



## بنك أسئلة

المادة: تكنولوجيا المعلومات – شعبة تطوير المواقع و البرمجيات

الصف: الثالث

الفصل الدراسي: الأول

الوحدات: 20-19-18-17



المسار الفني	مدارس تكنولوجيا التطبيقية
Program Name	فني تطوير مواقع وبرمجيات
المستهدف من التقييم	طلاب الصف الثالث
الوحدات التدريبية	Unit 17: React
اكواد المعارف	Unit 17: React
المعارف	Writing asynchronous code using various techniques
	TPK20
	Basic routing and calling a controller method from a route
	TPK21
	Analyze and solve common web applications tasks by writing PHP programs
	TPK22
	Unit 18: Node.JS
	Database and data manipulation and Nodejs framework
	TPK19
	writing asynchronous code using various techniques
	TPK20
	Basic routing and calling a controller method from a route
	TPK21
	Analyze and solve common web applications tasks by writing PHP programs
	TPK22
	Unit 19: PHP
	Writing asynchronous code using various techniques
	TPK20
	Basic routing and calling a controller method from a route
	TPK21
	Analyze and solve common web applications tasks by writing PHP programs
	TPK22
	Unit 20: Advanced PHP
	Writing asynchronous code using various techniques
	TPK20
	Basic routing and calling a controller method from a route
	TPK21
	Analyze and solve common web applications tasks by writing PHP programs
	TPK22

Unit 17	Lesson one	Lesson two	Lesson three	Lesson four	Lesson Five
	TPK20	TPK21	TPK21	TPK21	TPK21
			TPK22	TPK22	TPK22
Unit 18	Lesson one	Lesson two	Lesson three	Lesson four	Lesson Five
	TPK19	TPK19	TPK20	TPK20	TPK21
		TPK22	TPK19	TPK19	TPK22
Unit 19	Lesson one	Lesson two	Lesson three	Lesson four	Lesson Five
	TPK20	TPK20	TPK21	TPK22	TPK22
Unit 20	Lesson one	Lesson two	Lesson three	Lesson four	Lesson Five
	TPK20	TPK20	TPK21	TPK22	TPK22

المعرفة	الكود
Writing asynchronous code using various techniques	TPK20

**Dear learner: Put "True" in front of the correct statement and "False" in front of the incorrect statement.**

No	Question	Answer
1	React provides a feature called one-way data binding, which allows data to flow smoothly in both directions.	False
2	React is mainly known for its ability to work on the structure of webpages, known as the real DOM.	False
3	React is a tool made by Facebook to help people work on their app and add new features quickly.	True
4	A React user interface consists of a single component.	False
5	Components are the building blocks of React applications.	True
6	Function components in React are also known as "stateful functional components.	False
7	In React, parent components are always considered children of other components.	False
8	The primary way most React components are written, according to the provided content, is using class components.	False
9	Methods can be passed as props in React to enable communication between parent and child components.	True
10	JSX is a syntax extension for JavaScript used in React.	True
11	Inline styling in React involves using external CSS files.	False
12	Props are used to pass data from child components to parent components in React.	False
13	You can add Bootstrap to a React app using Bootstrap CDN without any installation.	True
14	Function components can't interact with data stores or use state.	False
15	In React, a component can't be both a parent and a child simultaneously.	False
16	Function components are also known as "stateless functional components.	True

17	TypeScript is an open-source language developed and maintained by Google.	False
18	Type annotations in TypeScript help catch type-related errors at runtime.	False
19	TypeScript supports dynamic typing by default.	False
20	TypeScript can be used for both client-side and server-side development.	True
21	TypeScript's static typing can help prevent runtime errors.	True
22	Type annotations in TypeScript are mandatory for all variables.	False
23	TypeScript and JavaScript have the same approach to data typing.	False
24	TypeScript is primarily used for data manipulation in the browser.	False
25	TypeScript compiles into more complex JavaScript code.	False

No	Question	Answer
26	PHP Was stand for Personal Home Page.	True
27	HTML is processed by the browser, while PHP is processed on a remote server.	True
28	PHP is an open-source and free programming language.	True
29	Apache HTTP Server is not an open-source project.	False
30	The majority of PHP code is not portable between different operating systems.	False
31	XAMPP is an all-in-one solution for setting up Apache, MySQL, and PHP.	True
32	In PHP, variable names must start with a dollar sign.	True
33	PHP variables can be used before declaring them.	True
34	A variable declared within a function has global scope	False
35	Global variable names are case-sensitive in PHP.	True

### Complete the following.

No	Question	Answer
36	In JSX, all elements must be closed with a _____ for proper syntax.	slash
37	In JSX, the class attribute is written as _____ to avoid conflicts with JavaScript's class keyword.	className
38	With _____, function components can interact with data stores and use state.	hooks
39	_____ allows you to use Bootstrap in a React app without installation.	Bootstrap CDN
40	_____ are used to pass data from parent components to child components in React.	Props
41	_____ can be passed as props in React to enable communication between components.	Methods
42	Props in React are primarily used for passing _____ from parent components to child components.	data
43	In React, a component can be both a _____ and a child to different components.	parent
44	ReactDOM is responsible for rendering React elements into the _____.	DOM
45	In React, you can create CSS styles using JavaScript _____.	objects

No	Question	Answer
46	In Jasmine, a _____ represents a test case.	Spec
47	An _____ in Jasmine is an assertion that can be true or false.	Exception
48	To initialize the Jasmine environment, you can use the command jasmine _____.	Init
49	HTTP GET requests are used to Retrieve resources from a _____.	Server
50	BDD evolved from Test-Driven Development (TDD) and focuses on testing the way an application behaves when _____.	end-users interact with it
51	In Node.js, to connect to a MySQL database, you should use the mysql2 library and the _____ method to establish a connection to the database.	createConnection()
52	CRUD stands for Create, _____, Update, and Delete, which are the four basic operations for managing data in software applications.	Read

53	Cross-Origin Resource Sharing (CORS) is a standard used to relax the _____ policy in web browsers.	<b>same-origin</b>
54	Postman is a platform for building, testing, and using APIs. It simplifies each step of the API lifecycle and streamlines _____.	<b>Collaboration</b>
55	To make an Insert Query in SQL, you use the _____ statement to add data to a database table.	<b>INSERT</b>
56	When working with a NoSQL database, data can be organized as a _____ store, among other structures.	<b>key-value</b>
57	In NoSQL databases, each document can have its own _____ structure.	<b>Unique</b>
58	When sending a PUT request to update a resource, the server typically responds with a status code _____ to indicate success.	<b>200</b>

### **Give the Scientific Name Questions:**

<b>No</b>	<b>Question</b>	<b>Answer</b>
59	is a feature in TypeScript that allows specifying data types for variables, function parameters, and object properties, enabling type checking at compile time.	<b>Static typing</b>
60	is a feature where data types of variables are determined at runtime, allowing variables to change types during execution. TypeScript primarily uses static typing.	<b>Dynamic typing</b>
61	in TypeScript specify the data type of variables and help enforce type checking at compile time, aiding in the detection of type-related errors.	<b>Type annotations</b>
62	in TypeScript ensures that TypeScript code can run on any platform that supports JavaScript, including Windows, macOS, and Linux.	<b>Cross-platform compatibility</b>
63	Is a domain-specific language used for managing and manipulating data in relational database management systems (RDBMS).	<b>SQL</b>
64	is a type of database management system that does not rely on a fixed schema and is designed to handle unstructured or semi-structured data.	<b>NoSQL</b>
65	is an architectural style for designing networked applications, emphasizing simplicity, scalability, and the use of HTTP methods to perform CRUD operations on resources.	<b>A RESTful API</b>

**66. Match the correct answer from column A what suits column B**

No	Column (A)	No.	Column (B)	Answer
1	Array Methods (Map)	A	Combines elements of an array into a single value	3
2	Array Methods (Filter)	B	To extract specific items from an array	4
3	Array Methods (Reduce)	C	Copies all or part of an array or object into another array or object	5
4	Destructuring Arrays	D	Creates a new array with elements that meet a condition	2
5	Spread Operator	E	Creates a new array from an existing one	1
		F	Break up your code into separate files	

**67.**

No	Column (A)	No.	Column (B)	Answer
1	PHP Interpreter	A	Used to check if a value is a string.	3
2	round()	B	Renders HTML, CSS, and JavaScript	5
3	is_string()	C	Outputs text and has no return value	4
4	Echo()	D	Special type	6
5	HTML Browser	E	Outputs data and has a return value of 1	7
6	Resource	F	Compound types	10
7	Print	G	Rounds a number to the nearest integer based on a specified precision.	2
8	Local Scope	H	Serves HTTP responses	9
9	Apache	I	Processes PHP code on the server	1
10	Array	G	Variables declared within a function, accessible only within that function's context.	8

