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# 200+ Most asked Interview Questions & Answers



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# Technical Interview:-

## 1. State the difference between heap memory and stack memory.

Answer:-.

### **Heap Memory :**

- It is used to store objects.
- If heap memory gets filled then it returns `java.lang.OutOfMemoryError`.
- Accessing this memory is slower when compared to stack.
- Heap space is used throughout the applications.

### **Stack Memory :**

- It is used to store the order of method execution and local variables.
- If stack memory gets filled then it returns `java.lan.StackOverFlowError`.
- Accessing this memory is faster when compared to heap.
- Stack space is used for methods that are currently running.

## 2. Explain the concept of Reentrancy?

Answer:-

It is a useful, memory-saving technique for multiprogrammed timesharing systems. A Reentrant Procedure is one in which multiple users can share a single copy of a program during the same period. Reentrancy has 2 key aspects: The program code cannot modify itself, and the local data for each user process must be stored separately. Thus, the permanent part is the code, and the temporary part is the pointer back to the calling program and local variables used by that program. Each execution instance is called activation. It executes the code in the permanent part, but has its own copy of local variables/parameters. The temporary part associated with each activation is the activation record. Generally, the activation record is kept on the stack.

Note: A reentrant procedure can be interrupted and called by an interrupting program, and still execute correctly on returning to the procedure.

### 3. Briefly explain the approaches to develop algorithms.

Answer:-

There are three major approaches to develop algorithms –

- Greedy Approach – creating a solution by choosing the next best possible option
- Divide and Conquer – dividing the problem to a minimum possible sub-problem and solving them independently.
- Dynamic Programming – dividing the problem to a minimum possible sub-problem and solving them combinedly.

### 4. Difference between C and C++

Answer:-

- C++ can be considered as a superset of C, most C programs except some exceptions, work in C++ and C.
- C programming is a little bit limited and is a procedural programming language, but C++ supports both procedural and Object-Oriented programming
- Since C++ supports object-oriented programming, it is capable of performing tasks like function overloading, templates, inheritance, virtual functions, friend functions. These features are not present in C.
- C++ supports exception handling at the language level, in C exception handling is done in the traditional if-else style.
- C++ supports references, C doesn't.
- In C, scanf() and printf() are mainly used input/output. C++ mainly uses streams to perform input and output operations. cin is a standard input stream and cout is a standard output stream.

### 5. What are Static Binding and Dynamic Binding?

Answer:-

- Static Binding is a binding in which the name can be combined with the class during compilation time, and it is also called early binding.
- Dynamic Binding is a binding in which name can be identified with the class during execution time, and it is also known as Late Binding.

## 6. What is database partitioning?

Answer:-

It (Database partitioning) is a process where a logical database is divided into different independent parts. The database objects like tables, indexes are subdivided and managed, and accessed at the granular level.

## 7. What is Software Configuration Management?

Answer:-

During the Software Development Life Cycle, Software Configuration Management is a method for routinely managing, organizing, and controlling modifications in manuals, protocols, and other organizations. In information engineering, the SCM process is abbreviated as SCM. The main aim is to improve productivity by making as few errors as possible.

## 8. Define Version Control System(VCS)

Answer:-

A version control system is defined as a system that keeps all records of the changes made on a specific project, and also helps us to ensure whether all developers in a team are working on the same or not. It manages the history of all the activities done so, it gives a developer the confidence to fix a bug or make any changes or run a test so if anything goes wrong previous work can be restored anytime.

## 9. Write the Syntaxes for joins

Answer:-

- INNER JOIN: select column\_name From table1 INNER JOIN table2 on table1.column\_name = table2.column\_name;
- OUTER JOIN: select column\_name From table1 OUTER JOIN table2 on table1.column\_name = table2.column\_name;
- LEFT JOIN: select column\_name From table1 LEFT JOIN table2 on table1.column\_name = table2.column\_name;
- RIGHT JOIN: select column\_name From table1 RIGHT JOIN table2 on table1.column\_name = table2.column\_name;
- FULL JOIN: select column\_name From table1 INNER JOIN table2 on table1.column\_name = table2.column\_name WHERE condition;

## 10. What is role of static keyword on class member variable?

Answer:-

Static is a keyword in C++ used to give special characteristics to an element. Static elements are allocated storage only once in a program lifetime in the static storage area. And they have a scope till the program's lifetime. Static Keyword can be used with the following,

1. Static variable in functions
2. Static Class Objects
3. Static member Variable in class
4. Static Methods in class

A static variable does not exist through the objects for the respective class are not created. Static member variables share a common memory across all the objects created for the respective class. A static member variable can be referred to using the class name itself.

## 11. What is the gc() method?

Answer:-

To invoke Garbage Collector, this gc() method is called. It is found in both system and runtime classes. It automatically releases the memory when an object is no longer used.

Example : `public static void gc()`

## 12. What do you mean by "Trigger" in SQL?

Answer:-

A trigger is a special type of stored procedure that executes automatically in place or after data changes. It allows executing a batch of code when an insert, update, or any other query is executed against a specific table.

## 13. What is a software metric?

Answer:-

Software Metrics provide measures for various aspects of software processes and software products. They are divided into –

Requirement metrics: Length requirements, completeness

Product metrics: Lines of Code, Object-oriented metrics, design, and test metrics

Process metrics: Evaluate and track budget, schedule, human resources.

#### 14. What is Inheritance? Explain the use of Inheritance?

Answer:-

Inheritance is a concept where one class shares the structure and behavior defined in another class. Inheritance applied to one class is called Single Inheritance, and if it depends on multiple classes, then it is called multiple Inheritance.

Uses:-

For Method Overriding (so runtime polymorphism can be achieved).  
For Code Reusability.

#### 15. What is the difference between micro kernel and macro kernel?

Answer:-

Micro kernel: micro kernel is the kernel which runs minimal performance affecting services for operating system. In micro kernel operating system all other operations are performed by processor.

Macro Kernel: Macro Kernel is a combination of micro and monolithic kernel.

#### 16. What are the advantages of passing this into a method instead of the current class object itself?

Answer:-

As we know, that this refers to the current class object, therefore, it must be similar to the current class object. However, there can be two main advantages of passing this into a method instead of the current class object.

- This is a final variable. Therefore, this cannot be assigned to any new value whereas the current class object might not be final and can be changed.
- This can be used in the synchronized block.

## 17. How does the throw keyword differ from the throws keyword?

Answer:-

While the throws keyword allows declaring an exception, the throw keyword is used to explicitly throw an exception. Checked exceptions can't be propagated with throw only, but throws allow doing so without the need for anything else. The throws keyword is followed by a class, whereas the throw keyword is followed by an instance. The throw keyword is used within the method, but the throws keyword is used with the method signature. Furthermore, it is not possible to throw multiple exceptions, but it is possible to declare multiple exceptions.

## 18. What is the ACID property in a database?

Answer:-

To ensure that the data transactions are processed reliably in a database system we use the ACID property.

- **Atomicity:** It states that each transaction is all or nothing. It states that the entire transaction fails if one part of the transaction fails and the database state is left unchanged.
- **Consistency:** It ensures that the data must follow all validation rules. According to this a transaction never leaves your database without its state being completed.
- **Isolation:** The main goal of providing isolation is concurrency control. This property ensures that the concurrent property of execution should not be met.
- **Durability:** this property states that once a transaction has been committed, it remains committed, whatever the situation be, even power loss, crashes, or errors.

## 19. How will you take a sentence from a user in C?

Answer:-

In order to take a sentence from user(input), we have to use `scanf("%[^\n]%*c",s)`

Where, `^\n` – takes input until a newline isn't encountered.

`%*c` – reads new line character.

`*` – indicates new line character is discarded.

## 20: What is selection sort?

Answer:-

In the selection sort technique, the list is divided into two parts. In one part all elements are sorted and in another part the items are unsorted. At first we take the maximum or minimum data from the array. After getting the data (say minimum) we place it at the beginning of the list by replacing the data of first place with the minimum data.

## 21. Explain the importance of the main() function in a C++ program

Answer:-

The main() function is vital in a C++ program as it's where execution begins. When the program is run, the operating system calls main(). It's responsible for organizing the program's actions, user interactions, and function calls. You structure the program's logic within main(), and it often utilizes functions you've defined. Additionally, main() can return an integer value, typically 0 for success and non-zero for errors. In essence, it's the entry point and central control hub of a C++ program.

- Starting Point: main() is the entry point of a C++ program, where execution begins upon running the program.
- Program Logic: It holds the high-level logic, orchestrating tasks, operations, and interactions.
- User Interaction: main often uses input/output functions (cin, cout) to communicate with users.
- Function Calls: It coordinates the execution of functions defined in the program.
- Return Value: main() can provide a return value to the operating system, indicating success or errors.
- Control Hub: It's the core of the program's structure and execution, directing its flow and actions.

## 22. What is a constructor and a destructor? How are they different?

Answer:-

A constructor is a special function in a class that gets automatically called when an object of that class is created. It's used to initialize the object's attributes and set up any required resources.

A destructor, on the other hand, is another special function that's automatically called when an object goes out of scope or is explicitly deleted. Its purpose is to clean up resources that the object acquired during its lifetime.



In short, constructors initialize objects, while destructors clean up objects before they are removed from memory.

### **Constructors:**

- Initialize objects upon creation.
- Automatically invoked during object instantiation.
- Same name as the class, no return type.
- Can be overloaded with different parameter sets.
- Set initial values and allocate resources.

### **Destructors:**

- Clean up resources before destruction.
- Automatically invoked when object goes out of scope or is deleted.
- Named with ~ followed by class name, no parameters.
- Release allocated resources and perform final actions

## 23. What is the difference between malloc and new in C++?

Answer:-

Malloc:

- malloc is a C standard library function available in.
- It doesn't have any idea about the type of memory it's allocating; it deals with bytes.
- Since it doesn't know about types, it doesn't invoke constructors or initializations.
- It returns a raw pointer of type void\*, which requires explicit casting to the desired pointer type.
- It doesn't handle exceptions natively; if allocation fails, it returns a nullptr.

new:

- new is a C++ operator that handles dynamic memory allocation.
- It's more integrated with C++ features and knows the type it's allocating memory for.
- It invokes constructors for objects being created in the allocated memory.
- It returns a pointer to the specific type being allocated, so casting is not needed.
- If memory allocation fails, it throws a std::bad\_alloc exception.

