



Bachelor of Science (B.Sc.) Semester—IV
Examination
BOTANY
(Genetics & Molecular Biology)
Paper—II

Time—Three Hours]

[Maximum Marks—50

- N.B. :-** (1) All questions are compulsory and carry equal marks.
(2) Draw neat well labelled diagram wherever necessary.

1. Write on :

- | | |
|-----------------------------------|---|
| (a) Law of independent assortment | 5 |
| (b) Dominant epistasis. | 5 |

OR

Write short notes on :

- | | |
|-----------------------------------|-----|
| (c) Complementary genes | 2.5 |
| (d) Incomplete dominance | 2.5 |
| (e) Coupling and repulsion theory | 2.5 |
| (f) Law of segregation. | 2.5 |



2. Write on : 5

(a) Aneuploidy 5

(b) Translocation.

OR

Write short notes on : 2.5

(c) Autopolyploidy 2.5

(d) Inversion 2.5

(e) Duplication 2.5

(f) Breakage and reunion theory of crossing over. 2.5

3. Write on :

(a) Watson and Crick model of DNA 5

(b) Excision repair mechanism. 5

OR

Write short notes on :

(c) Frame-shift mutations 2.5

(d) Photoreactivation 2.5

(e) Semiconservative method of DNA replication. 2.5

(f) Physical mutagens. 2.5

4. Write on :

(a) Lac operon model. 5

(b) Transcription in protein synthesis. 5

OR



Write short notes on :

- (c) Wobble hypothesis 2.5
- (d) t-RNA 2.5
- (e) Satellite DNA 2.5
- (f) Split genes. 2.5

5. Write in two or three lines only. (Any Ten) (Diagram are not necessary)

- (a) Complete linkage
- (b) Allele
- (c) Genotype
- (d) Allopolyploidy
- (e) Deletion
- (f) Chiasmata
- (g) Induced mutation
- (h) Recon
- (i) Spontaneous mutation
- (j) Initiation codon
- (k) Translation
- (l) Overlapping gene.

1×10=10