**Dear learner: Choose the correct answer.**

No	Question	Answer
68	What is JSX used for?  a) To write HTML code b) To write JavaScript code c) To write JavaScript code using XML d) To write XML code	<b>C</b>
69	In JSX, what must you do with all elements?  a) Leave them open b) Close them with a slash c) Close them with a closing tag d) Close them with a backslash	<b>B</b>
70	Which attribute must have quotes around its value in JSX?  a) class b) id c) src d) style	<b>A</b>
71	What does the onclick attribute become in JSX?  a) onClick b) on-click c) onClicked d) onclick-event	<b>A</b>
72	What does the map() method do?  a) Creates a new array from an existing one b) Removes elements from an array c) Sorts an array in ascending order d) Filters an array based on a condition	<b>A</b>
73	What does the filter() method do?  a) Adds elements to an array b) Removes elements from an array c) Creates a new array with elements that meet a condition d) Sorts an array in descending order	<b>C</b>
74	What does the reduce() method do?	<b>B</b>



	<ul style="list-style-type: none"> <li>a) Increases the size of an array</li> <li>b) Combines elements of an array into a single value</li> <li>c) Filters elements from an array</li> <li>d) Maps elements to a new array</li> </ul>	
75	<p>What is the purpose of destructuring arrays in JavaScript?</p> <ul style="list-style-type: none"> <li>a) To create new arrays</li> <li>b) To extract specific items from an array</li> <li>c) To sort arrays</li> <li>d) To filter arrays</li> </ul>	<b>B</b>
76	<p>What does the spread operator (...) do in JavaScript?</p> <ul style="list-style-type: none"> <li>a) Combines two arrays into one</li> <li>b) Copies all or part of an array or object into another array or object</li> <li>c) Filters elements in an array</li> <li>d) Reverses the order of elements in an array</li> </ul>	<b>B</b>
77	<p>When is the ternary operator (? :) commonly used?</p> <ul style="list-style-type: none"> <li>a) To add numbers</li> <li>b) To loop through arrays</li> <li>c) To assign values based on a condition</li> <li>d) To create functions</li> </ul>	<b>C</b>
78	<p>What do modules allow you to do in JavaScript?</p> <ul style="list-style-type: none"> <li>a) Break up your code into separate files</li> <li>b) Create loops</li> <li>c) Define variables</li> <li>d) Perform mathematical operations</li> </ul>	<b>A</b>
79	<p>What are components in React applications?</p> <ul style="list-style-type: none"> <li>A) JavaScript classes</li> <li>B) Building blocks of React apps</li> <li>C) Data structures</li> <li>D) JavaScript functions</li> </ul>	<b>B</b>
80	<p>What's another name for the main, top-level component in a React app?</p> <ul style="list-style-type: none"> <li>A) Root component</li> <li>B) Main function</li> </ul>	<b>A</b>

	C) Top-tier class D) Master component	
81	Why is it recommended to break a React app into multiple components?  A) It reduces code complexity B) It's the only way to create a React app C) It's faster to develop D) It makes JavaScript simpler	<b>A</b>
82	What are the two main ways to write React components?  A) JavaScript and Python B) JavaScript classes and JavaScript functions C) HTML and CSS D) JavaScript and jQuery	<b>B</b>
83	What method must be defined when creating a class component in React?  A) Start B) Render C) Main D) Execute	<b>B</b>
84	Which of the following is a type of React component?  a) Function b) Number c) String d) Boolean	<b>A</b>
85	What is the term for the main component in a React application?  a) Primary component b) Core component c) Root component d) Master component	<b>C</b>
86	Which of the following methods can be used to add Bootstrap to a React application? - a) Using Bootstrap CDN - b) Importing Bootstrap as a dependency - c) Installing React Bootstrap package - d) All of the above	<b>D</b>
87	What are function components in React primarily used for?	<b>C</b>

	<ul style="list-style-type: none"> <li>- a) Fetching and posting data</li> <li>- b) Interacting with data stores</li> <li>- c) Returning React elements</li> <li>- d) Managing internal state</li> </ul>	
88	<p>Which of the following is <b>NOT</b> a way to add Bootstrap to a React app?</p> <ul style="list-style-type: none"> <li>- a) Using Bootstrap CDN</li> <li>- b) Importing Bootstrap as a dependency</li> <li>- c) Installing React Bootstrap package</li> <li>- d) Writing CSS from scratch</li> </ul>	<b>D</b>
89	<p>Which method can be passed as props in React to facilitate parent-child communication?</p> <ul style="list-style-type: none"> <li>- a) Variables</li> <li>- b) Functions</li> <li>- c) Classes</li> <li>- d) Constants</li> </ul>	<b>B</b>
90	<p>What does the "this" keyword refer to in JavaScript?</p> <ul style="list-style-type: none"> <li>- a) The current date and time</li> <li>- b) The parent function</li> <li>- c) The HTML document object</li> <li>- d) The current object or context</li> </ul>	<b>D</b>
91	<p>In React, what is the role of the ReactDOM package?</p> <ul style="list-style-type: none"> <li>- a) To manage component state</li> <li>- b) To handle routing in the app</li> <li>- c) To render React elements into the DOM</li> <li>- d) To manage form submissions</li> </ul>	<b>C</b>

No	Sentence	Answer
92	<p>Which HTTP method is used to remove resources from a server in RESTful APIs?</p> <ul style="list-style-type: none"> <li>a. GET</li> <li>b. POST</li> <li>c. DELETE</li> <li>d. PUT</li> </ul>	<b>C</b>
93	<p>What does an HTTP PUT request typically do?</p> <ul style="list-style-type: none"> <li>a. Retrieve data from the server</li> <li>b. Update or replace an existing resource on the server</li> <li>c. Create a new resource on the server</li> <li>d. Remove a resource from the server</li> </ul>	<b>B</b>

94	Which of the following is a core feature of Express framework?  a. Real-time data synchronization b. Graphic design tools c. Machine learning algorithms d. Handling HTTP requests and routes	<b>D</b>
95	What command is used to install Express.js globally?  a. npm install express b. npm install express -g c. npm add express d. npm express-install -g	<b>B</b>
96	In Express.js, what does the app.get() method do?  a. Handles HTTP GET requests b. Sends a POST request c. Defines a middleware function d. Renders HTML templates	<b>A</b>
97	What is the purpose of middleware functions in Express?  a. Handling frontend logic b. Parsing JSON data c. Executing code only once d. Modifying the request and response objects	<b>D</b>
98	Which HTTP method is commonly used for retrieving data from a server in Express?  a. POST b. DELETE c. PUT d. GET	<b>D</b>

No.	Question	Answer
99	What does PHP stand for?  a) Personal Home Page b) Hypertext Preprocessor c) Primary Hosting Platform d) Public HTML Parser	<b>B</b>
100	When was PHP originally created?	<b>B</b>

	<p>a) 1985 b) 1995 c) 2005 d) 2015</p>	
101	<p>What is the purpose of the Apache web server?</p> <p>a) To process PHP code b) To parse HTML documents c) To store data d) To serve HTTP responses</p>	<b>D</b>
102	<p>Which term describes a stack for setting up Apache, MySQL, and PHP on a Mac?</p> <p>a) LAMP b) WAMP c) MAMP d) LAMP-W</p>	<b>C</b>
103	<p>What does XAMPP stand for?</p> <p>a) Extended Apache MariaDB PHP Perl b) Xtra Apache MySQL PHP Perl c) Cross-platform Apache MariaDB PHP Perl d) X-ray Apache MySQL PHP Perl</p>	<b>C</b>
104	<p>How does PHP differ from HTML when it comes to processing?</p> <p>a) PHP is processed by the browser b) PHP is processed on a remote server c) HTML is processed by a PHP interpreter d) HTML is a server-side scripting language</p>	<b>B</b>
105	<p>What is a variable in PHP?</p> <p>a) A container for storing information b) A type of data c) A reserved keyword</p>	<b>A</b>

	d) A function	
106	How do you declare a new variable in PHP?  a) Prefix the variable name with a hash symbol (#) b) Use double quotes to enclose the variable name c) Start the variable name with a dollar sign (\$) d) Use square brackets to define the variable	<b>C</b>
107	What is the primary purpose of using variables in PHP?  a) To complicate program code b) To define data types c) To change the program code itself d) To temporarily store and manipulate data	<b>D</b>
108	What does the term "variable scope" refer to in PHP?  a) The size of a variable b) The part of the script where a variable can be referenced c) The type of data a variable can hold d) The number of variables in a script	<b>B</b>
109	In PHP, what happens if you try to use a variable before declaring it?  a) PHP will raise an error b) PHP will automatically declare the variable c) It's allowed in PHP d) The variable is set to null	<b>C</b>
110	Which of the following is NOT a valid rule for variable naming in PHP?  a) A variable name can only contain alpha-numeric characters and underscores b) Variable names are case-sensitive c) A variable name must not start with a number d) A variable name can contain spaces	<b>D</b>
111	What is the purpose of the global keyword in PHP?	<b>B</b>

