

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