

NEWS TODAY

Physicist Peter Higgs who theorized existence of Higgs Boson passes away

- **Peter W. Higgs** received Nobel Prize in Physics (2013) jointly with Francois Englert for theoretical discovery of mechanism influencing **origin of subatomic particle mass**.
- He theorized the existence of Higgs Boson in 1964. It was finally **discovered in 2012 at Large Hadron Collider (LHC)**.
 - ⊖ LHC is world's largest particle accelerator located in **European particle physics laboratory CERN, Switzerland**.
- **Higgs Boson**
 - ⊖ Higgs boson is the **fundamental particle** associated with **Higgs field**, a field that **gives mass** to other fundamental particles.
 - ⊖ Particle's mass depends upon their **interaction with this Higgs field**.
 - ◆ **Photons do not interact** with this field and are thus **massless**.
 - ◆ Particles like **electrons and protons do interact** and have **masses**.
 - ◆ **Higgs boson** itself interacts with this field and thus **has mass**.
 - ⊖ Concept of Higgs field and Higgs particle are **fundamental to our current understanding of way nature works**.
- **Other fundamental Particles**
 - ⊖ **Fermions (12 in number)**-They are building blocks of matter and are split into six quarks and six leptons.
 - ⊖ **Bosons** are particles that carry energy and forces throughout universe.

55th United Nations Human Rights Council (UNHRC) appoints an expert on human rights and climate change (CC)

- Previously, in 2021 UNHRC passed Resolution on **Human rights and climate change**.
 - ⊖ It recognised **rights** of people in vulnerable situations were disproportionately affected by negative impact of CC.
- **Need for Integration of human rights in CC:**
 - ⊖ CC has **profound impacts on a variety of human rights**, including **rights to life, food, etc.**
 - ⊖ Intergovernmental Panel on Climate Change (IPCC) states **marginalized are especially vulnerable to CC**.
 - ⊖ Integration will necessitate **improved mitigation and adaptation strategies**.
- **Ways to integrate human rights into CC:**
 - ⊖ Promotion of **alternative energy sources, forest conservation, etc.**
 - ⊖ Participation of **affected communities in design and implementation of CC projects**.
 - ⊖ Access to **due process and to remedy** if their **rights are violated**.
- **Initiatives**
 - ⊖ **Paris Agreement 2015:** States pledged to respect human rights in all climate actions.
 - ⊖ **Geneva Pledge on Human Rights and Climate Action, 2015** for sharing of best practice and knowledge between human rights and climate experts.
 - ⊖ **At national level:**
 - ◆ **National Action Plan on Climate Change (NAPCC); Environment (Protection) Act 1986 etc.**
 - ◆ Supreme Court too, recognized **Right to Be Free from Adverse Effects Of Climate Change**.

Global Human rights principles in context of CC:

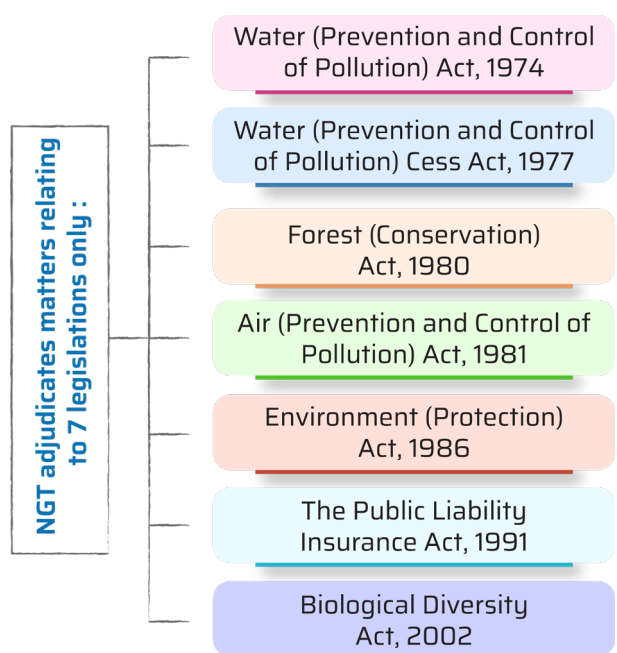
- Principle of **intergenerational equity**.
- Ensure accountability and effective **remedy for human rights harms caused by climate change**.

