1.What is SDLC?

The Software Development Life Cycle (SDLC) is a structured process that enables the production of high-quality, low-cost software, in the shortest possible production time.

It provides an effective framework and method to develop software applications. It helps in effectively planning before starting the actual development. SDLC allows developers to analyze the requirements. It helps in reducing unnecessary costs during development.

The SDLC methodology focuses on the following phases of software development:

- Requirement analysis
- Planning
- Software design such as architectural design
- Software development
- Testing
- Deployment

2.What is Agile & Scrum?

Agile Methodology is a people-focused, results-focused approach to software development that respects our rapidly changing world. It's centered around adaptive planning, self-organization, and short delivery times. It's flexible, fast, and aims for continuous improvements in quality, using tools like 'Scrum'.

It abandons the risk of spending months or years on a process that ultimately fails because of some small mistake in an early phase. It relies instead on trusting employees and teams to work directly with customers to understand the goals and provide solutions in a fast and incremental way.

Scrum is a hands-on system consisting of simple interlocking steps and components:

- A product owner makes a prioritized wish list known as a product backlog.
- The scrum team takes one small piece of the top of the wish list called a sprint backlog and plans to implement it.
- The team completes their sprint backlog task in a sprint (a 2-4 week period). They assess progress in a

meeting called a daily scrum.

- The ScrumMaster keeps the team focused on the goal.
- At the sprint's end, the work is ready to ship or show. The team closes the sprint with a review, then starts a new sprint.

3.What is devOps and DevOps lifecycle?

DevOps is a combination of software developers (dev) and operations (ops). It is defined as a software engineering methodology which aims to integrate the work of software development and software operations teams by facilitating a culture of collaboration and shared responsibility.

DevOps practices lead to high productivity, minor bugs, improved communication, enhanced quality, faster resolution of problems, more reliability, better and timely delivery of software.

- Continuous Integration
- Continuous Testing
- Continuous Delivery

- Continuous Deployment
- Continuous Monitoring
- Continuous Business Planning

Benefits of DevOps:

DevOps proponents describe several business and technical benefits, many of which can result in happier customers.

Some benefits of DevOps include:

- Faster, better product delivery
- Faster issue resolution and reduced complexity
- Greater scalability and availability
- More stable operating environments
- Better resource utilization
- Greater automation
- Greater visibility into system outcomes
- Greater innovation

4.What are different Service and Deployment models

available in cloud?

Service Models in cloud are:

IAAS:

The Infrastructure As A Service (IAAS) means the hiring & utilizing of the physical infrastructure of IT (network, storage, and servers) from a third-party provider. The IT resources are hosted on external servers and users can access them via an internet connection.

The Benefits:

- Time and cost savings: No installation and maintenance of IT hardware in-house,
- Better flexibility: On-demand hardware resources that can be tailored to your needs,
- Remote access and resource management

PAAS:

Platform as a Service (PAAS) allows outsourcing of hardware infrastructure as well software environment, which includes databases, integration layers, runtimes and more.

The Benefits

- Focus on development: Mastering the installation and development of software applications
- Time saving and flexibility: no need to manage the implementation of the platform, instant production.
- Data security: You control the distribution, protection, and backup of your business data.

SAAS:

Software as a Service (SaaS) is provided over the internet and requires no prior installation. These services can be availed from any part of the world at a minimal per-month fee.

The Benefits

- You are entirely free from the infrastructure management and aligning software environment: no installation or software maintenance.
- You benefit from automatic updates with the guarantee that all users have the same software version.

- It enables easy and quicker testing of new software solutions.

Deployment models in cloud are:

Private Cloud:

Private Cloud is a mode of deployment where the cloud computing infrastructure is operated exclusively for a single business or customer. In this model, cloud computing services are delivered through a private network, and the associated infrastructure can be either located physically with the business or can also be hosted by a third-party service provider.

Public Cloud:

Public Cloud is where the computing services are delivered and accessed through a public network that is open for all. In this deployment model, a third-party service provider owns and supports all the underlying infrastructure including all hardware, software, and network bandwidth. Amazon Web Services (AWS), Microsoft Azure, and Google Cloud are some of the well-known Public Clouds.

Hybrid cloud:

Hybrid cloud is a composition of two or more clouds (private, community or public) that remain distinct entities but are bound together, offering the benefits of multiple deployment models. In this deployment model, sharing of the underlying infrastructure and seamless service delivery across public and private networks is facilitated by technology. Hybrid cloud is increasingly becoming popular for its flexibility, and for some businesses, offers the added comfort of multi-tiered security and data protection.

5.What is cloud computing?

Cloud computing is the delivery of computing services including servers, storage, databases, networking, software, analytics, and intelligence over the Internet (“the cloud”) to offer faster innovation, flexible resources, and economies of scale. You typically pay only for cloud services you use, helping lower your operating costs, run your infrastructure more efficiently and scale as your business needs change.

The benefits of cloud computing are:

- Cost Savings

- Security
- Flexibility
- Mobility
- Insight
- Increased Collaboration
- Quality Control
- Disaster Recovery
- Loss Prevention
- Automatic Software Updates
- Competitive Edge
- Sustainability