

B.Sc. (CBCS Pattern) Semester-V  
**012C - Botany-I - Molecular Biology-I**

P. Pages : 2

Time : Three Hours



**GUG/W/24/13097**

Max. Marks : 50

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1. a) Write on chemical nature & types of Nucleic acid. 5  
b) Bacterial transformation Experiment. 5

**OR**

- c) Frankel – Courat’s experiment. 2½  
d) Avery, McLeod & McCarty experiment. 2½  
e) Hershey & Chase experiment. 2½  
f) Discovery of Nucleic acid. 2½
2. a) Silent features of D.N.A. double-helix. 5  
b) Describe the various types of RNA. 5

**OR**

- c) Cot curve. 2½  
d) Clover-leaf model of t-RNA. 2½  
e) Structure of mature m-RNA. 2½  
f) Chargaff rule. 2½
3. a) Write detail note on Euchromatin & Hetero Chromatin. 5  
b) Nucleosome model of DNA packaging. 5

**OR**

- c) Plasmid DNA. 2½  
d) Viral DNA. 2½  
e) Bacterial Chromosome. 2½  
f) Histone Protein. 2½

4. a) What is DNA replication? Describe proposed methods of DNA Replication. 5
- b) Explain various models of DNA replication. 5

**OR**

- c) DNA polymerase in eukaryotes. 2½
- d) Rolling circle DNA replication. 2½
- e) Origin of replication in prokaryotes. 2½
- f) Kornberg's Discovery. 2½
5. Write **any ten** questions in one or two lines. 10
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|----------------------------|-------------------------------|
| a) Nucleoside.             | b) Reverse transcriptase.     |
| c) Pyrimidine bases.       | d) Si-R.N.A.                  |
| e) Poly-A tail.            | f) Glycosidic linkage in DNA. |
| g) Chromosome.             | h) Linker DNA.                |
| i) H <sub>1</sub> -Protein | j) Primase.                   |
| k) Ligase.                 | l) Ori-C.                     |

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