

Printed Pages: 3

RCA - 101

(Following Paper ID and Roll No. to be filled in your Answer Books)

Paper ID : 2289910

Roll No.

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MCA

Regular Theory Examination (Odd Sem-I), 2016-17

**COMPUTER CONCEPTS AND PRINCIPLES
OF PROGRAMMING**

Time : 3 Hours

Max. Marks : 70

Section - A

1. Answer all parts. All parts carry equal marks. Write answer of each part in short. (5×2=10)
- Differentiate system software and application software
 - What is e-waste?
 - Write an algorithm for leap year.
 - What is user defined data type?
 - Write basic concepts of OOPS?

Section - B

Note: Attempt any five questions from this section.

(5×8=40)

2. Convert the following
- $(101011)_2 = (?)_{10}$
 - $(724)_8 = (?)_2$

101/12/2016/1360

(1)

[P.T.O.]

RCA-101

- c) $(29.8)_{10} = (?)_{16}$
d) $(9AF)_{16} = (?)_2$
3. Write about digital computers in detail. Draw and explain digital computer system architecture.
4. How do you define the term big data? How it is different from structured data?
5. Write a short note on the following:
- a) Machine Language.
 - b) Assembler
 - c) Compiler
 - d) Linker and loader
6. What is meant by language standardization? Explain attributes of good language.
7. Define the concept of looping. How it is different from condition checking?
8. For an elementary data type in a programming language, do the following.
- a) Describe the set of values that data objects of that type may contain.
 - b) Determine the storage representation for values of that type.
 - c) Define the declarations that can be used for constants of that type.
 - d) Differentiate assignment and initialization.

RCA - 101

9. Define the concept of abstract data types. Does abstract data types different from the process of abstraction in object oriented programming languages?

Section - C

Note : Attempt any two questions from this section.

(2×10=20)

10. What is an operating system? What are the functions of an OS? Also differentiate UNIX and LINUX OS.
11. Explain the different layers in cloud computing. Also mention the name of some large cloud providers and databases.
12. What are classes and objects? Explain Encapsulation and Inheritance with suitable examples.
