Chapter 4
Algorithm and Flowchart

Q 1. What is Algorithm?
Ans. An algorithm is the step by step instructions written in simple language to perform a particular task.

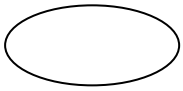
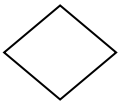
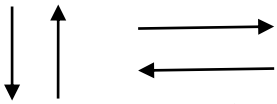
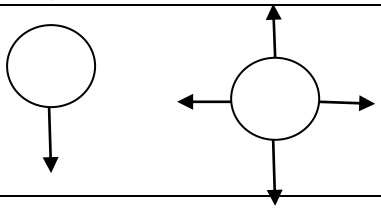
Q2. What are two problem solving techniques?
Ans. Algorithm and Flowchart

Q3. Write rules for writing Algorithms.
Ans. 1) Number the statements as step 1,2.....and so on.
2) Write each statement clearly in a separate line.
3) Always begin with start and end with stop.

Q4. What is Flowchart?
Ans. Flowchart is a step by step process of representing the solution of a particular problem in a graphical or pictorial form.

Q5. What are the rules for drawing flowcharts.
Ans. 1) The direction of flowchart is either from top to bottom or from left to right.
2) Flowlines are used to indicate the direction of the flow of steps.
3) It should have only one start box and one stop box.

Q6. Explain the symbol of Flowcharts.

Symbol	Name
	Start/ Stop box – An oval represents the begining and end of a flowchart.
	Input/ Output box – A parallelogram represents the instructions that take input and give output.
	Processing box – A rectangle represents the processing instructions.
	Decision box – A diamond symbol is used to choose between the two options, yes or no.
	Flowlines – A line with arrow head indicates of the flow of data and instructions.
	Connector – A circle is used to connect different parts of flowcharts together on the same page or on different pages.

Q7. What is conditional problem solving?

Ans. While solving a problem, a program may need to check a condition. This means it will run the program further depending on the result of the condition. For this purpose, we use IF...THEN....ELSE statement. The computer will check the IF condition. If it is true, it will run the statement after THEN. If the condition is false, it will run the statements after ELSE. This method is called conditional problem solving.

Q8. Write algorithm for the following:

1) To find the sum of three numbers.
2) To find the square of a number.
3) To find the area of a square.
4) To print the circumference of a circle if its radius is 3.
5) To input radius of a circle and print the area.
6) To find area of a rectangle.
7) To find the perimeter of a rectangle.
8) To find the perimeter of a square.
9) To find smaller of the two numbers.
10) To read name and phone number and print it.
11) To read marks and print grade ‘A’ if marks> 80 otherwise print grade ‘B’.
12) To divide a and b.
13) To find whether a number is positive or negative.

Q9. Draw flowcharts for the above algorithms.