'Parivartan Chintan', a tri-service brainstorming to propel jointness and integration in the Armed Forces was organised

- **Jointness** of defence forces implies **synergised use of the resources of the three Services while respecting the uniqueness of each** to achieve optimum results and avoid duplication.
- Jointness can **further lead to the integration of defence forces i.e., formal combining** of constituent elements into a single structure.
 - ⊖ For example, **theaterisation seeks to integrate the capabilities** of the three services.
- **Importance of integration**
 - ⊖ Improve the **culture of cooperation** among defence forces and promote **integrated warfighting** capacities.
 - ⊖ **Modernizing forces** and making them **future-ready** by streamlining **defence budget spending** and addressing defence funding shortages.
 - ⊖ Facilitating India to become a **regional power** and one of the global powers.
- **Challenges in integration**
 - ⊖ **Lack of a Joint Services Doctrine**
 - ⊖ **Absence of a coherent National Security Strategy**
 - ⊖ **Institutional inertia** of different wings
- **Initiatives taken for integration**
 - ⊖ **Appointment of the Chief of Defence Staff** who is mandated to bring about jointness in the operation, logistics, transport, training etc. of three armed services.
 - ⊖ Creation of **two Joint Commands, the Andaman and Nicobar Command (A&NC)** and the **Strategic Forces Command** (looks after nuclear assets.).
 - ⊖ **Headquarters Integrated Defence Staff (HQ IDS)** to provide a single point, tri-Service, military advice to the government.

NGT directed Punjab government to disclose how it will achieve its target to cut stubble-burning incidents

- **About National Green Tribunal (NGT)**
 - ⊖ **Genesis:** Established as a statutory body under the NGT Act, 2010.
 - ⊖ **Composition**
 - ◆ **Headed by: Chairperson**
 - ◆ **Members: 10-20 judicial** as well as **expert** members (each)
 - ⊖ **Qualification**
 - ◆ **A person who is or has been Supreme Court Judge or High Court (HC) Chief Justice** can serve as **both** Chairperson and judicial member.
 - ◆ **A person who is or has been HC judge** can only serve as **judicial member**.
 - ⊖ **Mandate**
 - ◆ A **specialised judicial body** equipped with expertise **solely to adjudicate environmental cases in the country** (refer to the infographics).
 - ◆ Disposal of applications or appeals **within 6 months of filing** of the same.
 - ⊖ **Guiding Principle**
 - ◆ **Guided by principles of natural justice** and not bound by the Code of Civil Procedure, 1908.
 - ◆ While passing any order/decision/ award, it shall apply the principles of
 - » **sustainable development,**
 - » **precautionary principle and**
 - » **polluter pays principle.**
 - ⊖ **Power**
 - ◆ Power of the **civil court.**
 - ◆ power to take **suo motu cognisance.**
 - ◆ Power to **grant relief** in the form of compensation and damages to affected persons.
 - ⊖ **Appeal**
 - ◆ Its **orders are binding but not final** (it can review its judgements or an appeal could be made in SC within ninety days.
 - ⊖ **Benches:** NGT has a **presence in five zones-** North (Principal Bench, headquartered in Delhi), Central, East, South and West.



Financing for Sustainable Development Report 2024 released by United Nations Department of Economic and Social Affairs

Key Highlights

- ⊕ **High financing gap** for developing countries, ranging between **\$2.5 trillion and \$4 trillion** annually.
- ⊕ **Finance divides:** Developing countries face significantly **worse terms of access** to both long-term and contingency financing.
- ⊕ **Weak enabling environment:** Policy, regulatory and tax frameworks are not sufficiently aligned with SDGs.

Reasons for low financing of SDGs

- ⊕ **Rise in systemic risks** have put National financing frameworks under severe stress.
 - ◆ E.g., Covid 19 pandemic, Rise in frequency of disasters etc.
- ⊕ Average **GDP growth rates in developing countries** fell to just over 4% annually (between 2021 and 2025).
- ⊕ Median **debt service burden** for Least Developed countries (LDCs) rose to 12% in 2023.
- ⊕ **Other concerns:** Digitization induced risks, Rising geopolitical tensions.

