

**Rabindra Mahavidyalaya**

**Department of Zoology**

Batch: SEM-V (Hons)

Paper: CC-11 (Molecular Biology)

Full Marks: 10

Time: 30 min

Answer any five questions.  $(1+1) \times 5 = 10$

- 1) A) How Sequence-dependent structural variations occur in DNA & RNA?  
B) What is RNA editing?
- 2) A) Describe the difference between Hoogsteen pairing and Watson-Crick base pairing?  
B) What is alternative splicing?
- 3) A) Describe the difference between major and minor groove?  
B) What is exon shuffling?
- 4) A) Name of the two interactions by which helical structure of the dsDNA is stabilized?  
B) What do you mean by capping?
- 5) A) Described about hyperchromatic shift of dsDNA?  
B) What is meant by polyadenylation?
- 6) A) How DNA Supercoiling occurs?  
B) What is RNase enzyme? Mention its function?
- 7) A) What are Twist Number and Writhe Number of DNA?  
B) What is self and non-self splicing?
- 8) A) How guanosine tetraplex, or G tetraplex forms?  
B) What is spliciosome? Mention its function?