

**Post Graduate Diploma in Bioinformatics
Odd Semester Exam, 2025**

Bioinformatics & Computational Biology Centre

Course No.: PGDBI-T2
(Internet, DBMS and Fundamentals of Programming)

Full Marks: 70

Pass Marks: 30

Time: 3 hours

*The figures in the right margin indicate full marks for the question.
Answer All questions*

**PART-I
(Marks : 20)**

- 1. Choose the correct or the most appropriate alternative. 1x10=10**
- I. What does URL stand for?
- a. Universal Resource Locator
 - b. Uniform Resource Locator
 - c. Unified Resource Link
 - d. None of the above
- II. Which of the following is not a search engine?
- a. Google
 - b. Yahoo
 - c. Bing
 - d. Chrome

- III. Which HTML tag is used to insert an image on a webpage?
 - a. <link>
 - b.
 - c. <picture>
 - d. <media>
- IV. A view of database that appears to an application program is known as:
 - a. Schema
 - b. Subschema
 - c. Virtual table
 - d. Index Table
- V. Which of the following is a function of the DBMS?
 - a. Storing data
 - b. Multi-users access control
 - c. Accessing Data
 - d. All of the above
- VI. Structuring data in logical way without going into meaning of the data is feature of :
 - a. Semantic Data Model
 - b. Relational Data Model
 - c. Entity Relational Data Model
 - d. None of the above
- VII. Which of the following is the subset of SQL commands used to create data tables?
 - a. Data Described Language
 - b. Data Retrieval Language
 - c. Data Manipulation Language

- 6. Consider the following employee table and write the SQL commands for the queries given in the following: 10

EMPLOYEEID	EMPLNAME	EMPFNAME	EMPTITLE	EMPSTARTD	EMPBRANCI	EMPSALARY
e1	Adam	Alan	CEO	11/01/2002	b1	600000
e10	Jerome	John	salesperson	25/08/2002	b4	75000
e2	Bryson	Brad	branch_manager	01/02/2003	b2	400000
e3	Clay	Cedric	branch_manager	21/06/2001	b3	450000
e4	Day	Daisy	branch_manager	17/08/2003	b4	480000
e5	Engle	Eva	salesperson	01/01/2004	b2	120000
e6	Falcon	Fred	salesperson	01/01/2002	b2	80000
e7	Gandhi	Gagan	salesperson	01/01/2003	b3	90000
e8	Hee	Hwang	salesperson	01/06/2004	b3	95000
e9	Ingram	Irene	salesperson	24/09/2002	b4	110000

- i) Show all the employees whose salary is more than 90000.
 - ii) Show all the employee names whose first names starts with B.
 - iii) Show all the employees who joined after 1.1.2003.
 - iv) Show all the distinct employee titles in the organization.
- 7. Compare PHP with other server-side languages (like Python, Java, etc.). Why is PHP preferred for small-scale web development? 4+6=10
 - 8. Write a PHP program to create a file, write some content into it, and then read the content back. Explain each step. 10

- F. What is the main responsibility of dataset administrator?
- G. What do you mean logical view?
- H. Mention one use of the while loop in PHP.
- I. Which function is used in PHP to check if a file exists?
- J. What does PHP stand for?

PART-II
(Marks - 50)

Answer any five questions: 5x10=50

- 1. What is Internet? Describe its key applications in education, communication, and e-commerce. Also explain the role of ISPs and internet connectivity basics. 1+6+3=10
- 2. Write HTML code to design a basic web page for a college event that includes a heading, a paragraph, an image, and a hyperlink to the registration form. Explain the HTML tags used. 10
- 3.
 - a. Draw a diagram to show the multi data relationship in layered architecture.
 - b. Compare E-R diagram and Enhanced E-R diagram. 5+5=10
- 4.
 - a. Describe the various properties of DBMS.
 - b. Explain ACID properties. 5+5=10
- 5. Describe the AND, OR and NOT operators using SQL based examples. 10

- d. Data Definition Language
 - VIII. PHP is a _____.
 - a. Client-side scripting language
 - b. Server-side scripting language
 - c. Database
 - d. Operating system - IX. Which of the following is a multi-dimensional array in PHP?
 - a. array(1, 2, 3)
 - b. array("a" => array(1, 2), "b" => array(3, 4))
 - c. array("name", "roll")
 - d. array(10=> "Ten", 20 => "Twenty") - X. Which symbol is used to declare a variable in PHP?
 - a. @ b. \$
 - c. & d. #
- 2. Answer the following questions 1x10=10**
- A. What is the full form of ISP?
 - B. What tag is used to create a hyperlink in HTML?
 - C. Name any two search engines.
 - D. What is data transaction
 - E. Write any two features of decentralised databases.