Recommendations

- ⊕ **Building tax capacity** to improve tax revenue for delivering on SDGs.
- ⊕ International Development cooperation to mobilizing other financial resources.
 - ◆ E.g., new approach to blended finance which is focused on support for sustainable trade and responsible business conduct
- ⊕ **Intensified action to address debt challenges** of developing countries.
- ⊕ **Enhancing coherence between trade, investment and sustainable development.**
- ⊕ Funding for data and statistical systems to **focus on producing actionable insights for advancing SDGs.**

Global Trade Outlook and Statistics Report Released by World Trade Organisation

- Report reveals preliminary signs of fragmentation in trade flows.

Key findings

⊖ Fragmentation in goods

- ◆ In 2023, **intermediate goods trade** was down 6% while trade in non-intermediates was flat.

⊖ Share of Asian trading partners in China 's total parts and accessories declined slightly from (62.8% in 2019 to 60.2%).

⊖ Resilience of global trade is being tested by disruptions on two of the world's main shipping routes:

- ◆ **Panama Canal:** Handles 6% of global trade. It is currently operating at partial capacity due to **freshwater shortages**
- ◆ **Suez Canal:** Handles about 12% of global trade. It is the **shortest maritime route between Asia and Europe.** Trade is hampered due to attacks on vessels.
 - » **Diversion of traffic** around the Cape of Good Hope has added around 10 days to Asia-Europe journeys.

⊖ Fragmentation in Services

- ◆ It is the possible impact of **data flow disruptions.**
- ◆ **Evidence shows "friendshoring"** in ICT services. **US imports from Asia (mostly India) dropped to 32.6%** from 45.1% , while those from North America increased.
 - » 'Friendshoring' is a trade practice where a **country's supply chain networks** are focused on **political and economic allies.**

Initiatives Taken to boost global supply chain and trade

- **Supply Chain Resilience initiative (SCRI)** launched by India, Japan and Australia
- **India-Middle East-Europe Economic Corridor** for connecting India to the Gulf and Gulf to Europe.
- **Indo-Pacific Economic Framework for Prosperity (IPEF)** to strengthen economic engagement among partner countries

Also in News



International Narcotics Control Board (INCB)

- India's Jagjit Pavadia has been **re-elected to INCB** for term 2025-2030.

About INCB

- ⊕ It is **independent and quasi-judicial monitoring body** for implementation of UN international drug control conventions.
- ⊕ It was **established in 1968** in accordance with **Single Convention on Narcotic Drugs, 1961.**
- ⊕ **Members:** 13 members (elected by UN Economic and Social Council for five years)
- ⊕ **Its functions are laid down in:**
 - ◆ **Single Convention** on Narcotic Drugs, 1961.
 - ◆ **Convention on Psychotropic Substances** 1971.
 - ◆ **United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, 1988**



Curative Petition

- Supreme court (SC) quashes arbitral award against Delhi Metro Rail Corporation.
- **Curative Petition:** It's last **constitutional remedy** available to a person whose **review petition (Art.137)** has been dismissed by SC.
- Given shape in **Rupa Ashok Hurra v. Ashok Hurra & Anr.**
 - ⊕ The **curative power of the Court** flows from **Article 142** (power to do complete justice).
- **Curative petition is entitled, if petitioner establishes-**
 - ⊕ **Violation of principles of natural justice;**
 - ⊕ **Judge failed to disclose his connection with the subject-matter.**
 - ⊕ **There is an apprehension of bias and judgement adversely affects petitioner.**



Drugs and Magic Remedies (Objectionable Advertisements) Act of 1954

- Supreme Court is hearing a case of “misleading” claims in advertisements by an Ayurveda-related company.
- Misleading claims are prohibited under the **Drugs and Magic Remedies (Objectionable Advertisements) Act of 1954**.
 - ⊖ **Section 4** of the Act prohibits advertisements that give false impressions regarding the true character of the drug.
 - ⊖ **Section 5** prohibits the Advertisement of Magic Remedies for treatment.
 - ◆ magic remedies are defined as any charm (talisman, mantra, kavacha etc.), alleged to possess miraculous powers for diagnosis, cure, mitigation etc.



