

1129

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) What are literals? Are these same as constants? Discuss in brief.
- b) What is the utility of @ARGV array in Perl? Discuss in brief.
- c) List any three string operators available in Perl.
- d) What is XML? Why it is so important? Discuss in brief.
- e) What is meant by XML namespace? Discuss in brief.
- f) What is WAP? What is its utility? Discuss in brief.
- g) What do you understand by XML Tree? Discuss in brief.
- h) What do you understand by CSS? What is its utility? Discuss in brief. (8x1½)

UNIT – I

- II. a) Give the syntax of *for* loop and use this loop to find the sum of first n numbers.
- b) Discuss the syntax of functions used to open and close a file in Perl. Write Perl script to read the contents of two text files and store these contents one after the other in a third file. Appropriately assume any required information yourself.
- c) What is BioPerl? What is its utility? Discuss. (3,6,3)
- III. Briefly discuss the following with suitable PERL scripts:
 - a) Calculate amino acid and dipeptide composition
 - b) Computing frequency of nucleotides from DNA sequence

UNIT – II

IV. a) Express the following table in XML:

Roll No.	Student Name	Marks
1.	Mukesh Kumar	98
2.	Surabhi Sood	92
3.	Rohit Sharma	95

Appropriately assume any required information yourself.

(2)

- b) Differentiate between HTML and XML.
- c) How a valid XML document is different from a well-formed XML document?
Discuss in brief. (6,3,3)
- V. a) What are the building blocks of a XML document? Discuss.
- b) Write a short note on SGML.
- c) What is MathML? Discuss its utility with the help of suitable examples. (3x4)

UNIT – III

- VI. a) Write XML document to represent the following information and then write suitable code to show how this information can be displayed with the help of CSS.
House No: 1, Sector: 14, City: Chandigarh, Pincode: 160014
House No: 15, Sector: 62, City: Noida, Pincode: 201309
Appropriately assume any required information yourself.
- b) What according to you are the top three main features of XML? Discuss. (9,3)
- VII. a) Write a note on the usage of XML in Bioinformatics highlighting how XML is useful for Bioinformatics applications.
- b) Write suitable code to demonstrate how Perl can be used to process XML documents. Appropriately assume any required information yourself. (2x6)

x-x-x