## 24. Explain Inheritance

Answer:-

Inheritance is a core concept in object-oriented programming where a new class can inherit properties and behaviors from an existing class. It promotes code reuse and hierarchy creation:

- Code Reuse: Avoids duplication by inheriting code from a base class.
- Single & Multiple Inheritance: Inherits from one or more classes.
- Method Overriding: Customizes inherited methods in derived classes.
- Polymorphism: Allows treating different classes as one type.
- Access Control: Manages visibility of inherited members.

## 25. What is STL?

Answer:-

STL stands for “Standard Template Library” in C++. It’s a collection of template classes and functions that provide common data structures (containers) like vectors, lists, and maps, as well as algorithms (sorting, searching) and iterators for efficient data manipulation. The STL enhances code reusability and productivity by offering a standardized set of tools for various programming tasks.

## 26. Explain what is C++ exceptional handling?

Answer:-

One of the advantages of C++ over C is Exception Handling. Exceptions are run-time anomalies or abnormal conditions that a program encounters during its execution.

The problem that arises during the execution of a program is referred to as exceptional handling. The exceptional handling in C++ is done by three keywords.

- try: represents a block of code that can throw an exception.
- catch: represents a block of code that is executed when a particular exception is thrown.
- throw: Used to throw an exception. Also used to list the exceptions that a function throws, but doesn’t handle itself.

## 27. Define Pointers.

Answer:-

- Pointer is a special type of variables that are used to store the memory address of the other variables.

- Pointers are declared normally as other variables with a difference of \* that is present in front of the pointer identifier.
- There are two operators that are used with the pointers one is '&' and another one is '\*'. & is known as the address of operator and \* is known as dereferencing operator, both are prefix unary operators.

## 28. What is equal to (==) and Assignment Operator (=)?

Answer:-

In C++, equal to (==) and assignment operator (=) are two completely different operators.

- The assignment operator (=) is used to assign a value to a variable. Hence, we can have a complex assignment operation inside the equality relational operator for evaluation.
- Equal to (==) is an equality relational operator that evaluates two expressions to see if they are equal and returns true if they are equal and false if they are not.

## 29. Which operations are permitted on pointers?

Answer:-

In C++ programming the following operations are allowed to perform on pointers:

Incrementing or decrementing a pointer: Incrementing a pointer means that we can increment the pointer by the size of a data type to which it points.

There are two types of increment/decrement pointers:

1. Pre-increment/decrement pointer: The pre-increment/decrement operator increments the operand by 1, and the value of the expression becomes the resulting value of the incremented/decremented. Suppose ptr is a pointer then pre-increment/decrement pointer is represented as ++ptr.
2. Post-increment/decrement pointer: The post-increment/decrement operator increments the operand by 1, but the value of the expression will be the value of the operand prior to the incremented/decremented value of the operand. Suppose ptr is a pointer then post-increment/decrement pointer is represented as ptr++.

## 30. What is the role of protected access specifier?

Answer:-

A class member is accessible in the inherited class if the class member is protected. However, outside both the private and protected members are not accessible.

31. Distinguish between shallow copy and deep copy.

Answer:-

Shallow copy performs bit-by-bit memory dumping from one object to another. Deep copy is the process of copying an object field by field from one object to another. The copy function `Object()` { [native code] } and the overloading assignment operator are used to achieve deep copy.

32. Explain what is C++ exceptional handling.

Answer:-

The following are storage classes supported in C++ :

- auto
- static
- extern
- register
- Mutable

33. What is the role of a mutable storage class specifier?

Answer:-

The member variable of a constant class object may be used by declaring it with the mutable storage class specifier. Just applies to the class's non-static and non-constant member variables. doesn't handle itself.

34. Define Encapsulation in C++

Answer:-

The process of encapsulating data and functions in a class is called encapsulation. For security purposes, it is used to prevent direct access to data. This is accomplished by using class functions.

For example, the net banking facility for customers allows only the approved person with the proper login id and password to access the information in the bank data source, and only for his or her part of the information.

### 35. What Is The Difference Between Exit And Abort?

Answer:-

- Exit performs a graceful process termination by invoking the destructors for all constructed objects, while abort does not.
- Exiting the local The destructors of the calling functions and its callers' variables will not be called.

### 36. How many ways are there to initialize an int with a Constant?

Answer:-

There are two ways:

- The first format uses traditional C notation.  
`int result = 10;`
- The second format uses the constructor notation.  
`int result (10);`

### 37. Explain The Is-a And Has-a Class Relationships. How Would You Implement Each In A Class Design?

Answer:-

A specialized class "is" a specialization of another class and therefore shares an IS-A relationship with it. An ISA person who works for the business. Inheritance is the only way to implement this partnership. The word "employee" comes from the word "person." A class can contain an instance of another class. Employees, for example, "have" salaries, because the Employee class has a HAS-A relationship with the Wage class. The best way to enforce this relationship is to embed a Salary class object in the Employee class.

### 38. Why do we need the Friend class and function?

Answer:-

It's often necessary to grant specific class access to a class's private or protected members. A friend class is a solution since it can access both protected and private members of the class in which it is declared as a friend. A friend feature, like the friend class, has access to private and safe class members.

Friendship is not something you inherit.

- Friendship is not reciprocal, because if one class is a friend of another, such as NotAFriend, it does not immediately become a friend of the Friend class.
- The total number of friend classes and friend functions in a program should be restricted because too many of them will degrade the principle of encapsulation of separate classes, which is an intrinsic and desirable quality of object-oriented programming.

### 39. What is an abstraction in C++?

Answer:-

In C++, abstraction is a concept that involves simplifying complex systems by hiding unnecessary details. It lets you create user-defined data types (classes) to represent real-world entities, focusing on what they do while hiding how they work. This is done by encapsulating data and providing controlled access, promoting code organization and reusability.

### 40. Explain the concept of static and dynamic binding in C++.

Answer:-

Static Binding (Compile-time Binding):

- Decided at compile time.
- Based on the declared type.
- Used for non-virtual functions.
- Faster but less flexible.

Dynamic Binding (Runtime Binding):

- Decided at runtime.
- Based on the actual (dynamic) type.
- Used with virtual functions.
- Allows polymorphism but slower due to runtime lookup.

### 41. What is the diamond problem in C++? How is it resolved using virtual inheritance?

Answer:-

The diamond problem in C++ is an issue that arises in multiple inheritance when a class inherits from two or more classes that have a common base class. This results in ambiguity when trying to access members of the common base class through the derived class.

It is resolved using virtual inheritance by making sure that there's only one instance of the common base class shared among the derived classes. This eliminates ambiguity by ensuring that the common base class is not duplicated in the inheritance hierarchy. It's achieved by declaring the common base class as a virtual base class when inheriting from it. This way, the common base class is inherited only once, and the diamond problem is resolved.

## 42. What is the “Big Three” in C++?

Answer:-

The “Big Three” in C++ refers to three essential member functions when managing dynamic memory and objects:

- Destructor: Cleans up resources when an object is destroyed.
- Copy Constructor: Creates a copy of an object.
- Copy Assignment Operator: Assigns the values of one object to another.

They are crucial for proper resource management in classes.

## 43. Explain the concept of RAI (Resource Acquisition Is Initialization) in C++.

Answer:-

RAII (Resource Acquisition Is Initialization) in C++ means tying resource management to the lifetime of an object. Resources are acquired in the object's constructor and released in its destructor. It simplifies code, ensures automatic resource cleanup, and provides better exception safety.

## 44. How is data abstraction accomplished?

Answer:-

In programming, data abstraction is accomplished by:

1. Class definition using data and methods.
2. Regulating who has access to private or protected data.
3. Making use of informative method signatures.
4. Encapsulating data and techniques.

5. Passing on and distributing code.
6. Making consistent interactions with polymorphism.
7. Making use of interfaces and abstract classes.
8. Making use of design patterns.
9. Providing detailed records.

Code becomes more comprehensible and modular because to these strategies.

#### 45. What are the SOLID principles of object-oriented design?

Answer:-

Certainly, the SOLID principles of object-oriented design may be summarized as follows:

- Single Responsibility Principle (SRP): A class should only change for one reason.
- Open/Closed Principle (OCP): Software things should be extensible but not modifiable.
- Liskov Substitution Principle (LSP): Subtypes must be interchangeable with their base types without causing program behavior to change.
- Interface Segregation Principle (ISP): states that clients should not be compelled to rely on interfaces that they do not use.
- Dependency Inversion Principle (DIP): states that high-level modules should not be dependent on low-level modules. Both should be predicated on abstractions.

#### 46. What is a getter method and a setter method, and why are they used?

Answer:-

Getter Method:

- To obtain the value of an object's attribute.
- Frequently referred to as `getPropertyName()` or simply `propertyName()`.
- Controlled read access is provided.

Setter Method:

- To modify the value of an object's attribute.
- `setPropertyName(newValue)` is a common name for this method.
- Controlled write access with validation if necessary.

#### 47. What Are Different Types Of Arguments?



Answer:-

A parameter is a variable used during the declaration of the function or subroutine and arguments are passed to the function, and it should match with the parameter defined. There are two types of Arguments. They are :

- Call by Value – Value passed will get modified only inside the function, and it returns the same value whatever it is passed into the function.
- Call by Reference – Value passed will get modified both inside and outside the functions and it returns the same or different value.

48. When should a far pointer be used?

Answer:-

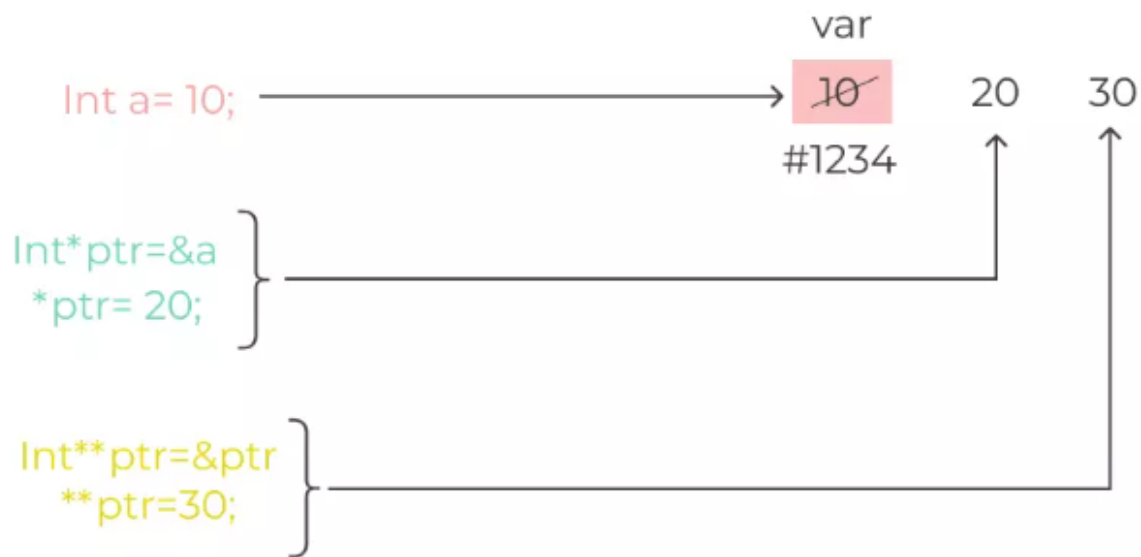
Far pointers are rarely used in modern programming. They were more relevant in older systems and specialized scenarios like real-mode programming in early x86 processors, MS-DOS programming, low-level system programming, and embedded systems.