	<p>a) To make a variable accessible only within a function</p> <p>b) To indicate a global variable</p> <p>c) To define variable names</p> <p>d) To declare a variable as constant</p>	
112	<p>How many basic data types are there in PHP?</p> <p>a) 4</p> <p>b) 6</p> <p>c) 8</p> <p>d) 10</p>	<b>A</b>
113	<p>Which of the following is a valid scalar data type in PHP?</p> <p>a) Array</p> <p>b) Float</p> <p>c) Object</p> <p>d) Resource</p>	<b>B</b>
114	<p>What is the purpose of the NULL data type in PHP?</p> <p>a) It represents a variable with no value</p> <p>b) It is used for integer variables</p> <p>c) It represents an empty array</p> <p>d) It is equivalent to a boolean value</p>	<b>A</b>
115	<p>What is the purpose of PHP built-in functions?</p> <p>a) To create new functions</p> <p>b) To manage database connections</p> <p>c) To use pre-coded functions for various tasks</p> <p>d) To define custom data types</p>	<b>C</b>
116	<p>Which PHP function is used to find and replace a substring in a string?</p> <p>a) replace()</p> <p>b) str_swap()</p> <p>c) str_replace()</p> <p>d) find_replace()</p>	<b>C</b>

117	Which PHP function is used to calculate the next highest integer value by rounding up?  a) is_finite() b) ceil() c) floor() d) integer()	<b>B</b>
118	What is the purpose of the abs() function in PHP?  a) Returns the length of a string b) Converts a string to lowercase c) Returns the absolute value of a number d) Checks if a value is finite	<b>C</b>
119	What does the is_string() function in PHP do?  a) Checks if a value is finite b) Converts a string to lowercase c) Determines if a value is a string d) Finds the position of a substring	<b>C</b>
120	How is data stored in a PHP indexed array?  a) With key-value pairs b) Using a single index number c) In a matrix of rows and columns d) With => symbols	<b>B</b>
121	How is data stored in a PHP Associative array?  a) With key-value pairs b) Using a single index number c) In a matrix of rows and columns d) With => symbols	<b>A</b>



**Dear Learner: Answer the following questions.**

122	<b>Question</b>	Define JIT compiler in the context of PHP?
	<b>Answer</b>	A JIT compiler in PHP compiles code on-the-fly, speeding up script execution.
123	<b>Question</b>	What is the role of the PHP preprocessor in web development?
	<b>Answer</b>	The PHP preprocessor converts PHP code into HTML for browser display.
124	<b>Question</b>	What is Local Scope?
	<b>Answer</b>	Variables in a function are locally scoped, usable only within that function.
125	<b>Question</b>	What is global Scope?
	<b>Answer</b>	Global variables are accessible anywhere in the script.
126	<b>Question</b>	Define "Function" in PHP?
	<b>Answer</b>	In PHP, a function is reusable code for specific tasks, executed with a function call.
127	<b>Question</b>	What are Objects In PHP?
	<b>Answer</b>	Classes are templates in OOP; objects are instances created from these classes.

المعرفة	الكود
Basic routing and calling a controller method from a route	TPK21

**Dear Learner: Answer the following questions.**

128	<b>Question</b>	Explain Behavior-Driven Development (BDD)?
	<b>Answer</b>	It tests how an application behaves from a user/business perspective.

129	<b>Question</b>	What is routing in Node.js, and why is it important?
	<b>Answer</b>	Routing in Node.js links requests to functions for responses, crucial for handling HTTP requests and creating RESTful APIs.

130	<b>Question</b>	Explain the purpose of HTTP PATCH requests in RESTful APIs.
	<b>Answer</b>	HTTP PUT requests replace a server resource with new data, while PATCH updates parts of it.

131	<b>Question</b>	Define Express.js.
	<b>Answer</b>	Express.js is a Node.js framework for managing servers and routes in web apps.

132	<b>Question</b>	<pre>const http = require('http'); const server = http.createServer((req, res) =&gt; {   res.end('Hello, Node.js!'); }); server.listen(3000, () =&gt; {   console.log('Server is running on port 3000'); });</pre> <p>The above code will do ?</p>
	<b>Answer</b>	create a basic HTTP server in Node.js

133	<b>Question</b>	Explain the purpose of Multer in Express.js.
	<b>Answer</b>	It handles multipart/form-data for file uploads.

134	<b>Question</b>	Define Middleware in Express
	<b>Answer</b>	They are functions that manipulate request and response objects.

135	Question	<pre>const fs = require('node:fs'); const Content = fs.readFileSync('./content.txt', 'utf8'); console.log(Content);</pre>
	Answer	The function of this code is. To read the content of a file using the 'fs' module

136	Question	<p>What will the following code display?</p> <pre>const express = require('express'); const app = express();  app.get('/', (req, res) =&gt; {   res.send('Hello, Express!'); });  app.listen(3000, () =&gt; {   console.log('Server is running on port 3000'); });</pre>
	Answer	Hello , Express

**Dear Learner: Answer the following questions.**

No	Question	Answer
137	What is the scientific name for the technique of loading new data into a webpage without a full page reload, as enabled by AJAX?	Asynchronous JavaScript and XML (AJAX)
138	What is the scientific term for the object returned by the "useParams" hook in React Router, which contains dynamic route parameters?	Object
139	What is the scientific term for the algorithm used by React Router to determine the most appropriate route to display when multiple routes match a URL?	Route Selection Algorithm
140	In React Router, what is the scientific name for the component that represents a blank space where the content of the current page is displayed?	Outlet Component
141	What is the scientific term for the technology that allows JavaScript to change the window.location property of the browser to simulate navigation without a full server request?	JavaScript Routing

142	<b>Question</b>	What will the following code display when the URL is "/books/3"? and Why ?  <pre>&lt;Route path="/books/:id" element={&lt;Book /&gt;} /&gt;</pre>
	<b>Answer</b>	It will display "Book 3." Because the ":id" dynamic parameter in the route path matches the value in the URL.

143	<b>Question</b>	Describe the key components and steps involved in setting up routing in a React application using React Router.
	<b>Answer</b>	1. Wrap your app with a router, like `BrowserRouter`. 2. Define routes and their components. 3. Use `Link` with `to` for navigation.

144	<b>Question</b>	In React Router, what happens when a user switches between pages? And Why?
	<b>Answer</b>	In React Router, only the "Routes" component content updates, enhancing app speed and user experience.

145	<b>Question</b>	<p>What will the following code display?</p> <pre>var HelloWorld = (props) =&gt; {   return (     &lt;div&gt;       &lt;div&gt;Hello World 1&lt;/div&gt;       &lt;div&gt;Hello World 2&lt;/div&gt;     &lt;/div&gt;   ); }  ReactDOM.render(&lt;HelloWorld /&gt;, mountNode);</pre>
	<b>Answer</b>	<p>Hello World 1 Hello World 2</p>

146	<b>Question</b>	What will console.log(newArray) output?  <pre>let arr = [2, 5, 6, 3, 8, 9]; let newArray = arr.map(function (val) {     return val; }); console.log(newArray);</pre>
	<b>Answer</b>	[2, 5, 6, 3, 8, 9]

147	Question	What will console.log output? <pre>let marks = 40; let result = (marks &gt;= 50) ? 'pass' : 'fail';  console.log(`You \${result} the exam.`);</pre>
	Answer	You fail the exam

148	Question	Why is it recommended to break a React app into multiple components, especially for larger apps?
	Answer	It's easier to work on and maintain smaller, modular components in larger applications.

149	Question	What is the purpose of JSX in React?
	Answer	JSX is a special way to write code in React.

150	Question	How does React improve website performance with the Virtual DOM?
	Answer	React uses the Virtual DOM to make websites load faster.

