NKT/KS/17/5145

Bachelor of Science (B.Sc.) Semester—IV (C.B.S.) 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) Illustrate your answers with suitable examples and diagrams wherever necessary.

1. Write on :

(a) Complementary genes.

(b) Law of independent assortment. 5×2

OR

Write short notes on :

(c) Complete Linkage.

(d) Law of segregation.

(e) Coupling and repulsion theory.

(f) Incomplete dominance. 2½×4

2. Write on :

(a) Deletion and duplication.

(b) Polyploidy. 5×2

OR

Write short notes on :

(c) Breakage and reunion theory.

(d) Trisomics.

(e) Monosomics

(f) Inversion. 2½×4

3. Write on :

(a) Excision repair mechanism.

(b) Structure of eukaryotic gene. 5×2

OR

Write short notes on :

(c) Chemical mutagens.

(d) Concept of gene.

(e) DNA damage.

(f) Substitution mutation. 2½×4

4. Write on :

(a) Lac operon model.

(b) Transcription. 5×2

OR

Write short notes on :

(c) Overlapping genes.

(d) Split genes.

(e) Repetitive DNA.

(f) Wobble hypothesis. 2½×4

5. Write in two or three lines on each (Any **TEN**). Diagrams are not necessary.

(a) Test cross

(b) Heterozygous

(c) Genotype

(d) Nullisomics

(e) Translocations

(f) Amphidiploid

(g) Physical mutagens

(h) Nucleoside

(i) Leading Strand

(j) Anti codon

(k) Nonsense codon

(l) Initiation codon. 1×10=10