49. When Would You Use A Pointer To A Function?

Answer:-

A pointer to a function is a variable that stores the memory address of a function. It allows you to indirectly call the function it points to, making it possible to dynamically select and execute different functions at runtime or use them in various advanced programming scenarios, such as callbacks, function tables, and dynamic behavior modification.

## How does pointer work in C



50. What are tokens in C?

Answer:-

In C programming, “tokens” are the smallest units of source code recognized by the compiler.

They include:

- Keywords: Reserved words with predefined meanings (e.g., `if`, `int`).
- Identifiers: User-defined names for variables, functions, etc.
- Constants: Fixed values (e.g., `42`, `“Hello”`).
- String Literals: Sequences of characters in double quotes.
- Operators: Symbols for operations (e.g., `+`, `==`).
- Punctuation: Structural symbols like `;` and `,`.
- Comments: Explanatory notes for programmers.
- Preprocessor Directives: Commands for the preprocessor (e.g., `#include`).

51. Why is C a Middle level Language?

Answer:-

A middle level language is one that binds the gap between machine level language and high level language. C language is one such programming language. It finds its application in both, system programming (like as operating system) as well as application programming (like as spreadsheet). Middle level languages are more related to machine as well as human language. So that's why it is called "Middle level language".

## 52. What are loops and how can we create an infinite loop in C?

Answer:-

Loops are programming constructs that allow you to execute a block of code repeatedly as long as a certain condition is met. They are essential for automating repetitive tasks and controlling the flow of a program.

Infinite loops in C are those that run endlessly without a way to exit. You can create them intentionally (e.g., for continuous program execution) or unintentionally (e.g., due to coding errors).

## 53. What is a sequential access file?

Answer:-

In this type of file, data is kept in sequential order if we want to read the last record of the file, we need to read all records before that record so it takes more time. When writing programs that will store and retrieve data in a file, it is possible to designate that file into different forms. To access a particular data within the sequential access file, data has to be read one data at a time, until the right one is reached.

## 54. What is Dynamic Memory allocation? Mention the syntax.

Answer:-

Allocating memory to the program and its variables in runtime is the process of Dynamic Memory Allocation. The dynamic Memory Allocation process involves three functions for allocating memory and one function to free the used memory.

- malloc() Syntax : `ptr = (cast-type*) malloc(byte-size);` – Allocates memory.
- calloc() Syntax : `ptr = (cast-type*)calloc(n, element-size);` – Allocates memory.
- realloc() Syntax: `ptr = realloc(ptr, newsize);` – Allocates memory.
- free () Syntax: `free(ptr)` – Deallocates memory.

55. Explain the difference between primitive and reference types in JAVA.

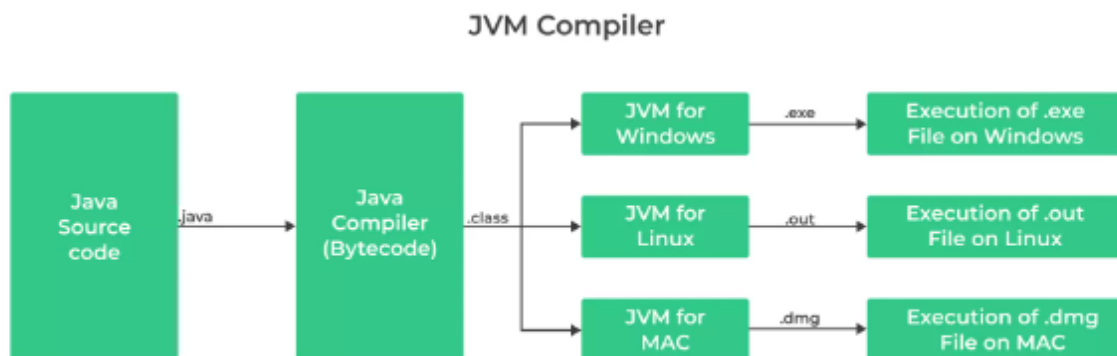
Answer:-

- Primitive Types: Hold simple data values directly, are memory-efficient, and have default values. Examples include int, boolean, and char.
- Reference Types: Store references to objects, are used for complex data structures, have default value null, and can have associated methods. Examples include classes, interfaces, and arrays.

56. What is JVM?

Answer:-

The Java Virtual Machine (JVM) is a critical part of the Java programming platform. It executes Java programs by interpreting or compiling bytecode, manages memory, ensures platform independence, and provides security features. It's key to Java's "Write Once, Run Anywhere" capability.



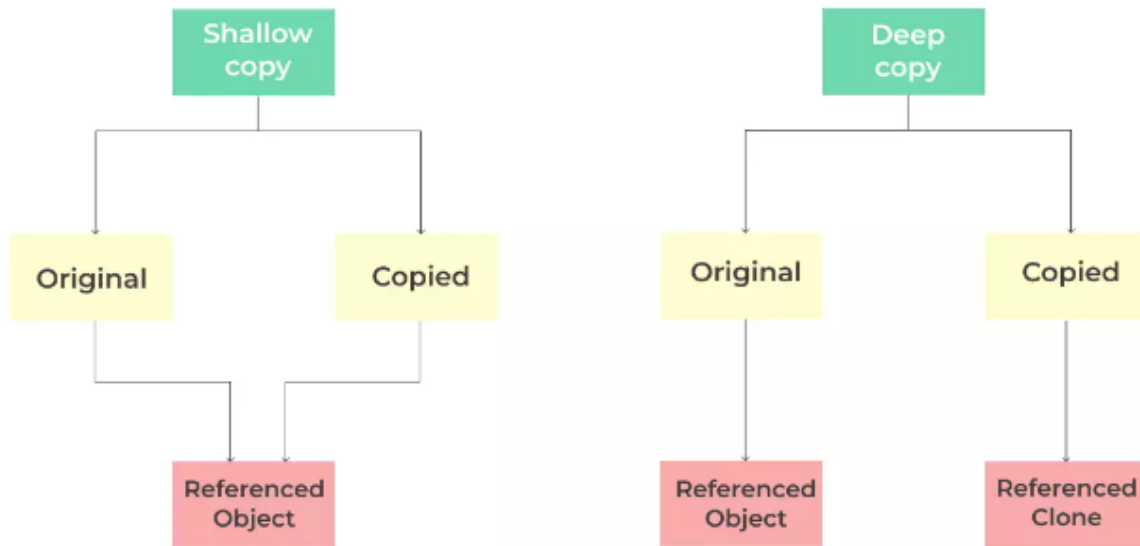
57. What are shallow copy and deep copy in java?

Answer:-

Shallow Copy: Copies the object and its references, so both the original and the copy share the same referenced objects. Changes to those shared objects affect both copies.

Deep Copy: Creates a new object and duplicates all referenced objects recursively. It results in two completely independent copies with no shared references. Changes to one copy don't affect the other.

## Copy in Java



### 58. How does JAVA garbage collection work?

Answer:-

Explanation of how Java garbage collection works:

- **Memory Allocation:** Objects are created in memory (heap) during program execution.
- **Reference Counting:** Java keeps track of references to objects. When an object is no longer referenced, it becomes eligible for garbage collection.
- **GC Roots:** The process starts from GC roots (e.g., local variables, static variables) and traces reachable objects.
- **Mark and Sweep:** Unreachable objects are marked and then swept (removed) from memory.
- **Generational GC:** Objects are categorized into young and old generations, allowing for efficient collection.
- **Tuning:** Developers can tune GC settings to optimize memory management for specific applications.

## 59. What is method overriding in JAVA?

Answer:-

If a subclass provides a specific implementation of a method that is already provided by its parent class, it is known as Method Overriding. It is used for runtime polymorphism and to implement the interface methods. Rules for Method overriding

- The method must have the same name as in the parent class.
- The method must have the same signature as in the parent class.
- Two classes must have an IS-A relationship between them.

## 60. What is the "java.util.concurrent.ThreadPoolExecutor" class in Java?

Answer:-

The ThreadPoolExecutor class in Java is a tool for managing a pool of worker threads to efficiently execute tasks concurrently. It provides control over thread creation, task submission, and thread termination, making it easier to build efficient multithreaded applications.

## 61. Can you explain the Java thread lifecycle?

Answer:-

The Java thread lifecycle describes the various states a thread can go through during its execution in a Java program. Threads in Java follow a well-defined lifecycle, which consists of several states. Here is an explanation of the Java thread lifecycle:

New: The thread is created but not yet started.

Runnable: Ready to run, waiting for CPU time.

Running: Actively executing its code.

Blocked/Waiting: Awaiting a certain condition.

Timed Waiting: Waiting with a timeout.

Terminated: Execution has completed or been terminated.

## 62. What is a Negative Index in Python? Give an Example.

Answer:-

Negative indexing allows us to access elements from the end of a sequence by using negative numbers as their indices.

Last element has an index of -1

Second last has an index of -2

Third last has an index of -3 and so on.

## 63. What is PEP 8 ?

Answer:-

PEP 8 is a guide that helps in writing clean, consistent, and maintainable Python code that is easy to read and understand. It stands for Python Enhancement Proposal, it specifically provides guidelines and recommendations on how to format and structure Python code to enhance readability and reliability of the code.

