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**B.C.A. (SEMESTER-I) EXAMINATION, OCTOBER 2014
PROBLEM SOLVING AND PROGRAMMING CONCEPTS**

Duration: 2 Hours

Marks: 50

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate marks.

Q.1 A. State whether the following statements are true or false. (5x1=5)

- i. Every C program ends with an END word.
- ii. Only one function may be named main().
- iii. Declarations can appear anywhere in the program.
- iv. The getchar cannot be used to read a line of text from the keyboard.
- v. Structures may contain members of only one data type.

Q.1.B. Find errors if any, in the following C statements. (2x1=2)

i. `a=b++ - c*2;`

ii. `if(x>=10) then
printf("\n");`

Q.1.C. Determine the output of the following code segment. (2x1 ½=3)

i.

```
main()
{
  int m;
  for(m=1;m<5;m++)
  printf("%d", (m%2)==0 ? m : m*2);
}
```

ii.

```
char s1[] = "kolkotta";
char s2[] = "pune";
strcpy(s1, s2);
printf("%s", s1);
```

Q.2.A. Define an algorithm. (2)

Q.2.B. What is Type conversion? Illustrate with an example. (3)

Q.2.C. Write a C program to find sum of first 10 numbers of the following series. (5)

$1/1! + 2/2! + 3/3! + 4/4! + \dots$

contd...2/-

- Q.3.A. Define Symbolic constant. (2)
- Q.3.B. State the uses of getchar() and putchar() (3)
- Q.3.C. Write a C program to generate Fibonacci series. (5)
- Q.4.A. State the rules for naming a variable. (2)
- Q.4.B. Illustrate with an example, the use of switch statement. (3)
- Q.4.C. Write a C program to copy one string into another. (5)
- Q.5.A. List and state the uses of any 4, C library functions. (2)
- Q.5.B. What is a C preprocessor? (3)
- Q.5.C. Write a short note on User Defined Functions. (5)

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