Exam.Code:0035
Sub. Code: 0973

1128
B.Sc. (Hons.) Biotechnology
Third Semester
BIOT-Sem-III-II-T: Genetics

Time allowed: 3 Hours **Max. Marks: 67**

NOTE: Attempt five questions in all, including Question No. I which is compulsory and selecting one question from each Unit.

x-x-x

I. Attempt the following:-

a) Non disjunction

b) Aneuploidy

c) Mendel's law of segregation

d) Crossing over

e) Pedigree

f) Carcinogens

g) Somatic and germ line mutations

h) Transduction

i) Auxotrophs

j) Mutation frequency (10x1½)

UNIT – I

II. Discuss various types of structural chromosomal aberrations and their significance. (13)

III. Explain the chromosomal theory of inheritance with the help of non disjunction. (13)

UNIT – II

IV. What is three point test cross? Explain its role in gene mapping. (13)

V. a) Describe various hereditary defects?

b) Write a note on recombination frequencies. (8,5)

UNIT – III

VI. a) What is Hardy-Weinberg equation? Explain the principles of Hardy-Weinberg law.

b) Write a note on chi square test. (8,5)

P.T.O.

VII. What is DNA repair? Give an account of various mechanisms of DNA repair. (13)

UNIT – IV

VIII. What are auxotrophs? Explain their method of isolation. (13)

IX. Explain the process of transformation. (13)

x-x-x