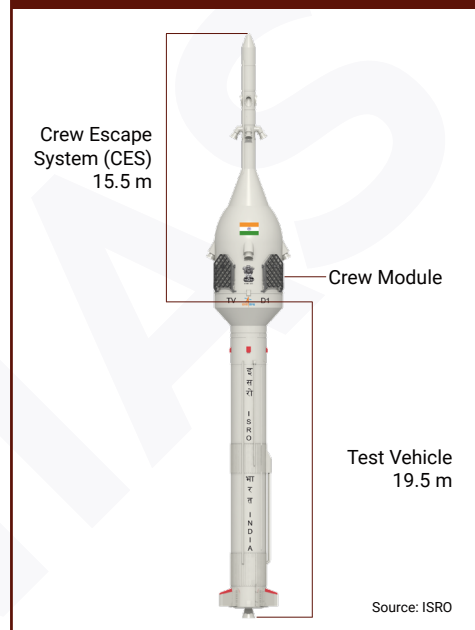


ISRO successfully completed First Flight Test Vehicle Abort Mission-1 (TV-D1) of Gaganyaan

- Formally It is called “In-flight Abort Demonstration of Crew Escape System (CES)”.
- TV-D1 is a **liquid-propelled single-stage Test Vehicle** that uses a modified VIKAS engine.
 - ⊕ The payloads consist of the **Crew Module [CM]** and **Crew Escape Systems [CES]** mounted at its foreend.
 - ⊕ CM used was similar to that will hold **crew members during ascent to space**, but was unpressurized.
- **The aim** was to check CES for its capabilities to take the CM to safety in case of an emergency.
- **About the test**
 - ⊕ It **simulated the abort condition during the ascent trajectory** expected in the Gaganyaan mission.
 - ⊕ **CES with CM was separated** from the Test Vehicle when an **abort signal was triggered**.
 - ⊕ **The CM then came out of CES**, deployed parachutes, and splashed down on the sea.
- Next ISRO will carry out a test flight **with a robot, 'Vyomitra'**.
- **About Gaganyaan**
 - ⊕ It is India's **first human spaceflight mission**.
 - ⊕ It aims to launch a crew of **3 members to low earth orbit of 400km** for three days.
 - ⊕ India will become **the fourth country to send a crewed spacecraft to space**(after USA, Russia, and China).

Gaganyaan's Flight Test Vehicle Abort Mission-1 (TV-D1)



Government working on ways to lower public debt burden: Finance Minister

- **Public debt** is the **total liabilities** of the **central government** contracted against the **Consolidated Fund of India**.
 - ⊕ It is further classified into **internal & external debt**.
- In 2021, debt to GDP ratio was 84% (including states debt).
 - ⊕ **NK Singh Committee on FRBM** had envisaged a debt-to-GDP ratio of 40 % for the central government and 20 % for states aiming for a total of 60 % general government debt-to-GDP.
- **Reasons for high Public debt:**
 - ⊕ **Fiscal stimuli** to support their economies during the pandemic (spending on infrastructure, welfare programs).
 - ⊕ Increased the costs of **servicing interest debt**.
- **Implications:**
 - ⊕ **Limits fiscal resources** for meeting emerging priorities, like climate change adaptation, green transition etc.
 - ⊕ High **interest payments account for 5% of GDP (in India)**, roughly twice the emerging market and developing-country average.
 - ⊕ Leads to **Crowding out effect**, reduction in private investment spending due to increased interest rates.
- **Suggestions: Prudent fiscal policies**, raising additional revenue through higher tax, non-tax, broadening base of the personal income tax, rationalise subsidies etc.



Initiative taken to lower Public Debt

- Enacted **Fiscal Responsibility and Budget Management Act, 2003**
- Established **Public Debt Management Agency (PDMA)**
- **Public Financial Management System (PFMS)**

European Union Tax Observatory released its 'Global Tax Evasion Report 2024'

