

QP Code 

1	6	0	0	6	5
---	---	---	---	---	---

 Register Number 

--	--	--	--	--	--	--	--

**VELALAR COLLEGE OF ENGINEERING AND TECHNOLOGY**  
(An Autonomous Institution, Affiliated to Anna University, Chennai)

Semester Examinations – April / May 2017      Regulations-2016

Programme: B.E/B.Tech      Semester: 2      Max. Marks: 100      Duration 3 Hrs

Course Code & Title:      **16CST21**      **PROBLEM SOLVING AND PROGRAMMING**

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

**Part A - Answer ALL Questions.      10 x 2 = 20 Marks**

No.	Question	KL
1.	List out the classifications of digital computer.	K1
2.	Distinguish between algorithm and pseudo code with an example.	K2
3.	Illustrate the structure of a C program.	K3
4.	Define linking process.	K1
5.	Write the different ways of initializing an array.	K3
6.	Sort the given elements 14,3,5,18,7,6,2 using quick sort.	K4
7.	Show the “Function” declaration with an example.	K3
8.	Consider the declaration:  <pre> struct { char name; intnum; } student; </pre> Illustrate the application of size of () operator to this structure.	K4
9.	Specify the modes of operations of reading and writing a file in C.	K1
10.	Identify the various dynamic memory allocation functions.	K1

**Part B - Answer ALL Questions.      5 x 16 = 80 Marks**

No	Question	Marks	KL
11.	a Explain the basic organization of a computer with neat sketch.	16	K2
OR			
	b i. Design an algorithm to find the largest of three numbers.	8	K6

		ii. Draw a flowchart to find the roots of a quadratic equation and also discuss the advantages and disadvantages of flow chart.	8	K4
12.	a	i. Describe the four basic data types with example.	6	K1
		ii. Write a C program to check whether a given number is prime or not.	10	K6
		OR		
	b	i. Write short notes on the following control statements with an example.		
		a. 'if' statement		
		b. 'for' loop	16	K3
		c. 'while & do...while' loop		
13.	a	i. Define String. Explain the various string functions with an example.	8	K2
		ii. Sequence the following numbers using bubble sort 50, 10, 45, 95, 14, 77, 84, 32.	8	K3
		OR		
	b	i. Design a C program to multiply two 3 x 3 matrices.	8	K4
		ii. Write a C Program to perform Binary Search.	8	K3
14.	a	i. Write a C program to find the factorial of a given number using Function.	8	K3
		ii. Explain function with and without argument with example.	8	K2
		OR		
	b	i. Illustrate the nested structure with an example.	8	K4
		ii. Briefly explain about Union with an example.	8	K2
15.	a	Make a detail note on Pointer Arithmetic. Support your answer with appropriate examples.	16	K5
		OR		
	b	i. Explain the Storage classes of C programming.	12	K2
		ii. Write short notes on Preprocessor directives.	4	K3

\*\*\*\*\*