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Code No. : 11325 N

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS), HYDERABAD*Accredited by NAAC with A++ Grade***B.E. (E.E.E.) I-Semester Main Examinations, Jan./Feb.-2024****Programming and Problem Solving for EEE**

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 primary memory and secondary memory in the computer architecture.	2	1	1	1,2,3
2.	Convert the given octal number to binary number $(237.1)_8 = ()_2$.	2	4	1	1,2,3
3.	Write the syntax for the “if” and “if-else” statements.	2	1	2	1,2,3
4.	List the conditions to declare valid variable names, write any two invalid variable names.	2	2	2	1,2,3
5.	A one dimensional integer array of size 10 is declared in a C program. The memory location of the first byte of the array is 2070. What will be the location of the 7 th element of the array? (Assume an integer takes 4 bytes of memory)	2	2	3	1,2,3
6.	What is the use of recursion function in C programming?	2	4	3	1,2,3,5
7.	Write the output of the following program. <pre>#include <stdio.h> void main(){ int arr[11]={9,7,8,4,15,1,25,40,88,18,47}; int *p=arr+3; printf("%d\n", p[2]); }</pre>	2	1	4	1,2,3
8.	List the unformatted I/O functions for string operations.	2	4	4	1,2,3,5
9.	Explain about “enum” data type with a suitable example.	2	2	5	1,2,3
10.	List the differences between ‘Structure’ and ‘Union’.	2	1	5	1,2,3
Part-B (5 × 8 = 40 Marks)					
11. a)	Write the C Program to find the area and circumference of a circle for a radius of 1 meter.	4	2	1	1,2,3
b)	List the types of errors in C program, explain about them in brief.	4	3	1	1,2,3,5

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12. a)	List the types of Logical and Comparative data operators, and compare them.	4	2	2	1,2,3
b)	Write the C program to print the following Pattern using 'nested for loop'. * * * * * * * * * *	4	4	2	1,2,3,5
13. a)	List the types of data Sorting and Searching techniques and write the advantages and drawbacks of each method.	4	1	3	1,2,3
b)	Write a program to find the location of the element (102) in the given array: 10 15 28 34 56 78 92 102 136 using binary search and also explain the process of searching.	4	4	3	1,2,3,5
14. a)	Write a C program to print the given sting in reverse order in lower letters: "ELECTRICAL ENGINEERING".	4	2	4	1,2,3
b)	What is the meaning of "strcat ()", "strlen ()" functions? Explain with a suitable example.	4	4	4	1,2,3,5
15. a)	With a suitable C program, explain about the array of structures.	4	2	5	1,2,3
b)	Write a C program to store the 4 employee's name, ID, and salary using structure.	4	3	5	1,2,3,5
16. a)	Explain the purpose of flow chart and draw the flow chart to identify whether the given number is even or not.	4	2	1	1,2,3
b)	Discuss about the structure and importance of 'while-loop' and write a C program to print first 15 natural numbers.	4	3	2	1,2,3
17.	Answer any <i>two</i> of the following:				
a)	Arrange the given set of numbers in the ascending order using selection sort technique {7,16,2,19,11,4,7,3,5,6}, also write the C program for it.	4	3	3	1,2,3,5
b)	Explain three types of dynamic memory allocation functions and write the syntax for each function.	4	2	4	1,2,3
c)	List any four functions which are used to read and write operations of files from secondary memory location.	4	1	5	1,2,3

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

i)	Blooms Taxonomy Level – 1	20%
ii)	Blooms Taxonomy Level – 2	37.5%
iii)	Blooms Taxonomy Level – 3 & 4	42.5%
