Q. Code: 384742

Reg. No. | | | | | | | | | | | | | |

B.E./ B. TECH.DEGREE EXAMINATIONS, MAY 2024

First Semester

IT18101 – PROGRAMMING FOR PROBLEM SOLVING

(Common to all branches except Marine)

(Regulation 2018/2018A)

TIME:3 HOURS **MAX. MARKS: 100**

COURSE OUTCOMES	STATEMENT	RBT LEVEL
CO 1	Apply various problem solving techniques and represent solutions to problems in the form of algorithms and flow charts.	**3**
CO 2	Examine given problems, design solutions and write C programs using the constructs of C language.	**4**
CO 3	Apply the advanced constructs and string manipulation feature available in C programming language to solve problems.	**3**
CO 4	Demonstrate the use functions, structures and unions to create modularized applications in C language.	**4**
CO 5	Illustrate the dynamics of memory by the use of files and pointers.	**3**

PART- A(10x2=20Marks)

(Answer all Questions)

		CO	RBT LEVEL
1.	Illustrate the guidelines for drawing a flowchart.	**1**	**2**
2.	Write an algorithm for swapping of two numbers.	**1**	**2**
3.	Implement a C program to find the given number is Odd or Even using ternary operator.	**2**	**3**
4.	Write the output with justification int main() {int c=10; printf(“The value of c is %d”,c++); printf(“The value of c is %d”,++c); printf(“The value of c is %d”,c++); printf(“The value of c is %d”,c); }	**2**	**3**
5.	Write the syntax of the declaration of three dimensional array.	**3**	**2**
6.	S1=”Good”, S2=”Morning”, write a code to concatenate S1 and S2.	**3**	**3**
7.	Write a C program to sum of N natural numbers using a recursive function.	**4**	**3**
8.	Examine call by value and call by reference with an example.	**4**	**4**
9.	Write a code to declare and initialize the pointer variable to an integer.	**5**	**3**
10.	Write the syntax for opening a file, closing a file and list the modes of opening a file.	**5**	**2**

PART- B (5x 14=70Marks)

			Marks	CO	RBT LEVEL
11. (a)	(i)	Write an algorithm for computing the sum of the digits of any given number.	(7)	1	3
	(ii)	Draw a flowchart to find greatest among three numbers.	(7)		
		(OR)			
	(b)	Construct an algorithm and illustrate the logics with flowchart and pseudo code to find the factorial of a number.	(14)	1	3
12. (a)		Explain in detail about looping and jumping statements with suitable examples.	(14)	2	2
		(OR)			
	(b)	Explain in detail about Decision making statements with suitable examples.	(14)	2	2
13. (a)		Write a C-program to divide the string into N-equal parts. And, use the in-built functions (strrev(), strlwr()/strupr()) to each part of the string and print the outputs separately.	(14)	3	3
		(OR)			
	(b)	Develop a C program to arrange a collection of integers in descending order.	(14)	3	3
14. (a)		Write a 'C' program using relevant constructs to read and print the details <Student_ID, Student_name, Student_Dept, Gender, Birth_date, Year, marks of 5 subjects> of a student such that the element Birth_date is a nested component(date/month/year).Write necessary functions to create (input) and display 'n' students details with their grade and GPA.	(14)	4	3
		(OR)			
	(b)	Write a C program to return multiple values from function using pointers.	(14)	4	3
15. (a)		Write a C Program to calculate mean of 'n' numbers using pointers.	(14)	5	3
		(OR)			
	(b)	Write a 'C' program using file handling functions to read the contents of a text file read mode and display in standard output console.	(14)	5	3

PART- C(1x 10=10Marks)

(Q.No.16 is compulsory)

		Marks	CO	RBT LEVEL
16.	Analyze and find a suitable construct to develop a library management system.	(10)	4	4

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