Some key points of PEP 8 include:

1. Indentation: Use 4 spaces for indentation to improve code readability.
2. Line Length: Limit lines to a maximum of 79 characters to ensure readability, although it can be extended up to 120 characters in certain cases.
3. Naming Conventions
4. Function and Variable Names
5. Imports: Import modules on separate lines and follow a specific ordering convention (standard library modules, third-party modules, local modules).
6. It also provides numerous other guidelines covering various aspects of coding style, including whitespace, blank lines, operator spacing, and more.

## 64. What are the types of literals in Python?

Answer:-

1. Numeric Literal: Numeric literals can be floating-point values, integers, or complex numbers.
2. Character Literal: A character literal consists of a single character enclosed in double quotes.
3. Boolean Literal: The boolean literals are True or False.
4. Literal Collections: There are four types of literal collections, including list literals, tuple literals, set literals, and dictionary literals.

5. String Literal: String literal is created by assigning text to a variable using single or double quotes. Multiline literals can be formed by enclosing text within triple quotes.

## 65. What is pickling and Unpickling in Python ?

Answer:-

Pickling:

- Pickling is the process of converting a Python object hierarchy into a byte stream.
- It allows you to save the state of an object or a collection of objects as a file or transfer it over a network.
- The resulting byte stream can be stored persistently or transmitted between different systems.
- Pickling is commonly used for tasks like caching, serialization, and data persistence.

Unpickling:

- Unpickling is the process of reconstructing a Python object hierarchy from a byte stream.
- It is the reverse operation of pickling and allows you to restore the state of the objects.
- By unpickling, you can retrieve the original object or data structure that was pickled.
- Unpickling is essential when you want to retrieve and utilize the saved data or objects.

## 66. What is PIP ? Name some common PIP Command.

Answer:-

PIP (Python Package Installer) is the default package manager for Python. It is a command-line tool that allows you to easily install, manage, and uninstall Python packages from the Python Package Index (PyPI) or other package repositories.

Some Common PIP Command are:

1. `pip install package_name`: Installs a Python package.
2. `pip uninstall package_name`: Uninstalls a Python package.
3. `pip list`: Lists all installed packages.
4. `pip freeze > requirements.txt`: Exports a list of installed packages and their versions to a requirements.txt file.
5. `pip install -r requirements.txt`: Installs packages listed in a requirements.txt file.



## 67. What are Classes and Objects ?

Answer:-

Class is a blueprint or a template that defines the structure and behavior of objects. It is like a blueprint for creating multiple instances of similar objects with shared characteristics and functionalities.

It contains data (in the form of attributes or properties) and behaviors (in the form of methods or functions) that define the objects' characteristics and actions. It provides a way to organize related data and functions into a single unit.

An object, on the other hand, is an instance of a class. It represents a specific entity or item created based on the class definition. Objects have their own unique state and can interact with other objects or perform operations defined within the class.

## 68. What is multi threading and how it can be achieved ?

Answer:-

Multithreading is a programming technique that allows multiple threads of execution to run concurrently within a single process. A thread is a lightweight unit of execution within a program that can perform tasks independently.

Multithreading can be achieved in various programming languages, including Python, by utilizing the operating system's threading capabilities or using libraries that provide threading functionality.

Here are the basic steps to achieve multithreading in Python:

1. Import the threading module: In Python, multithreading is facilitated by the built-in threading module. Import the module to gain access to its classes and functions.
2. Define a task or function: Create a function or task that you want each thread to execute concurrently. This function represents the work that will be performed by each thread.
3. Create thread objects: Instantiate thread objects from the Thread class provided by the threading module. Specify the target function or task to be executed by each thread. You can also pass any required arguments to the target function.
4. Start the threads: Call the start() method on each thread object to start the execution of the threads. Each thread will begin running concurrently.

Wait for thread completion: If needed, use the join() method on each thread to wait for its completion. This ensures that the main program doesn't proceed until all threads have finished their execution.

69 What is the difference between PUSH and POP?

Answer:-

PUSH and POP are storage and retrieval operations for data in the stack.

- PUSH: specifies that data is “inserted” into the stack.
- POP: specifies data retrieval. It means that data is being removed from the stack.

70. How do you reference all the elements in a one-dimension array?

Answer:-

We can reference all the elements in a one-dimension array using an indexed loop. The counter runs from 0 to the maximum array size, say n, minus one. All elements of the one-dimension array are referenced in sequence by using the loop counter as the array subscript.

71. How does quicksort works?

Answer:-

Quick Sort is a sorting algorithm, which is commonly used in computer science. Quicksort is a divide and conquer algorithm. It creates two empty arrays to hold elements less than the pivot value and elements greater than the pivot value, and then recursively sort the sub-arrays. There are two basic operations in the algorithm, swapping items in place and partitioning a section of the array. Quicksort uses the divide and conquer approach. It divides the list into smaller partitions using ‘pivot’. The values which are smaller than the pivot are arranged in the left partition and greater values are arranged in the right partition. Each partition is recursively sorted using quicksort.

72. What is Data abstraction?

Answer:-

Data abstraction is the reduction of a particular body of data to a simplified representation of the whole. Data abstraction is a powerful tool for breaking down complex data problems into

manageable chunks. Abstraction, in general, is the process of taking away or removing characteristics from something to reduce them to a set of essential characteristics. As in abstract art, the representation is likely to be one potential abstraction of several possibilities. This is applied by initially specifying the data objects involved and the operations to be performed on these data objects without being overly concerned with how the data objects will be represented and stored in memory.

73. What do you understand by an AVL tree?

Answer:-

AVL tree is a self-balancing Binary Search Tree (BST) where the difference between heights of left and right subtrees cannot be more than one for all nodes. The measure of the balance is given by the difference of the heights of the subtrees from the root node of the AVL tree.

74. Which data structures are applied when dealing with a recursive function?

Answer:-

Recursion, is a function that calls itself based on a terminating condition, makes use of the stack. Because of its LIFO (Last In First Out) property, it remembers its 'caller' so knows whom to return when the function has to return. Recursion makes use of the system stack for storing the return addresses of the function calls.

75. What is a Stack?

Answer:-

Stack is a linear data structure that follows a particular order in which the operations are performed. The order may be LIFO (Last In First Out) or FILO (First In Last Out). The Stack is a list in which, insertion and deletion can be performed only at one end that is called the top. It is a recursive data structure having a pointer to its top element. Last-In-First-Out (LIFO) means the element which is inserted first will be deleted last from the stack.

76. List some applications of queue data structure.

Answer:-

The following are some examples of queue applications. Queues are often used to create waiting lists for a single shared resource, such as a printer, disc, or CPU.

- Pipes, file IO, and sockets all use queues for asynchronous data transfer (where data is not transmitted at the same rate between two processes).
- Many applications, such as MP3 media players and CD players, use queues as buffers.
- Queues are used in media players to keep track of the playlist and add and delete songs from it.
- In operating systems, queues are used to handle interruptions.

## 77. What is a doubly-linked list?

Answer:-

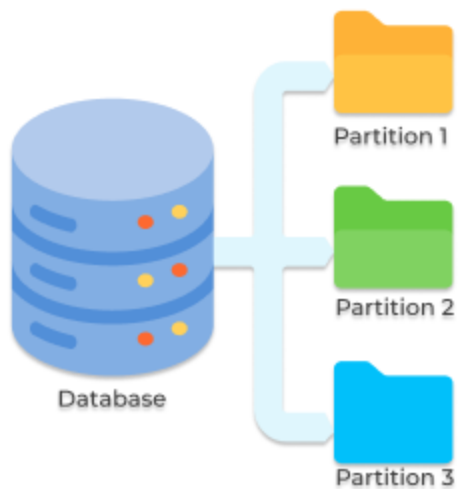
A doubly linked list is a more complicated form of a linked list in which each node has a pointer to both the previous and next node in the chain. A node in a doubly-linked list is made up of three parts:

- node data.
- pointer to the next node in sequence (next pointer).
- pointer to the previous node (previous pointer).

## 78. What is database partitioning?

Answer:-

It (Database partitioning) is a process where a logical database is divided into different independent parts. The database objects like tables, indexes are subdivided and managed, and accessed at the granular level.



79. Why do you need to use functional dependencies while normalizing databases?

Answer:-

Functional dependencies are essential in the process of normalizing databases because they help ensure that a database design adheres to certain rules and best practices for data organization. Normalization is the process of structuring a database schema to eliminate redundancy and improve data integrity.

80. What are the different levels of abstraction in the DBMS?

Answer:-

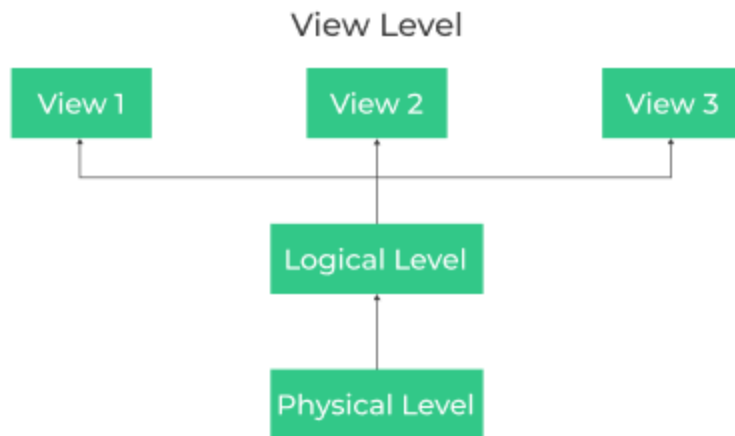
There are 3 levels of data abstraction in the DBMS.

They include:

**Physical Level:** This is the lowest level of the data abstraction which states how the data is stored in the database.

**Logical Level:** This is the next level of the data abstraction which states the type of the data and the relationship among the data that is stored in the database.

**View Level:** This is the highest level in the data abstraction which shows/states only a part of the database.



## 81. What is the Relationship?

Answer:-

The Relationship is defined as an association among two or more entities. There are three types of relationships in DBMS-

- One-To-One: Here one record of any object can be related to one record of another object.
- One-To-Many (many-to-one): Here one record of any object can be related to many records of other objects and vice versa.
- Many-to-many: Here more than one record of an object can be related to n number of records of another object.

## 82. What are the integrity rules in DBMS?

Answer:-

Data integrity is one significant aspect while maintaining the database. So, data integrity is enforced in the database system by imposing a series of rules. Those set of integrity is known as the integrity rules.

There are two integrity rules in DBMS:

Entity Integrity: It specifies that the "Primary key cannot have a NULL value."

