**Multiple Choice Questions**

1. A program must be converted to language to be executed by a computer.

a. Assembly

b. Machine

c. High level

d. Very high level

2 is a Logical programming language.

a. PROLOG
b.

b. Python

c. C#

d. Java

3. The program written only using 0's and I's is

a. PHP

b. High level

c. Python

d. Machine

4. The founder of Python is

a. Charles Babbage

b. Guido van Rossum

c. Dennis Ritchie

d. Larry Wall

5. Python is a compiled language.

a. True

b. False

c. Can't say

d. None of these

6. This programming paradigm emerged to remove the reliance on the GOTO statements.

a. Structured

b. Object-oriented

c. Logical

d. Functional

7. Which Python library is popularly referred to as the HTTP library written for humans.

a. Receive

b. Requests

c. Sockets

d. Send

8. In which phase of SDLC does the software developer analyses whether software can be prepared to fulfill all the requirements of the end user?

a. Design

b. Development

c. Testing

d. Planning

9. This license allows a patent grant for derivative works

a. BSD License

b. Apache License

c. MIT License

d. CC License

10. A group of people maintain exclusive control over the source code of a software. Such software is called

a. Freeware

b. Shareware

c. Proprietary

d. Adware

**Review Questions**

1. What is a programming language?

A programming language is a set of instructions that allows humans to communicate with computers to perform tasks.

2. Briefly explain the steps to install Anaconda.

•Download the Anaconda installer from the official website.

•Run the installer and follow the setup instructions.

•Choose installation location and options.

•Complete installation.

•Verify by opening Anaconda Navigator or running conda –version.

3. Describe the steps to install PyCharm.

•Download PyCharm from the JetBrains website.

•Run the installer and follow the setup wizard.

•Choose installation options and location.

•Complete the installation.

•Launch PyCharm and configure initial settings.

4. Outline the advantages and disadvantages of machine language.

**Advantages**:
Fast execution
Direct hardware control
Requires no translation
**Disadvantages**:
Hard to read and write
Time-consuming to program
Not portable across different machines

5. Why do we need programs? Comment on this.

We need programs to instruct computers to perform tasks, automate processes, solve problems, and make technology useful in daily life.

6. Outline the advantages and disadvantages of high-level language.

**Interpreter: Translates and executes code line by line; slower but easier for debugging.**
**Compiler: Translates the entire code at once into machine language; faster execution but harder to debug.**

**Advantages**:
Easy to read and write
Portable across platforms
Faster development
**Disadvantages**:
Slower execution than machine language
Requires a compiler or interpreter
Less control over hardware

7. Give a brief explanation of the history of Python.

Python was created by Guido van Rossum in 1989 and released in 1991. It was designed to be easy to read, simple, and versatile, supporting multiple programming paradigms.

8. Differentiate between Interpreter and Compiler.

Interpreter: Translates and executes code line by line; slower but easier for debugging.
Compiler: Translates the entire code at once into machine language; faster execution but harder to debug.

9. Mention disadvantages of Assembly language.

Difficult to read and write

Time-consuming to program

Low portability across different machines

10. Discuss various steps involved in the software development life cycle.

Eps in SDLC:
•Requirement Analysis – Understand what the software should do.
•Plan architecture and user interface.
•Implementation/Coding – Write the program code.
•Testing – Check for errors and bugs.
•Deployment – Install and release the software.
•Maintenance – Update and fix issues after release.

11. Give a brief description of open source software.

Open source software is software whose source code is freely available for anyone to use, modify, and distribute.

12. Explain the different types of licenses under which open source software can be released.
    Types of open source licenses:

•GPL (General Public License) – Must share modified code under the same license.

•MIT License – Permits use, modification, and distribution with minimal restrictions.

•Apache License – Allows use and modification with patent protection.

•BSD License – Permits redistribution and use with few restrictions.