CONTROLLER OF EXAMINATIONS
AU
CHENNAI
600 025
ADDITIONAL

Roll No. | 2 | 0 | 2 | 1 | 1 | 0 | 5 | 3 | 2 | 0 |

ANNA UNIVERSITY (UNIVERSITY DEPARTMENTS)

B. Tech (Full Time) - END SEMESTER EXAMINATIONS, NOV/DEC 2023

INFORMATION TECHNOLOGY
V Semester
IT5501 WEB TECHNOLOGIES
(Regulation 2019)

Time: 3hrs Max.Marks: 100

CO 1	To learn the basic object oriented concepts using Java language
CO 2	To understand the advanced features of Java language
CO 3	To understand the essential client side technologies for web programming
CO 4	To develop applications using database connectivity and server side programming in Java environment
CO 5	To develop smart device based web application and deploy in different platforms

BL – Bloom's Taxonomy Levels
(L1 - Remembering, L2 - Understanding, L3 - Applying, L4 - Analysing, L5 - Evaluating, L6 - Creating)

PART- A (10 x 2 = 20 Marks)
(Answer all Questions)

Q. No	Questions	Marks	CO	BL
1	Write a Java program to get the output for a given number n, a position p and a binary value b, it needs to change the bit at position p in n to value b and print the result. Examples: Input : n = 7, p = 2, b = 0	2	1	L3
2	State the difference between checked and unchecked exceptions.	2	1	L1
3	Write a Java code to print the arrays of different data types using Generics.	2	2	L2
4	What is a daemon thread?	2	2	L2
5	What are the selectors in jQuery and list its types.	2	3	L2
6	Write a JavaScript code snippet to convert JSON data into JavaScript objects?	2	3	L2
7	How does servlet manage cookies?	2	4	L2
8	Write short notes on JSF life cycle.	2	4	L2
9	What are the two main functionalities of Node Package Manager(NPM)?	2	5	L2
10	Brief: J2ME with its components	2	5	L2

PART- B (5 x 13 = 65 Marks)

Q. No	Questions	Marks	CO	BL
11 (a) (i)	Write a Java program to evaluate the grading system using classes, objects and constructors. • Get marks as input for five students in 5 subjects. • Calculate the grade for each subject • Calculate the GPA • Print the result on screen	7	1	L2
(ii)	Write a Java program to sort a numeric array and a string array.	6	1	L2
	OR			
11 (b) (i)	Write a java program to verify the username and password at the time of registration using regular expression. • User name should not start with special character and	6	1	L2

	within 7- 12 character. • Password should contain at least 12 characters long, a combination of uppercase letters, lowercase letters, numbers and symbols.			
(ii)	Write a Java program to create a base class Shape with methods draw() and calculateArea(). Create two subclasses Circle and Cylinder. Override the draw() method in each subclass to draw the respective shape. In addition, override the calculateArea() method in the Cylinder subclass to calculate and return the total surface area of the cylinder.	7	1	L2
12 (a) (i)	Create a simple menu application for Radio channels using swing that enables a user to select one of the following items: • Radio1- Radio2 - Radio3 - Radio4 -Radio5 o From the menu bar of the application o From a pop-up menu o From a toolbar • Add tooltips to each menu item that indicates some information about the Radio station such as type of music and its broadcast frequency.	13	2	L2
	OR			
12 (b) (i)	Write a Java program that creates a bank account with concurrent deposits and withdrawals using threads.	5	2	L2
(ii)	Write a socket connection to allow a client to specify a file name of a text file and receive the contents of the file or indicate that the file does not exist from the server.	8	2	L2
13 (a) (i)	Explain the JavaScript, JQuery and AJAX with valid syntax and functionalities for any Web application? How does JQuery differ from JavaScript?	13	3	L2
	OR			
13 (b) (i)	Design and build a University web page creation using Javascript, Jquery and AJAX. Include following • Events • DOM Elements Selection and Manipulation • AJAX Interface	13	3	L2
14 (a) (i)	Write a Servlet web application that creates an employee-payroll hierarchy to calculate each employee's payroll. Create a database of employees that corresponds to the employee-payroll hierarchy. Write an application that allows the user to: • Add employees to the employee table • Add payroll information to the appropriate table for each new employee • Select all employees working in Department SALES. • Increase base salary by 10% for all employees.	13	4	L2
	OR			
14 (b) (i)	Write a JSF for an online shopping market system. Add all the required functionality for its application.	13	4	L2
15 (a) (i)	Explain the node.js fundamentals, asynchronous Programming techniques and sequencing asynchronous logic briefly with code snippet.	13	5	L2
	OR			
15 (b) (i)	Explain the architecture of android mobile development platform with its components and write the android code for a calculator with minimal operations.	13	5	L2

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PART- C (1 x 15 = 15 Marks)

(Q:No.16 is compulsory)

Q. No	Questions	Marks	CO	BL
16.	i) Write a Java program that gets the user input for a list of numbers and write it to a file, then throws a customized exception if it reads a zero, negative number, more than 20 numbers.	7	2	L3
	ii) Create a class called "Employee" and write a program that prints the details of three workers in a text file named as emp.txt, including their names, years of employment, and addresses. The result should look like this: Name year of enrollment Address Robert 2005 54C- SV Street Sam 2010 68D- Dr AKM Street John 2014 26B- JVS Street	8	3	L3