Referential Integrity: It specifies that the "Foreign Key can be either a NULL value or should be the Primary Key value of other relation

### 83. What is concurrency control?

Answer:-

This is a process managing simultaneous operations in a database so that database integrity is not compromised. The following are the two approaches involved in concurrency control:

- Optimistic approach – Involves versioning
- Pessimistic approach – Involves locking

### 84. How many types of database languages are?

Answer:-

There are four types of database languages:

- Data Definition Language (DDL): These commands are used for updating the data. CREATE, ALTER, DROP, TRUNCATE, RENAME are some examples of DDL commands.
- Data Manipulation Language (DML): These commands are used for the manipulation of already updated data. SELECT, UPDATE, INSERT, DELETE are some examples of DML commands.
- Data Control Language (DCL) : These commands are used for giving and removing user access to the database. GRANT and REVOKE are the examples of DCL commands.
- Transaction Control Language (TCL) : These are the commands used for managing transactions in the database. TCL is used for managing the changes made by DML. COMMIT, ROLLBACK, and SAVEPOINT are the examples of TCL commands.

### 85. What is Relational Algebra?

Answer:-

Relational Algebra is a Procedural Query Language that contains a set of operations that take one or two relations as input and produce a new relationship. Relational algebra is the basic set of operations for the relational model. The decisive point of relational algebra is that it is similar to the algebra which operates on the number.

There are a few fundamental operations of relational algebra:

- select
- project
- set difference
- union
- rename, etc.

## 86. What is the 3-Tier architecture?

Answer:-

The 3-Tier architecture splits an application into three parts: user interface (presentation), logic (application), and data storage (database). It enhances scalability, maintainability, and security in software design.

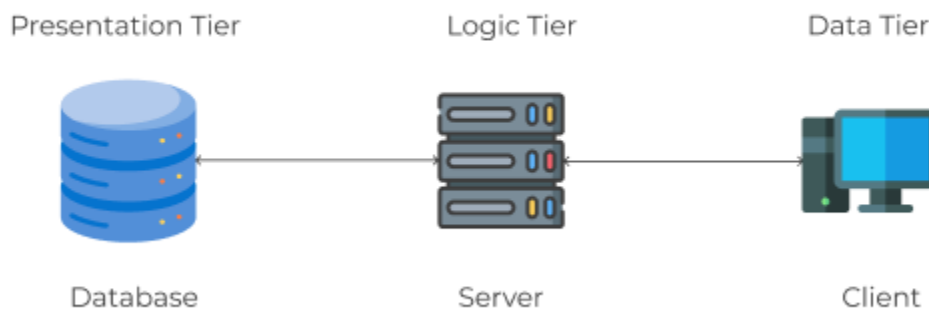
The 3-Tier architecture divides an application into three layers:

Presentation Tier (UI).

Application Tier (Logic).

Data Tier (Database).

It improves scalability, maintainability, security, and flexibility in software development.



## 87. What is the difference between a shared lock and exclusive lock?

Answer:-

Shared Lock vs. Exclusive Lock:

Shared Lock: For reading, allows multiple transactions to read concurrently, compatible with other shared locks, doesn't block them.



Exclusive Lock: For writing, ensures only one transaction can write, blocks all other locks (shared and exclusive) until released.

## 88. What is Weak Entity set?

Answer:-

A Weak Entity Set is an entity in a database that lacks a unique identifier on its own and depends on another related entity (the owning entity) for uniqueness. It often has an existence dependency on the owning entity and uses a combination of attributes and the owning entity's identifier to uniquely identify its instances.

## 89. Explain the term Baseline.

Answer:-

A baseline is a milestone on the project which is usually defined by the project manager. Baselines are used to track the progress of the project from time to time to assess the overall health of the project.

## 90. What are the responsibilities of a Software Project Manager?

Answer:-

A Software Project Manager is responsible for driving the project towards successful completion. It is the responsibility of the Software Project Manager to make sure the entire team follows a systematic and well-defined approach towards the development of software. A software project manager is also responsible for the following tasks:

- Project planning
- Project status tracking
- Resource management
- Risk management
- Project delivery within time and budget.

## 91. What is the SDLC model that you have used in your previous project?

Answer:-

The answer to this question varies with the candidates. If you have done a project based on Waterfall model the interviewer will question you on waterfall model, or if you have done agile they will question you on agile terms.

## 92. Which SDLC model is the best?

Answer:-

SDLC Models are adopted as per the requirements of the development process. It may vary software-to-software to ensuring which model is suitable.

We can select the best SDLC model if the following questions are satisfied –

- Is SDLC suitable for selected technology to implement the software?
- Is SDLC appropriate for the client's requirements and priorities?
- Is the SDLC model suitable for the size and complexity of the software?
- Is the SDLC model suitable for the type of projects and engineering we do?
- Is the SDLC appropriate for the geographically co-located or dispersed developers?

## 93. What are the disadvantages of the Spiral Model in SDLC?

Answer:-

Disadvantages of Spiral Model in SDLC include:-

- It is not good for small projects
- It is a complicated model difficult to understand especially for any new team member
- It has no defined end points, thus causing the process to take more time than required.

## 94. What is RAD model?

Answer:-

RAD model or rapid application software development model is based on the iterative and prototype model. In RAD the project is broken down into small segments or modules and when all the modules are completed, they are integrated to make a final software product. There are 4 phases:-

- requirement analysis
- customer evaluation

- construction
- cut-over

## 95. What is alpha and beta testing?

Answer:-

Alpha Testing:- It is used to find the defects/bugs in software applications before delivering the product to the customers or public. There are two phases:-

- First phase:- where testing is done by developers to identify defects
- Second phase:- where testing is done by quality assurance team to ensure that the product works properly

Beta Testing:- It is performed after the alpha testing, and is done at the client or users end. Also known as Field Testing or Pre Release Testing, it is done to check the quality of the software product and to ensure that the product is ready to use for real time users or the public

## 96. What are the various approaches used in software engineering?

Answer:-

There are numerous approaches used in SDLC, the most common amongst them being:-

- Top Down Approach
- BottomUp Approach
- Big Bang Approach
- Hybrid Approach

## 97. Write the Syntaxes for joins.

Answer:-

- INNER JOIN: `select column_name From table1 INNER JOIN table2 on table1.column_name = table2.column_name;`
- OUTER JOIN: `select column_name From table1 OUTER JOIN table2 on table1.column_name = table2.column_name;`
- LEFT JOIN: `select column_name From table1 LEFT JOIN table2 on table1.column_name = table2.column_name;`
- RIGHT JOIN: `select column_name From table1 RIGHT JOIN table2 on table1.column_name = table2.column_name;`

- FULL JOIN: select column\_name From table1 INNER JOIN table2 on table1.column\_name = table2.column\_name WHERE condition;

## 98. What is DBMS? Explain types of DBMS.

Answer:-

DBMS is software that interacts with users, applications, and the database itself to capture and analyze the data. It is a structured collection of data. There are two types of DBMS. They are:

- Relational DBMS: Data is stored in tables(relations). This involves the concept of tuples, attributes.
- Non – Relational DBMS: In this, there won't be any concept of tables, tuples, attributes.

## 99. What are joins in SQL?

Answer:-

As the name suggests a JOIN clause is used to combine rows from two or more tables, based on a related column between them. It is used to merge two tables or retrieve data from there.

There are 4 joins in SQL namely:

- Inner Join
- Right Join
- Left Join
- Self Join

## 100. What is Foreign Key?

Ans

This is a key used for linking 2 tables.

- A FOREIGN KEY is a field or maybe a collection of fields in a table that corresponds to the PRIMARY KEY of another table.
- The table containing the FOREIGN KEY is called the CHILD TABLE and the table containing the CANDIDATE KEY is called the PARENT TABLE.

# HR Interview Questions:-

## 101. Introduce Yourself

Ans

Hi,

I am [Your Name], a recent graduate in Information Technology from [Your University]. My coursework and hands-on experiences have equipped me with a strong foundation in IT troubleshooting and customer support. I am eager to kickstart my career as an IT Support Specialist with [Company Name] and provide top-notch technical assistance to your clients.

## 102. How Do You Manage Your Stress?

Ans

Working under stress, in my opinion, can also be beneficial rather than harmful or depressing. It has taught me how to set priorities and maintain a work-life balance. There was a time when I had three assignments due in the same week, but I worked diligently and finished all three of them on time because I carefully coordinated and scheduled my working time on each of them. I was able to complete them in a stress-free manner and efficiently at the same time due to my preparation and prioritization.

## 103. Why did you score low in academics?

Ans

As seen, I got average grades in college, but I believe my presence in other areas of my college life demonstrates my accomplishments further. Like I was an active member of the tech club of my college and stood 1st and 2nd in Robotics in consecutive years. So my efforts have focused on honing realistic skills.

## 104. Have you led any team efficiently?

Ans

That is an excellent issue. Though I haven't ever managed or led people based on their performance reviews, I am currently working on a project as the lead technical. In this position, I will be responsible for overseeing project productivity and removing any technological obstacles

that prevent us from achieving our objectives. Instead of meeting on a regular basis, As and when problems arise, I've organized informal meetings to help us move on them as a team. "

105. Where do you see yourself five years from now?

Ans

I have found a passion for experimenting and seeking practical solutions to technological challenges through my degree in computer science and personal research. That is why, because of its emphasis on quality assurance and commitment to delivering faultless systems and applications, I was drawn to this role of Software Test Analyst

106. Give me an example of your creativity.

Ans

In my former work, I was charged with seeking a new demographic for our goods, and one of my most innovative successes happened there. I started by holding a brainstorming session with a few people in my department to come up with suggestions for optimizing our capital.

107. Are you comfortable with night shifts?

Ans

Yes, sure. I will be available for nightshifts. I am staying alone at my place so it won't be any problem for me. However it would be a great help for me if there will be transportation facility for those who work at night

108. Are you willing to relocate for this job?

Ans

For my career, I would like to move. It's a wonderful way to interact with different people and grow my network. I'm confident that it would also improve my expertise. I don't think I would have any problems with it if the opportunity offered to me is acceptable, satisfying and feasible. And, I think relocation teaches how to change or work with new colleagues.

109. What was the toughest decision you ever had to make?

Ans

Inside a squad, the decisions I must make are difficult because they take longer and necessitate deliberate interaction with team members. For example, I worked on a group project and had to make a variety of choices about how to spend our limited budget. Our team knew how to connect easily with one another and these decisions involved group meetings, and I agree that we individually made the best decisions for the team.

