Sub Code:RCA101

Paper Id: 214101 Roll No: | | | | | | | | | | | | | |

MCA

(SEM I) THEORY EXAMINATION 2019-20

COMPUTER CONCEPTS & PRINCIPLES OF PROGRAMMING

Time: 3 Hours ***Total Marks: 70***

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief. 2 x 7 = 14

a. What do you mean by system software and application software? Give some examples of it.
b. Explain the working of Linker.
c. Differentiate between RAM and ROM
d. How keywords are different from identifiers?
e. How runtime binding is different from compile time binding?
f. What do you mean by the term lexical items?
g. Define an Array.

SECTION B

2. Attempt any *three* of the following: 7 x 3 = 21

a. Illustrate the concept of cache memory and its use.
b. What are the symbols used in a flow chart? Draw a flow chart to find sum of N natural numbers.
c. Define algorithm. Write an algorithm to search a number in a given array of numbers.
d. For a 16 bit machine an integer array is declared of size 10. The base address of the array is 1000. With a neat diagram describe how the memory will be allocated?
e. Write notes on: (i) iOS, (ii) IoT

SECTION C

3. Attempt any *one* part of the following: 7 x 1 = 7

(a) Draw the block diagram of a computer and discuss its functional units.
(b) Discuss the attributes of a good language

4. Attempt any *one* part of the following: 7 x 1 = 7

(a) What do you mean by cloud computing? Discuss the various service models used in cloud computing.
(b) Differentiate between static RAM and dynamic RAM.

5. Attempt any *one* part of the following: 7 x 1 = 7

(a) What do you mean by recursion? Write a recursive function to find factorial of a number.
(b) Outline the naming rules taken into consideration for naming in a language.

6. Attempt any *one* part of the following: 7 x 1 = 7

(a) Discuss the syntactic elements of a language.
(b) Assess how storage class of a variable change the behavior of the variable.

7. Attempt any *one* part of the following: 7 x 1 = 7

(a) With a neat diagram draw memory hierarchy and explain.
(b) Illustrate encapsulation & inheritance by considering real life example.