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RV COLLEGE OF ENGINEERING®
(An Autonomous Institution Affiliated to VTU)
IV Semester B. E. Examinations April/May-19
Common to AS / CV / BT / CH / ME / IM
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	Define an algorithm.	01
	1.2	Write the output for the following code: $\# include \ < stdio.h >$ $int\ main()$ $\{$ $\quad int\ x, y = 5, z = 5;$ $\quad x = y == z;$ $\quad printf("\%d", x);$ $\quad return\ 0;$ $\}$	02
	1.3	Consider $a = 10$ and $b = 6$, find a and b (Bitwise And).	02
	1.4	Write the printf statement to print the following output: $i = 10, j = 20, x = 43.289200, y = 5527.000000$	02
	1.5	The range of signed integer and an unsigned integer for a 16 –bit machine is _____ and _____.	02
	1.6	Find the values of the variables in the following program segment: $int\ a, b, c, d;$ $float\ x, y;$ $a = 10;$ $b = 15;$ $c = a/b;$ $d = b/a;$ $x = b/a;$ $y = (float)b/a;$	02
	1.7	The keyword used to transfer control from a function back to a calling function is _____.	01
	1.8	Write a book structure to hold the information such as title, author, no. of pages and price.	02
	1.9	If x is an integer pointer with an initial value of 1192, after the operation $x + +$; the value of x is _____.	01
	1.10	Identify the type of constant for the given input 123 and "123".	01
	1.11	What is the output of the following? $main\ ()$ $\{ \quad int\ a = 20, b = 35;$ $\quad a = b + + \ + \ a + +;$ $\quad b = + + b \ + \ + + a;$ $\quad printf("\%d\ \%d", a, b); \}$	02

| 1.12 | What is the output of the following?<br><br>```c
void main(  )
{
    int i;
    for (i = 1; i <= 5; i++)
    {
        if (i == 4)
            break;
        printf ("%d\t", i);
    }
}
``` | 02 |
|---|---|---|

PART B

2	a	Write an algorithm and flowchart to find area and perimeter of circle.	08
	b	Describe the Structure of a C program with an example.	08
3	a	List the relational operators. Also explain each operator with an example.	08
	b	Write a C program to find all the roots of quadratic equation using if-else statement.	08

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OR

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4	a	Briefly explain the procedure of arithmetic operators with an example.	04
	b	Explain switch statement with example.	06
	c	Evaluate the following expressions $x = (-b = sqrt(b*b - 4*a*c))/(2*a)$, assuming $a = 1, b = -5, c = 6$.	06

5	a	What is an array? Discuss the two types of initialization of one-dimensional arrays with examples.	08

	b	Give the output for the following functions, where $S1 = $ Surgical, $S2 = "Strike"$
		    i) $strncpy(S1, S2,5)$;
		    ii) $strncat(S1, S2,2)$;
		    iii) $S3 = strstr(S1, S1)$;
		    iv) $strncmp(S3, S1,5)$; what does strncmp return?
			08

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OR

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6	a	Write a C program to find the product of two matrices $A(m \times n)$ and $B(p \times q)$.	08
	b	List and explain the string handling functions with suitable examples.	08

7	a	Explain the following with examples:
		    i) Function with no arguments and no return values.
		    ii) Function with arguments and one return values.
			06

	b	Discuss the declaration of structure variables with an example.	06
	c	Write the difference between formal arguments and actual arguments.	04

8	a	What is a pointer? Discuss the benefits of pointers to the programmers.	04
	b	Explain declaration of pointer variables with proper syntax and example.	06
	c	Illustrate $fopen()$ and $fclose()$ with example.	06