**Dear learner: Put "True" in front of the correct statement and "False" in front of the incorrect statement.**

151	One-way data flow in React means that data always flows from child components to parent components.	False
152	One-way data flow eliminates complexity and errors in user interfaces.	True
153	In React, you use props to pass data downstream.	True
154	In React, event listeners are set using the same syntax as HTML event attributes.	True
155	React events are entirely different from native HTML DOM events.	False
156	Child components cannot send data to parent components in React.	False
157	React event attributes use JavaScript-style camelCase names.	True
158	Event handler functions in React components exist for multiple renders.	False
159	Function components require you to use the `this` keyword when writing event handlers.	False

160	Variables in PHP can contain spaces in their names.	False
161	The NULL data type represents an empty string in PHP.	False
162	PHP has many built-in functions specifically designed for strings.	True
163	The fmod() function returns the next lowest integer value.	False
164	A PHP indexed array uses key-value pairs.	False
165	is_finite() function checks if a value is finite.	True

166	A two-dimensional array is an array of arrays.	True
167	The substr() function can be used to find the position of a substring.	False
168	The array_reverse function returns an array with elements in reverse order.	True

No	Question	Answer
169	BDD focuses on testing the way applications behave when users interact with them.	True
170	Initializing the Jasmine environment creates a spec directory and a JSON configuration file.	True
171	HTTP POST requests are used to create new resources on the server.	True
172	HTTP GET requests are used to update or replace an entire resource on the server.	False
173	Express.js is asynchronous in nature.	True
174	Middleware functions in Express always end the request-response cycle.	False
175	Express provides built-in middleware for handling multipart/form-data.	False
176	The app.post() method in Express is used for handling HTTP POST requests.	True
177	Routing in Node.js involves mapping incoming requests to specific functions.	True
178	The app.use(express.json()) middleware is used to parse incoming JSON data in Express.	True
179	Middleware functions in Express cannot modify the request and response objects.	False
180	Multer is used for handling JSON data in Express.js.	False

No.	Question	Answer
181	SQL databases require predefined schemas for data structure.	True
182	NoSQL databases use a dynamic schema for unstructured data.	True
183	You can use the mysql2 library to connect to a MySQL database in Node.js.	True
184	Postman is primarily used for creating APIs.	False
185	MongoDB is an example of a SQL database.	False
186	CORS stands for Cross-Origin Retrieval System.	False

187	When sending a POST request to a server using Postman, JSON data is often included in the request body.	True
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No	Question	Answer
188	React generates a warning message if Hooks are used incorrectly.	True
189	useState is a Hook for managing state variables in React functional components.	True
190	The useEffect Hook handles side effects in functional components.	True
191	You can use Hooks inside if statements or nested functions.	False
192	You can declare a state variable outside of a component in React.	False
193	React Context is used to share state between components.	True
194	useEffect gets triggered only once during the initial page load.	False
195	useReducer is the preferred option when dealing with simple state management.	False
196	Context allows you to share values between components without needing to pass them as props.	True
197	The useContext hook is used to work with the CountContext in React.	True
198	Context can sometimes lead to unnecessary re-renders of components.	True
199	Context eliminates the need for any additional state management libraries.	False
200	Developers should choose their state management solution carefully as switching later can be time-consuming.	True
201	Before the introduction of Context, developers had to create their own state management libraries.	True

No	Question	Answer
202	In Web 1.0, clicking on a link typically resulted in the loading of a whole new webpage.	True
203	React Router is included automatically in Create React App.	False
204	The "Navigate" component in React Router is used to handle form submissions.	False
205	AJAX stands for Asynchronous JavaScript and XML	True
206	Dynamic routes in React Router are routes that change based on variables like ":id."	True
207	The "useParams" hook in React Router is used to access dynamic route parameters.	True
208	In React Router, the use of an asterisk (*) in a route will match any URL, making it suitable for a 404 error page.	True



209	React Router version 6 uses an algorithm to determine the most appropriate route to display when multiple routes match a given URL.	True
210	The "useNavigation" hook in React Router allows you to simulate hitting the forward or back buttons in the browser's history.	True

**Dear learner: Choose the correct answer.**

No	Question	Answer
211	Which direction does data flow in React's one-way data flow? - a) Upstream - b) Downstream - c) Bidirectional - d) None of the above	<b>B</b>
212	What is the primary advantage of one-way data flow in React? - a) Increased complexity - b) Reduced errors - c) Two-way data binding - d) None of the above	<b>B</b>
213	How do you pass data from child components to parent components in React? - a) Using props - b) Using events - c) Using state - d) None of the above	<b>B</b>
214	What is the primary difference between props and state in React? - a) Props are private variables, and state is passed from parent to child. - b) Props are managed within a component, and state is passed from child to parent. - c) Props are passed from parent to child, and state is managed within a component. - d) Props and state are the same in React.	<b>C</b>
215	What does "lifting state up" mean in React? - a) Elevating a component's state to the root level - b) Lowering a component's state to child components - c) Keeping state within a component - d) None of the above	<b>A</b>
216	In HTML, which type of attributes are used to call JavaScript functions for events? - a) Event-driven attributes - b) Function attributes	<b>C</b>

	<ul style="list-style-type: none"> <li>- c) Event attributes</li> <li>- d) Script attributes</li> </ul>	
217	<p>In React, how do you assign an event handler function to an event listener?</p> <ul style="list-style-type: none"> <li>- a) Enclose the function name in double parentheses.</li> <li>- b) Use square brackets to wrap the function name.</li> <li>- c) Pass the function name as a string.</li> <li>- d) Pass the function name without parentheses.</li> </ul>	<b>D</b>

No.	Sentence	Answer
218	<p>What is the purpose of the array_change_key_case function in PHP?</p> <ul style="list-style-type: none"> <li>a) Converts all values in an array to uppercase</li> <li>b) Converts all keys in an array to lowercase or uppercase</li> <li>c) Fills an array with specific values</li> <li>d) Filters elements of an array using a callback function</li> </ul>	<b>B</b>
219	<p>Which PHP function is used to fill an array with specific values based on keys?</p> <ul style="list-style-type: none"> <li>a) array_filter</li> <li>b) array_fill_keys</li> <li>c) array_search</li> <li>d) array_reverse</li> </ul>	<b>B</b>
220	<p>What does the array_pop function do in PHP?</p> <ul style="list-style-type: none"> <li>a) Pushes elements onto the end of an array</li> <li>b) Returns the reversed array</li> <li>c) Pops the element off the end of an array</li> <li>d) Searches the array for a given value</li> </ul>	<b>C</b>
221	<p>How does the array_map function work in PHP?</p> <ul style="list-style-type: none"> <li>a) It reverses the elements of an array</li> <li>b) It searches for a given value in an array</li> <li>c) It applies a callback to elements of given arrays</li> <li>d) It checks whether a given array is a list</li> </ul>	<b>C</b>

222	What does the array_search function do in PHP when the strict parameter is set to true?  a) It returns the reversed array b) It searches for identical elements in the haystack c) It filters elements of an array d) It preserves numeric keys	<b>B</b>
223	Which PHP loop type is used when you know in advance how many times the script should run?  a) for loop b) while loop c) do...while loop d) foreach loop	<b>A</b>

No.	Question	Answer
224	In Express, what type of middleware is used to parse incoming JSON data?  a. Application-level middleware b. Router-level middleware c. Error-handling middleware d. Built-in middleware	<b>D</b>
225	What is the purpose of the Multer middleware in Express?  a. To handle multipart/form-data requests b. To create HTML templates c. To serve static files d. To route HTTP requests	<b>A</b>
226	What does the app.use(express.json()) middleware do in Express?  a. Converts JSON to XML b. Parses incoming JSON data c. Encrypts data communication d. Manages session cookies	<b>B</b>
227	Which type of Express middleware is responsible for handling errors in the application?  a. Application-level middleware	<b>C</b>

	<p>b. Router-level middleware</p> <p>c. Error-handling middleware</p> <p>d. Built-in middleware</p>	
228	<p>Which database falls under the category of NoSQL databases?</p> <p>a. MySQL</p> <p>b. PostgreSQL</p> <p>c. MongoDB</p> <p>d. SQL Server</p>	<b>C</b>
229	<p>What does CORS stand for in web development?</p> <p>a. Cross-Origin Resource Security</p> <p>b. Cross-Origin Retrieval System</p> <p>c. Cross-Origin Resource Sharing</p> <p>d. Cross-Origin Request Security</p>	<b>C</b>
230	<p>When using Postman to send a POST request to a server, which type of data is typically included in the request body?</p> <p>a. Query parameters</p> <p>b. Path parameters</p> <p>c. Form data</p> <p>d. JSON data</p>	<b>D</b>
231	<p>What happens when a DELETE request is made to an endpoint that deletes a resource that doesn't exist?</p> <p>a. The server responds with a 200 OK status.</p> <p>b. The server responds with a 404 Not Found status.</p> <p>c. The server throws an error.</p> <p>d. The server responds with a 500 Internal Server Error status.</p>	<b>B</b>
232	<p>In the context of NoSQL databases, what is meant by "dynamic schema"?</p> <p>a. Each document can have its own unique structure.</p> <p>b. All data must follow the same structure.</p> <p>c. Data is stored in tables with fixed schemas.</p> <p>d. Data is organized as a key-value store.</p>	<b>A</b>

No.	Question	Answer
233	<p>When should you call Hooks in React components?</p> <p>- A) Inside if statements</p> <p>- B) Inside loops</p>	<b>D</b>

