



'समानो मन्त्रः समितिः समानी'

**UNIVERSITY OF NORTH BENGAL**

B.Sc. Honours 4th Semester Examination, 2023

**CC9-TEA SCIENCE**

Time Allotted: 2 Hours

Full Marks: 40

*The figures in the margin indicate full marks.*

1. Answer any **five** from the following questions: 1×5 = 5
  - (a) What do you mean by Genotype? 1
  - (b) Define allele with an example. 1
  - (c) What are endonuclease? 1
  - (d) What is genetic map? 1
  - (e) What do you mean by leading strand? 1
  - (f) Why DNA strands are said to be antiparallel? 1
  - (g) What is RFLP? 1
  - (h) What is transcription? 1
  
2. Answer any **three** from the following questions: 5×3 = 15
  - (a) Write about the characters of genetic code. 5
  - (b) Write a note on crossing over. 5
  - (c) Write about transposons and transposition. 5
  - (d) Explain extrachromosomal inheritance with suitable examples. 5
  - (e) Write about the process of DNA replication. 5
  
3. Answer any **two** from the following questions: 10×2 = 20
  - (a) Discuss about the Mendelian laws of inheritance. 10
  - (b) What are limitations of Hardy Weinberg's law? Establish the law upto F<sub>2</sub> generation with suitable example. 4+6
  - (c) What are mutagens? Define mutant. Discuss the effect of UV rays on DNA. 2+2+6
  - (d) What is the full form of PCR? Write about the steps of DNA amplification by PCR with suitable sketches. 2+8

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