

Reg.No.: 

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VIVEKANANDHA COLLEGE OF ENGINEERING FOR WOMEN  
[AUTONOMOUS INSTITUTION AFFILIATED TO ANNA UNIVERSITY, CHENNAI]  
Elayampalayam – 637 205, Tiruchengode, Namakkal Dt., Tamil Nadu.

**Question Paper Code: 60012**

B.E. / B.Tech. DEGREE END-SEMESTER EXAMINATIONS – NOV. / DEC. 2024

Fifth Semester

Information Technology

U19IT515 - WEB TECHNOLOGY

(Regulation 2019)

Time: Three Hours

Maximum: 100 Marks

Answer ALL the questions

Knowledge Levels (KL)	K1 – Remembering	K3 – Applying	K5 - Evaluating
	K2 – Understanding	K4 – Analyzing	K6 - Creating

PART – A

(10 x 2 = 20 Marks)

Q.No.	Questions	Marks	KL	CO
1.	List some of the key factors that have attributed to the growth of Web 2.0.	2	K2	CO1
2.	Why is the following markup invalid? <p>Here is some text...  And some more text...</p>	2	K3	CO1
3.	What is the scope of variables declared in a block or in a function's parameter list in JavaScript?	2	K3	CO2
4.	Which statement in a called function can be used to pass the value of an expression back to the calling function?	2	K2	CO2
5.	What is referential integrity in DBMS?	2	K2	CO3
6.	List the web controls in ASP.NET.	2	K2	CO3
7.	Define a software framework.	2	K3	CO4
8.	Why do we use Spring Boot?	2	K3	CO4
9.	Define the Bootstrap Phase.	2	K3	CO5
10.	What is Dependency Injection?	2	K3	CO5

PART – B

(5 x 13 = 65 Marks)

Q.No.	Questions	Marks	KL	CO
11. a)	Vivekanandha College of Engineering for Women has asked you to create an XHTML document that allows prospective students to provide feedback about their campus visit. Your XHTML document should contain a form with text boxes for a name, address and e-mail. Provide checkboxes that allow prospective students to indicate what they liked most about the campus. The checkboxes should include: students, location, campus, ambience, hostel and sports. Also, provide radio buttons that ask the prospective students how they became interested in the university. Options should include: friends, television, Internet and other. In addition, provide a text area for additional comments, a submit button and a reset button.	13	K3	CO1
(OR)				
b)	Make a layout template that contains a header and two columns. Use divs for each layout component, and use float to line up the columns side by side. Give each component a border and/or a background color so you can see where your divs are. Add an embedded style sheet to this document. The style sheet should contain a rule that displays h1 elements in blue. In addition, create a rule that displays all links in blue without underlining them. When the mouse hovers over a link, change the link's background color to yellow. Make a navigation button using a div with a link inside it. Give it a border, background, and text color, and make them change when the user hovers the mouse over the button. Use an external style sheet.	13	K3	CO1
12. a)	Write JavaScript statements to accomplish each of the following tasks:		K3	CO2
	a. Assign the sum of x and y to z, and increment the value of x by 1 after the calculation. Use only one statement.	3		
	b. Test whether the value of the variable count is greater than 10. If it is, print "Count is greater than 10".	3		
	c. Decrement the variable x by 1, then subtract it from the variable total. Use only one statement.	3		
	d. Calculate the remainder after q is divided by divisor, and assign the result to q. Write this statement in two different ways.	4		

(OR)

	b)	In JavaScript, Write a function multiple that determines, for a pair of integers, whether the second integer is a multiple of the first. The function should take two integer arguments and return true if the second is a multiple of the first, and false otherwise. Incorporate this function into a script that inputs a series of pairs of integers (one pair at a time). The XHTML form should consist of two text fields and a button to initiate the calculation. The user should interact with the program by typing numbers in both text fields, then clicking the button.	13	K3	CO2
13.	a)	Explain the various validation controls available in ASP .NET? Define Event. Describe the Events used in the life cycle of a web application.	7 6	K2	CO3
		(OR)			
	b)	Explain how page level state management improves the efficiency of ASP.NET web form? Write the program in ASP.NET to sort the elements of an array.	6 7	K3	CO3
14.	a)	Explain the layered architecture of modern web applications focusing on a distributed back-end infrastructure to serve content and front-end clients over the Web using RESTful APIs.	13	K3	CO4
		(OR)			
	b)	i. Explain the Front End vs Back End when developing a web application.	8	K3	CO4
		ii. Give an examples of mapping of CRUD Operations to HTTP Verbs.	5		
15.	a)	Explain the various components of AngularJS.	13	K2	CO5
		(OR)			
	b)	Explain the life cycle of AngularJS, which is important when designing and implementing the code in an application.	13	K2	CO5

PART – C

(1 x 15 = 15 Marks)

Q.No.	Questions	Marks	KL	CO
16. a)	Write a script to simulate the rolling of two dice. The script should use Math.random to roll the first die and again to roll the second die. The sum of the two values should then be calculated.	15	K3	CO3

Note: Since each die can show an integer value from 1 to 6, the sum of the values will vary from 2 to 12, with 7 being the most frequent sum, and 2 and 12 the least frequent sums.

Figure below

shows the 36 possible combinations of the two dice. Your program should roll the dice 36,000 times. Use a one-dimensional array to tally the numbers of times each possible sum appears. Display the results in an XHTML table. Also determine whether the totals are reasonable (e.g., there are six ways to roll a 7, so approximately 1/6 of all the rolls should be 7).

	1	2	3	4	5	6
1	2	3	4	5	6	7
2	3	4	5	6	7	8
3	4	5	6	7	8	9
4	5	6	7	8	9	10
5	6	7	8	9	10	11
6	7	8	9	10	11	12

(OR)

b) i.	Write the SQL Queries for the given schema: Student(Name, Studentnumber, Class, Major) Course(CourseName, CourseNumber, Credit Hours, Teacher) Section(Sectionidentifier, coursenummer, Semester, Year, Teacher) Grade_report(studentNumber, SectionIdentifier, Grade) Prerequisite(Coursenummer, Prerequisite Number)	10	K3	CO4
a.	Change the class of student 'Mohammad' from 1 to 2.			
b.	Delete the record for the student whose name is 'Sashank' and whose student number is 17.			
c.	For each section taught by John, retrieve the course number, semester, year and number of students who took the section			

- d. Retrieve the names and major departments of all straight –A students (students who have a grade of A in all their courses).
  - e. Insert a new course: ('Web Technology', 'U19IT515',3,'Abc').
- ii. Explain the following SQL commands and function () with examples: 5
- a. INSERT
  - b. ALTER
  - c. COUNT ()
  - d. GROUPBY
  - e. INDEX ()
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