	<ul style="list-style-type: none"> <li>- C) Inside nested functions</li> <li>- D) At the top level of component functions</li> </ul>	
234	<p>Which Hook is used to manage state variables in functional components?</p> <ul style="list-style-type: none"> <li>- A) useEffect</li> <li>- B) useReducer</li> <li>- C) useState</li> <li>- D) useContext</li> </ul>	<b>C</b>
235	<p>What does the useEffect Hook handle?</p> <ul style="list-style-type: none"> <li>- A) State management</li> <li>- B) Event handling</li> <li>- C) Side effects</li> <li>- D) Routing</li> </ul>	<b>C</b>
236	<p>When does useEffect get triggered in React components?</p> <ul style="list-style-type: none"> <li>- A) Only during initial page load</li> <li>- B) Every time a component renders</li> <li>- C) Only once, at component creation</li> <li>- D) Only when the component is updated</li> </ul>	<b>B</b>
237	<p>Which hook is used to work with CountContext in React?</p> <ul style="list-style-type: none"> <li>- a) useState</li> <li>- b) useContext</li> <li>- c) useEffect</li> <li>- d) useRef</li> </ul>	<b>B</b>
238	<p>Which of the following state management libraries can add extra code to your project?*</p> <ul style="list-style-type: none"> <li>- a) Redux</li> <li>- b) Zustand</li> <li>- c) MobX</li> </ul>	<b>A</b>
239	<p>What is Axios primarily used for in React applications?*</p> <ul style="list-style-type: none"> <li>- a) Styling components</li> <li>- b) Making API requests</li> <li>- c) State management</li> <li>- d) Routing</li> </ul>	<b>B</b>
240	<p>Which function is used to create a context in React?</p> <ul style="list-style-type: none"> <li>a) useState</li> <li>b) useContext</li> <li>c) createContext</li> <li>d) useReducer</li> </ul>	<b>C</b>
241	<p>Which library uses custom hooks for state management in React?</p> <ul style="list-style-type: none"> <li>a) Redux</li> </ul>	<b>B</b>

	b) Zustand c) MobX d) React Query	
242	Which keyword is used to pause execution until a promise is resolved with async/await?  a) try b) catch c) await d) then	<b>C</b>
243	How should errors be handled when making API calls using Axios with async/await?  a) Using a try...catch block b) Using a finally block c) Using the then method d) Using the catch method	<b>A</b>

No.	Question	Answer
244	Which technology allows JavaScript to load new data into a webpage without reloading the entire page? - a) XML - b) AJAX - c) HTML - d) JSON	<b>B</b>
245	What is the purpose of the "useParams" hook in React Router? - a) Handling navigation - b) Defining routes - c) Accessing dynamic route parameters - d) Creating shared layouts	<b>C</b>
246	Which React Router component is used to handle manual navigation based on user interactions? - a) Link - b) Navigate - c) Outlet - d) Route	<b>B</b>
247	What does the Outlet component do in React Router? - a) Displays shared layouts - b) Represents a blank space for content - c) Handles navigation	<b>B</b>

	- d) Defines routes	
248	How does React Router determine which route to display when there are multiple possible matches for a URL? - a) It selects the route defined first. - b) It uses an algorithm to choose the best match. - c) It always displays all matching routes. - d) It displays routes alphabetically	<b>B</b>
249	Which React Router component is used to display content based on the current URL? a) Route b) Link c) Router d) Outlet	<b>A</b>
250	What is the primary purpose of routing in React? a) To change the color of web page elements b) To handle navigation within a single-page application c) To organize files in a React project d) To create complex mathematical calculations	<b>B</b>

### Complete the Sentence Questions:

No	Question	Answer
251	One-way data flow in React ensures that data flows from _____ components to _____ components.	<b>parent, child</b>
252	Unidirectional data flow reduces complexity and errors in user interfaces by enforcing a clear direction for _____.	<b>data flow</b>
253	In React, you pass data downstream using _____.	<b>props</b>
254	"Lifting state up" in React involves moving a component's state to a higher level in the _____ hierarchy.	<b>component</b>
255	Two-way data flow, also known as bidirectional data flow, can increase the complexity of a user interface and make it challenging to determine the source of _____.	<b>view updates</b>
256	React event attributes use _____ style camelCase names, unlike HTML event attributes.	<b>JavaScript</b>
257	React events are wrappers around native HTML DOM events, taking similar names as the _____.	<b>native events</b>



No	Question	Answer
258	PHP is a server-side scripting language, which means it is processed on a _____.	<b>remote web server</b>
259	PHP 8 introduced a JIT (just-in-time) compiler to compile PHP code for _____.	<b>live sites</b>
260	Apache is known for its _____ , _____ and extensible server that provides HTTP services.	<b>secure, efficient</b>
261	XAMPP is an all-in-one solution that stands for Cross-platform Apache, MySQL, PHP, and _____.	<b>Perl</b>
262	In PHP, echo and print are used to output data to the _____.	<b>Screen</b>
263	In PHP, a variable name must start with a _____ or the underscore character.	<b>Letter</b>
264	Variables in PHP are _____. (\$myVariable and \$MyVariable are treated as different variables)	<b>case-sensitive</b>
265	The scope of a variable is the part of the script where the variable can be _____. / _____..	<b>referenced/used</b>
266	The _____ keyword is used to access a global variable from within a function.	<b>Global</b>
267	In PHP, scalar data types include boolean, integer, float, and _____.	<b>String</b>
268	_____are not exactly a data type in PHP because they are mainly used to store some function calls or as references to external PHP resources	<b>Resource</b>
269	The PHP function trim() is used to strip away unwanted _____ from a string.	<b>Spaces</b>
270	strlen() function is used for checking the _____ of a string.	<b>Length</b>

No	Question	Answer
271	Node.js uses the _____ JavaScript engine, which is also used in Google Chrome.	<b>V8</b>
272	The Node.js runtime is known for its _____ architecture, which allows it to handle multiple client requests efficiently.	<b>event-driven</b>
273	The primary function of Libuv in Node.js is to manage _____ I/O operations.	<b>Asynchronous</b>
274	To use a core module in Node.js, you must import it using the _____ function.	<b>require()</b>



275	Express.js is a popular Node.js _____ known for its flexibility and minimalist design.	<b>Framework</b>
276	Asynchronous programming in Node.js enables it to efficiently handle tasks without waiting for them to _____.	<b>Complete</b>
277	Node.js applications can become hard to read and maintain due to _____ nested callbacks.	<b>Deeply</b>
278	While Node.js excels in handling concurrent connections, it may not be the best choice for CPU-_____ tasks.	<b>Bound</b>
279	Node.js provides a vast ecosystem of packages and libraries through_____.	<b>Npm</b>
280	Koa.js leverages modern JavaScript features and is known for its robust foundation for asynchronous programming using _____.	<b>ES6 generators</b>
281	TypeScript uses static typing to catch errors at _____ time.	<b>Compile</b>
282	In TypeScript, type annotations help enforce type _____.	<b>Checking</b>
283	The TypeScript compiler can be executed using the command tsc _____.	<b>&lt;filename&gt;.ts</b>
284	Type inference in TypeScript allows variables to be declared without a type, which is then inferred based on its _____.	<b>Value</b>
285	TypeScript is compatible with ECMAScript 3 or_____.	<b>Higher</b>

No	Question	Answer
286	The npm install express command installs Express.js in the _____ directory.	<b>node_modules</b>
287	Express allows you to set up _____ to respond to HTTP requests.	<b>Middlewares</b>
288	The app.delete() method in Express handles HTTP _____ requests.	<b>DELETE</b>
289	Middleware functions in Express have access to the request object (_____), the response object (_____), and the next middleware function.	<b>req, res</b>
290	Multer is a middleware used for handling _____ requests in Express.	<b>multipart/form-data</b>
291	Application-level middleware is bound to an instance of the _____ object in Express.	<b>APP</b>

292	Express.js provides a _____ set of features to develop web and mobile applications.	<b>Robust</b>
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No	Question	Answer
293	Hooks should be called at the top level of component functions, not inside of _____.	<b>if statements, loops, or nested functions</b>
294	If you use Hooks incorrectly, React will generate a _____.	<b>warning message Error</b>
295	_____ is a Hook used for managing state variables in function components.	<b>useState</b>
296	To declare a state variable, you should include the declaration _____ the component.	<b>inside</b>
297	The _____ Hook is responsible for handling side effects in functional components.	<b>useEffect</b>
298	. useEffect can be triggered multiple times, depending on _____.	<b>component re-renders</b>
299	_____ is preferred when dealing with more complex state management.	<b>useReducer</b>
300	React Context is used to facilitate the sharing of state between _____.	<b>components</b>
301	To share values between components without having to pass them as props, React provides a mechanism called _____.	<b>Context</b>
302	When using Axios, you can handle promises with _____.	<b>.then or async/await</b>
303	In Axios, to handle errors, you can use a _____ block.	<b>try...catch</b>

