



KEEPING MOBILE PHONE/SMART WATCH, EVEN IN 'OFF' POSITION, IS TREATED AS EXAM MALPRACTICE

Answer ALL Questions

(10 X 10 = 100 Marks)

1. a) MIDDLESEX & SACHIN TENDULKAR LAUNCH 'TENDULKAR MIDDLESEX GLOBAL ACADEMY' is delighted to announce a new website to be hosted in server, can you discuss the role of client and server side scripting and list out some technologies used. [5]

b) In University, student-centred learning and the establishment of online student-centred environments are gaining credibility. Depending on the needs of the students, social forums, commonly known as "Common Chat Rooms", can be set up for courses or programmes. Illustrate the following which will be very useful for the above said app: [5]

- i. Router/Switches
- ii. IP address
- iii. DNS, URL, and URI

2. Develop a dynamic banking website using HTML and CSS based on the following requirements:

- User Authentication and Authorization
- Account Management
- Fund Transfer
- Bill Payments
- Loan Management
- Account Closure and Deactivation

Imagine you are working on the Sony products homepage of a website, and you want to create an engaging animation for the logo and products. The goal is to make the logo and products rotate continuously when the user hovers over it. Additionally, you want to add a smooth transition effect when the rotation starts and stops. Describe the CSS code and approach you would use to achieve this animation effect.

Hotel reservation website allows users to book rooms. You need to implement client-side form validation to ensure that the information entered by users is accurate before submitting the reservation. The reservation form includes the following fields and all fields shouldn't be empty:

- Full Name: Should contain only letters and spaces.
- Email: Should be a valid email address format (e.g., user@example.com).
- Phone Number: Should be a valid 10-digit phone number.
- Check-in Date: Should be a future date.
- Check-out Date: Should be a date after the check-in date.
- Number of Guests: Should be a positive integer.
- Special Requests: Optional

MS Dhoni Academy needs to make Image Gallery using JQuery for their cricket team website. When user click on the thumbnail image, that image should be displayed in the main image gallery. Write a JQuery to fetch images from the folder and display it to make it as a responsive website.

Develop web application that would enable customers to browse books, add them to their shopping carts, and complete the payment process. The proprietor of the bookshop also has to be able to track sales and adjust the inventory. Describe the neat architecture of the MVC framework and how it is appropriate for this approach to work.

- a) Build a responsive website for a small business. The website should adapt [5] seamlessly to various screen sizes, including desktops, tablets, and mobile phones. Describe the key principles and techniques you would use to make the website responsive with an example. *media: viewport content: width*
 - b) Explain the basic structure of an HTTP request and HTTP response. Describe [5] the key components involved in each, and provide an example of a simple HTTP request and its corresponding response.
8. Develop a web application that fetches data from a server using AJAX and communicates with the server in JSON format. Give the basic steps involved in making an AJAX request with JSON and handling the response with an example code for the below:
- AJAX Request
 - Sending JSON Data
 - Server-Side Handling
 - Handling the Response
 - Error Handling
9. Explain the basic purpose of Node.js and how it differs from traditional server-side languages. Provide a simple example where the Node.js could be beneficial for the following key points:
- Purpose of Node.js
 - Steps for Node.js installation
 - Event-Driven Architecture

10. Below is a MongoDB document representing a collection of questions, and solve the query questions along with their expected results:

```
[ {
  "_id": 1,
  "text": "What is the capital of France?",
  "options": ["Berlin", "Madrid", "Paris", "Rome"],
  "correctAnswer": "Paris"
},
{
  "_id": 2,
  "text": "Which planet is known as the Red Planet?",
  "options": ["Earth", "Mars", "Jupiter", "Venus"],
  "correctAnswer": "Mars"
},
{
  "_id": 3,
  "text": "What is the largest mammal?",
  "options": ["Elephant", "Blue Whale", "Giraffe", "Hippopotamus"],
```

"correctAnswer": "Blue Whale"

}}

- i. Write a MongoDB query to retrieve the question with the _id of 2.
- ii. Write a MongoDB query to list all the options for the question with the _id of 1.
- iii. Write a MongoDB query to find the correct answer for the question with the _id of 3.
- iv. Write a MongoDB query to filter and retrieve only the questions where the correct answer is "Paris."

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