NOTIFICATION

for
BCA 2nd Semester Learners regarding submission of Home Assignments

This is for information to all Study Centers and Learners under DODL, DU that the student of BCA 2nd Semester shall have to submit one Home Assignment in each course (paper). Each assignment carries 30 marks. The questions for the Home Assignments are enclosed herewith. At the time of submitting the assignments, please note the following:

* Write your assignment in A4 size paper neatly, with your own hand- writing on one side of the paper. You may also submit a computer printed copy of your assignments with your signature at the end.

* Stick to the word limit mentioned in the questions.

* Keep a margin of about 5 cm on the left side of the paper.

* You have to submit the assignments directly in the Study Centre wherein you have enrolled yourself.

* The assignments for a course (paper) should be tagged / stapled together to make a booklet, i.e. a separate booklet for each course (paper).

* Keep a duplicate or photo copy of the assignment with you (compulsory).

* The last date of submitting the Assignment is 24th February, 2023 (excluding Sundays)

* The cover page of your booklet should contain the following Label :

Home Assignment

Name of Study Centre_____

Roll No._____

Name _____

Programme : BCA

Class : 2nd Semester

Course (Paper) : _____

Session : 2022-2023

D.U. Registration No. : (If received) _____of ___

Date of Submission : _____

Sd/-

(**Prof. D.K. Chakraborty**)
Director in-charge
DODL, D.U

ASSIGNMENT-2023
Mathematics -II
BCA -201

(Answer All)   **Total marks : 30**

1. State and prove mean value theorem.   5

2. Evaluate   5

$$\int \frac{(x-1)}{(x-3)(x-2)} dx$$

3. Prove that   5

$$\int_0^\pi \frac{x}{1+sin^2 x} dx = \frac{\pi^2}{2\sqrt{2}}$$

4. Find the perimeter of the circle $x^2 + y^2 = a^2$ 5
5. State and prove Rolle's Theorem.   5
6. Find the area enclosed by the curve $y^2 = x$ and the straight line $x = 4$ 5

ASSIGNMENT
Discrete mathematics
BCA -202

Total marks : 30

Answer Any three

1. Show that every field is an integral domain.   10

2. Find all the eigen values and basis for each eigenspace of linear operator T: $R^3 \to R^3$ defined by T(x,y,z)=(3x+y+4z, 2y+6z, 5z)   10

3. Show that a simple graph with n vertices and k components cannot have more than

   $\frac{(n-k)(n-k+1)}{2}$ edges   10

4. Explain Dijkstra's algorithm with an example.   10

5. Define tree .Discuss all all its properties.   10

ASSIGNMENT
Data Structure using C and C++
BCA -203

Total marks : 30

Answer any three

1. Describe PUSH and POP operation in stack. Explain how stack can be implemented. 10
2.   a. What is a circular queue ? How is it different from queue.   5+5

      b. Compare and contrast between a binary and a binary search tree

3. What is a linked list ? Write a program in C++ to concatenate two singly linked list . 10
4. Write a program to sort the N elements of an array in ascending order using   10
   a. Bubble sort technique.
   b. Merge sort
5. Explain the various methods for tree traversal.   10

ASSIGNMENT
Accounting and Financial Management
BCA -204

Total marks : 30

Write short notes on any SIX (6) of the following

6 X 5 = 30 marks

1) Balance Sheet
2) CASH discount and TRADE discount.
3) Financial Management
4) PERSONAL accounts.
5) Cash book.
6) Fund Flow statement
7) Features of TRIAL BALANCE.
8) LIMITATIONS of Ratio Analysis.
9) ADVISORY functions of Financial Management.
10) Marginal Costing

ASSIGNMENT
Computer Architecture and Organization
BCA -205

Total marks : 30

Answer any three

1. What is Addressing mode ? Explain the different Addressing modes .   10
2. What are the main parts of Von Neumann Architecture ? Explain with diagram. 10

3. Explain the organization of a microprogrammed control unit and describe its operations.   10

4. Explain how a DMA controller works.   10
5. Describe the I/O interface with an example.   10