

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

P. Pages : 2

Time : Three Hours



**GUG/W/23/13097**

Max. Marks : 50

- 
- Notes : 1. All questions are compulsory and carry equal marks.  
2. Draw well labelled diagram wherever necessary.

1. a) Write detail on discovery of DNA. 5  
b) Write on types & chemical nature of Nucleic acid. 5

**OR**

- c) Avery, McLeod & McCarty experiment. 2½  
d) Bacterial transformation Experiment. 2½  
e) Frankel-Conrat's experiment 2½  
f) Hershey & Chase Experiment 2½
2. a) Silent features of DNA double helix. 5  
b) Forms of DNA. 5

**OR**

- c) Clover-leaf model of t-RNA (diagram only) 2½  
d) Cot curves 2½  
e) Structure of m-RNA 2½  
f) Chargaff rule 2½
3. a) Plasmid DNA 5  
b) Nucleosome model 5

**OR**

- c) Heterochromatin 2½  
d) Euchromatin 2½  
e) Bacterial chromosome 2½  
f) Viral DNA 2½

4. a) Enzymes involved in prokaryotic DNA replication. **5**  
b) Mechanism of Eukaryotic DNA replication. **5**

**OR**

- c) Rolling circle DNA replication. **2½**  
d) Semi-conservative DNA replication. **2½**  
e) Origin of replication in Prokaryotes. **2½**  
f) DNA polymerases in Eukaryotes. **2½**
5. Write **any ten** questions in one or two lines only (Diagrams are not necessary). **10**
- a) Photo-51  
b) Transforming principle  
c) Complementary base pairing in DNA  
d) sn-RNA  
e) mi-RNA  
f) B-DNA  
g) Histone octamer  
h) Chromatin  
i) Linker DNA  
j) Okazaki fragments  
k) RNA primer  
l) Molecular glue

\*\*\*\*\*