Exam.Code:0441
Sub. Code: 3505

2021

M.Sc. (Bio-Informatics) Third Semester

MBIN-8013: Programming Language in Bio-Informatics – II

Time allowed: 3 Hours

Max. Marks: 60

NOTE: *Attempt five 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) Enlist various string operators used in Perl.

b) Define Subroutines

c) How Bio Perl is different from Perl?

d) Empty XML Element

e) MathML

f) Well-Formed XML Document

g) XML Prolog

h) XML:: Simple Perl module (8x1½)

UNIT – I

II. a) What are control statements? Explain with examples.

b) Discuss array functions available in PERL with example. (2x6)

III. a) Write a PERL script to compute frequency of nucleotides from DNA Sequence.

b) Explain the following briefly:

i) Reading data from FASTA files

ii) Regular Expression Operators (2x6)

UNIT – II

IV. a) Create a Well-Formed XML instance document and write a DTD to validate it.

b) Write the naming rules of Elements and Attributes in XML.

c) Compare the features of HTML with XML (6+3+3)

V. a) Explain Namespaces in XML using suitable example.

b) What is DTD in XML? Give its types and significance. (2x6)

P.T.O.

UNIT – III

VI. a) Write about major features of XML.

b) Create an XML document to represent the following information and write a CSS script to display this XML document (use assumptions if any required).
Accession: AAA1234, Type: mRNA, Organism: Homo sapiens
Accession: BBB1234, Type: DMA, Organism: Pan troglodytes (2x6)

VII. a) Write a script to demonstrate the use of Perl to process XML documents.

b) Write short note on:-

i) XML Tree

ii) XML Parsing (2x6)

x-x-x