Programming

1. What is the output of the following C code?

```c
int main() {

    int x = 10;

    printf("%d", x++);

    return 0;

}
```

a) 10

b) 11

c) Error

d) Garbage value

Answer: a

2. In Python, what does list(range(2, 10, 2)) return?

a) [2, 4, 6, 8, 10]

b) [2, 4, 6, 8]

c) [2, 3, 4, 5, 6, 7, 8, 9]

d) [2, 4, 6]

Answer: b

3. Java is:

a) Interpreted only

b) Compiled only

c) Both compiled and interpreted

d) None

Answer: c

Data Structures

1. Which data structure uses LIFO order?

a) Queue

b) Stack

c) Array

d) Linked List

Answer: b

2. What is the time complexity of binary search on a sorted array?

a) O(n)

b) O(log n)

c) O(n log n)

d) O(n²)

Answer: b

3. Which sorting algorithm has the best average-case performance?

a) Bubble Sort

b) Insertion Sort

c) Merge Sort

d) Selection Sort

Answer: c

4. Which data structure is best suited for implementing a priority queue?

a) Stack

b) Queue

c) Heap

d) Linked List

Answer: c

Networking

1. Which protocol is used to send email?

a) HTTP

b) FTP

c) SMTP

d) SNMP

Answer: c

2. What does IP stand for?

a) Internet Positioning

b) Internal Protocol

c) Internet Protocol

d) Internal Processing

Answer: c

3. Which layer of the OSI model is responsible for routing?

a) Transport

b) Session

c) Network

d) Data Link

Answer: c

4. The port number for HTTP is:

a) 23

b) 25

c) 80

d) 110

Answer: c

Microprocessors

1. The 8085 microprocessor has how many address lines?

a) 8

b) 16

c) 32

d) 64

Answer: b

2. Which register in 8085 is used to hold the memory address?

a) Accumulator

b) Program Counter

c) Stack Pointer

d) Instruction Register

Answer: b

3. The clock frequency of 8085 is:

a) 1 MHz

b) 2 MHz

c) 3 MHz

d) 3.072 MHz

Answer: d

4. The instruction MOV A, M does:

a) Moves data from accumulator to memory

b) Moves memory content to accumulator

c) Moves accumulator to register

d) Invalid instruction

Answer: b