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Current Affairs - 26 February 2026

NATIONAL SCIENCE DAY 2026



Indian Space Research Organisation Chairperson V. Narayanan will visit Shivamogga to take part in the National Science Day programme, and release a biography of former ISRO scientist B.N. Suresh.

- It is celebrated every year on **February 28** to mark the contributions of scientists towards the development of the country.
- It commemorates the **discovery of the Raman Effect by the Indian physicist, Dr. Chandrasekhara Venkata Raman**, on the same day in the year **1928**.
 - For this discovery, he was also **awarded the Nobel Prize in Physics in 1930**.
- In **1986**, the **Government of India declared 28 February** as National Science Day.
- The **first National Science Day was celebrated in 1987**, and since then, it is observed every year with a special theme.
- National Science Day **2026 Theme: "Women in Science: Catalysing Viksit Bharat"**.
- On this day, schools, colleges, coaching institutes, and research organisations across the country will come together to honour scientists, inspire students, and promote a scientific way of thinking.

What is the Raman Effect?

- It is the **change in the wavelength of light** that occurs **when a light beam is deflected by molecules**.
- **When a beam of light traverses a dust-free, transparent sample of a chemical compound, a small fraction of the light emerges in directions other than that of the incident (incoming) beam.**
- **Most of this scattered light is of unchanged wavelength.**
- **A small part, however, has wavelengths different from that of the incident light; its presence is a result of the Raman effect.**



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- The effect demonstrated that light can be scattered, carrying valuable information about molecular vibrations.
- The phenomenon is named for Indian physicist Sir Chandrasekhara Venkata Raman, who first published observations of the effect in 1928.
- Ever since the discovery, this discovery has become an important tool in medicine, chemistry, physics, and material composition and properties.

EMPLOYEES' STATE INSURANCE CORPORATION



Recently, the Employees' State Insurance Corporation (ESIC) commenced the celebration of its 75th Year of Service at Bharat Mandapam, New Delhi.

- It is a **statutory body** formed under the **ESI Act 1948**.
- It is functioning under the aegis of **Ministry of Labour and Employment**, Government of India.
- It **manages the ESI scheme**, which provides medical, maternity, and financial benefits to employees.
- **Functions:** ESIC provides various social security benefits like **Medical Benefit**, **Monetary benefits** to the workmen and their family working in the **private and public sector**.
- **Composition of ESIC:**
 - The **Union Minister of Labour** heads the ESIC as its **Chairman**.
 - The Central Government appoints a **Director General** as the **Chief Executive Officer** of ESIC.
 - The ESIC **comprises members representing crucial interest groups**, including employers, employees, the Central and State Governments, representatives of the Parliament and the medical profession.

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INDIA'S DEFENCE SURGE - A SIGN OF STRATEGIC MATURITY, NOT MILITARISM

- The Union Budget 2026–27 has significantly increased defence expenditure, allocating ₹7.85 lakh crore (~\$86.7 billion) — a **19% increase** from the previous year's ₹6.81 lakh crore.
- The increase is driven primarily by a 21.8% rise in capital outlay to ₹2.19 lakh crore, aimed at accelerating military **modernisation** and strengthening **deterrence**.
- The enhanced allocation reflects a **strategic shift** toward credible deterrence, operational readiness, and defence self-reliance, rather than military escalation.

Deterrence Consolidation vs Arms Race Narrative:

- **International criticism:** Some international observers interpret India's defence expansion as destabilising, escalatory, triggering an Asian arms race.
- **Strategic reality:**
 - The budget increase reflects deterrence consolidation, closing capability gaps, and reducing vulnerability to coercion.
 - India's modernisation is characterised by defensive orientation, capability correction, and **strategic realism**.

Changing Security Environment:

- **Pakistan factor:** Pakistan's strategy is closely linked with nuclear deterrence doctrine. Potential reliance on risk-taking behaviour during crises. Possibility of limited conflicts under the nuclear umbrella.
- **China challenge:** Rapid military modernisation, expanding naval presence, military infrastructure along the Line of Actual Control (LAC), and lessons from the 2020 Galwan crisis.
- **Two-front threat:** Growing China–Pakistan strategic coordination, possibility of simultaneous pressure along: Western and Northern borders.

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- **Strategic autonomy concerns:**

- Global uncertainty and transactional foreign policies among major powers. Reduced reliability of external security guarantees. True strategic autonomy requires independent military capability, and defence self-reliance.

Challenges and Way Forward:

- **Fiscal constraints:** Defence spending competes with social sector spending, infrastructure investment, and welfare schemes.
 - Build sustainable defence financing: Multi-year defence budgeting, efficient expenditure management, and lifecycle cost planning.
- **Fast-track procurement:** To minimise slow acquisition processes, bureaucratic hurdles, and cost overruns.
- **Technology gaps:** Dependence on foreign technologies. Limited R&D capacity.
 - Prioritise emerging technologies: AI-enabled warfare, Autonomous systems, Cyber warfare, and Space capabilities.
- **Capability-planning gap:** Persistent mismatch between strategic ambitions and military capability.
 - Strengthen defence indigenisation: Expand the domestic defence ecosystem. Promote private sector participation. Improve technology transfer.
- **Limited two-front preparedness:** Simultaneous conflict readiness remains limited.
 - Improve jointness and integration: Strengthen theatre commands, improve tri-service coordination, and enhance integrated planning.
 - Maintain credible deterrence on: Northern border, Western front, and Maritime domain.

