

**B.Sc. 2442-Botany-II (Molecular Biology and Biotechnology) Paper-II**

P. Pages : 2

GUG/S/19/1283

Time : Three Hours



Max. Marks : 50

- Notes :
1. All questions are compulsory and carry equal marks.
  2. Illustrate your answers with suitable examples and draw well labelled diagram wherever necessary.

1. What is DNA? Write about replication of DNA. 10

**OR**

Write notes on:-

a) Transcription. 5

b) RNA - Processing 5

2. What is vector? Explain its type. 10

**OR**

Write notes on:-

a) Methods of sterilization. 5

b) MS Nutrient medium 5

3. Write short notes on:- 2½x4  
=10

a) Nucleosome model.

b) Satellite DNA.

c) Lac operon concept

d) Cellular totipotency.

**OR**

e) Forms of DNA

f) Characteristics of Genetic code

g) Jumping gene.

h) Organogenesis.

4. Write short notes on:- 2½x4  
=10

a) Griffith's experiment.

b) Wobble Hypothesis.

c) Genomic library.

d) Protoplast culture.

**OR**

e) Hershey and chase experiment

f) RNA processing.

g) Ligases

h) Cellular differentiation.

5. Write answers in two or three lines only. **Any ten.** Diagrams are not necessary.

**1x10**  
**=10**

- |                     |                       |
|---------------------|-----------------------|
| a) Transformation   | b) Okazaki fragment.  |
| c) Histone          | d) Intron             |
| e) Initiation codon | f) Termination codon. |
| g) Endonuclease     | h) Ac/Ds elements     |
| i) Jumping gene     | j) Agar               |
| k) Explant          | l) Callus             |

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