

**BOT-15.1 - Paper-XV-Special Paper-I : Molecular Biology & Plant Biotechnology
(Special-I)**

P. Pages : 1

Time : Three Hours



GUG/W/18/2361

Max. Marks : 80

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

1. Describe Eukaryotic DNA Replication in detail with special reference to Replication proteins. **16**

OR

Write notes on the following.

- a) DNA Damage (any two) **8**
b) DNA replication in prokaryotes. **8**

2. What is Gene manipulation and describe various methods of Gene isolation. **16**

OR

Write notes on the following.

- a) gDNA & cDNA library. **8**
b) Nucleic acid hybridization techniques (any two). **8**

3. Describe different methods of Introduction of foreign DNA into host cell in detail. **16**

OR

Write notes on the following.

- a) Vectors for prokaryotes. **8**
b) Types of PCR & its Applications. **8**

4. Define Genomics? Describe genome analysis in detail. **16**

OR

Write notes on the following.

- a) Evolution of protein & its modeling. **8**
b) DNA microarray and mass spectrometry. **8**

5. Write short note on each of the following.
- a) Mis-match repair. **4**
b) South-western screening. **4**
c) Applications of PCR. **4**
d) DALI. **4**
