B.Sc./3rd Sem (H)/BOTA/22(CBCS)

2022

3rd Semester Examination

BOTANY (Honours)

Paper : C 7-T

(Genetics)

[CBCS]

Full Marks : 40   Time : Two Hours

The figures in the margin indicate full marks.
Candidates are required to give their answers
in their own words as far as practicable.

Group - A

1. Answer any *five* questions of the following :   2×5=10

   (a) Explain co-dominance with example.

   (b) How does transposon cause mutation?

   (c) Explain epitasis by citing an example.

   (d) State about two diseases of human caused due to autosomal defects.

   (e) What is genetic drift?

   (f) Mention the characteristic features of polygenic inheritance.

   (g) What is position effect?

   (h) What is auto-allopolyploidy?

P.T.O.

Group - B

2. Answer any *four* questions of the following :   5×4=20

   (a) What do you mean by DNA repair mechanisms? Mention the enzymes responsible for DNA repairing.

   (b) Explain the Chromosome theory of inheritance.

   (c) Illustrate Hardy-Weinberg Law explaining the equation and the factors influencing it.

   (d) Describe cytoplasmic inheritance with suitable example.

   (e) What is crossing over? Explain the molecular basis of crossing over.

   (f) Illustrate multiple allelic inheritance with example.

Group - C

3. Answer any *one* question of the following :   10×1=10

   (a) What is point mutation? How does it differ from frame shift mutation? Briefly describe the mechanism of action of two chemical mutagens.

   1+2+7

   (b) Write short notes on below :   2½×4=10

   (i) Transversion

   (ii) Cis-Trans complementation test

   (iii) CIB method

   (iv) Euploidy.