CLASS – V COMPUTER SCIENCE NOTES OCTOBER

Chapter – 6 Stepwise Thinking, Algorithm and Flowchart
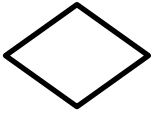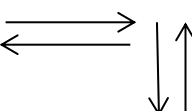
A. Tick () the correct option.

1. The steps that you think and use to perform any task are a part of:

(b) stepwise thinking

2. An algorithm is always written in a _____ language.

(b) simple

3. The general direction of a flowchart is from:

(c) both

4. _____ is/are used to show the flow of logic in a flowchart.

(a) Flow lines

5. The symbol for process box is:

(b) ⬜

B. Fill in the blanks using the given words.

1. The steps to perform a task are known as **stepwise thinking.**

2. Stepwise thinking helps in converting complicated tasks into **simple tasks.**

3. Giving step-by-step instructions is called **Programming.**

4. The person who writes programs is called a **programmer.**

5. A flowchart should have one **start box** and one **stop box.**

C. Match the following:

1. (e) ⬜

2. (a) ▭

3. (b) ▱

4. (c) ◇

5. (d) ⇄ ↑↓

D. Write steps for the following activities.

1. Cleaning your sports shoes

Step1: Remove laces and Insoles.

Step2: Take a dry soft brush

Step3: Make a cleaning solution

Step4: Clean the Shoes with the solution using cloth.

Step5: Rinse the shoes

Step6: Air dry the shoes at room temperature.

2. Planning your grandfather's birthday party

Step1: Set date, time and venue.

Step2: Determine the budget.

Step3: Send invitations to the guest.

Step4: Plan the menu and make decorations

Step5: Capture the entertainment.

Step6: Enjoy the day!

3. Making tea

Step1: Fill a kettle with water

Step2: Boil the water

Step3: Put a teabag in a mug

Step4: Pour boiling water into the mug

Step5: Brew the tea for a few moments

Step6: Remove and dispose of the teabag

Step7: Add milk, sugar

Step8: Stir it and Drink the Tea.

E. Short answers.

1. What is stepwise thinking?

- Stepwise thinking helps in converting complicated tasks into simple steps, predicting the possible solutions to achieve the desired goal.

2. What is algorithm?

- Algorithm means precise rules or a set of rules that specify how to solve a problem.
- Algorithm is always written in simple language.

3. What is flowchart?

- A flowchart can be defined as a diagrammatic representation of the problem-solving process.
- The flowchart symbols are connected by arrows.

4. What is looping?

A loop is a sequence of instructions that is continually repeated until a certain condition is reached.

F. Long answer questions.

1. Why is stepwise thinking helpful to solve a problem?

- Stepwise thinking helps us to complete a task or solve a problem, easily.
- This is because we can divide the entire task or problem into steps, and working becomes easy as we solve one step at a time.

2. What do you mean by programming?

- Giving step-by-step instructions to the computer is called programming.
- A computer works using step-by-step instructions from us.
- If we give the wrong instructions to the computer, it will give us the wrong output.

3. Why is it important to write correct algorithms?

- An algorithm means precise rules or a set of rules that specify how to solve a problem or perform a task.
- So, an algorithm is a stepwise and logical solution to a problem or a task.
- An algorithm is always written in simple.
- To solve any problem on a computer, we have to first analyse and understand the problem or the steps to do a task to get the desired output.

4. How will you create a good flowchart?

- Flowcharts play a very important role in computer programming.
- It is a good habit to draw flowcharts as they make it easier to write computer programs.
- A complex problem can be divided into smaller, simpler parts and then reassembled to find the solution.

5. Write the rules of flowcharting.

The rules given below are followed in flowcharting:

- The general direction of flow in any flowchart is from top to bottom or from left to right.
- Arrowheads are used to indicate the flow of information or sequence of events.
- A flowchart should have only one start and one stop box.
- The steps should be arranged in sequence