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RV COLLEGE OF ENGINEERING®
(An Autonomous Institution Affiliated to VTU)
III / IV Semester B. E. Examinations Nov/Dec-19
BRIDGE COURSE C PROGRAMMING

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, 7 and 8 are compulsory. Answer any one full question from 3 and 4 & one full question from 5 and 6.

PART-A

1	1.1	What is the output of the following code? <pre>void main() { int a = -45; int b = 34; if(a != b); printf("true"); printf("false"); }</pre>	01
	1.2	Define a variable with examples.	02
	1.3	Give the syntax for switch statement.	02
	1.4	Give the format specifier for string.	01
	1.5	Write the output of the following code: <pre>int main() { float x = 0.1; if (x == 0.1) printf("1f"); else if (x == 0.1f) printf("ELSE IF"); else printf("ELSE"); }</pre>	02
	1.6	What will happen if in a C program you assign a value to an array element whose subscript exceeds the size of array?	01
	1.7	In C, if you pass an array as an argument to a function, what actually gets passed?	01
	1.8	What is the output? <pre>int main() { int a[2] = {0,1}; printf("%d", a[1]); }</pre>	02
	1.9	Write a structure declaration and initialization statement to describe a structure Book containing fields page no, name of author and title.	02
	1.10	What is the output of C code? <pre>void main(){ int a[2][3] = {1,2,3,4,5}; int i = 0, j = 0; for(i = 0; i < 2; i++) for(j = 0; j < 3; j++) printf("%d", a[i][j]); }</pre>	02

1.11	Difference between arrays and structures.	02
1.12	What are the advantages of using functions?	02

PART-B

2	a	Define the following with example: i) Data type ii) Variable iii) Keyword iv) Identifier.	06
	b	Write an algorithm to check whether a given number N is prime or not.	04
	c	Draw flow chart to compute factorial of a number.	06
3	a	Explain the following operators with example: i) Logical operators. ii) Conditional operators. iii) Relational operators.	06
	b	Write the equivalent C-expressions for the following: i) $\sin(\frac{b}{\sqrt{a^2+b^2}})$ ii) $x_1 = -\frac{b+\sqrt{b^2-4ac}}{2a}$ iii) $y = \frac{\alpha+\beta}{\sin\theta} + x^5$	06
	c	Distinguish between implicit and explicit type conversion with an example.	04
OR			
4	a	Explain the difference between while and do while loop with an example.	06
	b	Write a C program to print the following pattern: 1 0 1 1 0 1 0 1 0 1	04
	c	Using switch statement, write a program to simulate a calculator that performs arithmetic operations.	06
5	a	Explain the methods of declaring and initializing 1D and 2D arrays with examples.	06
	b	Write a C program to find the transpose of a matrix.	06
	c	What is an array? Write the advantages and disadvantages of arrays.	04
OR			
6	a	Explain any four string handling functions with examples.	08
	b	Write a C program to count the number of vowels, consonants and digits in a given string.	08
7	a	Explain function declaration, function call and function definition with example.	08
	b	Create a structure for n students and calculate the average marks of two subjects and print the details of students.	08
8	a	Explain fopen() and fclose() with syntax and example.	06
	b	List the difference between call by value and call by reference with example.	06
	c	Write a C program to swap 2 numbers using pointers.	04