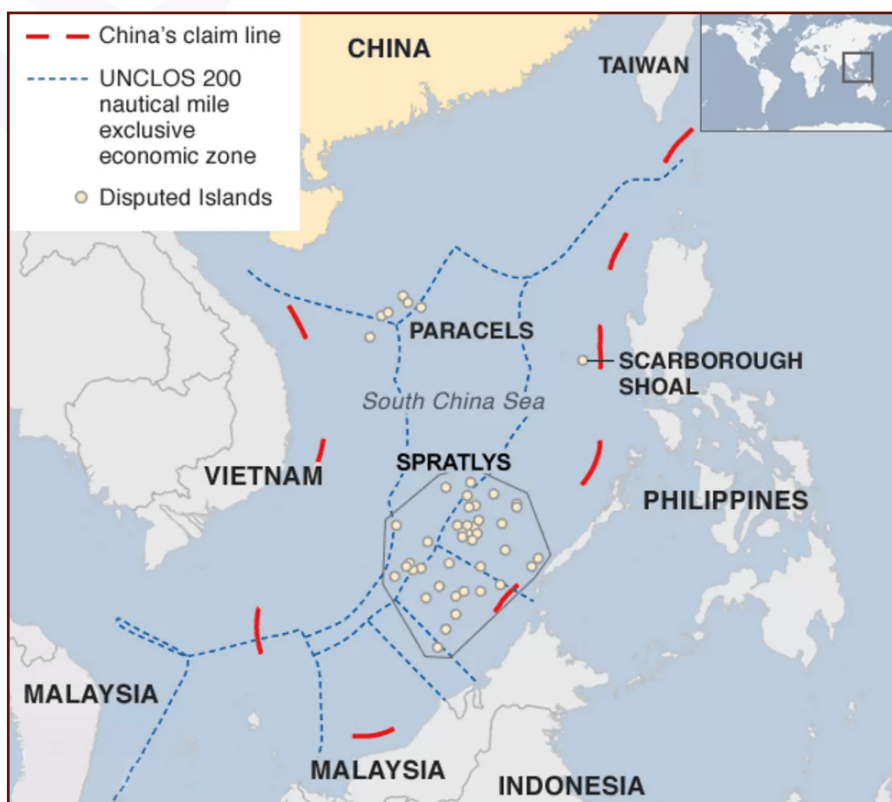
- **Tax evasion:** It is an illegal activity in which a person or entity deliberately avoids paying a true tax liability.
- **Key highlights of the reports**
 - ⊕ **\$1 trillion profit shifted** (in 2022) to tax havens, with negligible effects of policies like **Base Erosion and Profit Shifting (BEPS, 2015)**
 - ⊕ **Global billionaires have low personal effective tax rates** (between 0% and 0.5% of their wealth).
 - ⊕ Due to the **Automatic exchange of bank information**, offshore tax evasion has declined.
- **Reasons for tax evasion:** High tax rates, low penalties for tax evasion, preferential tax regimes by countries by keeping tax rates low, lack of global cooperation, etc.
- **Common methods for tax evasion:** Misreporting Income, Storing Funds outside countries, using shell companies, falsification of financial statements, etc.
- **Recommendation**
 - ⊕ **Minimum corporate tax of 25%** and **remove the loopholes** that foster tax competition
 - ⊕ Introduce a **new global minimum tax** for billionaires equal to 2% of their wealth.
 - ⊕ Move towards the creation of a **Global Asset Registry** (International register of all wealth and assets).
 - ⊕ Institute mechanisms to tax wealthy people who have been **long-term residents in a country and choose to move to a low-tax country**.

Steps taken by India to curb tax evasion:

- **Income-tax Act, 1961** (Search and Seizure);
- Treaties such as **Double Tax Avoidance Agreement (DTAA)**, **Tax Information Exchange Agreement (TIEA)**,
- **The Benami Transactions Informants Reward Scheme**.
- **Reduced base corporate tax** for existing companies to 22 percent and new manufacturing firms to 15 percent.

China and the Philippines blame each other over collisions of vessels in the South China Sea (SCS)

- Collision occurred near **Second Thomas Shoal** in the **Spratly Islands**, where China regularly deploys its vessels.
 - **Spratly Islands** are a large group of reefs, shoals, and atolls in the SCS of the Pacific Ocean.
- SCS is situated just south of the **Chinese mainland** and is **bordered by the countries of Brunei, China, Indonesia, Malaysia, Philippines, Taiwan and Vietnam**.
- **SCS dispute** revolves around **multiple claims** to islands and reefs and associated territorial waters.
- **Reasons for Dispute:**
 - ⊕ **Strategic Location:** Connecting Asia with Europe and Africa (Approx. 21% of global trade transited through it)
 - ⊕ **Natural Resource:** Contains approximately 11 billion barrels of oil and 190 trillion cubic feet of natural gas in proven and probable reserves.
- China's imaginary "nine-dash line" claims as much as 90% of the SCS (refer Image).
 - ⊕ **Philippines earlier** initiated arbitral proceedings against China in the **Permanent Court of Arbitration** which ruled "nine-dash line" were inconsistent with the **United Nations Convention on the Law of the Sea (UNCLOS)**.
 - ⊕ But China rejected the arbitral tribunal ruling.
- **India interest in the SCS:** Commercial linkages with region, freedom of navigation, and a rules-based regional order.