110. Tell me something which is not mentioned in your resume.

Ans

In high school, I was given the task of leading a team. My job was to promote the band and arrange shows for them. I completed all of the tasks, including ensuring that the band was compensated. This was an excellent way to supplement your income and simultaneously teaching me a valuable marketing and management principle.

111. What are your hobbies and interests?

Ans

I was in the tenth grade when puzzles and board games piqued my interest and since then they have been my hobby for life. Solving casual jigsaw puzzles, Sudoku games, crosswords in the magazines has been my fascination forever now. However, while learning to solve them in a month's time to decoding them in a week and now even in few days, I have learnt so much in this process. This hobby has definitely cultivated the qualities of patience, consistency, planning and observing while doing a certain task. The basic principles of completing a task despite the existing hurdles will definitely help me to work and plan my activities accordingly without getting too anxious or impatient with time.

112. What motivates you to do a good job?

Ans

I am a self-motivated person. I enjoy giving it my best with all I do and completing tasks correctly. You might assume that my greatest motivator is performance. Even while working alone, I find that I can remain motivated without the help of a supervisor.

113. What do you want to improve in yourself?

Ans

My worst flaw or disadvantage is that I am easily sidetracked or diverted from my goals. That is something I am aware of in myself, and I have made a deliberate attempt to schedule my day as best as possible and keep on track.

114. What are you expecting from this job?

Ans

I've known for a long time that doing the same thing every day isn't my thing. And, based on what you've told me about the work position, it seems to be interesting and just what I'm looking for. I'll be working on a variety of designs, and this one will be exclusive and exciting.

115. What is the Difference between Hard Work and Smart Work?

Ans

We can study in a specified period of time if hard work is combined with commitment and effort. Here, success is a given. However, in smart work, one can achieve success by thinking smartly because success is measured by careful preparation, innovative thinking, expertise, and effort, among other factors.

116. What if we don't select you?

Ans

It's my first interview I'm going to be a little frustrated. For a long time I'm not carrying the feeling. I'm going to use this as an experience to correct my flaws and to attend more interviews with faith.

117. What Are Your Plans For Higher Studies?

Ans

I'm now concentrating on the present. In addition to acquiring retail expertise, there is the possibility of developing skills in assisting clients with home design. Any opportunity for learning that will assist me in providing quality service to patrons will be welcomed.

118. Explain How You would be an Asset to this Organization.

Ans



You should hire me because I have great communication skills and I communicate well with others. If you want to see the difference, then I am ready to join today. I am self confident and energetic and I work hard. I want to work for your company.

119. On a scale of one to ten, rate me as an Interviewer.

Ans

I think I'm not the right person to rate you because I'm a fresher I don't have any experience you have more knowledge and also experience, however if you want my rank I give 9 as everyone always have a scope of improvement

120. Will You Work Under a Bond of 2 Years?

Ans

Sure, Sir, I'm willing to sign the bond if I'm having everything I've been waiting for in a dream job and if you think I'm the best choice for this role. You can depend on my participation.

121.If you get a job with a higher package from here, what will you do?

Ans

First and foremost, I'll work out the particulars of joining the other firm. Everyone enjoys their comfort zone, and it would be hard for me to give it up and lose my level of comfort until I feel at ease here. Not tasks or assignments, but rather the working atmosphere and colleagues will provide comfort.

122. What is your greatest failure and What did you learn from it?

Ans

I was meticulous in setting deadlines and trying to reach them on schedule while serving in my former career. Last year, my department struggled to reach the quota for a fifth, and I accept blame for that loss. I think I pressed my team too hard to reach deadlines, rather than having time to congratulate them for their achievements. In retrospect, I believe that in order to be as fruitful as possible, workers must be nurtured in a technical capacity. I learnt to split targets down into smaller chunks and to provide bonuses and benefits to the most dedicated employees.

123. What is the Difference between Confidence and Over confidence?

Ans

There's a fine line between being optimistic and being overconfident. Your trust is whether you feel you have the capacity to accomplish the mission. And if you assume that you are the only one who can comfortably accomplish the mission and that no one else can do it as well as you, you are overconfident. So, trust is helpful, but overconfidence is negative. Your job has been destroyed by your overconfidence

124. Do you have any questions for me?

Ans

Can you tell me about the office culture/work culture?

Why it works?

Work culture is very important and contributes a lot towards overall productivity. This question shows the interviewer that you are serious about the role.

125. Are you not Overqualified for this Position?

Ans

No, I don't think so. Because there is lot to learn in this world. So, I can never be overqualified, yes I can be qualified in particular fields. So this position is like my other field.

126. Why do you want to join our Company?

Ans

Sir as I am a fresher. I am looking for a platform where I can give my best and work with dedication to give a kick start to my career. It's a great privilege for me to work in a reputed company like yours and you are giving such a great opportunity for freshers like me seek for and I'm accurate person who is in need for your guidance to improve myself . So I can give my best in return With maximum efficiency that will upscale you are profits and upgrade my knowledge as well.

127. Why did you score less in Class 12?

Ans

During my higher secondary years I was involved in a lot of co-curricular activities and was made the team leader in several projects. I might have scored less in academics but one thing I am very sure of are my skills and abilities that nourished me throughout the two years of my school life. I entered a decent college and participated in activities again but this time I balanced the two worlds together and ranked fifth in the university. My leadership and management skills have only grown since then and I assure you to showcase my best capacities if I am selected for this position.

## 128. Why Have You Changed Jobs So Frequently?

Ans

I was working in company XYZ for six months until they asked me to relocate to another city. At the time I had some personal problems and it was difficult for me to relocate. I tried to speak with my manager but we could not reach an agreement, leading me to quit. Currently I am open to relocate if needed, and can work with you without any hindrance.

## 129. How will your previous manager describe you?

Ans

If my previous manager were to describe me, they would probably mention how quickly I can learn and grasp information. During our training period, I was one of the best trainees, and I was already working on proper projects even before my probation period was over. Therefore this is something that I believe will be used to describe me.

## 130. Do you have any medical issues?

Ans

I do not suffer from any serious health issues.

## 131. Have you ever had a conflict with your previous boss/professor?

Ans

I ended up arguing with my reporting manager as I found out that I was marked absent for days I had worked, and my salary was deducted accordingly. This came as a shock to me since they had deducted a huge portion of my salary. I brought this to my reporting manager's notice but he paid no attention initially saying that I was absent for those days.

So I went back to my daily activity tracking sheet and took proofs of the work I was doing on the days I was marked absent. With that I reached out to the HR, who was convinced with my proofs. The HR spoke with the reporting manager and ultimately the situation got resolved with them giving me the deducted amount.

### 132. What is your Ideal Workplace?

Ans

For me, an ideal workplace is where I can work on my own time. Working in design and production. I need to be in a certain mindset to provide the maximum output. I am not someone who can thrive a lot when bound within a set time limit.

### 133. Have you ever had to fire anyone?

Ans

I don't think anyone will be comfortable firing an individual. In my career, I have yet to fire anyone. However, I feel like it is necessary for the betterment of the company. An employee who was repeatedly warned about their shortcomings yet showed no signs of improvement. In such a case, we have no option but to fire them.

### 134. Tell me about a time when you had to handle an unhappy customer.

Ans

There was one time when I was working in a customer service team. I got a call from a client, saying that he was not satisfied with the service and demanded a refund. However, our refund period was over and according to the company policy we could not refund him. But the man was not listening and went on to say that he wants a refund. Ultimately I spoke with him, and worked out a solution where I gave him some additional services and he was satisfied with that.

### 135. How quickly do you adapt to new technology?

Ans

I work with a lot of different software and I am pretty quick to learn them. During my college I learned software like Git, Kubernetes, Google Sheets and more. I usually follow self learning where I follow reputed youtubers and follow their guide videos and learn new software.

136. What Software Are you Familiar with?

Ans

I am aware of Microsoft Office suite such as Microsoft Excel, Power Point, Word. Among Operating Systems I am good at Windows and Linux. I am also comfortable in working with AutoCAD, Photoshop, Meeting scheduling software.

137. What makes you angry?

Ans

I have a good amount of patience and good control of emotion. Usually, I don't get angry that easily but can't see people creating negative environments and disturbing people's work.

138. What is your biggest achievement?

Ans

My greatest achievement was leading my project team. We (project team including me) in our 5th semester had a project and we are very much excited about it. But unfortunately, our team leader was not fine with his health. So, I took initiative and managed the work as a team leader. I have assigned the tasks for each individual in the team and with all our efforts the project was successful.

139. Do you have any regrets?

Ans

During my 20's I have received a job offer that is related to my current skill set. At that time, I rejected it but later I understood about the importance of that job. It would have been better for me if I join in that company. Now, I feel regret. So, I have taken a decision to upskill myself and started searching to join in other company where my skill set matches.

140. How do you adapt to change?

Ans

It is very important for us as individuals to be able to change and work according to the need of the hour. In my previous job, where I had started out doing a lot of manual data entry, a few months later, I was asked to switch to a computer program that will do the work for me. Being a

non-technical person, it was a bit of a challenge accommodating to the program. I had one of my colleagues help me understand the work, and I also did my own research on the technology so that I can work with it and get good results.

141. Are you a difficult person?

Ans

I would like to think that I am not a tough person to work with. I have always been someone who gets along with everyone. In college, I used to attend different workshops and symposiums where I would meet new people and make friends. And I am still friends with a lot of them. So I can say that I am not a difficult person or someone who cannot get along with people.

142. Are you an organized person?

Ans

I'm an organized person. I like to note the day-to-day tasks and do them accordingly. So I outline my tasks and organize the workload. By the end of the day, my work will be productive.

143. Tell me About your Time Management Skills

Ans

Time management is extremely important for getting smooth and fabulous output". I always make a timetable and make these tasks complete. By doing these tasks on time, I will be able to produce the best quality work.

144. How is your absenteeism record like?

Ans

I am pretty serious about work and I will not take leaves unnecessarily. However, there can be certain situations where I would need to be absent on a weekday, as there are certain tasks which cannot be done on weekends, for example bank work. Thus for such tasks it will become necessary to take a day or two off.

145. What are the most important things for you in a job?

Ans

For any kind of role, I would expect to have a good work environment, work ethic, and sufficient time for completing my work. Those are the three most important things for me in a job. These things help me to give the best productive work for the company.

146. What do you know about our company?

Ans

I know that your company is one of the largest companies in India. Your headquarters is in Andhra Pradesh, and you have 50,000 employees worldwide. When I was doing the research about this company, I got to know more about its achievements. The company employees had done a very good job in completing the huge projects and I was really glad to work with you. Your company has also received the Retail and Consumer Goods Partner of the Year award.

