JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATION-2022

B.Tech-V Semester (BI/BT)

COURSE CODE (CREDITS): 18B11BI512(3)   MAX. MARKS: 35

COURSE NAME: Scripting Languages for Bioinformatics

COURSE INSTRUCTORS: Dr. Tiratha Raj Singh   MAX. TIME: 2 Hours

Note: All questions are compulsory. Marks are indicated against each question in square brackets.

Q1. Formulate a data types comparison in JS and PHP. Critically evaluate the performance of these programming languages for their flexibility and specificity for handling complex biological data.   (CO: 2-4) [4]

Q2. Design a form in HTML and implement client side programming (through JS only) to ask the user to check the input data (for a personal record or a biological record) for any three different values through three different form elements.   (CO: 1-3) [5]

Q3. WAP in PHP to implement server side programming (SSP) for the form designed in Q2. The data accepted and validated through JS has to be displayed on the screen through SSP in a defined format.   (CO: 3-5) [4]

Q4. Implement CSS for the following:

(a) Specificity   (b) Browser detection   (c) Math functions   (CO: 1, 2) [2*3=6]

Q5. What are various image generation functions in PHP? Implement a set of these functions to generate any one image type (rectangle, square or circle).   (CO: 4, 5) [1+4=5]

Q6. You have a database on your Bioinformatics lab server and admin asked you to connect that database to a web site where the admin or any user can perform some server side operations. How you will establish the connection between server and that database? Demonstrate through an example code. Also write SQL queries if required to fetch general or specific datasets from Table X of the connected database.   (CO: 3-5) [3+2=5]

Q7. Assemble a framework to exhibit PHP's capabilities in following operations for the analysis of a DNA sequence data:

(a) Directory and File handling along with file access permissions (b) String and Array management.   (CO: 3-5) [3*2=6]