HOME ASSIGNMENT (2025 Batch)
BACHELOR OF COMPUTER APPLICATION (BCA)
(SECOND SEMESTER)
CENTRE FOR DISTANCE AND ONLINE EDUCATION
DIBRUGARH UNIVERSITY

(Full Marks 30 for each course)

Course : BCA – 201
(Mathematics-II)

Assignment – 1   *Total marks : 15*

1. Define derivative of a function and explain its geometrical meaning.

   or

   Discuss how derivatives are used to find maxima and minima of a function.

Assignment – 2   *Total marks : 15*

1. Define integration as the inverse process of differentiation. Give examples.

Course : BCA – 202
(Discrete Mathematics)

Assignment – 1   *Total marks : 15*

1. Define a group. Explain the four fundamental properties that a set with a binary operation must satisfy to form a group.

   or

   Define a ring. Discuss about commutative rings and rings with unity.

Assignment – 2   *Total marks : 15*

1. Discuss the different ways to represent a directed graph in a computer system.

Course : BCA – 203
(Data Structure using C and C++)

Assignment – 1   *Total marks : 15*

1. Define a data structure. Explain the difference between linear and non-linear data structures with examples

Assignment – 2   *Total marks : 15*

1. Define a stack and a queue. Describe their basic operations with diagrams.

   or

   Write a C++ program to implement Bubble sort in an array of size 20.

Course : BCA – 204
(Accounting and Financial Management)

Assignment – 1   *Total marks : 15*

1. Explain the objectives and importance of financial statement analysis

Assignment – 2   *Total marks : 15*

1. Discuss how Ratio analysis helps in assessing profitability and efficiency.

or

Describe the steps involved in preparing a Fund Flow Statement.

Course : BCA – 205
(Computer Architecture and Organization)

Assignment – 1   *Total marks : 15*

1. Explain the memory hierarchy in a computer system.

or

Define Direct Memory Access (DMA) and explain it with the help of block diagram.

Assignment – 2   *Total marks : 15*

1. Discuss its advantages over programmed I/O and interrupt-driven I/O

Course : BCA – 205
(Computer Architecture and Organization)

Assignment – 1   *Total marks : 15*

1. Explain the memory hierarchy in a computer system.

Assignment – 2   *Total marks : 15*
1. Define Direct Memory Access (DMA) and explain it with the help of block diagram.

or

Discuss its advantages over programmed I/O and interrupt-driven I/O

Course : BCA – 206
(Laboratory)
Assignment – 1   *Total marks : 15*

1. Write a **C/C++ program** to perform the following operations on an array of integers.
a) Insert an element at a given position
b) Delete an element from a given position
c) Display the array

Assignment – 2   *Total marks : 15*
1. *Write a c program to sort an array of size 15 using merge sort.*

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