Time left 0:14:56

Question 1

Not yet answered

Marked out of 1.00

In a multi-threaded process, which resource is shared among threads?

- a.   Heap
- b.   Registers
- c.   Program counter
- d.   Stack

Question 2

Not yet answered

Marked out of 1.00

In C++, which of these scenarios leads to undefined behavior?

- a.   Modifying a const object via pointer cast.
- b.   Accessing array out of bounds.
- c.   Accessing a deleted pointer.
- d.   All of the above.

Question 3

Not yet answered

Marked out of 1.00

In TCP, what is the purpose of the 3-way handshake?

- a.   Synchronize window sizes only
- b.   Acknowledge packet receipt
- c.   Perform error correction
- d.   Establish reliable connection between sender and receiver

Question 4

Not yet answered

Marked out of 1.00

What does the 'thrashing' phenomenon refer to?

- a.   Swapping pages in and out excessively
- b.   Cache coherence issues
- c.   Deadlock between I/O and memory
- d.   Process switching frequently due to CPU burst

Question 5

Not yet answered

Marked out of 1.00

What is the main purpose of ARP (Address Resolution Protocol)?

- ○ a.   Resolve MAC address to IP address
- ○ b.   Encrypt network packets
- ○ c.   Resolve domain names to IP addresses
- ○ d.   Resolve IP address to MAC address

Question 6

Not yet answered

Marked out of 1.00

What is the output of the following Python code?

```
a = [1, 2, 3]
b = a
a += [4, 5]
print(a, b)
```

- ○ a.   [1,2,3] [1,2,3,4,5]
- ○ b.   Error
- ○ c.   [1,2,3,4,5] [1,2,3,4,5]
- ○ d.   [1,2,3,4,5] [1,2,3]

Question 7

Not yet answered

Marked out of 1.00

What is the output of the symmetric difference (x ^ y)?

```
x = {1, 2, 3}
y = {2, 3, 4}
print(x ^ y)
```

- ○ a.   {1, 4}
- ○ b.   {1, 2, 3, 4}
- ○ c.   {}
- ○ d.   {2, 3}

Question 8

Not yet answered

Marked out of 1.00

What will be the output of the following C++ code?

```cpp
class Base {
    public: virtual void show() {
        cout << 'Base';
    }
};
class Derived: public Base {
    public: void show() override {
        cout << 'Derived';
    }
};
int main() {
    Base *b = new Derived();
    b -> show();
}
```

- ○ a. Runtime error
- ○ b. Derived
- ○ c. Compile-time error
- ○ d. Base

Question 9

Not yet answered

Marked out of 1.00

What will be the output of the Python code?

```python
def func(x, y = []):
    y.append(x)
    return y
print(func(1)) print(func(2))
```

- ○ a. Error
- ○ b. [1] [2]
- ○ c. [1, 2] [1, 2]
- ○ d. [1] [1, 2]

Question 10

Not yet answered

Marked out of 1.00

What will be the output?

```cpp
int a = 10;
int & r; = a;
r++;
cout << a;
```

- ○ a. Undefined behavior
- ○ b. 11
- ○ c. Compilation error
- ○ d. 10

Question 11

Not yet answered

Marked out of 1.00

Which layer in the OSI model ensures error-free delivery of data?

- ○ a.   Transport layer
- ○ b.   Session layer
- ○ c.   Data link layer
- ○ d.   Network layer

Question 12

Not yet answered

Marked out of 1.00

Which of the following addresses represents a loopback IP?

- ○ a.   192.168.1.1
- ○ b.   0.0.0.0
- ○ c.   10.0.0.1
- ○ d.   127.0.0.1

Question 13

Not yet answered

Marked out of 1.00

Which of the following is a synchronization tool?

- ○ a.   PCB
- ○ b.   Scheduler
- ○ c.   Semaphore
- ○ d.   Thread

Question 14

Not yet answered

Marked out of 1.00

Which of the following is not a Python data type?

- ○ a.   tuple
- ○ b.   frozenset
- ○ c.   byte
- ○ d.   complex

Question 15

Not yet answered

Marked out of 1.00

Which of the following is true about paging?

○ a.   Logical and physical addresses are identical.

○ b.   It suffers from internal fragmentation.

○ c.   It requires contiguous allocation.

○ d.   Fragmentation is eliminated.

Question 16

Not yet answered

Marked out of 1.00

Which of the following is true about std::move() in C++11?

○ a.   It transfers ownership of resources.

○ b.   It calls the copy constructor.

○ c.   It performs a deep copy.

○ d.   It duplicates the resource.

Question 17

Not yet answered

Marked out of 1.00

Which of the following protocols uses port 443?

○ a.   FTP

○ b.   SSH

○ c.   SMTP

○ d.   HTTPS

Question 18

Not yet answered

Marked out of 1.00

Which of the following statements is true about Python generators?

○ a.   They return an iterator that yields one value at a time.

○ b.   They store all values in memory.

○ c.   They always return lists.

○ d.   They cannot use for loops.

Question 19

Not yet answered

Marked out of 1.00

Which scheduling algorithm can cause starvation?

○ a.   Round Robin

○ b.   Multilevel Queue with fixed priority

○ c.   Shortest Job Next

○ d.   First Come First Serve

Question 20

Not yet answered

Marked out of 1.00

Which statement is true regarding const correctness?

○ a.   You can modify a const variable through a pointer.

○ b.   A const member function cannot modify any class data.

○ c.   A const object can call non-const methods.

○ d.   You can assign to a const reference.