1. What is AI-ops?

AI-ops stands for Artificial Intelligence for IT operations. It is the application of advanced analytics—in the form of machine learning (ML) and artificial intelligence (AI), towards automating operations so that your ITOps team can move at the speed that your business expects today.

AI-Ops combines big data with ML to create predictive outcomes that help drive faster root-cause analysis (RCA) and accelerate mean time to repair (MTTR). By providing intelligent, actionable insights that drive a higher level of automation, collaboration, or anomaly detection, your IT-Ops can continuously improve, saving your organization time and resources in the process.

The goal is to enable IT transformation, receive continuous insights which provide continuous fixes and improvements via automation. This is why AI-Ops can be viewed as CI/CD for core IT functions.

2. Why do we use Ai-ops?

AIOps enables IT operations teams to respond more quickly and proactively to slowdowns and outages, with a lot less effort.

Improves Monitoring and Analytics Challenges

AI-Ops is equipped with the ability to analyze the rapidly growing data generated by IT infrastructures and applications practically and understandably. It monitors data like:

◆ Infrastructure
◆ Application performance
◆ End-user
◆ IT service management (ITSM) data, such as tickets, and change controls
◆ Business Insights

It's not only difficult but inefficient, using various monitoring tools to collect multiple application data and performance metrics across the entire business application.

3. What is the difference between AI-ops and ML-ops?

ML-Ops :   It's a discipline that aims to build, scale, and deploy algorithms to production consistently.

AI-ops : AIOps is a series of multi-layered platforms(big data,advanced analytics, and machine learning techniques) that automate IT to make it more efficient AIOps helps teams automate their tech lifecycles, MLOps helps teams choose which tools, techniques, and documentation will help their models reach production.

MLOps	AIOps
Standardizes ML system development process	Automates IT operations and systems
Increases efficiency and productivity of the team	Automates root cause analysis and resolution
Streamline collaboration between different teams	Process and manage a large amount of data effectively and efficiently
It is a crucial part of deploying AI and Data Science at scale and in a repeatable manner	It leverages revolutionary AI technologies to solve IT challenges
– Multi-source data consumption – Source Code Control – Deployment and Test Services-Tracking ML model using metadata – Automate ML experiments – Mitigate risks and bias in model validation	– Application Monitoring-Automating manual or repetitive processes – Anomaly Detection – Predictive maintenance – Incident management

4. What do you mean by CI-CD?

CI: Continuous Integration: is no longer only about testing and validating code and components, but also testing and validating data, data schemas, and models.

CD: Continuous Deployment: is no longer about a single software package or service, but a system (an ML training pipeline) that should automatically deploy another service (model prediction service) or roll back changes from a model.

5. What do you mean by Bash?

Bourne Again Shell: It was the first and oldest shell used in unix.

Bash is among the most popular of shell languages, known for its combination of powerful capabilities and user-friendly commands.

Bash is largely compatible with sh and incorporates useful features from the Korn shell ksh and the C shell csh.

It offers functional improvements over sh for both interactive and programming use.

While the GNU operating system provides other shells, including a version of csh, Bash is the default shell. Like other GNU software, Bash is quite portable. It currently runs on nearly every version of Unix and a few other operating systems - independently-supported ports exist for MS-DOS, OS/2, and Windows platforms.

6. What do you mean by kernels? Explain the functions of kernels.

kernel is the main component of the Linux operating system (OS) and is the core interface between the computer hardware and its process.
Below are the functions of kernel:-
Process Management. Memory Management. Device Management. Interrupt Handling.
Input Output Communication.

7. What are the essential elements or components of Linux?

The Linux OS also has the following components parts:

- **Bootloader.** Your computer needs to go through a startup sequence called booting. This boot process needs guidance, and your OS is the software in control throughout the boot process. When you start your computer the bootloader for your operating system kickstarts the process.

- **OS Kernel.** You can call the kernel the part of the operating system which is the "closest" to your computing hardware as it is the part which controls the CPU, access to memory and any peripheral devices. It is the "lowest" level at which your operating system works.

- **Background services.** Called "daemons" in Linux, these small applications act as servants in the background, ensuring that key functions such as scheduling, printing and multimedia function correctly. They load after you have booted up, or when you have logged into your computer.

- **OS Shell.** You need to be able to tell our operating system what to do, and this is the goal of the shell. Also known as the command line, it is a facility which lets you instruct your OS using text. However few people nowadays are familiar with command line code, and it once used to put people off using Linux. This changed because a modern distribution of Linux will use a desktop shell just like Windows.

- **Graphics server.** This provides a graphical sub-system that renders images and shapes on your computer monitor. Linux uses a graphical server called "X" or "X-server".

- **Desktop environment.** You can't interact with the graphical server directly. Instead you need software that can drive the server. This is called a desktop environment in Linux and there are plenty of options including KDE, Unity and Cinnamon. A desktop environment is usually bundled with a number of applications including file and web browsers plus a couple of games.

- **Applications.** Obviously, the desktop environment which is bundled with your Linux OS or which you choose to install cannot cater for every application need, there are too many. Individual applications, however, can and there are thousands for Linux just like Windows and Apple's OS X has thousands of applications. Most Linux distros have app stores which help you find and install apps, for example Ubuntu Software which comes with Ubuntu.