**✅ 1. HR Questions (Personal & Background)**

1. **Could you please tell me something about yourself?**
2. **Could you please tell me something about your family background?**
3. **What kind of business does your father own?**
4. **Why do you want to switch to IT?**
5. **If given a 3.5 LPA package in IT and 7 LPA inMechnical, what would you choose and why?**

I would choose the **3.5 LPA IT role** because I’m passionate about technology and software development. While the mechanical role offers a higher package initially, I believe long-term career satisfaction and growth come from working in a field I truly enjoy and see myself evolving in.

I’ve invested time and effort in building my skills in IT — through internships, projects, and hackathons — and I see immense opportunities for growth, innovation, and impact in the tech domain. With consistent performance and upskilling, I’m confident I can grow both professionally and financially in IT.

1. **Could you please tell me something about your interpersonal skills?**

I consider my interpersonal skills one of my strengths. I communicate clearly, listen actively, and value the input of others—whether it's in a team setting, during peer code reviews, or collaborating with non-technical members.

For example, during hackathons and my internship, I regularly coordinated tasks, resolved conflicts quickly, and ensured everyone was aligned toward the same goal. I’m also comfortable giving and receiving constructive feedback, which helps in maintaining a healthy team dynamic.

I believe strong interpersonal skills are essential—not just for teamwork but also for understanding user needs, presenting ideas clearly, and growing as a professional**.**

1. **Could you please tell any five specialties of your city?**

**✅ 1. Traditional Maharashtrian Culture**

**Dhule is deeply rooted in Maharashtrian folk traditions, with festivals like Ganesh Chaturthi, Navratri, and Gudhi Padwa celebrated with great enthusiasm. Folk dances like the 12 Pavali Dance, performed during cultural events, showcase the traditional spirit of the region.**

**✅ 2. Ahirani Language and Culture**

**Dhule is a cultural hub for the Ahirani-speaking community. Ahirani, a dialect of Marathi, reflects the local music, poetry, and storytelling traditions, giving the city a unique linguistic and cultural identity.**

**✅ 3. Historical Sites**

**The city is rich in history, featuring landmarks like the Songir and Laling Forts, the V.S. Rajwade Museum (housing rare manuscripts and artifacts related to Samarth Ramdas Swami), and local attractions like Mahalila Lawns and Filmcity**

**✅ 4. Agricultural Significance**

**Dhule is an agriculture-driven district, known for the production of cotton, groundnuts, onions, and dairy products like pure milk and ghee. Its fertile land plays a vital role in the economy of the region.**

**✅ 5. Growing Industrial and Transport Hub**

**Due to its strategic location at the crossroads of major National Highways (NH-3, NH-6, and NH-211), Dhule is evolving as a transport, logistics, and industrial center, especially through its MIDC zone and presence in the Delhi-Mumbai Industrial Corridor (DMIC).**

**✅ 2. Programming & Technical Skills**

1. **Which programming languages do you prefer?**

I prefer working with Python, especially using the Django framework for backend development.

Python's simplicity and readability make it ideal for writing clean and maintainable code, while Django provides a powerful and secure structure to build scalable web applications quickly.

I’ve used Django to develop APIs, handle database interactions, implement authentication, and manage admin interfaces. Its built-in features and large community support make it my go-to choice for backend projects.

1. **What are constructors?**

**Constructors** are special methods used in object-oriented programming to **initialize objects** of a class.

In **Python**, the constructor method is called \_\_init\_\_(). It is automatically invoked when a new object is created and is used to assign values to object properties or perform any setup steps.

**Example**:

**class Student:**

**def \_\_init\_\_(self, name, age):**

**self.name = name**

**self.age = age**

**s1 = Student("Kalp", 21)**

**print(s1.name)** # Output: Kalp

In this example, the \_\_init\_\_() constructor assigns values to name and age when the Student object is created.

**What is Self in class?**

In Python, self refers to the instance of the class itself. It is used inside methods, including constructors (\_\_init\_\_), to access the attributes and methods of the specific object being created or manipulated.

When you write self.name = name inside the constructor, you’re setting the value of the object's name attribute. Without self, Python wouldn’t know which object’s attribute to assign the value to.

It is similar to this keyword in languages like Java or C++, but in Python, you explicitly declare it as the first parameter in instance methods.

**Or**

* When you create a class, you make a **blueprint** for objects.
* When you create an **object** (an instance of that class), Python needs a way to know which object’s data you are working with.
* self is like a **name tag** that tells Python: “Hey, this is *this specific* object.”

