SAKSHAM-3000

Prelims: Current events of National and International Importance | science and technology.

Why in news?

Recently, Minister of State for Communications launched SAKSHAM-3000 High-Capacity Switch-Cum-Router.

- **SAKSHAM-3000** – It is a state-of-the-art data centre switch-cum-router designed for next-generation digital infrastructure.
- **Developed by** – Centre for Development of Telematics (C-DOT).

> *C-DOT is the Telecom Technology development centre was established in August 1984 as an autonomous body under the Department of Telecommunications (DoT), Ministry of Communications*

- **Traffic manager** – It acts a traffic manager that help to build stronger, faster, and more secure internet and communication networks for the country.
- Whenever huge amounts of data like phone calls, internet browsing, videos, or cloud storage is transmitted, this machine ensures they move quickly, smoothly.

Technical specifications

- **Ultra-low latency** - There is almost no delay and the information travels extremely fast from one point to another.
- **Capability** – It can handle up to 25.6 Terabits of data per second.
- **PTP (Precision Time Protocol)** – It keeps all parts of the network perfectly in sync, like setting the same clock for everyone.
- **Sync-E (Synchronous Ethernet) –** It ensures stable and accurate timing in internet networks.
- **WRR (Weighted Round Robin)** – Distributes data fairly among different users, avoiding congestion.
- **WRED (Weighted Random Early Detection)** – Detects potential overload early and prevents network slowdowns.

Applications of SAKSHAM-3000

- **5G and 6G mobile networks –** It helps in building fast and reliable next-generation mobile networks.
- **Data centres –** It is used in large computer facilities where huge amounts of data are stored and managed.

- **Cloud computing –** It supports cloud-based services like online storage, streaming platforms, and apps.
- **Artificial Intelligence (AI) workloads –** It handles the heavy data requirements of AI technologies, making AI applications faster and more reliable.
- **Government and defence networks –** It provides secure and high-speed communication for defence and critical government operations.
- **Smart Cities & IoT networks** – It supports digital infrastructure required for smart cities, connecting sensors, cameras, and other devices.

Reference

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