TRAI Highlighted Challenges With Metaverse in Consultation Paper

- The Metaverse is a 3D-enabled virtual reality space that provides digital experiences as an alternative to or a replica of the real world.
 - ⊖ It allows people to have lifelike experiences online.
- **Building Blocks of Metaverse:** It broadly consists of 4 layers
 - ⊖ **Infrastructure layer** includes the technology that enables our devices, connects them to the network, and delivers content.
 - ◆ **Components:** High bandwidth, low latency network.
 - ⊖ **Virtualization engine layer** provides the computational and programming platform.
 - ◆ **Components:** Avatars, Virtual platforms, Asset creation.
 - ⊖ **Interface and Access layer** help users in accessing the Metaverse.
 - ◆ **Components:** hardware like mobile phones, smartglasses, and displays.
 - ⊖ **User experience and use cases layer** is responsible for the creation, sale, trading, storage, etc.
 - ◆ **Components:** Asset marketplace, payment networks.
- **Challenges posed by metaverse**
 - ⊖ Threats of **data breaches and misuse of personal data.**
 - ⊖ **Intrusive tracking** of facial expressions, vocal inflections, and vital signs.
 - ⊖ May impact **content moderation, cybersecurity, taxation, competition, and governance,** etc.
 - ⊖ Promotes **virtual currencies posing transaction risks.**
- **Recommendations**
 - ⊖ **Securing networks, building confidence** through open standards and interoperability
 - ⊖ Establishing mechanisms for **registering Intellectual Property Rights** in the metaverse.
 - ⊖ Ensuring **metaverse accessibility to all.**

World Health Organisation (WHO) released core package interventions on Antimicrobial Resistance (AMR)

- **Interventions** guide country in **developing, implementing and monitoring national action plans** on AMR.
 - ⊖ It promotes people-centred approach {shifting from solely biological phenomenon (drug resistance)}.
- These interventions are based on **four pillars and two foundational steps.**
 - ⊖ **Four pillars** are: Prevention of infections, Access to essential health services, Timely and accurate diagnosis and appropriate and quality-assured treatment.
 - ⊖ **Foundational steps:**
 - ◆ Effective governance, awareness and education.
 - ◆ Strategic information through surveillance and research.
- AMR occurs **when microbes** (bacteria, fungi, parasites and viruses) evolve so that **antimicrobial drugs against them are no longer effective.**
 - ⊖ Due to resistance, infections spread and become harder to treat.
 - ⊖ **Microorganisms** that develop antimicrobial resistance are referred to as **“superbugs”**.
- **Challenges in Controlling AMR:**
 - ⊖ **System challenges:** Limited laboratory capacity, Weak regulation of over-the-counter (OTC) medicines etc.
 - ⊖ **People’s challenges:** Inappropriate self-medication, high out of pocket expenditure etc.

Key initiatives (India and WHO)

- National action plan (2017) on containment of AMR focusing on One Health approach.
- National AMR surveillance network of state medical college labs (NARS-Net) to generate quality data on AMR.
- Global Action Plan on AMR (World Health Assembly, 2015).

Also in News



Project UDBHAV

- **‘Project UDBHAV’** launched during inauguration of Indian Military Heritage Festival.
- **About Project UDBHAV**
 - ⊖ It is a collaborative project between the **Indian Army and the United Service Institution of India (USI)**, a think tank.
 - ⊖ **Objective:** To **synthesize ancient wisdom with contemporary military practices** for modern security challenges.
 - ⊖ **The ancient Indian knowledge system related with war includes Chanakya’s Arthashastra** (strategic partnerships, diplomacy, soft power projections, etc.) and **Thirukkural** (Ethical conduct in warfare).
 - ◆ **Thirukkural is a Tamil text by Thiruvalluvar**



Cyber insurance

- A recent report suggested that Cyber insurance is critical for Micro, Small and Medium Enterprises (MSMEs) as they are more susceptible to cyberattacks.
- **Cyber insurance** is a contract that an entity can purchase to help reduce the financial risks associated with doing business online.
- **Benefits:**
 - ⊖ Coverage for business interruption, compensating for lost income.
 - ⊖ Experts’ access who can manage and mitigate the impact of a cyber-incident.
 - ⊖ Financial security against damages.
 - ⊖ Provides cover for legal assistance.
 - ⊖ Provides for reputation management and helps businesses rebuild trust.