No	Question	Answer
304	A cross-platform runtime environment for executing JavaScript code, primarily used for server-side programming.	<b>Node.js</b>
305	The JavaScript engine used in Node.js, originally developed by Google for Chrome, compiles and executes JavaScript efficiently.	<b>V8</b>
306	Handling tasks in Node.js without waiting for them to complete, enabling concurrent processing.	<b>Asynchronous Programming</b>

307	An open-source C library used by Node.js for managing asynchronous I/O operations and event handling.	Libuv
308	Essential built-in modules in Node.js, accessible through the require() function.	Core Modules
309	A core component of Node.js, managing callbacks and network I/O in an event-driven manner.	Event Loop
310	Tools like npm in Node.js for discovering, installing, and managing external libraries.	Package Manager
311	A framework known for its flexibility in creating custom applications.	Express.js
312	Deeply nested callback functions making code hard to read and maintain.	Callback Hell
313	In Koa.js, they provide a clean way to write asynchronous code using the yield keyword for pausing and resuming execution.	ES6 Generators

No	Question	Answer
314	To use React Router in Create React App, you need to install it using the command "_____."	<b>npm i react-router-dom</b>
315	The "useParams" hook in React Router is used to access.....	<b>dynamic route parameters.</b>
316	Routing in web applications involves changing the browser's _____ property to navigate between different pages or components.	<b>window.location</b>
317	In React Router, dynamic routes are created by adding a colon (:) in front of the _____ in the route.	<b>variable</b>

### Give the Scientific Name Questions:

No	Question	Answer
318	What is the scientific name for the concept of data flowing from parent components to child components in React?	<b>Unidirectional data flow</b>
319	What is the scientific name for the technique of moving a component's state to a higher level in the component hierarchy?	<b>Lifting state up</b>
320	What is the scientific term for the JavaScript objects that are used to pass data to React components?	<b>Props</b>
321	What is the scientific name for the type of function that always produces the same output when given the same input?	<b>Pure function</b>
322	What is the scientific name for the concept where a component's data can be modified by its parent and changes within the component can directly affect data in the parent?	<b>Bidirectional data flow</b>
323	What is the scientific name for React's event attributes that take a function as their value?	<b>SyntheticEvent</b>
324	What is the scientific name for the event handler function inside a React component?	<b>Event handler function</b>
325	What is the scientific name for React's method of writing event listeners in JSX code?	<b>JSX event binding</b>

No	Question	Answer
326	like PHP, is processed on a remote web server and generates dynamic content that is included in the web page before it's sent to the user's browser.	<b>A server-side scripting language</b>
327	are used to mark the beginning and end of PHP scripts within a file. They are crucial for distinguishing between PHP code and other content in a file.	<b>PHP delimiters</b>
328	in the context of PHP refers to the portion of a script where a variable can be referenced and used. Variables in PHP can have different scopes, which determine where they are accessible and what data they contain.	<b>Variable Scope</b>
329	Array is an array that uses numeric indices (numbers) to access its elements, with the first element having an index of 0.	<b>Indexed Array</b>

330	are arrays that use named keys (strings) to associate values with their respective keys, allowing for more descriptive and structured data	<b>Associative Arrays</b>
331	are pre-coded functions in PHP that provide various capabilities, such as processing strings, performing mathematical operations, and handling other common tasks.	<b>PHP Built-in Functions</b>
332	are arrays of arrays, providing a way to store data in a matrix-like structure with multiple levels, typically used for organizing complex data sets.	<b>Multidimensional Arrays</b>

No	Question	Answer
333	What is the scientific name for the special functions introduced in React to manage state, side effects, and more?	<b>Hooks</b>
334	What is the scientific name for the Hook used to manage state variables in functional components?	<b>useState Hook</b>
335	What is the scientific name for the Hook responsible for handling side effects in functional components?	<b>useEffect Hook</b>
336	What is the scientific name for the Hook preferred for complex state management in React?	<b>useReducer Hook</b>
337	What is the scientific name for the tool used in React to make API requests and fetch information from the internet?	<b>Axios</b>
338	Identify the scientific name for the technique that allows you to pause an asynchronous function until a promise is resolved.	<b>async/await</b>

**339. Match the correct answer from column A what suits column B**

No	Column (A)	No.	Column (B)	Answer
1	Routing in Node.js	A	Set of protocols and routines that allow different software applications to communicate.	10
2	PUT	B	Defines middleware specific to a particular route.	6
3	Adding new data to the database.	C	Binds to an instance of the app object and is executed for all routes.	7
4	jasmine.json	D	Update operation	8
5	Removing data from the database.	E	Create Operation	3
6	Router-level middleware	F	Process of determining how a web application responds to different URLs and HTTP methods.	1
7	Application-level middleware	G	Send data to the server to create a resource.	9
8	Modifying existing data in the database.	H	Delete Operation	5
9	POST	I	Update data on the server.	2
10	API	G	Configuration file for Jasmine.	4

المعرفة	الكود
Database and data manipulation and Nodejs framework	TPK19

**Dear learner: Put "True" in front of the correct statement and "False" in front of the incorrect statement.**

No	Question	Answer
340	Node.js is primarily used for front-end development	False
341	The V8 engine used by Node.js is written in JavaScript.	False
342	Node.js applications can only run on macOS and Linux.	False
343	Asynchronous programming in Node.js means waiting for one task to finish before starting the next.	False
344	Libuv is an open-source library used for graphics rendering in Node.js.	False
345	Node.js is single-threaded and cannot utilize multiple CPU cores.	True
346	Callback hell in Node.js refers to deeply nested callback functions.	True
347	Node.js is known for its efficiency in handling CPU-intensive tasks.	False
348	Node.js has a longer LTS (Long-Term Support) cycle compared to other programming languages.	False
349	Callback-based APIs can be challenging to integrate into modern Node.js codebases.	True

**350. Match the correct answer from column A what suits column B**

No	Column (A)	No.	Column (B)	Answer
1	Node.js	A	A Node.js framework inspired by Angular, providing a complete solution for building scalable applications.	6
2	V8	B	A Node.js framework known for its minimalist approach and modern JavaScript features.	7
3	Asynchronous Programming	C	An approach where one task must finish before the next one starts, potentially leading to inefficiency.	9
4	Core Module	D	The Node Package Manager, which offers a vast ecosystem of libraries and modules.	8
5	Libuv	E	Node.js's characteristic of using a single execution thread.	10
6	Nest.js	F	JavaScript engine used in Node.js.	2
7	Koa.js	G	Open-source runtime environment for executing JavaScript.	1



8	Npm	H	Ability to handle tasks concurrently without waiting for completion.	3
9	Blocking I/O	I	Essential built-in module in Node.js.	4
10	Single-Threaded	G	Library used for managing asynchronous I/O operations.	5

**Dear learner: Choose the correct answer.**

No.	Question	Answer
351	What is Node.js?  a. A programming language b. A runtime environment for executing JavaScript code c. A framework for building web applications d. d) A database management system	<b>B</b>
352	Which JavaScript engine is used by Node.js?  a. Gecko b. V8 c. SpiderMonkey d. Rhino	<b>B</b>
353	Why is Node.js considered lightweight?  a. It has a large standard library. b. It requires minimal hardware resources. c. It has a complex event-driven architecture. d. It supports multiple programming languages	<b>B</b>
354	Which module in Node.js is used for reading files?  a. fs b. http c. url d. path	<b>A</b>
355	In Node.js, what is the key concept behind handling multiple client requests efficiently?  a. Multithreading b. Synchronous programming c. Asynchronous programming d. Blocking I/O	<b>C</b>
356	What is the role of Libuv in Node.js?	<b>D</b>



	<ul style="list-style-type: none"> <li>a. It manages web page rendering.</li> <li>b. It handles file I/O operations.</li> <li>c. It provides a core module for networking.</li> <li>d. It manages asynchronous I/O operations.</li> </ul>	
357	<p>Which of the following is NOT an advantage of Node.js?</p> <ul style="list-style-type: none"> <li>a. Non-blocking and asynchronous</li> <li>b. Single-threaded</li> <li>c. Large ecosystem of packages</li> <li>d. Limited community support</li> </ul>	<b>D</b>
358	<p>Which Node.js framework is known for its minimalist design and flexibility?</p> <ul style="list-style-type: none"> <li>a. Nest.js</li> <li>b. Koa.js</li> <li>c. Express.js</li> <li>d. Socket.io</li> </ul>	<b>C</b>
359	<p>What is the primary disadvantage of Node.js for CPU-bound tasks?</p> <ul style="list-style-type: none"> <li>a. It lacks support for multi-threading.</li> <li>b. It has a steep learning curve.</li> <li>c. It requires a large amount of memory.</li> <li>d. It lacks a robust ecosystem of packages.</li> </ul>	<b>A</b>
360	<p>What is TypeScript primarily known for?</p> <ul style="list-style-type: none"> <li>a. Being a dynamic scripting language</li> <li>b. Being a superset of JavaScript</li> <li>c. Being a strongly typed language</li> <li>d. Being a functional programming language</li> </ul>	<b>B</b>
361	<p>What is the benefit of using TypeScript's static typing?</p> <ul style="list-style-type: none"> <li>a. It makes the code more concise.</li> <li>b. It improves runtime performance.</li> <li>c. It catches errors at compile-time.</li> <li>d. It allows for dynamic data types.</li> </ul>	<b>C</b>
362	<p>Which command is used to compile TypeScript code into JavaScript?</p>	<b>A</b>

