

**INTERNAL ASSIGNMENT****Course Code:** 23OBC101**Assignment No:** 1**Course Title:** Computational Thinking and Fundamentals of IT**Last Date of Submission:** 04 Dec 2023**Maximum Marks:** 30

1. The assignment will have two parts, A and B. Part A is of 10 MCQ-type Questions of 1 mark each.
2. Part B is of 20 Marks having 8 Descriptive Questions. Attempt any 5 out of them.

**Part-A****(10 x 1 = 10 Marks)**

<b>Q.No.</b>	<b>Question</b>	<b>CO</b>
1	What is computational thinking?	1
Ans key	A) A computer programming language B) A method for data analysis C) An approach to problem solving using computer science techniques D) A form of artificial intelligence	
2	What is the difference between "data" and "information"?	1
Ans key	A) Data encompasses knowledge about the real world, while information pertains to encoded quantities B) Data is processed by computers, while information represents real-world quantities C) Data is a subset of information that contains numerical values, while information includes characters and symbols D) Data is restricted to continuous values, while information can be either continuous or discrete	
3	What is the Nyquist-Shannon sampling theorem related to?	1
Ans key	A) Binary encoding B) Colour representation C) Digital audio sampling D) Image compression	
4	What is the purpose of pseudocode in programming?	1
Ans key	A) To provide a specific syntax for a programming language. B) To outline the sequence of steps in a program without strict syntax rules. C) To convert code from one language to another. D) To replace the need for algorithms in programming	
5	What is the purpose of a flowchart?	2

Ans key	A) To write program code B) To communicate the program logic visually C) To debug the program D) To store data in a system	
6	What is an algorithm?	2
Ans key	A) A mathematical equation B) A defined set of step-by-step procedures for solving a problem C) A programming language D) A graphical representation of a program	
7	What is the advantage of using flowcharts for program development?	2
Ans key	A) Better communication of program logic B) Improved program analysis C) Effective documentation of program logic D) All of the above	
8	Which drawback is associated with the use of algorithms?	2
Ans key	A) Difficult tasks are challenging to explain using algorithms B) Time-consuming development and proof of accuracy C) Difficulty in representing programming constructs like looping and branching D) All of the above	
9	_____ is an electronic device that stores data and process data by converting it into information that is useful to people.	3
Ans key	A) Computer B) Xerox machine C) Scanner D) Printer	
10	The result of the process and computation is displayed on the _____ devices.	3
Ans key	A) Output B) Input C) Both D) Neither	

**Part B****Answer any 5 Questions****(5 X 4 = 20)**

<b>Q.No.</b>	<b>Questions</b>	<b>CO</b>
1	Interpret how Computational Thinking is used.	1
2	Explain classic puzzle solving.	1
3	Summarize the general Problem Solving Techniques.	1
4	State the definition of a flowchart.	2
5	Illustrate the characteristics of an algorithm.	2
6	Construct a flowchart and algorithm to find the sum of the first 10 integer numbers.	2
7	Discuss the various classification of a computer.	3
8	With a neat diagram explain the functional units of a computer.	3