

**Started on** Monday, 17 November 2025, 1:13 PM

**State** Finished

**Completed on** Monday, 17 November 2025, 1:18 PM

**Time taken** 4 mins 57 secs

**Marks** 13.00/15.00

**Grade** **86.67** out of 100.00

**Question 1**

Complete

Mark 1.00 out of 1.00

A host has IP address 10.0.5.23 with subnet mask 255.255.255.0. Which is its network address?

- a. 10.0.5.0
- b. 10.0.0.0
- c. 10.0.5.255
- d. 10.0.5.1

**Question 2**

Complete

Mark 1.00 out of 1.00

In the OSI model, at which layer does routing primarily occur?

- a. Transport layer
- b. Network layer
- c. Data Link layer
- d. Session layer

**Question 3**

Complete

Mark 1.00 out of 1.00

What happens when you do not declare any constructor in a C++ class?

- a. The compiler generates a default constructor
- b. The program fails to link
- c. The class cannot be instantiated
- d. The compiler generates a constructor with all parameters

**Question 4**

Complete

Mark 1.00 out of 1.00

What is the main advantage of using an initializer list in a C++ constructor?

- a. It automatically generates a copy constructor
- b. It allows initialization of const and reference members
- c. It prevents exceptions in constructors
- d. It makes the code run in parallel

**Question 5**

Complete

Mark 1.00 out of 1.00

What is the main purpose of a page table in a paged memory system?

- a. To store the contents of cache memory
- b. To map virtual addresses to physical frames
- c. To schedule CPU bursts
- d. To store process priorities

**Question 6**

Complete

Mark 0.00 out of 1.00

```
Consider:  
class A {  
public:  
A(int x = 0) { std::cout << "A\n"; }  
};  
class B {  
A a;  
public:  
B() { std::cout << "B\n"; }  
};  
B b;
```

What is the output when this program starts?

- a. B
- b. A
- c. A then B
- d. No output

**Question 7**

Complete

Mark 1.00 out of 1.00

Which address is used on a local Ethernet network to deliver a frame to the correct device?

- a. Port number
- b. Subnet mask
- c. MAC address
- d. IP address

**Question 8**

Complete

Mark 1.00 out of 1.00

Which CPU scheduling algorithm gives each process a small time slice in turn?

- a. Round Robin
- b. FCFS (First-Come, First-Served)
- c. Priority Scheduling
- d. SJF (Shortest Job First)

**Question 9**

Complete

Mark 1.00 out of 1.00

Which of the following best defines a process in an operating system?

- a. A program in execution with its own address space and resources
- b. A hardware thread in the CPU
- c. A single instruction being executed
- d. A line of code inside a program

**Question 10**

Complete

Mark 1.00 out of 1.00

Which of the following best describes function overloading in C++?

- a. Two functions that call each other recursively
- b. Two functions with the same name but different return types only
- c. Two functions with the same body but different names
- d. Two functions with the same name but different parameter lists

**Question 11**

Complete

Mark 1.00 out of 1.00

Which of the following is a valid reason for using threads inside a process?

- a. To allow multiple tasks to share the same address space
- b. To disable multitasking in the OS
- c. To increase the physical memory size
- d. To avoid context switching overhead completely

**Question 12**

Complete

Mark 1.00 out of 1.00

Which of the following is an example of preemptive scheduling?

- a. The OS switches processes only at I/O completion
- b. The CPU can be taken away from a running process to run another
- c. Once a process starts, it runs until it finishes
- d. The CPU is allocated based purely on arrival time

**Question 13**

Complete

Mark 1.00 out of 1.00

Which of the following is not a typical use of NAT (Network Address Translation)?

- a. Guaranteeing end-to-end connectivity for all incoming connections
- b. Conserving public IPv4 addresses
- c. Hiding internal network structure from the Internet
- d. Allowing multiple private hosts to share a single public IP

**Question 14**

Complete

Mark 0.00 out of 1.00

Which of the following is true about const member functions in C++?

- a. They cannot access any data members
- b. They cannot be overloaded
- c. They cannot modify non-mutable data members
- d. They can modify only static data members

**Question 15**

Complete

Mark 1.00 out of 1.00

Which protocol is responsible for reliable delivery and in-order data transfer between two hosts?

- a. IP
- b. ARP
- c. TCP
- d. UDP