Q. No. 1. Preprocessor directives are used for_____

A: Macro expansion
B: Conditional compilation
C: Defining function prototype
D: Both A and B

○A ○B ○C ●D Clear Answer Mark For Review

Q. No. 2. Which one of the following is the default storage class inside a function in C language?

A: extern
B: register
C: auto
D: static

○A ○B ●C ○D Clear Answer Mark For Review

Q. No. 3. Which one of the following format specifier is used to print long double type variable?

A: %ld
B: %lf
C: %lu
D: %Lf

◉A ○B ○C ●D Clear Answer Mark For Review

Q. No. 4. What is the output of the following C code snippet?

```
int a,b=2,c=5;
a=(b,++c,b+c);
printf("%d",a);
```

A: Compilation Error
B: 2
C: Garbage value

Q. No. 4. What is the output of the following C code snippet?

```
int a,b=2,c=5;
a=(b,++c,b+c);
printf("%d",a);
```

A: Compilation Error
B: 2
C: Garbage value
D: 8

A B C D Clear Answer Mark For Review

Q. No. 5. What is the output of the following C code snippet?

```
int a=0,b=1;
if(a  && ++b);
printf("%d",b);
```

Q. No. 5. What is the output of the following C code snippet?

```
int a=0,b=1;
if(a  && ++b);
printf("%d",b);
```

A: 1
B: 2
C: Compilation error
D: 0

A B C D Clear Answer Mark For Review

Q. No. 6. High level language program is converted into machine language program using_____.

A: Linker
B: Operating System

Q. No. 6. High level language program is converted into machine language program using_____.

A: Linker
B: Operating System
C: Loader
D: Compiler

A B C D Clear Answer Mark For Review

Q. No. 7. What is the output of the following c code snippet?

```
#define MUL5(X)  X*5
  int y; y=MUL5(2+4);
printf("%d",y);
```

A: 30
B: 36
C: 22
D: 14

Q. No. 8. What is the use of break statement?

A: Exit from only loop
B: Exit from a loop or switch
C: Exit from function
D: Both B and C

A B C D Clear Answer Mark For Review

Q. No. 9. Nested function calls are made in_____.

A: First in First out
B: Last in First out
C: Parallel
D: Pseudo Parallel

Explaination:
The correct answer is B) Last In First Out (LIFO).
This is because in programming, when functions are nested (i.e., one function is called within another), the most recently called function must finish executing before the next one up in the call stack, which follows the LIFO principle.

Q. No. 10. What is the output of the following C code snippet?

```
int a[]={12,3,5,24,9};
printf("%d\n",3[a]);
```

Expalination:
In C, the expression 3[a] is equivalent to a[3].
This is because of the way array subscripting works:
x[y] is defined as *(x + y), which is the same as *(y + x) or y[x].

A: Compilation error
B: 24
C: 27
D: 5

A B C D Clear Answer Mark For Review

Q. No. 11. What is the output of the following C code snippet?

```
char *ptr;
char str[]="Hello";
ptr=str; ptr +=2;
printf("%s",ptr);
```

A: llo
D: 5

A B C D Clear Answer Mark For Review

Q. No. 11. What is the output of the following C code snippet?

```
char *ptr;
char str[]="Hello";
ptr=str; ptr +=2;
printf("%s",ptr);
```

Explaination:
char *ptr; declares a pointer to a character.
char str[] = "Hello"; declares and initializes a character array str with the string "Hello".
ptr = str; sets the pointer ptr to point to the first character of the string str.
ptr += 2; increments the pointer ptr by 2. This means ptr now points to the third character of the string str.
When ptr points to the third character of the string "Hello", it points to the character 'l'. The rest of the string from that point is "llo".

A: llo
B: l
C: H
D: Hello

A B C D Clear Answer Mark For Review

Q. No. 12. What is the output of the following C code snippet?

```
int a:
```

Q. No. 12. What is the output of the following C code snippet?

```
int a;
a='b'-'a';
printf("%d\n",a);
```

A: Compilation error
B: 97
C: 98
D: 1

Explanation:
In C, character constants like 'b' and 'a' are represented by their ASCII values. The ASCII value of 'a' is 97, and the ASCII value of 'b' is 98. So, 'b' - 'a' is 98 - 97, which equals 1.