1. **Can we initialize a class without a constructor?**

* Yes, in Python, you can create (initialize) a class object without explicitly defining a constructor ***(\_\_init\_\_* method).**
* If you don’t provide a constructor, Python uses a default constructor that creates the object without any special initialization.

***class Student:***

***pass # No constructor defined***

***s1 = Student() # This works fine***

***print(s1) # Prints the object reference***

* However, if you need to set initial values for attributes, you should define a constructor.

Ex –

***class Student:***

***def \_\_init\_\_(self, name, age):***

***self.name = name # setting the initial value of 'name'***

***self.age = age # setting the initial value of 'age'***

***s1 = Student("Kalp", 21) # 'Kalp' and 21 are initial values given to the object s1***

***print(s1.name) # Output: Kalp***

***print(s1.age) # Output: 21***

1. **What is a copy constructor?**

A copy constructor is a special type of constructor used to create a new object by copying the properties of an existing object.

It essentially duplicates an object so the new object starts with the same values as the original one.

Python doesn’t have a built-in copy constructor like some other languages (e.g., C++), but you can achieve similar behavior by defining your own method or using the copy module.

Ex-

***import copy***

***class Student:***

***def \_\_init\_\_(self, name, age):***

***self.name = name***

***self.age = age***

***# Custom copy method (like a copy constructor)***

***def copy(self):***

***return Student(self.name, self.age)***

***s1 = Student("Kalp", 21)***

***s2 = s1.copy() # s2 is a new object copied from s1***

***print(s2.name) # Output: Kalp***

***print(s2.age) # Output: 21***

1. **How can we find the second largest element in an array?**
2. **Can you explain any program you’ve done? (e.g., palindrome, prime number, reverse number)**
3. **How do you check if a number is a palindrome?**
4. **What is a null pointer in C?**
5. **What are pointers?**
6. **How to declare an integer pointer?**
7. **What happens if we assign 0 to a pointer? Will it become null?**
8. **What is a dangling pointer?**
9. **What is the difference between character array and string?**
10. **What is Java Virtual Machine (JVM)?**
11. **Anything else about JVM?**
12. **What is JDK and JRE?**
13. **Difference between instance variable and local variable?**
14. **What is the most important feature of Java?**
15. **Between n = n + 1 and n++, which executes faster and why?**
16. **Difference between logical AND and bitwise AND operators?**

**✅ 3. Project & IoT**

1. **Could you please tell me something about your project?**
2. **Could you please explain the working of your project?**
3. **What was the team size and your role in the project?**
4. **What kind of components did you arrange?**
5. **What is the accuracy of your project?**
6. **What are the possible improvements in your project?**
7. **What are you currently doing to improve these issues?**
8. **How do you resolve errors while programming or working on a project?**
9. **What is the future scope of your project? Can it be implemented on a mega scale?**

**✅ 4. General & HR Questions (Company-Specific & Career Goals)**

1. **What is latency?**
2. **If you're not selected for any IT company, what is your backup plan?**
3. **If there's a 6–8 month delay in joining, what skills (technical and non-technical) will you work on?**
4. **Why should we prefer you over other candidates? What are your strengths?**
5. **Can you give an example where you stayed motivated or didn’t give up?**
6. **Do you have any questions for us?**
7. **Why do you want to join TCS and not other similar companies?**
8. **Are you aware of any recent rewards or recognitions TCS received?**
9. **What is the tagline of TCS?**
10. **Who is the CEO of TCS?**
11. **Who is the chairman of the Tata Group?**
12. **Do you have any issues with relocation, bond, or night shifts?**
13. **Where do you see yourself five years from now?**
14. **Would you prefer to work from home or work from office? Why?**
15. **If you receive the same offer from Wipro (same location, role, and package), will you join it or TCS?**
16. **What is your honest weakness?**
17. **How do you deal with short-tempered nature?**
18. **How many warnings should be given to a team member not following decorum before firing?**

**✅ 5. Leadership & Situational Questions**

1. **How will you handle a situation where a team member is very talented but can’t communicate well in English or Hindi (only local language)?**
2. **Your team is unable to finish a project on time and is demotivated. How will you keep yourself and your team motivated?**
3. **Being from Electronics and Communication, don’t you think pursuing an M.Tech in Computer Science would be better before entering IT?**

**✅ 6. Technical & Skill-Based Follow-Up Questions**

1. **Which programming languages do you know?**
2. **Explain JVM, platform independence, and JVM components.**
3. **What technologies are you interested in learning (e.g., AI, ML, Cloud, etc.)?**

**✅ 7. Self-Assessment & Feedback Questions**

1. **Do you think your performance in the interview was good?**
2. **Do you feel this mock interview will improve your performance in the real one?**