Q1. List some examples of using UML diagrams.

ANS :

- Airport check-in and security screening business model.
- Restaurant business model.
- Ticket vending machine.
- Bank ATM UML use case diagrams examples.
- Point of Sales (POS) terminal.
- e-Library online public access catalog (OPAC)
- Online shopping use case diagrams.
- Credit card processing system.

Q2. Use case diagram, what is it and when is it used?

ANS :

The purpose of use case diagram is to capture the dynamic aspect of a system.

Use case diagrams are used to gather the requirements of a system including internal and external influences. These requirements are mostly design requirements. Hence, when a system is analyzed to gather its functionalities, use cases are prepared and actors are identified.

When the initial task is complete, use case diagrams are modelled to present the outside view.

In brief, the purposes of use case diagrams can be said to be as follows −

- Used to gather the requirements of a system.
- Used to get an outside view of a system.
- Identify the external and internal factors influencing the system.
- Show the interaction among the requirements are actors.

Q3. Sequence diagram, what is it and what is it for?

ANS :

A sequence diagram is a type of interaction diagram because it describes how—and in what order—a group of objects works together. These diagrams are used by software developers and business professionals to understand requirements for a new system or to document an existing process. Sequence diagrams are sometimes known as event diagrams or event scenarios.

Purpose of Sequence Diagram

- Model high-level interaction between active objects in a system
- Model the interaction between object instances within a collaboration that realizes a use case
- Model the interaction between objects within a collaboration that realizes an operation
- Either model generic interactions (showing all possible paths through the interaction) or specific instances of a interaction (showing just one path through the interaction)

Q4. How can we get a description of how the system works?

ANS :

An IT systems description provides a summary of the IT systems such as hardware, software and networks utilised by your company.

An IT systems description outlines information on all major IT systems owned, leased or accounts subscribed to by your company and employees in order to operate. It also summarizes the information on the resources that support the flow, storage, processing and analysis of your company's data.

It typically covers the information on:

- **Hardware:** Refers to various IT components and devices such as monitors, processors, laptops, printers and keyboards
- **Software:** Refers to third party and in-house developed programs that enable your company to operate
- **Network Infrastructure:** Refers to hardware and software resources for Internet connectivity, communication, operations and management of your company's network
- **Security Architecture:** Refers to an integrated security system to protect your IT system against viruses, hacking and data theft
- **Cloud Computing:** Refers to use of IT services online instead of a direct connection with a local server

Q5. How to get a description of an existing system, if there is no documentation?

ANS :

```
Get-WmiObject -Class Win32_OperatingSystem |Select Description
```

Q6. Agile design, what is it and what is it for?

ANS :

Agile design is a highly collaborative way of design and developing new products that breaks big tasks into groups of subtasks to be performed in short 'Sprints.' These tasks are regularly reported back to the virtual team in informal scrum meetings (all virtual team members in attendance, often first thing every day, and led by a scrum-master, 20 minutes and done standing up).

Q7. How to check if the system works properly?

ANS :

I would suggest you to generate the System Health Report to check if system is working properly. To run the System health report, follow the below steps.

1. Click on Start
2. Go to Control Panel
3. Go to **Performance Information and Tools**
4. **Look for Advanced Tools in the left panel of the Window.**
5. **Go to Generate a system health report**

You can also check the status of the hardware devices in the Device manager. Follow the below link for more information on Device manager.

Q8. What if the project is delayed?

ANS :

1. Hold a team meeting (again) As soon as it becomes obvious your project will be delayed, gather your team to strategize. ...
2. Prioritize tasks. With your adjusted plan decided, you need to prioritize tasks with the help of Kanban boards. ...
3. Set new deadlines. ...
4. Communicate.

Q9. What if the project exceeds the budget?

ANS :

If you have identified that the project will not be completed using the existing method and budget, including your contingency, you have a few options:

1. Reassign resources to a lower cost resource.
2. Reduce the project scope.
3. Seek more funding.

Q10. How to motivate the team to work effectively?

ANS:

1. Keep them connected to the company. ...
2. Clearly define your expectations. ...
3. Don't sugarcoat unpleasant projects. ...
4. Be consistent. ...
5. Set a good example. ...
6. Ask for input. ...
7. Show you care. ...
8. Reward creativity.

Q11. How to respond to changes introduced by the client

ANS:

1. Request any supporting materials. ...
2. Determine whether the change request is in inside or outside the scope. ...
3. Have your team assess the priority of the change request. ...
4. Approve or reject the change request. ...
5. Decide on a course of action going forward.

Q12. Agile methodology, what is it and what is it for?

ANS:

Agile is an iterative approach to project management and software development that helps teams deliver value to their customers faster and with fewer headaches. Instead of betting everything on a "big bang" launch, an agile team delivers work in small, but consumable, increments.

Q13. Does hiring the best programmers guarantee the success of your projects?

ANS:

Q14 List and discuss the cost components of the project

ANS:

- Resource planning. Resource planning is the process of ascertaining future resource requirements for an organization or a scope of work. ...
- Step 2: Cost estimating. ...
- Step 3: Cost budgeting. ...
- Step 4: Cost control.

Q15. What IT tools are used in the process of software development and maintenance

ANS:

- Atom. Atom is an open-source integrated development environment (IDE) that runs on all popular operating systems. ...
- GitHub. GitHub is without a question the most widely used software development platform. ...
- Chrome DevTools. ...
- Buddy. ...
- IntelliJ IDEA. ...
- HTML5 Builder. ...
- Azure. ...
- Vim.

Q16. What composition should an optimal design team have?

ANS:

- **Project Manager**

  Business Analyst

  Team Lead

  QA Engineer

  UI/UX Designer

  Developers