A B C ● D Clear Answer Mark For Review

Q. No. 13. The meaning of arrow operator in x->y is _____

A: (*x).y
B: x.(*y)
C: x.y
D: (x*).y

Explanation:
the arrow operator -> is used to access members of a structure or a union using a pointer.
If x is a pointer to a structure or union, then x->y is equivalent to (*x).y

D: (x*).y

A B C ● D Clear Answer Mark For Review

Q. No. 14. What is the output of the following C program snippet?

```
int a=040;
printf("%d\n",a);
```

A: 40
B: 04
C: 32
D: 040

Explanation:
when an integer literal starts with a 0, it is interpreted as an octal (base-8) number
0X8^0 + 4x8^1+0x8^2 = 32

A B ● C D Clear Answer Mark For Review

Q. No. 15. What is the output of the following C code snippet?

```
#include <stdio.h>
int main()
{
```

Q. No. 15. What is the output of the following C code snippet?

```
#include <stdio.h>
int main()
{
int a=5,b=10,c=15;
printf("%d ",sizeof(c/=a+b));
printf("%d",c);
return(0);
}
```

Explaination:
c is divided by a+b (which equals 15), so c becomes 1.
The sizeof(c) still returns 4 (the size of an int),
and the new value of c is printed.
So, the output of the revised program will be “4 1”.

A: 4 1
B: 4 15
C: 2 1
D: Compile time error

●A ○B ○C ○D Clear Answer Mark For Review

Q. No. 16. Which of the following function is used to delete an element from the Queue?

A: Enqueue
B: Pop
C: Dequeue
D: Push

Explaination:
Dequeue: This function is used to remove (or delete) an element from the front of the queue.

○A ○B ●C ○D Clear Answer Mark For Review

Q. No. 17. Which of the following is not an application of stack?

A: A parentheses balancing program
B: Keeping track of local variables at run time
C: Syntax analyzer for a compiler
●: Job scheduling

Explaination:
Stacks are commonly used for tasks such as parentheses balancing, keeping track of local variables at runtime, and syntax analysis for compilers, but not typically for job scheduling.

Q. No. 18. Consider the process of balancing symbols using stack. What characters will be pushed into the stack?

A: Operators
B: Elements in the expression
C: Open brackets
D: Closing brackets

Explanation:
This is because, in a symbol balancing algorithm, open brackets are typically pushed onto the stack as they are encountered, and then popped off when their corresponding closing brackets are found.

A B C D Clear Answer Mark For Review

Q. No. 19. Which sorting algorithm has the same time complexity for all the cases (worst, best and average)?

A: Quick
B: Merge
C: Insertion
D: Selection

Explanation:
The selection sort algorithm has a time complexity of O(n^2) regardless of the input data's initial order.

Q. No. 20. A tree with n nodes has_____

A: 2n edges
B: n^2 edges
C: nlog n − 1 edges
D: n − 1 edges

A B C D Clear Answer Mark For Review

Q. No. 21. Which of the following is not a collision resolution technique in hashing?

A: Open addressing
B: Separate chaining
C: Probing
D: Poling

Explanation:
Poling is a process used in various domains like network communications and operating systems for checking the status of an entity.
Open addressing, separate chaining, and probing are all valid collision resolution techniques in hashing.

Q. No. 22. Which of the following is not a property of an AVL tree?

A: AVL tree need not be a binary tree
B: It is height balanced tree
C: Sub-trees are at a height difference of one
D: Rotations are used to balance the tree

Explanation:
This statement is not true because an AVL tree is a type of binary search tree that is height-balanced.

A B C D Clear Answer Mark For Review

Q. No. 23. Which one of the following is correct w.r.t friend function?

A: It is defined outside the class scope with right to access both private and protected members of a class
B: It is defined inside the class scope with right to access private and protected members of a class
C: It is a static member function with right to access only private members of a class
D: It is defined outside the class scope with right to access only private members of a class

Explanation:
Friend functions in C++ are a way to grant access to private and protected members of a class from outside the class, but they are not member functions themselves and are not defined within the class scope.

Q. No. 24. class XYZ: public ABC1, public ABC2 { } is an example of _____

A: Polymorphic inheritance
B: Multilevel inheritance
C: Multiple Inheritance
D: Hierarchical inheritance

Explanation:
The code snippet demonstrates multiple inheritance, where a single derived class inherits from more than one base class.

