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**NOTIFICATION**

**for**  
**BCA 1<sup>st</sup> 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 1<sup>st</sup> 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 27<sup>th</sup> May, 2022 (excluding Sundays)
- \* The cover page of your booklet should contain the following Label :

<b>Home Assignment</b>
Name of Study Centre _____
Roll No. _____
Name _____
<b>Programme : BCA</b>
<b>Class : 1<sup>st</sup> Semester</b>
Course (Paper) : _____
Session : 2021 -2022
D.U. Registration No. : (If received) _____ of _____
Date of Submission : _____

Sincerely Yours

Sd/-  
( Prof. D.K. Chakraborty )  
Director, i/c  
DODL, D.U

## Assignment of BCA 1<sup>st</sup> semester -2022

### ASSIGNMENT Computer Fundamentals BCA -101

Total marks : 30

1. Write short notes on the following: 5X4=20
  - a) RAM and ROM
  - b) Secondary Memory
  - c) Input and Output Devices
  - d) GUI and CLI
2. Write down the differences between System Software and Application Software. 5
3. What are the main functions of an Operating System? Briefly mention them. 5

### ASSIGNMENT Mathematics BCA -102

Total marks : 30

Each question carries 5 marks (Answer any six)

1. Show that contra-positive statements are equivalent
2. Prove that the relation R in the set of natural numbers N defined by  $aRb$  if  $a^2 - 4ab + 3b^2 = 0 (a, b \in N)$  is reflexive, but neither symmetric nor transitive.

3. Determine whether the relation R is a partial order on the set A
- (i)  $A=Z$  ,and  $aRb$  if and only if  $a=2b$
- (ii)  $A=R$  and  $aRb$  if and only if  $a \leq b$
4. Simplify  $\frac{3}{1+i} - \frac{2}{2-i} + \frac{2}{1-i}$
5. Using De Moivre's theorem ,find the three cube root of -1
6. Solve
- $$x + y + z = 3$$
- $$2x - y + z = 2$$
- $$x - 2y + 3z = 2$$
7. In how many ways the letters of the word COMBINE and MATHEMATICS can be arranged .

## ASSIGNMENT

### Business Communication and Grooming

### BCA -103

**Total marks : 30**

Each question carries 5 marks.( Answer any six )

- |   |   |
|---|---|
| 1. What is communication? Discuss the process of communication.   | 5 |
| 2. What is group discussion? How would you prepare for a group discussion?  | 5 |
| 3. What do you mean by the format of a letter? Show it with a specimen format of any one type of business letter. | 5 |
| 4. What is report? What is its need in a business organization?   | 5 |
| 5. Prepare your resume for a job in an effective manner.  | 5 |
| 6. Write down the five major factors of heritability.   | 5 |
| 7. Discuss three factors of leadership.   | 5 |
| 8. What do you understand by time management?   | 5 |
| 9. What is self assessment? Discuss.  | 5 |



**ASSIGNMENT**  
**Programming in C**  
**BCA -104**

**Total marks : 30**

Each question carries 5 marks.

Answer any six(6).

1. What are the fundamental data types in C programming language. 5
2. Explain different types of loops in C.
3. Write main features of a good programming language. 5
4. What are the fundamental data types in C programming language. 5
5. Discuss the different types of arithmetic and relational operators. 5
6. Explain the SWITCH statement. 5
7. Explain the following:
  - a. goto
  - b. break
8. What is a function? Why we use functions in C language ? What is call by value and call by reference? 5
9. What is pointer in C programming ? What are its benefits? 5

**ASSIGNMENT**  
**Digital Design**  
**BCA -105**

**Total marks : 30**

1. Convert  $(32.625)_{10}$  to binary number and  $(11001.110)_2$  to decimal number? 2
2. Discuss about the Parity Bit Coding Technique. 3

3. What are NOR and NAND gates? Why are they called universal gates? Give truth tables for 3-input NAND and NOR gates. 5
4. Obtain the simplified form of the following Boolean expression using K-map. Draw the logic circuit.  
$$F(A,B,C,D) = \sum(0, 1, 2, 3, 4, 5, 7, 8, 9, 11, 14)$$
 5
5. What are the major application of multiplexers? 5
6. What are decoders? Draw and explain the working of a 2 to 4 line decoder. 5
7. Differentiate between S-R and J-K flip-flops. 5

**ASSIGNMENT**  
**Programming in C (Practical)**  
**BCA -106**

**Total marks : 30**

LABORATORY ASSIGNMENT ( Answer any six )

1. Write a program in C to find the greatest of three numbers.
2. Write a program in C to find area of a triangle and show its type.
3. Write a program in C to find a factorial of a number. ( Use function )
4. Write a program in C to print first n natural numbers.
5. Write a program in C to generate the first n Fibonacci series.
6. Write a program in C to find area of a triangle and show its type.
7. Write a program in C to find the maximum, minimum value in an array.
8. Write a program in C to add two matrices.(use function)
9. Write a program in C to convert lowercase vowel to uppercase in string.
10. Write a program in C to insert an element at a given location in an array.