



Early Neurological Disorder Detection | Uttar Pradesh | 10 Jul 2024

Why in News?

According to the sources, the researchers at the [Indian Institute of Technology-Banaras Hindu University \(BHU\) Varanasi](#) have **developed a groundbreaking 'lab-on-chip' device** that can **detect early-stage diseases** with remarkable accuracy.

Key Points

- This innovative breakthrough holds the **potential to transform healthcare** by enabling **faster and more reliable identification of neurological conditions** like [Parkinson's disease](#), [depression](#), and [Schizophrenia](#).
- The innovation by the scientists at the **Nanomaterials for Electronics and Energy Devices (NEED) lab at IIT-BHU** has the potential to **revolutionize the comprehension of brain function** and pave the way for new treatments for [neurological disorders](#) at a very early stage.
- The newly developed device incorporating [metallic nanoparticle decorated atomically-thin, two-dimensional \(2D\) semiconductor](#) leverages advanced [Surface-Enhanced Raman Scattering \(SERS\) technology](#).
 - This allows for the detection of **minute concentrations of neurotransmitters** like [dopamine](#) with unparalleled precision and speed.
- The implications of such innovation are profound, where **developing novel materials and transforming them into a device could potentially support the various national missions** of device manufacturing, as **proposed by the Government of India**.

Surface-Enhanced Raman Scattering (SERS)

- SERS is a **commonly used sensing technique** in which **inelastic light scattering by molecules is greatly enhanced** when the molecules are adsorbed onto corrugated metal surfaces such as **silver or gold nanoparticles (NPs)**.
- It enhances the [Raman scattering light from molecules](#), thus leading to effective analysis of the molecules.

Parkinson's Disease

- Parkinson's disease is a **progressive neurodegenerative disorder** that impairs movement and can lead to immobility and dementia over time.
- The disease **usually occurs in older people**, but younger people can also be affected. Men are affected more often than women.
- The prevalence of **Parkinson has doubled in the past 25 years. India** shares around **10% of the global burden of [Parkinson's disease](#)**.

Schizophrenia

- It is a severe **mental disorder**, characterized by **profound disruptions in thinking, affecting language, perception, and the sense of self**. It **affects more than 21 million people worldwide**.
- Researchers believe that **genetic as well as environmental factors** such as exposure to viruses contribute to causation, and also **life stressors** may play a role in the disorder's onset and

course.

No Registration Tax on Hybrid Cars | Uttar Pradesh | 10 Jul 2024

Why in News?

Recently, The Uttar Pradesh government has decided to **waive the registration tax on [strong hybrid cars](#)**. This decision is a significant **boost for [green vehicles](#)**.

Key Points

- This move will mainly benefit car manufacturers such as **Maruti Suzuki, Toyota Kirloskar Motor, and Honda Cars India**. Customers can save up to Rs 3.5 lakh.
- Uttar Pradesh imposes **8% road tax on vehicles under Rs 10 lakh and 10% tax on vehicles over Rs 10 lakh (ex-showroom)**.
 - The road tax waiver is not expected to greatly affect state revenue because of low hybrid vehicle sales.
- **Hybrid vehicle sales are gaining traction** due to factors such as **ease of ownership**, not needing dedicated charging infrastructure like **[Electric Vehicles \(EVs\)](#)**, **better mileage** than petrol cars, and **lower acquisition costs**.
 - In 2023, The state announced a **three-year tax and registration fee exemption for purchasing EVs**, with a five-year exemption for EVs manufactured within the state.

Hybrid Vehicles

- Hybrid vehicles combine a **traditional [Internal Combustion Engine \(ICE\)](#) with an Electric Propulsion system**, allowing the vehicle to operate using either or both power sources.
- There are different types of hybrid systems, but the most common ones include **parallel hybrids** (both the engine and electric motor can power the vehicle independently) and **series hybrids** (only the electric motor drives the wheels, while the engine generates electricity).

Rajasthan Aims for Self-Reliance in Power and Energy | Rajasthan | 10 Jul 2024

Why in News?

The Rajasthan government aims to **produce 30 gigawatt (Gw) of [solar power](#)** by the end of FY25 to become **self-reliant in the [power and energy sector](#)**.

Key Points

- In March 2024, The state government and **[Neyveli Lignite Corporation Limited \(NLC\)](#)**

India signed an agreement to form a **joint venture for setting up a 1,000 megawatt (Mw) solar power plant and a [125 MW lignite-based power plant in Bikaner](#)**, with an investment of over Rs 7,000 crore.

- The government also approved land for four major solar projects to make the state a leader in energy self-sufficiency.
- The projects include **three solar parks in Bikaner** totaling 2,450 MW and a 500 MW project in Phalodi.
- The state is also strengthening the **PM Kusum Solar pump plant**, which will assist in **installing solar pumps in more than 50,000 farms and produce 200 MW of electricity**.
 - The initiative also encourages the **adoption of [renewable energy sources](#)** and plays a significant part in **revitalizing the [agriculture sector](#)** in the state through the **implementation of solar-powered pumps**.

PM-KUSUM (Pradhan Mantri Kisan Urja Suraksha Evam Uttham Mahabhiyan)

- The PM-KUSUM scheme was **launched by the Ministry of New and Renewable Energy (MNRE)** to support installation of off-grid solar pumps in rural areas and reduce dependence on grid, in grid-connected areas.
- The **[Cabinet Committee on Economic Affairs \(CCEA\)](#)** had in February 2019 approved the launch of the scheme with the **objective of providing financial and water security**.
- The government's **[Budget for 2020-21](#)** expanded the scope for the scheme with **20 lakh farmers** to be provided assistance to install **standalone solar pumps**; another **15 lakh farmers** to be given help to **solarise their grid-connected pump sets**.
- This will enable farmers to set up solar power generation capacity on their barren lands and to sell it to the grid.

