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RV COLLEGE OF ENGINEERING®

(An Autonomous Institution affiliated to VTU)

I Semester B. E. Examinations May-2023

Common to AS / CH / IM / ME / EC / EE / EI / ET / CV

FUNDAMENTALS OF PROGRAMMING USING C (ELECTIVE)

Time: 03 Hours ***Maximum Marks: 100***

Instructions to candidates:

1. Answer all questions from Part A. Part A questions should be answered in first three pages of the answer book only.
2. Answer FIVE full questions from Part B. In Part B question number 2 is compulsory. Answer any one full question from 3 and 4, 5 and 6, 7 and 8 & 9 and 10.

PART-A

1	1.1	A translator which reads an entire program written in high level language and converts it in to machine language code is _____.	01
	1.2	Write an algorithm to check whether given year is leap year or not.	02
	1.3	The format identifier '%i' is also used for _____ data type.	01
	1.4	The size of an integer variable in C is _____.	01
	1.5	Predict and justify the output of the following code. *int main ( )* { *Int n;* *for* $(n-7; n! = 0; n--)$ *printf*("n=%d", $n--$); *return* 0; }	02
	1.6	Identify if there are any error/s in the following code. If no error then write the value of y if $x = 8$? $y = (x > 6\ ?\ 4\ :\ 6)$;	02
	1.7	If the two strings are identical, then *strcmp( )* function returns _____.	01
	1.8	Give an example for entry controlled looping construct in C.	01
	1.9	Every string in C language is terminated by _____.	01
	1.10	The process of calling a function using pointers to pass the address of variable is termed as _____.	01
	1.11	What is the output of this C code? *void main ( )* { *struct student* { *int no;* *char name* [20]; }; *struct student s;* *s.no* = 8; *printf*("%d", *s.no*); }	02
	1.12	The life of _____ variable declared in a function ends when the function is exited.	01
	1.13	Explain how to access the members of the structure with an example.	02
	1.14	The _____ function appends not more than n characters.	01
	1.15	What are the different constants that can be initialized to a pointer?	01

PART-B

2	a	What is memory? Explain with examples different types of memory.	08
	b	Write the flow chart to find the roots of a quadratic equation.	08
3	a	Explain the structure of C program with a suitable example.	08
	b	Explain formatted and unformatted input output statements with example.	08
		OR	
4	a	Illustrate any three operator precedence and associativity with an example.	08
	b	Write a C program to convert decimal number to binary number.	08
5	a	Write a C program for reversing a number and to check whether it is a Palindrome or not.	08
	b	Define an array. Write a C program to find an element from a list of numbers using Binary search technique.	08
		OR	
6	a	Illustrate the compile time and run time initialization of two dimensional arrays with examples.	08
	b	Write a C program to perform matrix multiplication using functions. Also print the output matrix.	08
7	a	Illustrate the comparison of two strings without using built in functions with a suitable C program.	08
	b	Briefly describe all the basic function designs used in writing user defined functions.	08
		OR	
8	a	Using function, write a C program to find the trace of a given matrix.	08
	b	Explain any five string handling functions with suitable examples.	08
9	a	Implement a C program to swap two numbers to demonstrate the advantage of pass-by-reference. Explain in detail.	10
	b	Differentiate between pass-by-value and pass-by-reference.	06
		OR	
10	a	Develop a C program using structures to compute average marks of $'n'$ students $(Name, Roll\_No, Test\ Marks)$ and search a particular record based on $'Roll\_No'$.	10
	b	What is pointer? Mention the advantages and disadvantages of pointers.	06