Internal Assignment

Assignment No : 1

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Course Code - 23OBC101
Course Title - Computational Thinking and Fundamentals of IT

PART - A

Q1. What is computational thinking ?

Ans (C) An approach to problem solving using computer science techniques

Q2. What is the difference between "data" and "information" ?

Ans (B) Data is processed by computers, while information represents real-world quantities

Q3. What is the Nyquist - Shannon sampling theorem related to ?

Ans (C) Digital audio sampling

Q4. What is the purpose of pseudocode in programming ?

Ans (B) To outline the sequence of steps in a program without strict syntax rules.

Q5. What is the purpose of a flowchart ?

Ans (B) To communicate the program logic visually

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Q6. What is an algorithm ?

Ans (B) A defined set of step-by-step procedures for solving a problem

Q7. What is the advantage of using flowcharts for program development ?

Ans (D) All of the above

Q8. Which drawback is associated with the use of algorithms ?

Ans (D) All of the above

Q9. _____ is an electronic device that stores data and process data by converting it into information that is useful to people.

Ans (A) Computer

Q10. The result of the process and computation is displayed on the _____ devices.

Ans (A) Output

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PART - B

Q1. Interpret how Computational Thinking is used.

Ans 1 Computational Thinking can be used in following ways -

(a) Problem Solving - It helps break down complex problems into smaller, more managable parts, enabling individuals to develop efficient algorithms to find solution.

(b) Computer Programming - Programmers use algorithms and logical reasoning to design code that can efficiently execute specific tasks or solve problems.

(c) Data Analysis - It involves identifying patterns, trends and insights to make informed decisions.

(d) Game Development - It helps to design game mechanics, AI behaviours and interactive elements that enhance gaming experience.

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(e) Educational Tool - It is incorporated into educational curricula to teach students critical thinking, logic and problem-solving skills.

(f) Internet of Things (IOT) - It is used to connect and control smart devices, allowing them to communicate and interact seamlessly.

Q4. State the definition of a flowchart.

Ans 4 A flowchart is a visual depiction of the steps or procedures involved in a program or system. It presents a graphical representation of the control and data flow across various stages, decisions and actions.

Qs. Illustrate the characteristics of an algorithm.

Ans 5 Characteristics of an algorithm include the ability to accepts inputs, unambiguousness in each step or operation, feasibility of manual execution within a finite timeframe, termination with a solution, and the generation of one or more outputs.

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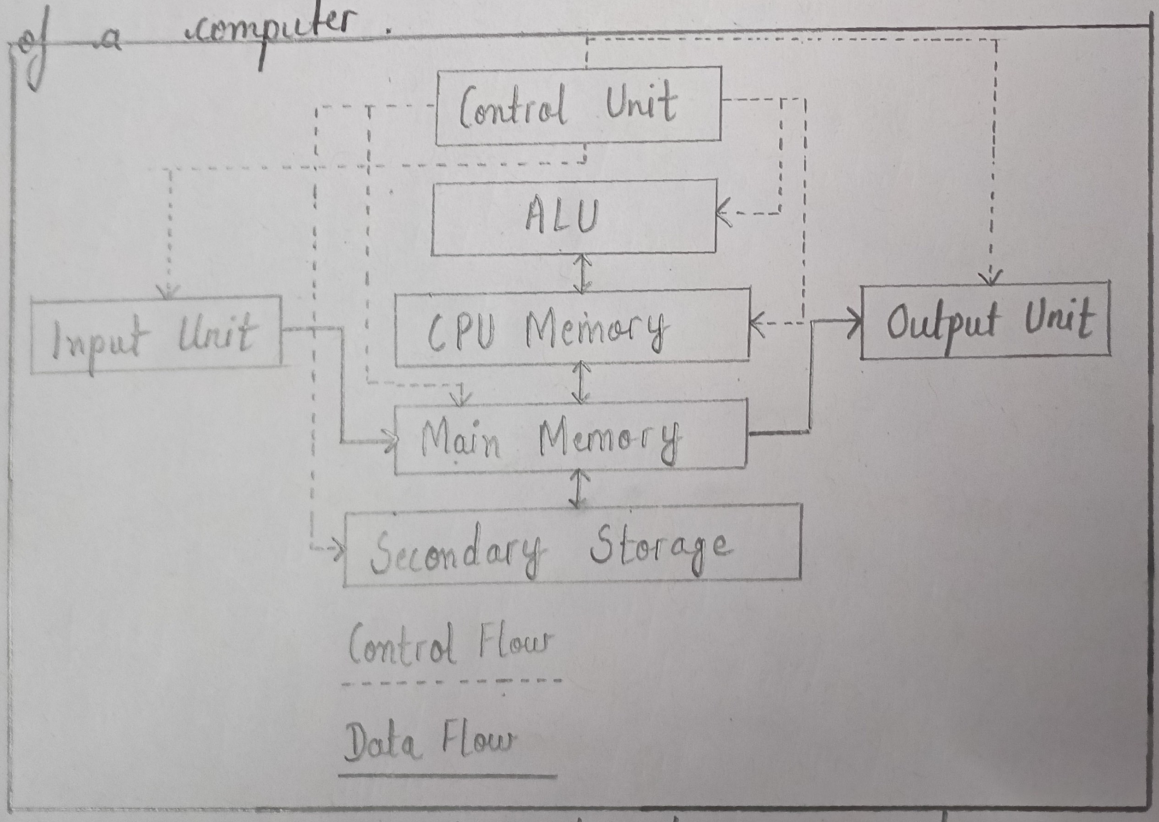
Q7. Discuss the various classification of a computer.

Ans7 Computers are classified into two ways based on their size and capacity for handling data.
Size : Personal Computer, Minicomputer, Microcomputer, Supercomputer and Mainframe
Capacity : Digital Computer, Hybrid Computer, Analog Computer.

Q8. With a neat diagram explain the functional units of a computer.

Ans8



Functional Unit of a computer