Vivekananda College of Engineering & Technology, Puttur
[A Unit of Vivekananda Vidyavardhaka Sangha Puttur ®]
Affiliated to VTU, Belagavi & Approved by AICTE New Delhi

PREPARATORY EXAMINATION

Dept: FY	Sem / Div: 1st D, E, F	Sub: Problem Solving Through Programming	S Code: 21PSP13
Date: 27.4.2022	Time: 3 Hours	Max Marks: 100	Elective: N

Note: Answer any FIVE full questions, choosing one full question from each module.

MODULE 1

1	a	Explain different types of computers.	8
	b	With neat diagram explain the functional units of digital computer.	7
	c	Explain fundamental data types of C language.	5

OR

2	a	Explain different hardware used in computer networking.	8
	b	List and explain primary memory components of a computer.	7
	c	Write a C program to swap two variables without using third variable.	5

MODULE 2

3	a	Explain switch statement with flowchart and example.	7
	b	Write a C program to compute the roots of a quadratic equation by accepting the coefficients. Print appropriate messages.	8
	c	Write a C program to plot Pascal's triangle.	5

OR

4	a	Write a C program to find the reverse of a positive integer and check for palindrome or not. Display appropriate messages.	6
	b	Explain if-else, nested if-else and else-if ladder statements with an example and flowchart.	9
	c	Compare break and continue statements.	5

MODULE 3

5	a	Define an array? Explain the declaration and initializations of single-dimensional array with examples.	10

	b	Explain any six string manipulation functions with an example for each.	10

<div align="center">OR</div>

6	a	Write a C program to read N numbers into an array & perform selection sort.	10
	b	What is a string? Give it's declaration and initializations with examples. And also explain unformatted string input and output functions with an example for each.	10

<div align="center">MODULE 4</div>

7	a	Explain *static variable* and *external variable* with a programming example for each.	10
	b	Explain elements of user defined functions with a programming example.	10

<div align="center">OR</div>

8	a	What is a function? Explain different categories of functions based on parameter passing and return.	10
	b	What is recursion? Write a recursive C program to find GCD of given two integers.	5
	c	Compare call by value and call by reference user defined functions.	5

<div align="center">MODULE 5</div>
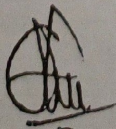
9	a	Explain pre-processor directives. Write a C program to find the product of two squared numbers by defining macro for SQR(x).	10
	b	Implement structure to compute average marks and the students scoring above and below the average marks for a class of N students.	10

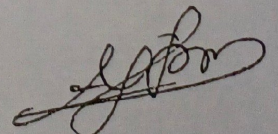<div align="center">OR</div>

10	a	Write a C program using pointers to compute the sum, mean and standard deviation of all elements stored in an array.	10
	b	What is structure? Explain it with syntax and an example. Compare *structure* and *union*.	10

Prepared by: Prabhakara B. K.

HOD