Conclusion:

- By addressing long-standing capability gaps and strengthening defence self-reliance, India is moving toward a more secure and **strategically autonomous posture**.
 - This is essential for maintaining stability in an increasingly uncertain Asian security environment.
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US IMPOSES DUTIES ON INDIAN SOLAR PANELS

- The U.S. Commerce Department has announced preliminary countervailing duties (CVD) of 126% on crystalline silicon photovoltaic cells and modules imported from India.
- The move follows an investigation into alleged unfair subsidies that enabled Indian manufacturers to sell solar products at lower prices in the U.S. market.
- The investigation also covers Indonesia and Laos, with varying duty rates. These measures are separate from broader global tariffs previously announced by the U.S. administration. The final determination is expected later this year.
- This development comes at a time when India's solar manufacturing capacity has expanded significantly.

India's Expanding Solar Manufacturing Capacity

- India's solar module manufacturing capacity has grown rapidly and now exceeds 140 gigawatts (GW) per annum.
- It is expected to rise further to over 165 GW by March 2027.
- However, domestic demand has not kept pace. Annual solar capacity installations in India are projected at around 45-50 gigawatts direct current (GWDC).
- This creates a structural supply-demand imbalance. The industry has relied partly on exports to absorb surplus capacity.
- Between 2021 and 2024, over 90% of India's solar photovoltaic module exports were shipped to the U.S.
- Solar exports to the U.S. were valued at \$792.6 million in 2024, marking a sharp increase compared to 2022.
- Given this heavy dependence, the U.S. decision has significant implications.

Potential Impact on Indian Manufacturers

- **Export Disruption**

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- Industry analysts warn that the high duty rate could make the U.S. market largely inaccessible for Indian solar manufacturers.
- **Pricing Pressure in the Domestic Market**
 - If export volumes are redirected to India, the already oversupplied domestic market may face intensified pricing pressure.
 - With manufacturing capacity far exceeding annual installations, additional supply could reduce module prices and compress profit margins for domestic original equipment manufacturers (OEMs).
- **Project and Financing Implications**
 - Industry experts note that tariffs can alter project-level assumptions, affecting:
 - Financing structures
 - Power purchase agreement (PPA) timelines
 - Electricity tariffs
 - Solar project implementation in India is already facing challenges such as slower project award activity, delays in PPA signing, and transmission connectivity constraints.
 - Any further disruption may impact renewable energy deployment targets.

Implications for India's Energy Transition

- India has set ambitious renewable energy targets, including 500 GW of non-fossil fuel capacity by 2030. A robust domestic manufacturing ecosystem is central to achieving these goals.
 - The U.S. duties may compel India to:
 - Diversify export markets
 - Strengthen domestic demand through policy incentives
 - Encourage overseas manufacturing investments
 - Experts suggest that India may need to shift from exporting products to exporting capital by establishing manufacturing units abroad to retain access to key markets.
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KEY FACTS ABOUT VITAMIN B3



- Vitamin B3, or **Niacin**, is a **water-soluble vitamin**.
- Niacin is **naturally present in many foods**, added to some food products, and available as a dietary supplement.
- There are **two main chemical forms** of niacin:
 - nicotinic acid
 - niacinamide (sometimes called nicotinamide)
- Your **body gets niacin through food**, but it also **makes small amounts from the amino acid tryptophan**, which can be found in protein sources and other animal foods.
- **Function:**
 - Niacin **works** in the body as a **coenzyme**, with enzymes dependent on it for various reactions.
 - Niacin **helps** to **convert nutrients into energy**, create cholesterol and fats, create and repair DNA, and exert antioxidant effects.
- **Food Sources:** A niacin deficiency is rare because it is found in **many foods, both from animals and plants**.
 - **Red meat:** beef, beef liver, pork
 - **Poultry**
 - Fish
 - **Brown rice**
 - **Fortified cereals** and breads
 - **Nuts, seeds**
 - **Legumes**
 - Bananas
- **Deficiency:**



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WHAT IS CELIAC DISEASE?



- It is an **inherited autoimmune condition** where the **immune system reacts to gluten**, sometimes **causing damage to the small intestine**.

- **Gluten** is a protein found in foods containing wheat, barley, or rye.
 - **In celiac disease, eating gluten triggers an immune response to the gluten protein in small intestine.**
 - Over time, this reaction can **damage small intestine's lining** and **prevent it from absorbing nutrients**. This condition is called **malabsorption**.
 - The intestinal damage often causes **symptoms such as diarrhea, fatigue, weight loss, bloating, or anemia**.
 - It also **can lead to serious complications** if it is not managed or treated.
 - **In children**, malabsorption can **affect growth and development** in addition to gastrointestinal symptoms.
 - It can **develop at any age** after people start consuming gluten.
 - It is estimated to **affect 1 in 100 people worldwide**.
 - There's **no definite cure** for celiac disease. But for most people, following a **strict gluten-free diet** can **help manage symptoms** and help the intestines heal.
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