A B C D Clear Answer Mark For Review

Q. No. 25. When we create an instance of a class (object), we access the object's members using the _____ operator.

A: insertion
B: modification
C: extraction
D: dot

A B C D Clear Answer UnMark

Q. No. 26. Exception is raised in C++ using _____

A: try
B: exception
C: catch
D: throw

A B C ● D Clear Answer Mark For Review

Q. No. 27. Under what conditions a destructor destroys an object?

A: Scope of object has finished
B: Object dynamically assigned and it is released using the operator delete
C: Program terminated
D: Both A and B

Explainaton:
destructors are typically used to release resources that were acquired during the object's lifetime, which occurs when the object goes out of scope or is explicitly deleted.

A B C ● D Clear Answer Mark For Review

● A ● B ● C ● D Clear Answer Mark For Review

Q. No. 28. The operator which cannot be overloaded as member function is

A: +=
B: ++
C: <<
D: ()

Explainaton:
the increment operator << is typically used for output stream insertion and cannot be overloaded as a member function.

A B ● C ◉ D Clear Answer Mark For Review

Q. No. 29. _____ qualifier tells the compiler that the function should not modify the argument.

A: constant
B: static
C: const
D: inline

A B ● C D Clear Answer Mark For Review

Q. No. 30. The operator which cannot be overloaded in C++ is

A: <<
B: sizeof
C: ->
D: []

Explaination:
In C++, the sizeof operator is a built-in operator that cannot be overloaded.

A ● B C D Clear Answer Mark For Review

Q. No. 31. What is the use of namespace feature in C++?

A: It represents memory space allocated for names used in a program
B: To organize the names in a program to avoid name collisions
C: It refers to space between the names in a program
D: To pack structure of classes in a program

A ● B C D Clear Answer Mark For Review

Q. No. 32. If the ACK value is 200, then what byte has been received successfully in TCP/IP handshake?

Q. No. 32. If the ACK value is 200, then what byte has been received successfully in TCP/IP handshake?

A: 199
B: 200
C: 201
D: 202

Explaiantion:
If the ACK value is 200, it means that the byte with sequence number 199 has been received successfully, and the receiver is now expecting byte 200.

● A B C D Clear Answer Mark For Review

Q. No. 33. In a network, after the load reaches the capacity, throughput _____.

A: increases sharply
B: increases proportionally with the load
C: declines sharply
D: declines proportionally with the load

A B ● C D Clear Answer Mark For Review

Explaination:
When the load reaches or exceeds the network's capacity, the throughput generally declines sharply due to factors such as packet loss, increased collisions, and the need for retransmissions in TCP/IP networks.

Q. No. 34. Which of the internetworking device takes data sent from one network device and forwards it to the destination node based on MAC address?

A: Switch
B: Router
C: Hub
D: Bridge

Explanation:
They are designed to efficiently manage and direct traffic within a LAN by using MAC addresses to send data only to the intended recipient, rather than broadcasting it to all devices as a hub would do.

●A ○B ○C ○D Clear Answer Mark For Review

Q. No. 35. Which of the following event is not possible in wireless LAN?

A: collision detection
B: Acknowledgement of data frames
C: multi-mode data transmission
D: collision avoidance

Explanation:
In a wireless LAN, it is difficult to detect collisions because a node cannot listen to the channel while it is transmitting (due to the limitations of wireless hardware and the hidden node problem)

●A ○B ○C ○D Clear Answer Mark For Review

Q. No. 36. What is CRC in cyclic redundancy checking?

A: The divisor
B: The quotient
C: The dividend
D: The remainder

Explanation:
The actual "CRC" is the remainder after dividing the data by the polynomial (divisor). This remainder is used to check for errors in the data transmission.

○A ○B ○C ●D Clear Answer Mark For Review

Q. No. 37. The topology which requires a central controller or hub is ____

A: Mesh
B: Star
C: Bus
D: Ring

Explanation:
In a star topology, all nodes (computers or other devices) are connected to a central hub or switch. The hub acts as a central controller, managing and controlling all network traffic.

○A ●B ○C ○D Clear Answer Mark For Review

Q. No. 38. The Routing Information Protocol (RIP) is an intra-domain routing based on _____ routing algorithm.

A: distance vector
B: link state
C: path vector
D: OSPF

Explanation:
In RIP, routers periodically exchange entire routing tables with their immediate neighbors. Each router uses this information to update its own routing table, based on the distance (usually the hop count) to the destination network.

