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Time: 45 Min

Date: 2-11-2024

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149TH BIRTH ANNIVERSARY OF SARDAR VALLABHBHAI PATEL

Context

- Prime Minister Narendra Modi offered a floral tribute to Sardar Vallabhbhai Patel on his 149th birth anniversary and participated in the Rashtriya Ekta Diwas celebrations at the Statue of Unity in Kevadia, Gujarat.

Rashtriya Ekta Diwas

- **Since 2014**, Rashtriya Ekta Diwas, also known as **National Unity Day**, has been celebrated every year on **October 31** to commemorate the birth anniversary of Sardar Patel.
- It serves as a reminder of his efforts to unite the diverse princely states into a single nation and fosters a spirit of solidarity among the people of the country.

Early Life of Sardar Patel

- Born on **October 31, 1875**, in Nadiad, Gujarat, he was a barrister, an activist, a freedom fighter, and one of the founding fathers of the Republic of India.
- In the initial years, he was indifferent to Indian politics. But, later, he started getting influenced by Mahatma Gandhi, and by 1917 he embraced Gandhi's principle of Satyagraha (**Non-violence**).
- From 1917 to 1924 Patel served as the **first Indian municipal commissioner** of Ahmedabad and was its elected municipal president from 1924 to 1928.

Contributions in India's Freedom Struggle

- **Kheda Satyagraha, 1917:** As a prominent local leader in the Kheda district of Gujarat, Patel supported Mahatma Gandhi in organising the **Satyagraha** against unjust land revenue taxes imposed by the British.
- **Non-Cooperation Movement, 1920-22:** Patel significantly impacted the Non-Cooperation Movement, recruiting approximately 300,000 members and raising 1.5 million rupees.
 - ♦ He advocated the **boycott of British goods** and **use of Khadi** as a symbol of economic and cultural self-sufficiency.
- **Bardoli Satyagraha, 1928:** During the Bardoli Satyagraha, Patel supported the local population suffering from famine and increased land taxes.
- **Civil Disobedience Movement 1930-34:** He actively participated in the **Salt Satyagraha**,

a nonviolent protest against the British salt monopoly.

- **Quit India Movement, 1942:** He organised protests and strikes against British rule, and delivered compelling and electrifying speeches throughout India, inspiring and mobilising people to join mass protests, engage in acts of civil disobedience, boycott tax payments, and stage civil service shutdowns.

Contributions in Unification of India

- **Political Integration of India:** He played a pivotal role during the political integration of India and the **Indo-Pakistan War** of 1947.
- **Integration of Princely States:** He had successfully accomplished the task of integrating **565 Princely States** into the Union of India within a remarkably short span of time- a feat unprecedented in history.
- **Administrative Reforms:** Another illustrious contribution made by Sardar Patel was the **creation of All India Services**. He had envisioned these services as the '**Steel frame of India**' that would further safeguard the country's unity and integrity.
- **Promotion of National Integration:** He promoted the '**Idea of India**' as a single nation, and emphasized that despite its diversity, the country must stand united.

Other Contributions

- **Constitutional Role:** He headed various **Constitutional Committees**, such as Advisory Committee on Fundamental Rights, Committee on Minorities and Tribal and Excluded Areas, Provincial Constitution Committee.
- He also served as the **first Deputy Prime Minister**, as well as the **first Home Minister** of independent India.

Honours and Recognitions

- **Iron Man of India:** He earned the reputation of '**Iron Man**' because of the manner in which he brought about and maintained internal stability as Home Minister in the wake of the partition of the country.
- **Bharat Ratna:** He was posthumously honoured with the **Bharat Ratna**, the highest civilian award in the country in 1991.
- **The Statue of Unity:** It is the tallest statue in the world which was unveiled on October 31, 2018 in Kevadia, Gujarat on the occasion of his 143rd birth anniversary.

Conclusion

- Sardar Patel's legacy goes beyond politics; he epitomized unity, resilience, and commitment to the nation's welfare.
- His life remains a testament to the power of leadership, dedication, and an unwavering love for his country, helping to shape India into a more stronger, unified nation.

Source: PIB

U.S. ELECTORAL COLLEGE SYSTEM**In News**

- U.S. citizens will vote on November 5 to choose the 47th President, with main candidates being Republican Donald Trump and Democrat Kamala Harris.

How is the U.S. President elected?

- U.S. presidential elections occur every four years on the first Tuesday of November.
- **Eligibility Requirements:** Candidates must be natural-born U.S. citizens, at least 35 years old, and have resided in the U.S. for 14 years.
 - ♦ They must register with the Federal Election Commission if they raise or spend over \$5,000.
- **Primaries and Caucuses:** Once candidates announce their intentions to run for the post of the President, the process of primary and caucus debates starts.
 - ♦ **Primaries:** State-run elections where voters select their preferred party candidates by secret ballot.
 - ♦ **Caucuses:** Party-run gatherings where voters discuss and choose candidates.
 - Types: Open (any voter can participate), closed (only registered party members), and semi-closed
- **National Conventions:** Parties officially nominate their presidential and vice-presidential candidates.
 - ♦ Delegates, pledged or unpledged, vote for the nominee. If no candidate wins a majority, additional rounds are held
- **General Election Voting:** Takes place in November, with all major party candidates on the ballot.

