Lesson 4
Algorithms and Flowcharts

A. Fill in the blanks:
1. The step by step procedure to solve any problem is called **Algorithm.**
2. **Flowcharts** are the pictorial representation of a program.
3. The process of drawing a flowchart for an algorithm if known as **Flowcharting**.
4. An algorithm should involve **finite** number of steps to reach a solution.
5. The **decision box** is used for checking or applying any condition in the program.

B. State true or false:
1. A flowchart is not a pictorial representation of steps to get the solution of a problem.   **False**
   ▪ A flowchart is a pictorial representation of steps to get the solution of a problem.
2. Algorithm means a set of rules which specify how to solve a specific problem.   **True**
3. Flowcharts are helpful in analyzing the logic of problems.   **True**
4. Connectors are used to connect the boxes.   **False**
   ▪ Flow lines are used to connect the boxes.
5. The general direction of flow in any flowchart is from bottom to top or from right to left.   **False**
   ▪ The general direction of flow in any flowchart is from top to bottom or from left to right.

C. Multiple Choice Questions:
1. In a flowchart, **_flow lines_** indicate the sequence of steps and the direction of flow.
2. **_Input/ Output box_** is used to accept input and give output of a program.
3. The **_Start / Stop box_** represents the starting or ending point of a program.
4. **_On page_** connectors are used to join the parts of a flowchart contained within the same page.

D. Answer the following:
1. To solve any problem on a computer, we need to analyze and understand the nature of the problem. We plan the input and apply the required methods step by step to get the desired result. This step by step procedure to solve any logical and mathematical problem is called an Algorithm.
   Input:- An algorithm accepts an input.
   Finiteness:- it should involve finite number of steps to reach a solution.
   Output:- After the instructions are executed, the user must get the desired result.
2. A flowchart is a pictorial representation of the steps or an algorithm used to solve a particular problem.
   Communication:- The pictorial representation of the flowchart provides better communication. It is easier for the programmer to explain the logic of a program.
   Effective Analysis:- it is very useful technique, as flowchart is a pictorial representation that helps the programmer to analyze the problem in detail.
3. **Input / output box**:- It is used for accepting inputs or giving output of the program.
4. **Processing box**:- It is used for writing the processing instructions and doing calculations.
5. **Decision box**:- It is used for checking or applying any condition in the program.