A B C D Clear Answer Mark For Review

Q. No. 39. If 10 files are transferred from server A to client B in the same session through FTP. The number of TCP connections between A and B is

A: 9
B: 10
C: 11
D: 12

Explanation:
FTP uses a single, persistent TCP connection for control commands between the client and the server.
There will be 1 control connection.
There will be 10 data connections (one for each file transfer).
Hence. 11

Q. No. 40. _____ is a subset of a network that includes all the routers but contains no loops.

A: Spanning Tree
B: LEACH
C: Spider Structure
D: Spider Tree

Explanation:
A Spanning Tree is a subset of a network that includes all the routers (or nodes) but contains no loops. It ensures that there is a unique path between any pair of nodes, effectively preventing cycles and redundancy in the network.

A B C D Clear Answer Mark For Review

Q. No. 41. A connecting device that operates in all five layers of the Internet model or seven layers of OSI model is called _____.

A: Repeater
B: Bridge
C: Router
D: Gateway

Explanation:
A gateway is a network device that acts as an entrance to another network, often translating data from one protocol to another, allowing different networks to communicate with each other. It operates across all layers of the networking models, from the physical layer to the application layer, to facilitate this comprehensive functionality.

Q. No. 42. Semaphores _____.

A: synchronize critical resources to prevent deadlock
B: synchronize critical resources to prevent contention (race condition)
C: are used to do I/O
D: are used for memory management

Explanation
Semaphores are primarily used for synchronization in concurrent programming to prevent race conditions by controlling access to shared resources. They help ensure that only one thread or process can access a critical section of code or a critical resource at a time.

A ● B ○ C ○ D Clear Answer Mark For Review

Q. No. 43. Windows uses _____ scheduling

A: Round robin
B: Completely fair scheduler
C: Priority based pre-emptive scheduling
D: First come First serve

A ○ B ● C ○ D Clear Answer Mark For Review

Q. No. 44. Scheduling is _____.

A: Allowing processors to use the jobs
B: Unrelated to performance consideration
C: Not required in uniprocessor systems
D: Allowing jobs to use the processor

Explanation:
Scheduling is the process of determining which jobs (or tasks) should be executed by the processor and in what order.
It involves allocating resources such as CPU time and ensuring efficient utilization of those resources.

A ○ B ○ C ● D Clear Answer Mark For Review

Q. No. 45. Which of the following is a goal not supported by the operating system?

A: Execute user programs and make solving user problems easier
B: Make the computer system convenient to use
C: Use the computer hardware in an efficient manner
D: Compiling the program

A ○ B ○ C ● D Clear Answer Mark For Review

Q. No. 46. A page fault _____.

A: is an error in a specific page
B: occurs when a program accesses a page of memory
C: is an access to page not currently in memory
D: is a reference to a page belonging to another program

○ A ○ B ● C ○ D Clear Answer Mark For Review

Q. No. 47. Device controller informs CPU that it has finished its operation through_____

● Interrupt
B: Poling
C: Exception
D: Trap

Q. No. 48. Pick up the wrong statement about DMA

A: Direct Memory Access
B: Device controller transfers blocks of data from buffer storage directly to main memory without CPU intervention
C: Used for high-speed I/O devices able to transmit information at close to memory speeds
D: One interrupt is generated per byte

Explaination:
DMA typically generates only one interrupt per block of data transfer, not per byte.

○ A ○ B ○ C ● D Clear Answer Mark For Review

Q. No. 49. _____ gives control of the CPU to the process selected by the short-term scheduler

A: Content switch
B: Scheduler

Q. No. 49. _____ gives control of the CPU to the process selected by the short-term scheduler

A: Content switch
B: Scheduler
C: Dispatcher
D: Long term scheduler

Explaination:
The dispatcher is responsible for selecting a process from the ready queue and allocating the CPU to it.
The dispatcher is responsible for giving control of the CPU to the selected process after it has been chosen by the short-term scheduler.

A B C D Clear Answer Mark For Review

Q. No. 50. Which of the following is not a optimization criteria for a scheduling algorithm

A: Maximum throughput
B: Maximum turnaround time
C: Minimum waiting time
D: Minimum response time

Explaination:
While maximizing throughput is an important consideration, it is not typically considered an optimization criterion for a scheduling algorithm.