



বিদ্যাসাগর বিশ্ববিদ্যালয়  
**VIDYASAGAR UNIVERSITY**  
**Question Paper**

**B.Sc. Honours Examinations 2022**

(Under CBCS Pattern)

**Semester - IV**

**Subject: BIOTECHNOLOGY**

**Paper : C 8-T**

**(Molecular Biology)**

**Full Marks : 40**

**Time : 2 Hours**

*Candidates are required to give their answer in their own words as far as practicable.*

*The figures in the margin indicate full marks.*

**Group - A**

Answer any **four** questions from the following.

5×4=20

1. What is meant by replisome ? Mention the proteins in the replisome. 5
2. Discuss the Meselson and Stahl experiment in support to semiconservative nature of DNA replication. 5
3. What are the properties of genetic code ? 5
4. Write a short note on mismatch DNA repair. 5
5. Write a short note on prokaryotic RNA polymerase. 5
6. Discuss the 5'-cap formation in pre-mRNA processing. 5

### Group - B

Answer any *two* questions from the following.

10×2=20

1. Elaborate the process of DNA replication in prokaryotes with suitable diagram. 10
  2. (a) Write the names of five general transcription factors those are involved in eukaryotic transcription ? 2
  - (b) Describe the steps of amino acid activation. 5
  - (c) Write short note on Telomerase enzyme. 3
  3. Discuss the t-RNA structure with suitable diagram. Write a short note on splicing. 5+5
  4. Write a short note on inducible operon system. Discuss the post translational modifications of proteins. 5+5
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