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Code No. : 13564 N/O

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS), HYDERABAD*Accredited by NAAC with A++ Grade***B.E. (Mech. Engg.) III-Semester Main & Backlog Examinations, Jan./Feb.-2024****Programming for Engineers**

(N/O: Mech. Engg., O: Civil)

Time: 3 hours

Max. Marks: 60

*Note: Answer all questions from Part-A and any FIVE from Part-B***Part-A (10 × 2 = 20 Marks)**

Q. No.	Stem of the question	M	L	CO	PO
1.	Differentiate between a Compiler and Interpreter.	2	1	1	1
2.	Convert $79_{(10)}$ to binary and octal systems.	2	2	1	1
3.	Predict the output of the following code segment? void main() { int i=3, j=0; j= i++; printf("%d, %d", i, j); }	2	4	2	2
4.	Define a Function. List the advantages of a function.	2	1	2	1
5.	Declare and initialize an array of 5 integers.	2	1	3	1
6.	Summarize the advantage of binary search technique over linear search technique?	2	2	3	1
7.	Write the syntax of calloc() function in C.	2	1	4	1
8.	List the different arithmetic operations performed on pointers.	2	1	4	1
9.	Define a structure that stores the information of a Bank Account.	2	3	5	2
10.	Give the syntax of fprintf() and fgets() functions in C.	2	1	5	1
Part-B (5 × 8 = 40 Marks)					
11. a)	Briefly describe the various computing environments.	4	2	1	1
b)	Draw a flowchart to find maximum of three numbers.	4	3	1	2
12. a)	Illustrate the use of different looping statements in C with examples.	4	2	2	1
b)	Write a C program to compute the factorial of a given number using functions.	4	3	2	2

Contd... 2

13. a)	Apply and illustrate any one of the sorting methods on the input 2,4,3,1,5,6	4	3	3	1
b)	Write a C program that takes as input 10 integers into an array and print their average.	4	3	3	2
14. a)	Explain any four predefined string manipulation functions in C with examples	4	2	4	1
b)	Write a C function that reads a string having maximum length 20 by reading one character at a time and then print the string in the reverse manner.	4	3	4	2
15. a)	Define Structure. How are the members of the structures accessed? Explain with an example.	4	2	5	1
b)	Write a program in C to copy the contents of a file into another file, by reading one character at a time.	4	3	5	2
16. a)	Discuss the various steps involved in creating and running a C program.	4	1	1	1
b)	Write a C program to find the sum of the digits of a given n-digit number.	4	3	2	2
17.	Answer any <i>two</i> of the following:				
a)	Write a C program that reads two matrices and displays the sum of the matrices.	4	3	3	1
b)	Describe the use of pointers. Demonstrate call by reference with example.	4	2	4	1
c)	What are preprocessor commands? Explain about various types of preprocessor commands giving example for each.	4	2	5	1

M : Marks; L: Bloom's Taxonomy Level; CO; Course Outcome; PO: Programme Outcome

i)	Blooms Taxonomy Level – 1	20%
ii)	Blooms Taxonomy Level – 2	35%
iii)	Blooms Taxonomy Level – 3 & 4	45%