147. Do you have a good work ethic?

Ans

I'm an enthusiastic, and dedicated individual who always wants to complete my work in time. For example, every day I make a timetable to do my tasks. Until and unless my tasks for the day get complete, I won't go to bed.

148. How do you Deal with Feedback and Criticism?

Ans

After sharing a draft of a planned presentation with my manager, I received a lot of feedback about tiny errors like typos, mislabeling, and font and spelling corrections. At first, I felt really very bad for getting that type of feedback and I am a little bit defensive. But later I got to know and understand the importance of each and every section in the presentation. Later on, I take enough time for an in-depth review of my presentation and submit it after my review.

149. Why are you Leaving this Current Job?

Ans

As I'm relocating to the XYZ area and it would be hard for me to do up and down from that area. So, I have decided to leave my current position in order to make a move.

150. What are your Strengths and Weaknesses?

Ans

I have been told that my words of criticism can be sharp or harsh sometimes. Giving constructive criticism can help the other person to improve their skills or performance. So in the recent times I am trying to filter my criticism and use words that may seem encouraging and constructive instead of judgmental or harsh. This practice has considerably helped me to gain trust, respect and stronger professional relationships.

151. How much salary do you expect ?

Ans

As a newcomer, Sir, my goal is to gain knowledge and experience. I will consider the salary stated according to the expectations of the company.

152. Can you Work Under Pressure?

Ans

Working under pressure is beneficial because it will enable me to be more effective and complete my tasks on time, whereas too much pressure can affect someone's psychological well-being, potentially reducing performance and leading to stress. In my opinion, I will feel more at ease and productive under reasonable pressure.

153. Do you know anyone who works here?

Ans

I have a friend who works for your company and his name is XYZ one of your accounting managers. We attended the same high school and majored in the same topic. XYZ thought I'd be a good fit for the job, he advised me that you were searching for someone with experience in this industry.

## Managerial Interview Questions

154. Tell me about a time when you overcame a problem.

Ans



In my previous role as a Team Leader, we had a few new employees who weren't doing their jobs properly. They were consistently failing to meet the target by the deadline. I took the initiative to train them, and as a result, new hire productivity increased. This incident taught me to be a better listener, which improved my problem-solving skills.

### 155. How Do You React To The Mistakes Of Your Subordinates?

Ans

There was one time when an intern on my team made a mistake. Since it was during rush hours, her work was not reviewed properly and it ended up causing a huge problem. I was called in by my supervisor, and he was pretty mad at me. He did not scold me, but he went on to detail how the mistake could have been avoided.

In the end, I had a meeting with the intern. I spoke to her about her mistakes and how we could avoid them in the future.

### 156. Have your coworkers ever disagreed with a decision you made?

Ans

I always make decisions in the best interests of our team, but there are times when I make mistakes. In that case, I prefer to take my team members' opinions and try to work on them. This, in turn, makes my team members happy and is good for the company's growth as well.

### 157. How Do You Lead People?

Ans

As a leader, I try my best to establish a one on one communication with people working with me. I think it is very important that my team members are comfortable voicing their opinions and concerns without any hesitation.

### 158. What Do You Think Makes A Leader Unsuccessful?

Ans

To me, an unsuccessful leader is someone who has put in no effort to manage a team and work towards the goals. Along with that if you cannot keep your team together and motivated, then your role as a leader is ineffective.

159. How Well Do You Get Along With People?

Ans

I can get along with people fine. Of course, like most people, I am more inclined towards certain people than others. But from a professional point of view, I can get along with everyone as long as they are not offensive.

160. How do you get along with your coworkers?

Ans

I consider myself a capable team player with a positive outlook. One of my colleagues had some difficulties completing tasks that he needed to complete on the same day, despite being occupied with other tasks. So I assisted him in finishing his work and submitting it before the deadline. On seeing my kind and helpful gesture, he was grateful to me.

161. What Do You Think Makes A Leader Successful?

Ans

According to me, willing to take the risk and creating a new pathway for the team members to follow and inculcate innovative personality should be the required traits.

162. What Are Your Actions If An Employee Disagrees With Your Decision?

Ans

As a team lead, I always encourage open communication. So if there is anyone with a different opinion I will invite them for a discussion and try to find a solution.

163. Do You Think It Is Good For Team Members To Compete Among Themselves?

Ans

I think promoting healthy competition among team members is a good practice. It encourages them to bring out their best to be better than others. However, it should not lead to any animosity among the team members.

#### 164. Can you work under Supervision?

Ans

Yes, I can work under supervision because it will allow me to learn more and, eventually, reduce my mistakes at work. However, clear communication is also essential.

#### 165. How Will You Mitigate Conflicts Among Your Team Mates?

Ans

While trying to resolve a conflict, according to me, patience and having emotional intelligence is most important. Dealing with people when they're angry is more difficult, so to calm them down, listening to their problems and then communicating effectively to all the parties concerned is necessary. So, when I had to face this situation in my last work place, I resorted to actively listen and be impartial when giving out a solution. This helped me a lot to mitigate a couple of disagreements in my team.

#### 166. What Do You Know About Conflict Management?

Ans

Conflict management means managing any dispute that is occurring within a team. This includes being able to communicate my opinion clearly with those involved and to get them to understand my point and simultaneously understand their point as well.

#### 167. Which Member of your team Is Important To You?

Ans

I do not think one member holds more importance than the rest of the team. Each person contributes equally and carries out their responsibilities. If anyone member falters, the whole team will become unstable.

168. What qualities do you possess which make you a Good Leader?

Ans

A good leader, in my opinion, should possess qualities of confidence and determination that will enable him or her to advance in their position. A good leader should be determined on meeting goals and doing so on time. Although there are many qualities that should be considered in a good leader, these two qualities, in my opinion, should be present. I see myself as a person who is both determined and confident. These two qualities in me, I believe, will enable me to lead as a good leader.

169. Are You Comfortable Leading a Team?

Ans

Yes, I am capable of leading a team due to my positive attitude, problem-solving abilities, and good communication skills. I believe that good communication can help you excel at your job regardless of the situation. These qualities, I believe, will aid in the creation of a positive, supportive environment among team members, as well as the growth of the company

170. What is the difference between a Team Leader and a Team Manager?

Ans

In my 3 years of experience, here's what I've seen. A "Manager" title usually implies that you can structure your team; they don't work on the project but are responsible for the project's deadline, whereas a "lead" is often given a team to lead. The lead is in charge of the team's technical aspects and on-time project completion.

171. Who is a Good Leader?

Ans

I believe that a good leader will always encourage others, regardless of what happens, and will never put others down. I worked as a team member on a project in college, and my team leader always encouraged me to do better no matter what. His works inspired me to work harder and finish the project, and you won't believe our project was named one of the top three projects at the intercollegiate level. I believe the qualities I learned from him will help me excel at my job.

## 172. Describe A Time When You Displayed Leadership Skills.

Ans

I used to organize study groups for struggling students. I was the founder and what started as a small group became a college wide club. It was a free of cost program where students would exchange knowledge. I used to manage the entire thing, which included scheduling classes, getting mentors to teach, planning a curriculum and more. The most challenging part was probably getting time-tables that were suitable for everyone.

## 173. Have You Led Any Team?

Ans

Yes, in my previous job, I was a team leader in the sales department, and I had five team members working with me. All of them were fresh college graduates and were on their first full-time job. It was also my first time leading a team, and it was overall a great experience. We used to have a fixed target in sales every day, and I would motivate them to achieve it and then go beyond that. Apart from that, we would also have brainstorming sessions to devise strategies

## 174. Why do you want to join IT as a non-IT student?

Ans

In engineering, there are no boundaries. The branches are interrelated. Therefore even though my core does not revolve around programming, I have always been interested in it. By getting a job in IT, I will be able to learn more about coding and computer science in general and in the future, apply them in my discipline.

175. What Irritates you About People?

Ans

I get irritated when people don't listen to me and tell me what to do. I don't know how they could tell me without having any idea about the situation. Firstly, I will take a deep breath and asks for time to start explaining that situation or topic, and will tell them what I am doing to make the things done.

176. Why should we not hire you ?

Ans

If you want someone how works individually or independently, so I am not the person whom you are looking for. I love to work in teams because I feel that I am at my maximum efficiency when I work with a group of people. Working in groups helps me to give best results.

177. Why are Extracurricular Activities, Clubs, and Society important?

Ans

I am an enthusiastic photographer. Recently I completed a course on graphic designing which gave me exposure to learning about new technologies used. I even have a page on social media where I regularly post content. I have worked as a freelancer for 1 year. I am sure learning such software will allow me to get adequate growth in my career.

178. Why should we hire you?

Ans

As a Sales Supervisor of a 5-member team, I have managed to create a network of distributors and retailers, a network I will bring to your organization if hired. Also, I bring along a vast experience in the Sales industry, which would benefit the department as a whole. Thus, my qualification and background as a reliable resource to my past company make me a suitable candidate for the position of a Sales Manager at your reputed firm.

179. What opinion your Friends or Acquaintances have of you?

Ans

Use the interview to establish a personal connection. If you're comfortable, approach this query with a sense of humor. "My buddies tell me that it appears as something exploded on my desk," you might say. However, I assure them that there is a method to my craziness!" This is an excellent technique to break the ice in a generally tense scenario.

180. What did you do in the past year to Improve your Knowledge/Skillsets?

Ans

To improve my visual design skills, I took a UI design boot camp course. It was a three-month rigorous online training. I've studied a few books on visual design and am always reading articles, blogs, and attending meetups in my profession.

Puzzles:-

181. In Gold Bar Puzzle, You've someone working for seven days and a gold bar to pay him. The gold bar is segmented into seven connected pieces. You must give them a piece of gold at the end of every day. What and where are the fewest number of cuts to the bar of gold that will allow you to pay him  $\frac{1}{7}$ th each day?

Ans

The smallest number in which we can cut the gold bar is 2, so it can be finally divided into 3 parts.

Now the segment in which we will divide the bar will be 1,2, and 4 segments long.

## Gold Bar Puzzle



Day 1	4	2	1	1	2	4	Day 1
Day 2	4	2	1	1	2	4	Day 2
Day 3	4	2	1	1	2	4	Day 3
Day 4	4	2	1	1	2	4	Day 4
Day 5	4	2	1	1	2	4	Day 5
Day 6	4	2	1	1	2	4	Day 6
Day 7	4	2	1	1	2	4	Day 7

182. Given below are a puzzle based on 2 eggs and 100 floors building. Let's see the following:

There is a 100 floors building.

