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**Roll No. – 22**

**Topic Name – Defender of IoT**

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**Defender of IoT** in Azur is a security tool from Microsoft that helps protect your Internet of Things (IoT) devices from threats. It watches over your devices, detects suspicious activity, and alerts you if something seems wrong. It also checks for weaknesses in your devices and suggests ways to fix them.

You don't need to install anything on the devices themselves—Defender for IoT can monitor them without extra software. It's especially useful for industries like manufacturing, healthcare, and smart buildings where IoT devices are critical. It integrates with other Azure security tools, giving you a clear view of your IoT security in one place.



**Key Features of Azure Defender for IoT:**

 **Threat Detection**: It watches your IoT devices and alerts you if it spots anything unusual or potentially dangerous.

 **Device Discovery**: It automatically finds all the IoT devices connected to your network, so you know what’s out there.

 **Vulnerability Check**: It looks for weaknesses in your devices and tells you how to fix them.

 **No Extra Software Needed**: It monitors your devices without needing to install anything on them.

 **Works with Azure**: It connects with other Azure security tools, so you can manage everything from one place.

 **For Both IT and OT**: It protects both regular IT systems and specialized equipment in industries like manufacturing.

 **Alerts and Notifications**: Generates security alerts based on the detected threats, allowing security teams to respond quickly to incidents.

**Use Cases for Azure Defender for IoT:**

**1. Manufacturing:** It protects machines and robots in factories from cyber threats, ensuring production continues smoothly**.**

**2. Smart Buildings:** It secures devices like smart thermostats, lighting, and security cameras in buildings to keep them safe from hackers**.**

**3. Healthcare:** It safeguards medical devices like heart monitors and connected equipment, ensuring patient safety.

**How It Works:**

**1. Set Up:** You connect Azure Defender for IoT to your network. It then starts scanning and monitoring your IoT devices without needing extra software on them**.**

**2. Monitoring:** It continuously watches your devices and network traffic for unusual activity.

**3. Alerts:** If it detects a threat or a security issue, it sends an alert so you can take action quickly.

**4. Fixes:** It also checks your devices for any weaknesses and provides tips on how to fix them, helping you keep everything secure.