

2403001302030003
EXAMINATION FEBRUARY-MARCH 2024
BACHELOR OF SCIENCE (SECOND SEMESTER) (NEP)
BIO.TECH
MDC-BASICS OF BIOINFORMATICS - LEVEL 3

[Time: As Per Schedule]

[Max. Marks: 50]

Instructions:

1. Fill up strictly the following details on your answer book

- a. Name of the Examination: **BACHELOR OF SCIENCE (SECOND SEMESTER) (NEP) BIO.TECH**
 - b. Name of the Subject: **MDC-BASICS OF BIOINFORMATICS - LEVEL 3**
 - c. Subject Code No: **2403001302030003**
2. Sketch neat and labelled diagram wherever necessary.
 3. Figures to the right indicate full marks of the question.
 4. All questions are compulsory.

Seat No:

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Student's Signature

Q.1 Short question/One word answer Any Ten: (MCQs)

10

- a) Define: Orthologous
- b) Among the following which one is not the approach to the local alignment?
 - a. Smith-Waterman algorithm
 - b. K-tuple method
 - c. Words method
 - d. Needleman-Wunsch algorithm
- c) Which character is used to represent when a tag is closed in HTML?
 - a. #
 - b. !
 - c. /
 - d. \
- d) Which of the following is not a type of page margin in MS Word?
 - a. Center
 - b. Bottom
 - c. Left
 - d. Right
- e) Under which tab is the watermark button available in MS Word 2016?
 - a. Home
 - b. Insert
 - c. Design
 - d. Page Setup

- f) What is the correct syntax of doctype in HTML5?
 a. `</doctype html>` b. `<doctype html>`
 c. `<doctype html!>` d. `<!doctype html>`
- g) Which of the following is used to read an HTML page and render it?
 a. Web server b. Web network
 c. Web browser d. Web matrix
- h) Which element is used to get highlighted text in HTML5?
 a. `<u>` b. `<mark>`
 c. `<highlight>` d. ``
- i) What is Local Alignment?
- j) Give full form of BLAST?
- k) Write three types of gap penalties.
- l) What is E-value?

Q.2 Short note Any Two of the following: 10

- a) Write a short note on HTML.
 b) Explain the creating and loading HTML pages in detail.
 c) How to create hyperlinks and tables in HTML?

Q.3 Short note Any One of the following: 10

- a) Perform Needleman-Wunsch Global Alignment of given sequences with scoring scheme: Match = 5; Mismatch = -3 & Gap penalty = - 4
 Seq 1: G A A T T C A G T T A
 Seq 2: G G A T C G A
 b) Explain the Heuristic Methods in detail.

Q.4 Short note Any Two of the following: 10

- a) Describe MS-PowerPoints and its components.
 b) Write a brief note on basics of spreadsheet in MS-Excel.
 c) A brief note on MS-Word Screen and its components.

Q.5 Short note Any Two of the following: 10

- a) Explain types and significance of gap penalty.
 b) Give a brief note on Multiple Sequence Alignment.
 c) Difference between pair-wise sequence alignment and multiple sequence alignment.
