MCQs-A

1. What will be the result of the following query?
SELECT COUNT(DISTINCT Age) FROM Employees;

   a) Count of all employees' ages
   b) Count of unique ages of employees
   c) Count of employees with age greater than 30
   d) Error because DISTINCT cannot be used with COUNT

2. Which SQL clause is used to sort the result set in descending order?

   a) ORDER DESC
   b) ORDER BY DESC
   c) SORT BY DESC
   d) ORDER BY Age DESC

3. What is the purpose of the GROUP BY clause?

   a) To filter data based on conditions
   b) To sort the result set
   c) To combine multiple rows into a single row
   d) To group rows that have the same values in specified columns

4. Which of the following is the best description of a Wide Area Network (WAN)?

   a) A network that connects devices within a single building
   b) A network used to connect two or more LANs over long distances
   c) A network that connects a city's public services
   d) A network used to connect devices using Bluetooth

5. Which of the following is the correct result of converting the binary number 1111 to decimal?

   a) 10
   b) 14
   c) 15
   d) 16

6. What is the hexadecimal equivalent of the decimal number 255?

   a) F0
   b) FF
   c) FE
   d) E0

7. Convert the octal number 27 to decimal.

   a) 17
   b) 21
   c) 23
   d) 22

8. Which of the following commands is used to start a document in LaTeX?

   a) \begin(document)
   b) \start(document)
   c) \documentclass(article)
   d) \Initiate(document)

9. How do you write a comment in LaTeX?

   a) // This is a comment
   b) \comment(This is a comment)
   c) \# This is a comment
   d) % This is a comment

10. How can you access the second element of the array arr = [1, 2, 3] in JavaScript?

    a) arr[1]
    b) arr[2]
    c) arr(1)
    d) arr(1)

21:   [30]

a) Write a JavaScript function that takes a number as an argument and logs whether the number is positive, negative, or zero to the console.

b) Create a loop in JavaScript that counts from 5 to 15 and logs each number to the console and modify the loop to log only the numbers divisible by 3 between 5 and 15.

c) Write a JavaScript function that takes two numbers as arguments and returns their product.

) #: 03

:   [15]

a) Create a webpage with the following requirements:

1. Add a heading at the top of the page with the text: **"Product Catalog"**.

2. Add a short paragraph below the heading: *"Explore our collection of the latest products with detailed specifications and pricing."*

3. Create a table with the table heading row for column titles: **Product Name, Description, Price, Availability.**

4. Add at least 5 rows of product data.

5. Style the table with borders, alternating row colors, and proper alignment.

6. Style the heading and paragraph with fonts, text alignment, and color.

b) Create a personal portfolio webpage with the following elements:
1. A main heading with the title: "My Portfolio".
2. A section for your biography with a short paragraph describing your background and interests.
3. A list of projects you've worked on (minimum 3).
4. Style the webpage using CSS to make it visually appealing, with proper alignment and color schemes.

CLO #: 04

Q3: Create a base class and a derived class to demonstrate inheritance.   [20]

1. Define a base class Employee with the following attributes: Name (string), Age (int) and Salary (float).
2. Add the following member functions:
   - A constructor to initialize the Employee with name, age, and salary.
   - A function to display the employee's details.
3. Define a derived class Manager that inherits from Employee and adds the following additional attribute:
   - Department (string)
4. Add a member function to the derived class to display the manager's department.
5. In the main function, create objects of both the Employee and Manager classes.
   - For the Manager object, initialize it with the department, and then display the details of both the Employee and the Manager.