Q- **IIFE** - An IIFE is a Javascript function that is defined and executed immediately after it is created.

Why IIFE is used -

Before let, const JS had only function scope. IIFE was mainly used to:

1) Avoid polluting the global scope
2) Create private variables
3) Execute code immediately
4) Encapsulate logic

Basic syntax
```
( function () {
  clg ("IIFE EXECUTED");
} )();
```

Q- **Strict mode** - In ECMA Scrit 5 JS strict mode introduced. In this all forms of error including silent errors will be thrown. As a result debugging becomes a lot simpler.

Characterstics- ☒ Duplicate arguments are not allowed.
☒ Javascript keyword won't be used as a parameter or fn. name
☒ Not allowed to create global variables

Q- **Higher order functions** - Functions that operate on other functions either by taking them as a arguments or by returning them as a o/p are called higher order functions.

Eg. Manager - Higher order fn.
Employee- Lower order fn.

Q- **THIS Keyword** - This refers to the object that is calling the function. It refers to current instance of the object or function. Its value will always depend on the object that is invoking the function.

Q- **Self-Invoking functions** - A self invoking function is a function that runs automatically as soon as it is defined. (Also called IIFE)

↳ Executes immediately after it is created
↳ You don't need to call it separately.

Day-3 (React)

→ **JSX** - JSX Stands for Javascript XML. It allows us to write HTML inside Javascript and place them in the DOM without using functions like appendChild() or createElement().

follow up1 → why do we need to transpile JSX Code?

Browser unable to read JSX sytax write in React Components. thus we required to use tools like Babel to transpile JSX to Javascript so that the browser can execute it.

follow up2 → How does JSX prevents injection attacks?

Since JSX renders content as text, any element in user input is not treated as HTML, Just on plain text. (You can override this behaviour using "dangerouslySetInnerHTML" but its not recommended)

Q) Functional vs Class Components → Functional components are simple functions using hooks, for state & lifecycle features.

→ Class components are ES6 Classes using lifecycle methods. These are traditional Components.

Functional	Class
Simple function	ES6 class
useState()	this. state
this keyword X	this keyword Requid
Shot & clean	more boilerplate
Slightly better	slightly heavier
Easy to code	Complex

Day-3 (OS)

Q. What is process? - A process is an instance of a program in execution. OS is responsible for managing all the process and allocate time to use the processor.

Process Table - To keep track of the state of all the processes, the OS maintains a table is known as the process table.

State of process - 1) running 2) ready 3) waiting
↓ ↓
only max one process can be   Queues are used to
in this state   maintain these states.

Thread - A thread is a single sequence stream
within a process. Because threads have some of
the properties of processes, often called light weight
process.

Thread vs process - A process is a program in execution
A thread is small part of that program
that does the actual work.

Process — House
Threads - Family members inside the house.

*

Q GUI - Stands for Graphical User Interface. is basically
a type of user interface that allows users to
use graphics to interact with OS. Its main goal
is to increase efficiency & ease of use.

*

Day 3 (CN)

Q Two technologies used to connect offices in remote
locations?
VPN & Cloud computing

Q Types of Networks -

PAN (Personal Area Network) - Let devices connect & communica
over the range of a person

LAN (Local Area Network) - Privately owned network that
operates in local area like in society

MAN (Metro Area Network) - Connects & covers whole city)

WAN (Wide Area Network) - connect a large area often
a country or a continent

GAN (Global Area Network) - Connection is done by
satellites; connects whole
globe.

3

Q- **SMTP Protocol-** is the simple mail transfer protocol. It sets the rule for communication between server. helps the software to transmit email over the Internet.

HTTP → is the Hyper text transfer protocol which defines the set of rules and standards on how the information can be transfered or transmitted on the World Wide Web (WWW), helps web browsers and web servers for communication.

HTTPS → is the HTTP secure. It is advance and secured version of HTTP. One top of HTTP SSL/TLS protocol is used to provide security. It enables secure transactions by encrypting the communication.

Day-3 (DBMS)

Q. **Different Languages present in DBMS -**

DDL - (Data Definition Language) - commands required to define the database
Eg. CREATE, ALTER, DROP, TRUNCATE, RENAME

DML - (Data Manipulation Language) It contains commands to manipulate the data
Eg. SELECT, UPDATE, INSERT, DELETE

DCL (Data Control Language) - commands to deal with the user permission & controls the DBMS.
Eg. GRANT, REVOKE

TCL (Transaction Control Language) - It contains command which are required to deal with the transactions of the database
Eg. COMMIT, ROLEBACK and SAVEPOINT

Q) **ACID Properties -**

Atomicity - All or nothing → All changes of the data must be performed succeefully or not at all.

Consistent - Data must be consistent before and after transaction.

Isalation - No other process can change the data while the transaction is running.

Durable - The changes made by a transaction persist. state must be preserve at time of failure