	<ul style="list-style-type: none"> <li>a. tsc</li> <li>b. node</li> <li>c. npm</li> <li>d. ts</li> </ul>	
363	<p>What is the primary purpose of type annotations in TypeScript?</p> <ul style="list-style-type: none"> <li>a. To make code execution faster</li> <li>b. To enforce type checking at runtime</li> <li>c. To improve code readability</li> <li>d. To catch type-related errors at compile-time</li> </ul>	<b>D</b>
364	<p>TypeScript is a suitable choice for both _____ and _____ development.</p> <ul style="list-style-type: none"> <li>a. Client-side; Python</li> <li>b. Server-side; Ruby</li> <li>c. Client-side; server-side</li> <li>d. Mobile; desktop</li> </ul>	<b>C</b>
365	<p>What does "ES6 features" refer to in TypeScript?</p> <ul style="list-style-type: none"> <li>a. Features from the sixth version of the ECMAScript standard</li> <li>b. Features for managing asynchronous tasks</li> <li>c. Features for data manipulation in TypeScript</li> <li>d. Features for creating web applications</li> </ul>	<b>A</b>
366	<p>Which TypeScript feature is considered optional and allows dynamic typing?</p> <ul style="list-style-type: none"> <li>a. Static type-checking</li> <li>b. Optional type annotations</li> <li>c. Cross-platform compatibility</li> <li>d. DOM manipulation</li> </ul>	<b>B</b>
367	<p>How can you install TypeScript for a specific project using npm?</p> <ul style="list-style-type: none"> <li>a. npm install -g typescript</li> <li>b. npm install typescript</li> <li>c. npm install -D typescript</li> <li>d. npm install --save-dev typescript</li> </ul>	<b>C</b>
368	<p>What is Jasmine primarily used for?</p>	

	<ul style="list-style-type: none"> <li>a. Styling web pages</li> <li>b. Testing JavaScript applications</li> <li>c. Creating databases</li> <li>d. Building mobile apps</li> </ul>	<b>B</b>
369	<p>Behavior-Driven Development (BDD) focuses on:</p> <ul style="list-style-type: none"> <li>a. Writing complex algorithms</li> <li>b. Debugging code</li> <li>c. Testing the behavior of applications</li> <li>d. Creating user interfaces</li> </ul>	<b>C</b>
370	<p>What does an expectation represent in Jasmine?</p> <ul style="list-style-type: none"> <li>a. A test description</li> <li>b. A function definition</li> <li>c. An assertion</li> <li>d. A loop</li> </ul>	<b>C</b>
371	<p>What is a "spec" in Jasmine?</p> <ul style="list-style-type: none"> <li>a. test suite</li> <li>b. test case</li> <li>c. A testing framework</li> <li>d. A programming language</li> </ul>	<b>B</b>
372	<p>How does BDD differ from Test-Driven Development (TDD)?</p> <ul style="list-style-type: none"> <li>a. BDD focuses on user behavior, while TDD focuses on code functionality.</li> <li>b. BDD promotes writing code first, then writing tests.</li> <li>c. BDD and TDD are identical in their approach to testing.</li> <li>d. TDD is primarily used for front-end development, while BDD is for back-end development.</li> </ul>	<b>A</b>
373	<p>Which command is used to initialize a Jasmine environment?</p> <ul style="list-style-type: none"> <li>a. npm install jasmine</li> <li>b. jasmine start</li> <li>c. jasmine init</li> <li>d. npm init -y</li> </ul>	<b>C</b>
374	<p>In Node.js, which module is commonly used for handling routing?</p>	<b>A</b>

	<p>a. http</p> <p>b. fs</p> <p>c. os</p> <p>d. path</p>	
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**Dear Learner: Answer the following questions.**

375	<b>Question</b>	How do you initialize a Jasmine environment in a Node.js project?
	<b>Answer</b>	<code>jasmine.init();</code>

376	<b>Question</b>	To create a database connection using mysql2 in Node.js, you need to:
	<b>Answer</b>	<p>1. Import 'mysql2'.</p> <p>2. Create a connection using mysql.createConnection().</p> <p>3. Configure it with host, user, password, and database properties.</p>

377	<b>Question</b>	Define CRUD Operations?
	<b>Answer</b>	CRUD stands for Create, Read, Update, and Delete, representing fundamental data operations in software.

378	<b>Question</b>	Define Postman?
	<b>Answer</b>	Postman simplifies API development, testing, and collaboration.

379	<b>Question</b>	Explain the purpose of type inference in TypeScript?
	<b>Answer</b>	Type inference in TypeScript deduces variable types from values, eliminating explicit type declarations.

المعرفة	الكود
Analyze and solve common web applications tasks by writing PHP programs	TPK 22

**Dear learner: Put "True" in front of the correct statement and "False" in front of the incorrect statement.**

No	Question	Answer
380	The array_push function increases the length of the array by the number of variables pushed.	True
381	The do...while loop will always execute the block of code at least once.	True
382	The array_map function returns an array containing the same array which applying the callback to the corresponding values of the array.	False
383	The break statement can be used to jump in of a loop in PHP.	False
384	The array_search function returns the key for the first occurrence of the needle in the haystack.	True
385	Superglobals in PHP are always accessible, regardless of scope.	True
386	The \$_SERVER superglobal holds information about the client's browser.	False
387	The GET method is recommended for handling large amounts of form data.	False
388	The POST method is more secure than the GET method for handling form data.	True
389	The action attribute in an HTML form specifies the form's display style.	False
390	POST method supports multipart form-data uploads.	True
391	PHP forms cannot handle file uploads.	False

**Dear learner: Choose the correct answer.**

No.	Question	Answer
392	What are superglobal variables in PHP?  a) User-defined variables b) Variables only accessible in functions c) Built-in variables accessible in all scopes d) Static variables	<b>C</b>
393	Which superglobal variable in PHP holds information about the server, including the script name and server name?  a) \$_SERVER b) \$_REQUEST c) \$_POST d) \$_GLOBALS	<b>A</b>
394	What is the purpose of the \$_REQUEST superglobal in PHP?  a) To collect data after submitting a form b) To store server configuration c) To manage user sessions d) To handle cookies	<b>A</b>
395	Which method is used to send form data to a server in a way that appends it to the URL? a) POST b) GET c) PUT d) REQUEST	<b>B</b>
396	What is the key difference between POST and GET methods in form handling?  a) POST sends data via the HTTP body, while GET appends data to the URL. b) POST is used for retrieving data, while GET is used for sending data. c) POST always appends data to the URL.	<b>A</b>

	d) GET is more secure than POST	
397	Which of the following superglobal variables holds information about form field data sent via POST or GET?  a) \$_FORM b) \$_DATA c) \$_INPUT d) None of the above	<b>D</b>
398	What does the action attribute in an HTML form specify?  a) The method used to send form data b) The name of the PHP file that handles the form data c) The form's display style d) The form's title	<b>B</b>
399	Which superglobal variable is commonly used to retrieve form data submitted via POST?  a) \$_REQUEST b) \$_FORM c) \$_GET d) \$_POST	<b>D</b>
400	When is it recommended to use the POST method for form submission?  a) When you want to append data to the URL b) When there is a limit of 2000 characters for the data c) When you want to bookmark form data d) When dealing with file uploads	<b>D</b>

### Complete the Sentence Questions:

No	Question	Answer
401	The pi() function returns the value of _____.	<b>Pi</b>
402	The function abs() returns the _____ value of a number.	<b>Absolute</b>
403	The str_replace() function is used to find and replace a _____ in a string.	<b>Substring</b>

