SNS COLLEGE OF TECHNOLOGY

(An Autonomous Institution)

UNIT-V- Neighborhood Area Network (NAN)

"Neighborhood Area Network (NAN)" in the context of Smart Grids generally refers to a communication network designed to support the integration and communication of various devices and systems within a localized area for efficient energy management. The Smart Grid is an advanced electricity grid that uses digital technology to enhance reliability, sustainability, and efficiency of the production and distribution of electricity.

In the context of Smart Grids, a Neighborhood Area Network could involve the deployment of communication technologies to enable devices like smart meters, sensors, and other grid components to communicate with each other. This communication infrastructure facilitates real-time monitoring, control, and optimization of electricity distribution within a specific neighborhood or local area.

Neighborhood Area Network (NAN)

The objectives of implementing a Neighborhood Area Network for Smart Grids include:

1.Data Collection: Gathering data from various devices, such as smart meters and sensors, to monitor electricity consumption, grid performance, and potential issues.

2.Remote Control: Enabling remote control and management of devices to optimize energy distribution, respond to demand fluctuations, and address faults or outages.

3.Efficiency Improvements: Supporting the implementation of demand response programs, where electricity consumption can be adjusted based on real-time conditions to enhance overall grid efficiency.

4.Integration of Renewable Energy Sources: Facilitating the integration of renewable energy sources, such as solar panels and wind turbines, by providing a communication infrastructure for monitoring and controlling their output.

5.Fault Detection and Management: Quickly identifying and responding to faults or disruptions in the grid to minimize downtime and improve overall reliability.

The specific technologies used in a Neighborhood Area Network for Smart Grids can vary and may include wireless communication technologies, such as radio frequency (RF) mesh networks or other communication protocols.

THANK YOU