



Daily Current Affairs Prelims Quiz 09-09-2024 (Online Prelims Test)

1) Consider the following statements with respect to Terahertz (THz)

1. Terahertz (THz) is a unit of frequency and a type of electromagnetic radiation.
2. Terahertz frequencies are crucial for 6G.
3. Terahertz waves have a longer range compared with lower-frequency signals used in 4G and 5G networks.

How many of the statements given above are correct?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

Answer : b

Terahertz (THz)



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A silicon topological beam-former chip for terahertz communications, which is crucial for future 6G networks has been developed recently.

- Terahertz (THz) is a unit of frequency and a type of electromagnetic radiation.
- Terahertz waves use a relatively unoccupied portion of the electromagnetic spectrum, offering massive data-carrying capacity.
- Terahertz waves have a **shorter range** compared with lower-frequency signals used in 4G and 5G networks.
- **Terahertz beam-formers** address this challenge by precisely directing high-frequency signals to ensure they reach their destination without loss or degradation.
- The recently developed **silicon topological beam-former chip** helps to steer terahertz waves.
- **Beam-former** refers to the purpose of the chip forming terahertz waves into directed beams.
- This chip splits a single terahertz signal into 54 smaller signals, guided through 184 tiny channels with 134 sharp turns.
- Each beam can transmit and receive data at speeds of 40 to 72 gigabits per second.
- The chip uses a **microscopic honeycomb pattern** to form lanes for the terahertz waves, designed with the help of AI.
- The array of channels sends out focused beams covering 360 degrees around the chip.
- Terahertz beam-formers address the challenge of shorter range compared to lower-frequency signals used in 4G and 5G.
- Implications and Potential Applications:
 - **Faster data transfer** - Downloading a 4K movie in seconds instead of minutes.
 - **Improved VR/AR experiences** - Reduced lag for more immersive experiences.
 - **Holographic communication** - Potential for real-time, lifelike holographic interactions.

- **Smart cities** – Better coordination of traffic systems and emergency responses.
- **Healthcare** – Possibility of remote surgeries with doctors controlling robotic instruments from afar.
- This technology seems to be a significant step forward in addressing the challenges of high-frequency signal transmission.
- The ability to provide 360-degree coverage with focused beams is particularly impressive, as it could greatly improve signal quality and reliability in various settings.

2) Jal Sanchay Jan Bhagidari, sometimes seen in the news recently, is associated with?

- Financial assistance provided for the lake and pond rejuvenation projects.
- Aquifer management plan for tier-1 and tier-2 cities.
- Construction of rainwater harvesting structures.
- Promotion to improve the water use efficiency across various sectors.

Answer : c

Jal Sanchay Jan Bhagidari

Jal Sanchay Jan Bhagidari was launched by the Shri Narendra Modi at Gujarat recently.

- Jal Sanchay Jan Bhagidari is an initiative that aims to **construct approximately 24,800 rainwater harvesting structures** across Gujarat.
- The initiative led by the Ministry of Jal Shakti, in collaboration with the State Government.
- The rainwater harvesting structures across the State are being constructed with **community partnership**.
- These recharge structures will be instrumental in enhancing rainwater harvesting and ensuring long-term water sustainability.
- The initiative aligns with the ongoing Jal Shakti Abhiyan: Catch the Rain campaign, reinforcing Mr Modi's vision of collaborative water management to ensure long-term water security.

3) Consider the following statements with respect to International Solar Festival

- The first edition of International Solar Festival was held in France.
- It features a futuristic solar city in which the sun powers everything.
- It is a platform to influence, network, and contribute to the global energy shift.

How many of the statements given above are correct?

- Only one
- Only two
- All three
- None of the above

Answer : b

International Solar Festival

- International Solar Festival is a platform to influence, network, and contribute to the global energy shift.
- It is **hosted by the International Solar Alliance**.
- It will catalyse global solar adoption by forging partnerships, unlocking innovative financing, deploying cutting-edge technology, and boosting capacity in ISA member countries.
- The **first edition of International Solar Festival was held at New Delhi, India**.
- It aligns with businesses, policymakers, and financial institutions, it will serve as a launch-pad for transformative collaborations that fast-track the world's transition to a future powered by

affordable, reliable, and sustainable solar energy.

