HOME ASSIGNMENT (2024 batch)
BACHELOR OF COMPUTER APPLICATION (BCA)
(FIRST SEMESTER)
CENTRE FOR DISTANCE AND ONLINE EDUCAITON
DIBRUGARH UNIVERSITY

(Full Marks 30 for each course)

Course : BCA – 101 (Computer Fundamentals)

Assignment – 1 *Marks –5×3=15*

1. Explain some of the output devices used with computer systems.
2. Describe the different categories of computer based on their memory size and speed
3. What are the main functions of an Operating System? Briefly mention them.

Assignment – 2 *Marks –5×3=15*

1. Write short notes on the following:
   a) RAM and ROM
   b) Software and its type
   c) System Software and Application Software.

Course : BCA – 102 (Mathematics)

Assignment – 1 *Marks –5×3=15*

1. Show that A- (B∩C)=(A-B) ∪ (A-C)
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 $a \leq b$

Assignment – 2 *Marks –5×3=15*

1. $Simplify \quad \frac{3}{1+i} - \frac{2}{2-i} + \frac{2}{1-i}$
2. Using De Moivre's theorem ,find the three cube root of -1
3. $Solve$

$$x + y + z = 3$$
$$2x - y + z = 2$$
$$x - 2y + 3z = 2$$

Course : BCA – 103 (Business Communication and Grooming)

Assignment – 1 **(Answer any three)** *Marks –5×3=15*

1. What is communication? Discuss the process of communication.
2. What is group discussion? How would you prepare for a group discussion?
3. What do you mean by the format of a letter? Show it with a specimen format of any one type of business letter.
4. What is report? What is its need in a business organization?

Assignment – 2 **(Answer any three)** *Marks –5×3=15*

1. Prepare your resume for a job in an effective manner.
2. Write down the five major factors of heritability.
3. What do you understand by time management?
4. What is self assessment? Discuss.

Course : BCA – 104 (Programming in C)

Assignment – 1 **(Answer any three)** *Marks –5×3=15*

1. What are the fundamental data types in C programming language.
2. Explain different types of loops in C.
3. Write main features of a good programming language.
4. Discuss the different types of arithmetic and relational operators.

Assignment – 2 **(Answer any three)** *Marks –5×3=15*

1. Explain the SWITCH statement.
2. Explain in detail one-dimensional and multi-dimensional arrays.
3. Explain call by value and call by reference using examples.
4. Briefly explain
   a. Go to statement
   b. Structure

Course : BCA – 105 (Digital Design)

Assignment – 1 *Marks –5×3=15*

1. Convert $(42.225)_{10}$ to binary number and $(110011.110)_2$ to decimal number?
2. Discuss about the Parity Bit Coding Technique.
3. What are NOR and NAND gates? Why are they called universal gates? Give truth tables for 3-input NAND and NOR gates.

Assignment – 2 *Marks –5×3=15*

1. Obtain the simplified form of the following Boolean expression using K-map. Draw the logic circuit. $F(A,B,C,D) = \sum(0, 1, 2, 3, 4, 5, 7, 8, 9, 11, 14)$
2. What are the major application of multiplexers?
3. What are decoders? Draw and explain the working of a 2 to 4 line decoder.

Course : BCA – 106 (Programming in C - Practical)

Assignment – 1 **(Answer any three)** *Marks –5×3=15*

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.

Assignment – 2 **(Answer any three)** *Marks –5×3=15*

1. Write a program in C to generate the first n Fibonacci series.
2. Write a program in C to find the maximum, minimum value in an array.
3. Write a program in C to add two matrices.
4. Write a program in C to check if a string is palindrome or not.

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