There are two possible scenes we need to analyze:

If an egg drops from the N'th floor or above it will break.

If it's dropped from any floor below 'N', it will not break

Note: You're given only 2 eggs

Questions:

1 – Find the N'th floor.

2 – How many drops do you need to make?



3 – What should be the best strategy to minimize the number of egg drops?

Ans:-

Let's start the method from the 10th floor and go up to 10 floors at a time.

What we have to do:

Step 1: Throw the egg from the 10th floor, and if it breaks, then we can conclude that the 'N' floor is between 1-9.

Step 2: Repeat the same process if the egg is unbroken on the 10th, and now throw it from the 20th floor. Repeat the process until the 100th floor.

Step 3: So, even if the first egg is unbroken, we can now try the second egg and throw it from floors 91 – 99.

Let's count the drops:

10 drops on each 10th floor (1 – 100)

9 drops in between the floors (91 – 99)

So, the number of drops in the worst-case scenario is 19.

183. Three ants are sitting at the three corners of an equilateral triangle. Each ant starts randomly picks a direction and starts to move along the edge of the triangle. What is the probability that none of the ants collide?

Ans

The ants can only avoid a collision if they all decide to move in the same direction (either clockwise or anti-clockwise). If the ants do not pick the same direction, there will be a collision. Each ant has the option to either move clockwise or anti-clockwise. There is a one-in-two chance that an ant decides to pick a particular direction. Using simple probability calculations, we can determine the probability of no collision.

184. Using only a Four-minute hourglass and a seven-minute hourglass, How will you measure exactly nine minutes?

Restriction:- The process should not take longer than nine minutes.

Ans

We measure 7 Minute from One Hourglass.

We reverse it at 7th minute

And,  $4+4=8$  Minutes from Second Hourglass – 8 Minutes

$8$  (from 1) –  $7$  (From 2) = 1 Minute – 1 Minutes

TOTAL = 9 MINUTES

185. There are mislabeled three jars, where one Jar contains apples, one contains oranges and the third one contains the mixture of both. In how many minimum number of withdrawals one can label the jars correctly.

Ans

Let's take a scenario. Suppose you pick from jar labelled as Apple and Oranges and you got Apple from it. That means that jar should be Apple as it is incorrectly labelled. So it has to be Apple jar.

Now the jar labelled Oranges has to be Mixed as it cannot be the Oranges jar as they are wrongly labelled and the jar labelled Apple has to be Oranges.

Similar scenario applies if it's a Oranges taken out from the jar labelled as Apple and Oranges. So you need to pick just one fruit from the jar labelled as Apple and Oranges to correctly label the jars.

## Group Discussion

186. Can AI replace human intelligence?

Ans

Against:-

In recent times AI has been the hot thing and is becoming more common and accessible to the world. However, the notion that AI will replace humans is wrong, as at the end of the day it is humans who are creating these AI and programming their algorithms.

For:-

Slowly but surely AIs are replacing and taking over professions. And this will only grow. Soon there will be machines running on more advanced algorithms. And they will be capable of doing tasks, that are currently considered impossible for them. Thus, it will not be a far-fetched idea that robots will at some point take over and completely replace human intelligence.

187. Discuss the impact of plastics on environmental and economical levels.

Ans:-

Environmental

Plastics are causing irreparable damage to the environment. They are harming wildlife. Scores of marine animals die due to the plastic waste that is disposed of in the water. Plastic is also causing health issues. Therefore, it is very important that plastic should be eliminated completely.

Economical

Plastics are economical and are widely used. Banning plastic without suggesting an alternative that is as cheap and durable as plastics, will lead to huge disruptions in the market. Therefore, despite being extremely harmful environmentally, the impact of plastics economically is too big to ignore.

188. Corporate Jobs are the new form of slavery.- Yes or No

Ans

Yes

Though not literally, corporate jobs have become a form of slavery now. Where employees are treated badly and almost always not rewarded for their hardwork and dedication.

No

To date slavery exists and is an inhumane practice. Slaves are denied their basic human rights and are treated horribly. They are made to live in inhumane conditions and are not allowed any medical access. In some cases, slaves are even deprived of food and water. Comparing this situation to a ten-hour workday corporate job is not right. It greatly reduces the suffering of the slaves. And it also minimizes the crimes that slave owners committed and are still committing.

189. Compare Facebook and LinkedIn

Ans

Facebook:-

Facebook is the biggest hub to connect with people. It has a huge database with which you can reach out to various people and also build your own brand and influence

LinkedIn:-

LinkedIn is a more professional platform with its users looking to upskill and connect with industry people.

## 190. Discuss Fixed Pay and Variable Pay

Ans

Fixed Pay:-

Fixed pay while providing security to the employees has its cons. One of the biggest is that hard workers are often not rewarded for their efforts. This leads to a feeling of dissatisfaction on their part. And these employees start looking for other opportunities where they might feel more appreciated. This in turn can prove to be bad for the company as they start losing good employees to their competitors.

Variable Pay:-

Variable pay increases an individual's motivation and determination to work better. However, it damages the work environment by promoting unhealthy competition among the employees.

## 191. Discuss the proverb "Blood is thicker than water".

Ans

Agree:-

Family always look out for one another and want the better for each other. Your closest relatives, parents, and siblings will always want the best for you. On the other hand, most strangers you meet and make relationships with often have ulterior motives. They often are friends with you because it is profitable to them. History is full of instances where friends have betrayed each other. The biggest example is how Brutus stabbed Ceaser because he did not want him to attain more power.

Disagree:-

Just because someone is related to you by blood does not mean they hold a higher position in your life. Friends are the people we choose in our lives while we are almost always stuck with relatives.

## 192. Discuss the advantages and disadvantages of Technology

Ans

#### Advantages of Technology:-

Technology has made the world a better place for everyone. Our lives have become easier with the incorporation of machines into our day-to-day tasks. Technology saves time and effort which can be then used in some other tasks.

#### Disadvantages of Technology:-

Today with technology we are getting farther and farther away from what it means to be human. We are losing touch with the people around us as we get more and more engrossed in technology. Technological advancements are also promoting a culture where people are not doing any tasks on their own. Being dependent on gadgets for the smallest things.

### 193. Pros and Cons of Open Book Exams

Ans

#### Pros of Open Book Exams

OBE is a new method of teaching in India. It is effective and if implemented right will lead to a substantial improvement in our education system. It will eliminate the fear students have for exams in general and promote a healthy system of learning.

#### Cons of Open Book Exams

It is difficult to implement Open Book Exams in India. Here we put more emphasis on marks than learning. With open book exams, it becomes easy to score marks. Many institutions in our country sell answers to university students for college exams. With such means, students would openly resort to unfair techniques to pass the exam.

### 194. Discuss the advantages and disadvantages of E-learning

Ans:-

#### Pros of E-learning

In today's fast-paced world, E-learning is becoming the new norm. It allows people, especially those who are working a regular job to engage in upskilling their skills. For individuals who want to enhance their skillsets and get better job opportunities, e-learning provides massive opportunities.

## Cons of E-learning

E-learning is available to a selected part of society. Not everyone has the means to attend online classes. Accessibility to the internet and computers is not universal. Thus, e-learning and e-learning platforms need to get more inclusive

## 195. Is Caste-Based Reservation Good or Bad?

Ans

In Support:-

Caste-based reservation policy still does more good than harm to society. There is still a huge portion of the backward classes who are unable to escape the grasp of poverty. They desperately need some extra help to make it easier for them to succeed.

In Against:-

Today, caste-based reservation has lost its purpose. It is not helping anyone, instead, it is being used by privileged classes for their gain. For us to help underprivileged people and better the state of the country, we need a better alternative. Which does not use caste as the only deciding factor.

## 196. Is it possible for AI to replace Humans?

Ans

For the point-

In recent times AI has been the hot thing and is becoming more common and accessible to the world. However, the notion that AI will replace humans is wrong, as at the end of the day it is humans who are creating these AI and programming their algorithms.

Against the point

Slowly but surely AIs are replacing and taking over professions. And this will only grow. Soon there will be machines running on more advanced algorithms. And they will be capable of doing tasks, that are currently considered impossible for them. Thus, it will not be a far-fetched idea that robots will at some point take over and completely replace human intelligence.

197. Discuss: who serves the country better: teacher or soldier?

Ans

Teacher:-

A teacher is a more important profession because they are responsible for teaching individuals. These individuals then go on to become professionals, doctors, engineers, and soldiers. Thus, for a child to become a soldier, they need teachers to guide them through. Without a teacher, there will not be any soldiers either.

Soldier:-

Soldiers are the superior profession because they are serving the country 24/7. They fight, kill and die for the nation. Without soldiers, a country will not be protected and fall into a cycle of poverty and despair. There will be no growth in the country.

198. Do you think the ban on Pakistani artists is justified?

Ans

Justified:-

Even if they are not responsible for the action of the country and the illegal organizations in the country, the ban on Pakistani artists is still justifiable. This shows that we as a country are taking a stand against the terrorism festering in Pakistan. It is also an important message to our soldiers that shows that we are in consolidation in our way.

Unjustified:-

The growing terrorism in Pakistan and the atrocities of the Indian soldiers and civilians are a matter of concern. However, punishing the artists and prohibiting them from working will not solve the problem. Our government needs to take strict measures against these terrorists and stop their advances in our country.

199. Discuss the advantages and disadvantages of a Cashless Economy

Ans

Pros of Cashless Economy:-

With a cashless economy, money transactions have become easier and faster. Where previously we would have to wait in lines at banks to send or receive money. Now we can do money transfers from anywhere just by using our mobile phones.

Cons of Cashless Economy:-

In a country like India, where a huge number of people do not have access to the internet, implementing a cashless economy is almost impossible. People are still not comfortable using online platforms as there is an element of doubt and security concerns.

## 200. Discuss the Importance of Statue of Unity

Ans

Pros of Statue of Unity

For a country like India, The Statue of Unity will indeed produce numerous job opportunities for people of local and rural areas. It is also a symbolic representation of unity and strength. It reflects the true personality of Sardar Patel who was strong-headed.

Cons of Statue of Unity

India is still categorized under developing countries. At this moment rather than using this huge amount on making a statue, the government could use that for developing the health, safety, and education sectors.