Kasturi Cotton Bharat

- Website of "Kasturi Cotton Bharat" has been launched.
- **About Kasturi Cotton Bharat**
 - ⊕ It is the 1st ever Brand & Logo for Indian Cotton.
 - ⊕ It is a **joint initiative** by the **Ministry of Textiles, the Cotton Corporation of India, Trade Bodies & Industry**
 - ⊕ **Objective:** Creating **premium value for cotton** grown in India as per benchmarked specifications.
 - ◆ It will promote **exports** by enhancing **international perception & valuation** of Indian Cotton.



Dogra dynasty

- Dogra architecture gets a revival at Jammu & Kashmir's Maharaj Gunj.
 - ⊕ It was introduced in **Kashmir by Dogra Hindu kings** between 1846 and 1947.
- **About Dogra kingdom**
 - ⊕ **The founder of the Dogra dynasty** was Maharaja Gulab Singh Jamwal in Jammu.
 - ⊕ **The British gave away Kashmir** to Ghulab Singh under the Treaty of Amritsar (1846).
 - ⊕ He annexed **Ladakh and Baltistan areas**



Fluorescence

- Fluorescence is a **physicochemical energy exchange**.
- Shorter-wavelength photons are absorbed by a molecule and are **re-emitted as longer-wavelength photons in it**.
- It has been suggested as a **means of communication** in several species including flowers, pitcher plants, corals, algae, worms, squid, spiders, stomatopods, fish, reptiles, parrots.
- **Phosphorescence is similar to fluorescence**, except the phosphorescent light is **able to re-emit light for much longer periods of time**.
 - ⊕ Glow-in-the-dark stickers are **phosphorescent**.



Paintbrush Swift Butterfly

- **Paintbrush swift butterfly (Baoris farri)** has been documented for the first time in Himachal Pradesh's Chamba district.
- **About Paintbrush swift butterfly**
 - ⊕ **Family:** **Hesperiidae family**, discovered in 1878.
 - ⊕ **Habitat:** **Common in northeast, central and south India**, and rare in Uttarakhand.
 - ⊕ **Key Feature:** It is identified by **two separated spots in the upper forewing cell**.
 - ⊕ The species' larvae **feed on bamboo and some other grass species**.



Purple Economy

- It is also referred to as the **care economy**.
- It recognizes the **importance of care work, empowerment and autonomy of women** to the functioning of the economies, well-being of societies, and life sustainability.
- Care work can be **paid or unpaid**.
- **Men's involvement in unpaid caregiving and domestic work is significantly lower compared to women**.
 - ⊕ According to the **ILO**, the value of unpaid care work would be **0.4 percent of the GDP for men and 3.1 percent of the GDP for women**.



COTP (Cigarettes and Other Tobacco Products) film rules

- The government clarified that it has extended COTP film rules to the OTT (over-the-top) platform also.
- **OTT rules 2023 became operative** from 1st September 2023.
 - ⊕ Under these rules, now all OTT platforms have to **display static messages and audio-visual disclaimers** on the ill effects of tobacco use
- **COTP Act, 2003** prohibits the **advertisement** of and provides for **regulation of trade and commerce** in, and **production, supply, and distribution of, cigarettes and other tobacco products**.

Places in News



Serbia (Capital: Belgrade)

- Envoys of the EU and USA urged Kosovo and Serbia to resume dialogue **to ease soaring tensions**.
 - ⊕ **Kosovo declared independence** in 2008 from Serbia, but Serbia has refused to recognize the move.
- **Political boundaries**
 - ⊕ **Land-locked country** in the west-central Balkans.
 - ⊕ **Bordering:** Bosnia and Herzegovina, Croatia (West), Hungary (north), Romania and Bulgaria (east), North Macedonia (south), Montenegro (southwest), and Albania (south).
- **Geographical features**
 - ⊕ Western margins include sections of the **Dinaric Alps**, and eastern borderlands are part of the **Carpathian and Rhodope Mountain systems**.
 - ⊕ **Major rivers:** Danube, Tisa, Morava.
 - ⊕ **Highest point:** Midžor.