- It is a call to action for a sustainable and equitable future powered by solar energy.
- It also has virtual-reality devices depicting solar parks and agriculture solar, and a solar smash game that gives visitors on an experiential journey of transition from fossil fuel-based power to clean and renewable solar energy.
- ***It features a futuristic solar city in which the sun powers everything.***
- The festival displays *innovation in the solar sector* that can drive a greener future.
- Another key attraction is **Solartron**, an interface that shows how solar energy has been harnessed by India, USA, Germany, Japan and Australia.
- A 360-degree immersive zone, called **Solaris**, gives visitors a view of a clean metropolis and explains how solar technologies will reshape how we live and work.

4) SAMRIDH Scheme, sometimes in the news recently, is associated with?

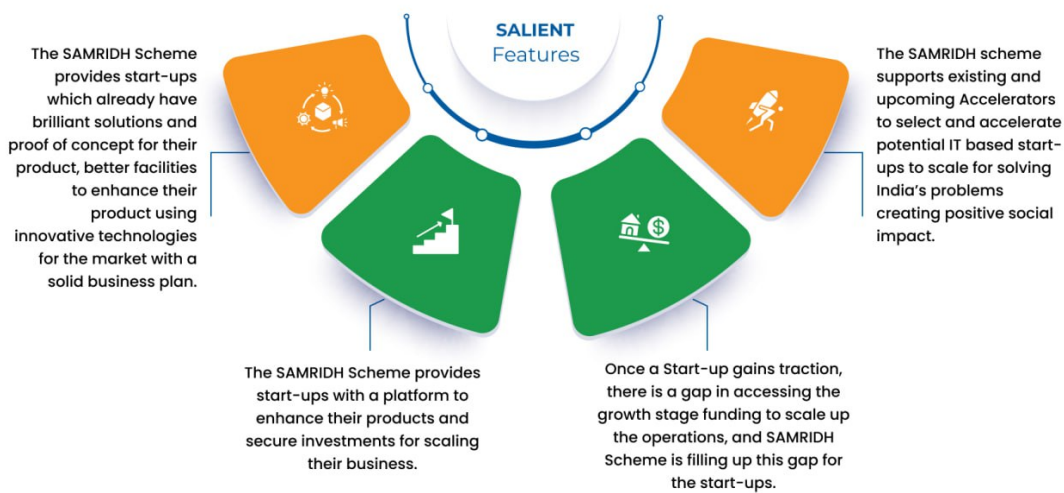
- a. An initiative to addresses the rail safety.
- b. Unified Ambulance service to all poor citizens across India.
- c. Aims to support existing and upcoming Accelerators.
- d. A financial inclusion scheme for transgender people.

Answer : c

Startup Accelerators of MeitY for Product Innovation, Development and Growth (SAMRIDH)

The second cohort SAMRIDH was launched recently to achieve the target of nurturing 300 startups.

- The SAMRIDH scheme aims to support existing and upcoming Accelerators to select and accelerate potential IT-based start-ups to scale.
- Among others, the program focuses on accelerating the start-ups by providing customer connect, investors connect and connect to international markets.
- The SAMRIDH scheme will provide support to selected Accelerators for extending Accelerator Services as defined below to start-ups and even provide first round of funding of up to 40 lakh rupees (with an average of 30 Lakh rupees per start-up per cohort).
- It is proposed to support around 300 tech Start-Ups through about 40 cohorts (size of 8-10 Start-Ups) under the program.
- The scheme will support existing and upcoming Accelerators to select and accelerate potential product based start-ups to scale.
- The program will focus on accelerating the start-ups by providing customer connect, investor connect and internationalization connect services.
- It is **implemented by MeitY Start-up Hub (MSH), Digital India Corporation (DIC).**



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