404	The round() function in PHP rounds a number to the nearest integer based on a specified _____.	<b>precision</b>
405	The array_fill_keys function fills an array with the value of the _____ parameter, using the values of the keys array as keys.	<b>value</b>
406	array_push treats an array as a stack and pushes the passed-in variables onto the end of the _____.	<b>array</b>
407	array_map() returns an array containing the results of applying the callback to the corresponding value of the array (and arrays if more arrays are provided) used as arguments for the _____.	<b>callback</b>
408	The do...while loop will always execute the block of code once and then check the condition, and repeat the loop as long as the specified condition is _____.	<b>True</b>
409	The break statement can be used to "jump out" of a switch statement or to jump out of a _____.	<b>Loop</b>
410	\$_GLOBALS is a PHP variable used to access other global variables within a PHP script. All the PHP global variables are kept in an array known as _____.	<b>\$GLOBALS</b>
411	The \$_SERVER variable holds information about headers, paths, and locations of a PHP script, including the name of the server that is hosting the site and the _____.	<b>header of the host current request</b>
412	The \$_REQUEST variable is used to collect data after submitting a form. It contains the contents of \$_GET, \$_POST, and _____ by default.	<b>\$_COOKIE</b>
413	In PHP form handling, when we specify the form method as POST, the form-data is sent to the server using the HTTP_____ method.	<b>POST</b>



### Give the Scientific Name Questions:

No	Question	Answer
414	are built-in functions specifically designed for manipulating and processing strings in PHP, such as finding substrings, replacing text, and checking string lengths.	<b>String Functions</b>
415	is a function used to check whether a given array is a list. An array is considered a list if its keys consist of consecutive numbers from 0 to count(\$array)-1.	<b>array_is_list</b>
416	is a function that filters elements of an array using a callback function. It returns an array containing values from the original array for which the callback function returns true.	<b>array_filter</b>
417	is a function that applies a callback to the elements of given arrays. It returns an array containing the results of applying the callback to the corresponding value of the array used as arguments for the callback.	<b>array_map</b>
418	are built-in variables that are always accessible in all scopes and can be accessed from any function, class, or file without any special configuration.	<b>Superglobals</b>
419	attribute in an HTML form specifies the name of the file that will collect and handle the form data when the form is submitted.	<b>Action</b>
420	in form handling is a means of sending form data to a server by including the data in the HTTP request body. It is typically used for sending sensitive or larger amounts of data, and the data is not appended to the URL.	<b>POST method</b>
421	in form handling is a means of sending form data to a server by appending the data to the URL as query parameters. It is often used for smaller amounts of data and is visible in the URL.	<b>GET method</b>

**422. Match the correct answer from column A what suits column B**

No	Column (A)	No.	Column (B)	Answer
1	array_reverse	A	Searches the array for a given value and returns the first corresponding key if successful.	3
2	<form> tag attribute: "method"	B	Collects data from submitted forms, including data from \$_GET, \$_POST, and \$_COOKIE.	7
3	array_search	C	Checks whether a given array is a list.	9
4	<form> tag attribute: "action"	D	Contains information about file uploads from an HTML form, including file name, type, and location on the server.	8
5	\$GLOBALS	E	Contains data sent from the client's browser to the server, typically used for storing user information.	10
6	array_fill_keys	F	Returns an array with elements in reverse order	1
7	\$_REQUEST	G	Used to access global variables within a PHP script.	5
8	\$_FILES	H	Specifies the means of sending the form data, either via POST or GET.	2
9	array_is_list	I	Fills an array with the value of the value parameter, using the values of the keys array as keys.	6
10	\$_COOKIE	G	Specifies the name of the file that will collect and handle the form data when the form is submitted.	4

**Dear Learner: Answer the following questions.**

423	<b>Question</b>	Define PHP var_dump() Function?
	<b>Answer</b>	PHP's var_dump() displays variable info, including data types and values, for debugging.

424	<b>Question</b>	If the HTML form uses the POST method and the user submits it with name="Alice" and age=25, what will be the output in form-handler.php?
	<b>Answer</b>	<pre>&lt;?php echo "Name: " . \$_POST['name'] . ", Age: " . \$_POST['age']; ?&gt;</pre> <p>Name: Alice, Age: 25</p>

425	<b>Question</b>	What is The Output Of The Code?
	<b>Answer</b>	<pre>\$name = "John"; \$age = 30; echo "Name: " . \$name . ", Age: " . \$age;</pre> <p>Name: John, Age: 30</p>

426	<b>Question</b>	What is The Output Of The Code?
	<b>Answer</b>	<pre>\$comment = 'your product works \$sub = substr(\$comment, 0, 4);</pre> <p>Your</p>

427	<b>Question</b>	What is The Output Of The Code?
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		<pre>\$text = "Harder Faster Better Stronger"; \$length = strlen(\$text);</pre>
	Answer	\$length will be 27

428	Question	<p>What is The Output Of The Code?</p> <pre>\$longParagraph = "This is a long paragraph."; \$newParagraph = str_replace("long", "short", \$longParagraph);</pre>
	Answer	\$newParagraph will be "This is a short paragraph."

429	Question	<p>What is The Output Of The Code?</p> <pre>\$text = "    Hello, world!    "; \$trimmed = trim(\$text);</pre>
	Answer	"Hello, world!"

430	Question	<p>What is The Output Of The Code?</p> <pre>\$text = "This is an example string."; \$position = strpos(\$text, "example");</pre>
	Answer	\$position will be 12

431	Question	<p>What is The Output Of The Code?</p> <pre>\$fruits = ["apple", "banana"]; array_push(\$fruits, "cherry", "date");</pre>
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	Answer	\$fruits = ["apple", "banana", "cherry", "date"]

432	Question	<p>What is The Output Of The Code?</p> <pre> for (\$i = 1; \$i &lt;= 5; \$i++) {     echo "Iteration \$i&lt;br&gt;";     if (\$i == 3) {         break;     } } </pre>
	Answer	<p>Iteration 1 Iteration 2 Iteration 3</p>

433	Question	<p>What is The Output Of The Code?</p> <pre> for (\$i = 1; \$i &lt;= 5; \$i++) {     if (\$i == 3) {         continue;     }     echo "Iteration \$i&lt;br&gt;"; } </pre>
	Answer	<p>Iteration 1 Iteration 2 Iteration 4 Iteration 5</p>

434	<b>Question</b>	<p>What will the following code display?</p> <pre>&lt;?php \$counter=0; for(\$x=0;\$x&lt;4;\$x++){     for(\$i=1;\$i&lt;=4;\$i++){         \$counter+=true;     } } echo(\$counter);</pre>
	<b>Answer</b>	16

435	<b>Question</b>	<p>What will the following code display?</p> <pre>&lt;?php \$counter=0; for(\$x=0;\$x&lt;4;\$x++){     for(\$i=1;\$i&lt;=4;\$i++){         \$result=\$counter++;     } } echo(\$result);</pre>
	<b>Answer</b>	15

436	<b>Question</b>	<p>Correct the code to get the following result. Array ([0] =&gt; 1 [1] =&gt; 2 [2] =&gt; 3 [3] =&gt; 4 [4] =&gt; 5 [5] =&gt; 6 [6] =&gt; 7)</p> <pre>&lt;?php function shift (\$value,\$index,array \$array){     for(\$counter=sizeof(\$array)-1;\$counter&gt;\$index;\$counter--){         \$array[\$counter]=\$array[\$counter-1];     }     \$array[\$index]=\$value;     return \$array; } print_r(shift(4,3,[1,2,3,5,6,7]));</pre>
	<b>Answer</b>	\$counter=sizeof(\$array);

437	<b>Question</b>	What will the following code display? <pre>&lt;?php \$value = "5"; \$result = \$value + 2; echo \$result++;</pre>
	<b>Answer</b>	7

438	<b>Question</b>	What will the following code display? <pre>&lt;?php \$x=1; \$y=&amp;\$x ; \$y+=true; echo(\$x);</pre>
	<b>Answer</b>	2

439	<b>Question</b>	What will the following code display? <pre>&lt;?php \$value = "10" + "5"; echo \$value;</pre>
	<b>Answer</b>	15

440	<b>Question</b>	What will the following code display? <pre>&lt;?php \$counter=3; for(\$x=0;\$x&lt;=4;\$x++){     for(\$i=1;\$i&lt;=4;\$i++){         \$counter+=true;     } } echo(\$counter);</pre>
	<b>Answer</b>	23

441	<b>Question</b>	<p>What will the following code display?</p> <pre>&lt;?php \$x=3; \$y=&amp;\$x ; \$y+=true; echo(\$x);</pre>
	<b>Answer</b>	4
442	<b>Question</b>	<p>What will the following code display?</p> <pre>&lt;?php \$value = "1" + "7"; echo \$value;</pre>
	<b>Answer</b>	8



TPK 19	TPK 20	TPK 21	TPK 22
340	1	128	380
341	2	129	381
342	3	130	382
343	4	131	383
344	5	132	384
345	6	133	385
346	7	134	386
347	8	135	387
348	9	136	388
349	10	137	389
350	11	138	390
351	12	139	391
352	13	140	392
353	14	141	393
354	15	142	394
355	16	143	395
356	17	144	396
357	18	145	397
358	19	146	398
359	20	147	399
360	21	148	400
361	22	149	401
362	23	150	402
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