Rajasthan Budget 2024 | Rajasthan | 10 Jul 2024

Why in News?

Recently, **Rajasthan's** state finance minister Diya Kumari has unveiled the **comprehensive Budget for the fiscal year 2024-25**.

Key Points

- Under **[Jal Jeevan Mission Projects](#)**, Rs 20,370 crores will be allotted for six projects covering 5,846 villages.
- Rs 5,180 crores for projects in 185 urban settlements over the next two years, under the **[Amrut 2.0 Projects](#)**.
- Rs 187 crores for small projects, including the **construction of service reservoirs and pipelines** in Ajmer.
- Generation target increased to 33,600 MW.
- **Lok Parivahan Sewa** will be implemented to improve **rural connectivity**.
- 208,000 homes to receive connections within two years; **[PM Suryaghar Yojana](#)** to create model solar villages; 2.5 million smart meters to be installed to prevent electricity leakage.
- Modern shelters and charging stations in major cities; 300 electric buses to enhance public transport.
- Rs 60,000 crores for new road projects, including bypasses, state highways, and infrastructure enhancements; Rs 9,000 crores for road repairs, railway bridges, underpasses, and beautification projects.

- Introduction of [New Industrial Policy 2024](#) and a [New Export Promotion Policy, 2024](#).
- Nine [greenfield expressways](#) with a total length of over 2750 km will be constructed.
- A budget of Rs 650 crores has been allocated for setting up 71 [solid waste processing plants](#) in cities, 131 legacy waste management centers, and for implementing vehicle tracking systems and [Radio-Frequency Identification \(RFID\) technology](#) to improve waste collection management.
- A budget of Rs 100 crore has been allocated for the **Jaipur Walled City Heritage Development Plan**, which is intended to **preserve monuments and the [United Nations Educational, Scientific and Cultural Organization Heritage site](#)**.
- Under the ["One District One Product" initiative](#), a new policy will be introduced. Annually, a budget of Rs 100 crore will be allocated for this purpose.
 - To promote local products, incentives will be provided under the ["Vocal for Local" scheme](#).

Department of Good Governance and Convergence | Chhattisgarh | 10 Jul 2024

Why in News?

Recently, The Chhattisgarh government decided to form a separate **"[Good Governance and Convergence Department](#)"** for the effective implementation of state government welfare policies, good governance, and addressing public issues.

Key Points

- In a cabinet meeting it was decided that the department will now incorporate **e-Review, e-Public Service Guarantee, and Digital Secretariat**, which are currently part of the General Administration department.
- It has also approved the amendment of **Chhattisgarh Government Work (Allocation) Rules** and implementation of the [National Education Policy 2020](#).
- Under [Mukhyamantri Aawas Yojana](#), the registration date to provide housing to homeless, economically weaker, and lower-class families in Naya Raipur is also extended.

National Education Policy (NEP) 2020

- **About:**
 - The NEP 2020 aims at making **"India a global knowledge superpower"**. It is only the 3rd major revamp of the framework of education in India since independence.
 - The two earlier education policies were brought in **1968 and 1986**.
- **Salient Features:**
 - Ensuring **Universal Access at All Levels of schooling** from pre-primary school to **Grade 12**.
 - Ensuring quality early childhood care and education for all children between **3-6 years**.
 - New Curricular and Pedagogical Structure (**5+3+3+4**) corresponds to the age groups of **3-8, 8-11, 11-14, and 14-18 years respectively**.
 - It covers four stages of schooling: Foundational Stage (5 years), Preparatory Stage (3 years), Middle Stage (3 years), and Secondary Stage (4 years).
 - **No hard separations between arts and sciences**, between curricular and extracurricular activities, between vocational and academic streams;
 - Emphasis on promoting multilingualism and Indian languages.
 - Setting up of a new **National Assessment Centre, [PARAKH \(Performance Assessment, Review, and Analysis of Knowledge for Holistic Development\)](#)**.

- A **separate Gender Inclusion fund and Special Education Zones** for disadvantaged regions and groups.

Madhya Pradesh Launches Probe in New Tiger Reserve | Madhya Pradesh | 10 Jul 2024

Why in News?

Recently, The Madhya Pradesh government has initiated an inquiry into the alleged **poaching of tigers and irregularities** in the newly established **Veerangana Durgavati Tiger Reserve**.

Key Points

- The forest department launched the probe following an allegation of **serious negligence in the conservation of tigers, tiger safari and management of forest property** in the reserve.
 - There is also alleged large-scale **illegal tree cutting and transportation of wood** in the Bara Beat area of the **Nauradehi Sanctuary**.

Veerangana Durgavati Tiger Reserve

- It is the **seventh tiger reserve in the state** and the **54th in India**.
- It is spread across **Sagar, Damoh and Narsinghpur districts of Madhya Pradesh** and covers an area of 2,339 square kilometres.
- Parts of the reserve fall under **the Narmada and Yamuna River basins** and the **Singorgarh Fort** is located within the reserve.

Nauradehi Wildlife Sanctuary

- Nauradehi sanctuary is located in Madhya Pradesh's **Sagar district**.
- It was found to be the **most suitable area for the cheetahs** as its forests are not very dense to restrict the fast movement of the fastest land animal.
 - And the prey base for cheetahs is also in abundance at the sanctuary.
- This is the **largest wildlife sanctuary of Madhya Pradesh** in terms of area covered.
- It is located in the centre of the state covering parts of Sagar, Damoh, Narsinghpur, and Raisin Districts.
- The protected area sits astride **two major river basins of India, namely the Narmada and Ganges**.