B.Sc. (CBCS Pattern) Sem-V

# 012C- Botany - I : Molecular Biology-I

P. Pages : 2 **GUG/W/22/13097**

Time : Three Hours * 1 2 0 6 * Max. Marks : 50

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

**1.** a) Write on Griffith Experiment of Bacterial Transformation. **5**

b) Write on Discovery of Nucleic Acid. **5**

**OR**

c) Chemical nature of Nucleic acid. **2½**

d) Types of Nucleic Acid. **2½**

e) Hershey & Chase Experiment. **2½**

f) Avery , McLeod & McCarty experiment. **2½**

**2.** a) Write on silent features of DNA double helix (Watson-Crick Model). **5**

b) Types of RNA. **5**

**OR**

c) Z-DNA **2½**

d) Cot-Curve. **2½**

e) Chemical Structure of RNA. **2½**

f) Single stranded & Circular DNA. **2½**

**3.** a) Nucleosome model of DNA packaging. **5**

b) Heterochromatin and Euchromatin. **5**

**OR**

c) Plasmid DNA. **2½**

d) Viral DNA. **2½**

e) Prokaryotic chromosome. **2½**

f) Histone Proteins. **2½**

**4.** a) Write on Enzymes involved in DNA replication. **5**

b) Mechanism of DNA replication in Eukaryotes. **5**

**OR**

c) Rolling circle DNA replication. **2½**

d) Theta replication. **2½**

e) Types of DNA Polymerase in Prokaryotes. **2½**

f) Replication initiation in Prokaryotes. **2½**

**5.** Write **any ten** questions in one or two lines only. (Diagrams are not necessary). **10**

a) Nucleotide

b) Photo 51

c) Phospho-diester linkage.

d) Antiparallel strands.

e) Chargaffs rule.

f) Diameter of DNA double helix.

g) Chromatin.

h) Histone octamer.

i) Linker DNA.

j) Replication bubble.

k) Legging strand.

l) Kornberg enzyme.

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