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Sub Code: RCAI101

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**MCA Integrated**  
**(SEM. I) THEORY EXAMINATION 2018-19**  
**PROGRAMMING IN C**

**Time: 3 Hours**

**Total Marks: 70**

**Notes:**

- *Attempt all Sections.*
- *Assume any missing data.*

**SECTION-A**

**1. Define / Explain the following :** **(7x2=14)**

- a) What are the basic functions performed by a computer?
- b) Compare primary memory and secondary memory.
- c) Write an algorithm to print sum of numbers from 1 to 10.
- d) What is a recursive function? Why it is used?
- e) What happens if you create a loop that never ends?
- f) What is the use of return statement?
- g) Evaluate the following expression if a=11, b=9 and c=3 :  
 $a < b \ \&\& \ a > c \ || \ (b+1 > c-1)$

**SECTION-B**

**2. Attempt any five of the following :** **(5x7=35)**

- a) Discuss characteristics and character set of C language.
- b) Define identifier. What are the rules for creating valid identifiers? Explain
- c) What do you mean by a storage class? Describe various storage classes with proper example.
- d) What is a programming language? Discuss first and second generation of languages with their respective advantages and disadvantages.
- e) Write a C program to check whether a triangle is right-angled or not.
- f) Discuss any five library functions used in C language.
- g) Differentiate between for, while and do-while loops with suitable example.
- h) Write a C program to print the following pattern:

A  
BB  
CCC  
DDDD  
EEEE

**SECTION-C**

**Attempt any two of the following:** **(2x10.5=21)**

3. What do you understand by the term data type? Describe various data types available in C language with proper example.
4. Define function. What are the advantages of using functions? Write a C program to interchange the contents of two variables using function.
5. Write a C program to enter marks of 5 subjects of a student and find its division (first, second, third and fail).