

## COMPUTER SCIENCE CLASS – 11<sup>TH</sup> CHAPTER – 6<sup>TH</sup> SESSION – 2021-22

### CONCEPT OF PROGRAMMING AND PROGRAMMING LANGUAGES

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#### **1: MULTIPLE CHOICE QUESTIONS:**

1. Set of instructions is called.....

- a) Group    b) Software    **c) Program**    d) None of these

2. Which language is directly understood by computer without any translation?

- a) Procedure oriented language    **b) Machine language**    c) Assembly language    d) High level language

3. Mnemonic Codes and symbolic addresses are used in which programming language?

- a) Object oriented language    b) non-procedural language    **c) Assembly language**    d) Machine language

4. Which translator does not save object code after translation of source program written in high level language?

- a) Translator    b) Compiler    c) Assembler    **d) Interpreter**

5. Process of finding and correcting errors in a program is called.....

- a) Compilation    b) Coding    **c) Debugging**    d) Documentation

#### **2. FILL IN THE BLANKS:**

1. A person who writes the program is called programmer.

2. Low level internal details of hardware are required for programming in machine language.

3. Flowchart is the pictorial representation of algorithm.

4. Process of translating source program written in high level language into object code is called language translation.

5. Those errors which are not detected by the compilers are called logical errors.

### **3. Write the full form of the following:**

1. **Opcode** - Operation Code
2. **Operand** - Operation Address
3. **4GL** - 4th Generation Language
4. **SQL**- Structured Query language
5. **OOP** - Object Oriented Programming

### **4. SHORT ANSWER TYPE QUESTIONS (WRITE THE ANSWERS IN 4-5 LINES):**

#### **1. What is programming?**

**Ans** - As we know computer take their input in the form of instructions. Group of instructions is known as program. The process of writing a program is called programming and the person who writes a program is known as programmer.

#### **2. What are procedure-oriented programming languages?**

**Ans** - Procedure oriented languages are also known as 3rd generation languages (3GL). In these languages a program can be written by dividing it into small procedures or subroutines. Each procedure contains a series of instructions for performing a particular task. Some Popular procedure-oriented languages are COBOL, FORTRAN, Pascal etc.

#### **3. Write the names of different symbols used in flow charts?**

**Ans** - The name of different symbols used in flow charts are given below:

1. Terminal
2. Input/Output
3. Processing
4. Diamond
5. Flow lines
6. Connectors

#### **4. Write these steps used in programming process?**

**Ans** - These steps used in programming process is explained as below:

1. Defining the problem to be solved.
2. Plan the solution of the problem.
3. Coding should be in the high-level language.
4. Compile the program.
5. Test and debug the program.
6. Documenting the program.

#### **5. What are syntax errors?**

**Ans** - Syntax errors occur when we do not follow the rules of programming language being used. These types of errors are automatically detected by compilers during the compilation process. A program cannot be successfully compiled until all these syntax errors in the programs are removed. Some examples of syntax errors are Missing semicolon, variable not declared etc.

#### **5. LONG ANSWER TYPE QUESTIONS (WRITE THE ANSWERS 10-15 IN LINES):**

##### **1. What are low level programming languages? Explain their advantages and disadvantages?**

**Ans** - Low level programming languages are those languages that are close to computer hardware and directly access to the features of the hardware. These languages are used to develop device drivers, kernels for operating systems etc. Examples of low-level programming languages are machine language, assembly language.

##### **Advantages of low-level languages are given below:**

1. Instructions written in low level languages are directly understood by the computer without any translation.
2. Low level languages instructions are executed fastly.

##### **Disadvantages of low-level programming languages are given below:**

1. It is very difficult to find out the errors in the program written in low level language.

2. It is difficult to understand the instructions written in low level language.
3. In order to write down the program in low level language one must have the knowledge about the internal structure of the hardware.

## **2. What are language translators? Explain anyone translator in detail?**

**Ans:** Language translator is also known as language processor. They are systems programs that are used to convert the program written in one language into other language. Language translators are basically performing two functions:

1. To translate source programs into machine's object code.
2. To detect syntax errors in the source program.

Examples of language translators are Compiler, interpreter, assembler

**Assembler:** Assembler is a language translator that converts the program written in assembly language into Machine language. As we know computer only understands machine language so assembler is a translator that converts assembly code or high-level language into machine language So that computer can easily understand the program.

## **3. What is algorithm? Explain the different features that an algorithm should have?**

**Ans:** An algorithm is a step-by-step description of how to solve a given problem. An algorithm consists of finite number of steps and give guaranteed results. An algorithm should have the following features:

1. Each step should be accurate.
2. Each step Should have clear meaning.
3. The inputs and outputs should be carefully specified.
4. Steps should not be repeated infinitely.
5. After executing the steps, the required output must be produced.

## **4. Explain different types of errors found in the computer programs?**

**Ans:** There are 2 types of errors that are generally found in computer programs that are explained as below:

1. **SYNTAX ERRORS:** Syntax errors occur when we do not follow the rules of programming language being used. These types of errors are automatically detected by compilers during the compilation process. A program cannot be successfully compiled until all these syntax errors in the programs are removed. Some examples of syntax errors are Missing semicolon, variable not declared etc.

2. **LOGICAL ERRORS:** Logical error Occur when there is error in the logic of the program. If there is a logical error in our program it will compile successfully but it may produce Wrong output. Logical errors cannot be detected by the compilers. These errors are either traced out manually by the programmer or some debugging tool is used to detect the errors.