

Exam.Code:0043

Sub. Code: 1013

2012

B.Sc. (Hons.) Bio-Informatics

Fifth Semester

BIN-5004: Genetics and Evolution

Time allowed: 3 Hours

Max. Marks: 60

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.

x-x-x

I. Answer briefly:-

- a) Chromosomal theory of inheritance
- b) Monohybrid cross
- c) Translocation
- d) *Pisum sativum*
- e) Semi-dominance
- f) Back cross
- g) Non-sense mutation
- h) Essential genes

(8x1½)

UNIT - I

- II. a) Discuss the historical developments in the field of genetics.
b) Write a note on Mendel's Law of Segregation. (2x6)
- III. a) What is co-dominance? Discuss its application with a suitable example.
b) Discuss the significance of pseudo-allele. (2x6)
- IV. a) Write a note on the genetic organization of a prokaryotic genome.
b) What are duplicate genes? Give suitable example. (8,4)

UNIT - II

- V. Write a note on:-
 - a) Chromosome banding pattern
 - b) Giant Chromosome

(2x6)

P.T.O.

(2)

- VI. a) Discuss the screening procedures for isolation of mutants.
b) Explain inversion and translocation with diagram. (7,5)
- VII. a) Discuss the packaging of DNA molecules into chromosomes.
b) Write a note on allelic and genotype frequencies. (2x6)

x-x-x