New formulations by ICAR

- ICAR has developed the following 3 new microbial formulations:
 - ⊖ **Bactolime integrates:** It contains PGPRs (Plant Growth Promoting Rhizobacteria) with liming material.
 - ◆ Bacteria ensure the availability of essential nutrients to plants and help enhance nutrient use efficiency.
 - ⊖ **Bactogypsum:** Ameliorates high pH soils and ensures simultaneous delivery of plant-beneficial bacteria.
 - ⊖ **Trichogypsum:** Ameliorates high pH soils and ensures delivery of Trichoderma (a fungal biocontrol agent).
- **Gypsum:** It is a compound containing Calcium and Sulphate. It is used to counteract soil salinity/sodicity.



Section 127A of Representation of the People Act (RPA), 1951

- The Election Commission said that anonymous political posters, hoardings are not allowed.
- **Section 127A of RPA, 51:**
 - ⊖ Unequivocally prohibits the printing or publishing of election pamphlets, posters, placards, or banners.
 - ◆ If the name and address of the printer and publisher are not prominently displayed.
- This requirement of disclosing the identity of publishers serves to:
 - ⊖ Fix responsibility in case content is found unbecoming of the framework of the **Model Code of Conduct** or the **statutory provision**.



Global hepatitis report 2024

- Released by WHO, the report revealed that **India** accounted for **11.6% of the global burden** and ranked **second** after China for hepatitis B & C cases.
- **Hepatitis**
 - ⊖ It is an inflammation of the liver caused by a variety of infectious viruses and noninfectious agents (alcohol, autoimmune, drugs).
 - ⊖ **A, B, C, D and E** are the five main strains of the hepatitis virus.
 - ◆ **Types B and C** lead to chronic disease and together are the most common cause of **liver cirrhosis, liver cancer and viral hepatitis-related death**.
 - ◆ **Vaccine** is available for type B but not for Type C.



Methanol

- USA recalls various hand sanitisers containing methanol.
 - ⊖ FDA has warned that methanol exposure could lead to **nausea, coma, seizures, permanent blindness, permanent damage to the Central Nervous System, or death**
- **Methanol (CH3OH)**
 - ⊖ Also known as **wood alcohol**.
 - ⊖ **Characteristic:**
 - ◆ A **colorless and fairly volatile liquid** with a faintly sweet pungent odor.
 - ◆ **Completely mixable with water**.
 - ◆ Considered as an **alternative fuel**.
 - ⊖ **Uses:** synthetic dyestuffs, pharmaceuticals, perfumes
 - ⊖ **Treatment of methanol poisoning:** administer ethanol or an antidote called **fomepizole**



Piezoelectricity

- **Command Hospital, Pune** became the **first government hospital** in India to conduct successful **piezoelectric Bone Conduction Hearing Implants (BCI)**.
- Piezoelectric BCI system is an **implantable medical electronic device** for hearing impaired patients.
- **About Piezoelectricity**
 - ⊖ It is the appearance of **positive electric charge on one side** of certain non-conducting crystals and **negative charge on the opposite side** when the crystals are subjected to **mechanical pressure**.
 - ⊖ It is utilized in various applications, like, **microphones, sensors, Piezoelectric Motors** etc.

Places in News



Republic of Ireland (Capital: Dublin)

- Ireland got new Prime Minister.
- **Political Features:**
 - ⊖ It occupies **greater part of an island** lying to **west of Great Britain**.
 - ⊖ **Bordering countries:** Northern Ireland to North (Part of United Kingdom)
 - ⊖ **Surrounding water bodies:** **Atlantic Ocean** (west), **Celtic Sea** (south), and **Irish Sea** (east).
 - ⊖ Ireland is separated from Great Britain by **North Channel, Irish Sea, and St. George's Channel**.
- **Geographical Features:**
 - ⊖ Highest Peak: **Carrantuohill**.
 - ⊖ Longest river: **River Shannon**.
 - ⊖ Largest lake: **Lough Neagh**



AHMEDABAD



BENGALURU



BHOPAL



CHANDIGARH



DELHI



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HYDERABAD



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