

2018
CBCS
3rd Semester
BIOTECHNOLOGY
PAPER—C6T
(Honours)

Full Marks : 40

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

Genetics

1. Answer any five questions : 5×2
- (a) What is pseudo allele? Define codominance with example. 1+1
- (b) Define chromosomal theory of inheritance. Who postulated it? 2

- (c) Distinguish between inversion and translocation structural alterations of chromosome. 2
- (d) Define sex-linked inheritance with example. 2
- (e) What is linkage group? How many of such group is present in human being? 2
- (f) What is synaptonemal complex? Mention its components. 2
- (g) Define inbreeding depression and comment on its impact. 2
- (h) Write the full form of VNTR. Mention its use in molecular biology. 2
2. Answer any *four* questions of the following : 4×5
- (a) What do you mean by allelic frequency? State the principle of Hardy Weinberg law. 2 + 3
- (b) Illustrate genomic imprinting. Mention its significance. 3 + 2

- (c) What is Barr body? Mention three different kinds of dosage compensation. 2 + 3
- (d) Illustrate the unique nature of DNA sequence of telomere. 5
- (e) Define Karyotype. State its significance. 3 + 2
- (f) What are SINEs and LINEs? State their significance. 3 + 2

3. Answer any one question : 1 × 10

- (a) Elaborate three chromosome banding procedures. Comment on the significance of chromosome banding. 6 + 4
- (b) Define extra chromosomal inheritance. Briefly describe maternal inheritance and cytoplasmic inheritance with examples. 2 + 8
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