Technocation Freelancing Training Institute And Software House

IOT (Internet of Things) Certification Module

MODULE 1: Introduction to IoT

- IoT means connecting everyday things to the internet.
- Examples: smart watch, smart fridge, Alexa.
- It helps things work automatically.
- Kids learn how machines "talk" to each other.

MODULE 2: How IoT Works

- IoT uses sensors, internet, and devices.
- Sensors collect data like temperature or light.
- Internet sends the data to other devices.
- Devices act smartly based on that data

MODULE 3: Sensors in IoT

- Sensors are like "eyes and ears" of machines.
- They sense heat, sound, motion, or light.
- Kids see examples like car parking sensors.
- Activity: imagine your room with 3 sensors.

MODULE 4: Actuators and Devices

- Actuators are like "hands" of machines.
- They move or do work when sensors tell them.
- Example: fan turns ON when it gets hot.
- IoT = sensors collect, actuators act.

MODULE 5: IoT in Daily Life

- IoT is everywhere around us.
- Smart homes, smart cars, smart farming.
- It saves time and makes life easier.

- Activity: list IoT things you've seen.

MODULE 6: IoT and Cloud

- Cloud is a place where data is stored online.
- IoT devices send data to the cloud.
- Cloud helps share and analyze data.
- Example: fitness watch storing steps in cloud.

MODULE 7: Communication in IoT

- Devices need to "talk" to each other.
- Wi-Fi, Bluetooth, and Internet help.
- Without communication, IoT won't work.
- Example: Smart bulb controlled by phone.

MODULE 8: Programming IoT Devices

- IoT devices need simple coding.
- Kids can code lights, fans, or robots.
- Coding tells sensors and actuators what to do.
- Fun project: blink a light with code.

MODULE 9: IoT and Safety

- IoT also needs security.
- Hackers can misuse devices if not safe.
- Passwords and encryption protect data.
- Safety is as important as coding.

MODULE 10: IoT in Health

- IoT helps doctors and patients.
- Smart watches check heartbeat.
- Remote machines help monitor patients.
- Saves lives by giving quick alerts.

MODULE 11: IoT in Schools

- Smart boards and attendance systems.
- Sensors in classrooms for lights/fans.
- Safety alarms in schools.
- IoT makes learning more fun.

MODULE 12: Build a Mini IoT Project

- Kids design a small IoT project.
- Example: smart plant watering system.
- Use simple sensors and switches.
- Present project idea to the class.

MODULE 13: Certification Module

- Kids review all topics they learned.
- Small quiz and project sharing.
- Get feedback from teacher/mentor.
- Award: **IoT Junior Developer Certificate**