2071
M.Sc. (Bio-Informatics) Fourth Semester
MBIN-8019: Informatics in Biodiversity and Bioethics

Time allowed: 3 Hours

Max. Marks: 60

NOTE: *Attempt* <u>*five*</u> *questions in all, including Question No. I which is compulsory and selecting atleast one question from each Unit.*

x-x-x

I. Attempt the following:-

    a) Define co-speciation?

    b) Define Gamma diversity?

    c) What are Transposons?

    d) What are point and missense mutations?

    e) What is Fishbase?

    f) Define Proteome?

    g) Define Biodiversity?

    h) Name two National Biosafety governing bodies in India?   (8x1½)

UNIT - I

II. a) Discuss ecological diversity and its various levels?

    b) Define speciation? What is reproductive isolation and its various types?   (2x6)

III. a) Both mutations and recombination can create genetic variations yet both are different. Explain how they create genetic variations and the difference between the two?

    b) Write short notes on:-

        i) Gene Duplication and conversion

        ii) Genetic Drift   (2x6)

UNIT - II

IV. a) Discuss the Biology of vectors of Malaria and Leishmaniasis?

    b) Discuss about the various Genome data bases and their applications?   (2x6)

P.T.O.

V. a) What is Web Resources for Biodiversity Informatics? Explain on the basis of OBIS and Avibase?

b) Write notes on:-

i) Species 2000

ii) Fishnet

iii) PCC   (2x6)

UNIT - III

VI. a) Explain the importance of Biosafety in maintaining biodiversity?

b) Why is Bioethics important? Mention the Principles and limitations of Bioethics?
                                                                                                   (2x6)

VII. a) What is Intellectual Property Rights? Mention the various types of IPRs and their importance?

b) Discuss the main objectives of Cartagena Protocol and role of BCH?   (2x6)

x-x-x