Give a brief account on the nitrogeneous bases in nucleic acids.
18. Describe the role of enzymes in each step of DNA replication.
19. Write a note on enzymes involved in the transcription of prokaryotes.
20. How the try operon works in the absence of tryptophan?
21. Briefly describe characteristics of cancer cells.

(6×5=30)

**Part C**

*Answer any **two** questions.*

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

22. Explain the chemical composition of Chromatin. Give notes on the nucleosome model of DNA.
23. Illustrate structural aberrations of chromosomes. What genetic effects are brought about by these aberrations?
24. Explain translation in prokaryotes.
25. Explain the operon concept and gene regulation in prokaryotes.

(2×10=20)

