

**B. Sc. Honours Examination  
(Under CBCS Pattern)  
Semester: IV  
Sub: Botany  
Paper: CC8 (Theory and Practical)  
(Molecular Biology)**

**Part A: Molecular Biology (Theory)**

Answer any **one question** from the following (Within 200 words):

1. Write the basic characters of genetic code.
2. Why introns are important in DNA structure.
3. Write the significance of 5'Cap.
4. What do you mean by Ribozymes?
5. State the features of DNA as a genetic material
6. Write a brief note on nucleosome.
7. Differentiate Euchromatin and heterochromatin.
8. What do you mean by 'Rolling cycle mechanism'?
9. State the regulatory mechanism of lactose operon.
10. What are the post translational modifications of protein?

**Part B: Molecular Biology (Practical)**

Answer any **one question** from the following (Within 200 words):

1. Write down the Messelson and Stahl's experiment to prove DNA as a genetic material.
2. Write the mechanism of spliceosome activity.
3. Draw a picture of DNA replication.
4. Differ the eukaryotic and prokaryotic RNA polymerase.
5. What do you mean by alternate splicing?
6. Why DNA replication is semi discontinuous?
7. Write about Hershey & Chase's experiment.
8. Differ group I and group II intron's activity.
9. What is theta replication?
10. State Fraenkel & Conrat's experiment