Printed pages: 02 **Sub Code:RCA101**

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

MCA

(SEM I) THEORY EXAMINATION 2018-19

COMPUTER CONCEPTS & PRINICIPLES OF PROGRAMMING

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

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.
2. Any special paper specific instruction.

SECTION A

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

a. What is cache memory?
b. Difference between application software and system software.
c. What is Internet of Thing IoT?
d. Define variable and constant.
e. What do you mean by Static and dynamic scope.
f. What is a list?
g. What are linker and loader?

SECTION B

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

a. What is a digital computer? Explain the various types of Input and Output devices.
b. What is an operating system? Explain the function of operating system.
c. What is an Algorithm? Write an algorithm to swap two variables without using third variable.
d. What is an array? Write an algorithm to find out the addition of 3*3 matrixes.
e. Explain Inheritance with its advantage in details.

SECTION C

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

(a) Explain memory hierarchy of computer system in details.
(b) Make the conversion of following number system.
(i) $(101011011)_2$ to $(\ )_{10}$
(ii) $(458)_{10}$ to $(\ )_2$
(iii) $(146)_8$ to $(\ )_{10}$
(iv) $(A24BC)_{16}$ to $(\ )_2$

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

(a) Explain any two following term in details.
(i) Big data Analytics.
(ii) Difference between Linux and UNIX.
(iii) Android operating system.

(b) What is Cloud Computing? Explain Cloud Computing and its benefits.

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

(a) What is Flow chart? Explain the various component of flow chart. Draw a flow chart find a greater number between three unequal numbers.

(b) What is programming language? What are the attributes of good language? Explain different type of computer language.

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

(a) What do you mean by recursive sub program? Discuss with a suitable example.

(b) Write notes on the following: (i) Problem solving approach. (ii) Virtual Architectures.

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

(a) What do you mean by object oriented programming? Explain the feature of object oriented programming.

(b) Explain following in details:

(i) Abstract Data Type.

(ii) Message Passing.

(iii) Green Computing.