K24U 3550

Reg. No. : .....

Name : .....

III Semester B.Sc. Degree (CBCSS – OBE – Regular/Supplementary/ Improvement) Examination, November 2024
(2020 to 2023 Admissions)
CORE COURSE IN LIFE SCIENCES (ZOOLOGY) AND COMPUTATIONAL BIOLOGY
3B03ZCB : Molecular Biology

Time : 3 Hours Max. Marks : 40

SECTION – A

Short answer : Answer **all** questions. **Each** question carries **1** mark. **(6×1=6)**

1. Histone and its types.
2. DNA methylation and its function.
3. RNAi.
4. BAC and YAC.
5. CRISPR.
6. IPTG.

SECTION – B

Short essay : Answer **any 6** questions. **Each** question carries **2** marks. **(6×2=12)**

7. Write the Griffith experiment.
8. What are the stages of DNA packaging ?
9. Differentiate condensins and cohesins.
10. Concepts of eukaryotic DNA repair mechanisms.

P.T.O.

11. Write the semi conservative hypothesis.

12. Differentiate the prokaryotic and eukaryotic ribosomes in detailed manner.

13. Write notes on structure of prokaryotic RNA polymerase and eukaryotic RNA polymerase.

14. Differentiate southern and northern blot.

SECTION – C

Essay : Answer **any 4** questions. **Each** question carries **3** marks. **(4×3=12)**

15. Short notes on types of genes.

16. Draw the DNA structure and explain the Watson and Crick model.

17. What is genetic code ? Write its properties with suitable examples.

18. Write the types of DNA and its properties.

19. How the prokaryotics transcription terminated ? What are the types of termination ?

20. Give details about the enzymes used in rDNA technology.

SECTION – D

Long Essay : Answer **any 2** questions. **Each** question carries **5** marks. **(2×5=10)**

21. Give a detailed account on structure, composition and packaging of DNA with suitable figures.

22. Write an essay on promoter, RNA polymerase, transcription and translation in prokaryotes.

23. Detailed notes on operon concept along with Lac operon and its types.

24. Write about the mechanisms of DNA repair with suitable examples and figures.
