Unit 4 : Active and Passive Voice

1. What is Active and Passive Voice ?

Active Voice:

In active sentences, the subject performs the action.

Example: The engineer programs the robot.

(The subject "engineer" performs the action of programming.)

Passive Voice:

In passive sentences, the subject receives the action.

Example: The robot is programmed by the engineer.

(The subject "robot" is the receiver of the action.)

2. Why Use Passive Voice?

➡ To focus on the action or result rather than the doer:

Example: The circuit was tested.

(The emphasis is on the action of testing, not who performed it.)

➡ To emphasize the object of the action:

Example: The sensor was calibrated by the technician.

(Focus is on the sensor, which was calibrated.)

➡ When the doer is unknown or not important:

Example: Data is processed automatically.

(The focus is on the process itself, not who processes the data.)

3. How to Form Passive Voice?

Formula:

1. **Identify the object** in the active sentence.

2. Make the object the **subject** of the passive sentence.

3. Use the verb **to be** in the same tense as the active sentence.

4. Add the **past participle** of the main verb.

5. Optionally, add **by + doer** if necessary.

Example:

Active: *The robot moves the arm.*

- Object*: **the arm** → becomes the subject in passive.

- Tense: Present simple → use **is** (form of *"to be"*).

- Main verb: **moves** → becomes **moved** (*past participle*).

Passive: The arm is moved by the robot.

4. Verb Forms for Passive Voice

Tense	Active Sentence	Passive Sentence
Present Simple	*The controller sends signals* *The software controls the process.*	*Signals are sent by the controller* *The process is controlled by the software.*
Past Simple	*The engineer calibrated the sensor* *The technician repaired the circuit.*	*The sensor was calibrated by the engineer* *The circuit was repaired by the technician.*
Future Simple	*The robot will check the parameters* *The robot will optimize the system*	*The parameters will be checked by the robot* *The system will be optimized by the robot*
Present Continuous	*The PLC is controlling the process* *The machine is assembling the parts.*	*The process is being controlled by the PLC* *The parts are being assembled by the machine.*
Present Perfect	*The team has updated the firmware* * The algorithm has detected a fault*	*The firmware has been updated by the team* *A fault has been detected by the algorithm*

5. When to Avoid Passive Voice

1. When clarity about the doer is important:

   Active : The engineer fixed the problem.

   (This is more precise than "The problem was fixed.")

2. In informal or conversational English:

   Active: The robot picked up the object.

   (This is more natural than "The object was picked up by the robot.")

6. Notes for Automation Context

In technical fields like automation, the **passive voice** is often used in reports, manuals, and documentation to focus on processes and results.

For example:

- The signal is transmitted to the controller.

- The motor parameters were adjusted.

This style ensures that the emphasis remains on the technology and its operation rather than the person performing the action.