- ♦ Registered voters can vote for any candidate, regardless of primary participation or party registration.
- ♦ States allow early, absentee, and mail-in voting with varying rules.

About Electoral College System:

- The electoral college is an intermediary body or process that chooses the U.S. President.
- The President is chosen by securing a majority of electoral college votes (270 out of 538), not the popular vote.
- **Electors' Selection:** Each state's voters choose electors who then vote for the President. States have electors equal to their Congressional representation (House + Senate).
 - ♦ The electors, pledged to a candidate, vote in December based on their state's popular vote outcome.
- **Faithless Electors:** Electors who do not vote according to the popular vote are called "faithless electors." Some states penalize them, though they rarely affect results.
- **Popular Vote Impact:** Generally, the party that wins a state's popular vote sends its electors to the electoral college, who are expected to vote accordingly.
- Except in Maine and Nebraska, the winner of a state's popular vote takes all its electoral votes.
- **Tie Scenario:** If there's a 269-269 tie, the House of Representatives votes to decide the President, with each state delegation having one vote. A candidate needs 26 votes to win.
- **Congress Vote Count:** Congress will meet in January to count the electoral votes, and the new President will be inaugurated on January 20, 2025.
- **Vice-Presidential Election:** The Senate votes for the Vice-President, with each Senator having one vote. A candidate needs 51 votes to win.
- **Potential Split Outcomes:** Since the President and Vice-President are elected separately by the House and Senate, they could be from different parties if votes are divided.
- **Vote Counting and Inauguration:** Congress counts electoral votes in early January.
 - ♦ The new President's term begins on January 20, Inauguration Day.

Source: TH

CONTRIBUTION OF UNPAID WORK BY WOMEN

Context

- The invisibility of **women's contributions to the economy** through **unpaid care work**, parenting, and domestic responsibilities has been a growing topic of research and discussion.

About

- This dialogue emphasises the **need to recognise and value these contributions** in national accounts, highlighting their monetary worth.
- While the **System of National Accounts** has included household production in Gross Domestic Product (GDP) calculations since 1993, it has notably excluded unpaid care work.

Unpaid Labour by Women

- Women not in the labour force **spend over seven hours daily** on unpaid domestic and care work.
 - Employed women** dedicate 5.8 hours to similar tasks.
- In contrast, unemployed men spend less than four hours, while employed men contribute only 2.7 hours daily.
- This stark contrast **underscores the significant burden** of unpaid labour borne by women.

Need for Recognising Unpaid Work by Women

- Sustainable Households:** Unpaid labor, including childcare, elder care, and household chores, is essential for the daily functioning of families.
- Economic Contribution:** It supports the workforce by allowing others to participate in paid employment, thus enabling economic activity and stability.
- Resource Management:** Women often manage household resources, from budgeting to food preparation.
- Personal Fulfilment:** Many women derive personal satisfaction and fulfillment from caregiving and household management, viewing it as a meaningful contribution to their families and communities.
- Foundation for Future Generations:** Unpaid labor plays a vital role in the upbringing and education of children, shaping future generations and contributing to their development and well-being.

Effort to recognise Unpaid work

- In 2016, the **United Nations** integrated this focus into its **Sustainable Development Goals (SDGs)**, particularly in SDG 5, which emphasises achieving gender equality and empowering women.
 - Target 5.4** seeks to recognise and value unpaid care and domestic work through supportive policies and shared household responsibilities, particularly in low and middle-income countries by 2030.
- The Asia-Pacific Economic Cooperation (APEC 2022)** revealed that unpaid work contributes an estimated 9% to the GDP of APEC member economies, equivalent to \$11 trillion.

Economic Value of Unpaid Work in India

- Unpaid work in India contributes approximately ₹22.7 lakh crore or about **7.5% of the country's GDP**, according to a 2023 State Bank of India report.
- Women spend about 36 hours per week** on such tasks compared to just 16 hours for men.
 - This disparity highlights the **gendered nature of household responsibilities** and reflects broader societal norms regarding domestic labour.
- Research indicates that enhancing women's participation in the labour force **could boost India's GDP by as much as 27%**.

Conclusion

- To harness this potential for economic growth, it is vital to create policies that recognise and value unpaid work, encouraging gender equity in the workforce and boosting India's overall productivity.

Source: TH

GOLD RESERVES

Context

- India's gold reserves currently total 854.73 metric tonnes, according to a recent Reserve Bank of India (RBI) report.
 - Of this, 510.46 metric tonnes are held within the country, while 324.01 metric tonnes are stored with the Bank of England and the Bank for International Settlements (BIS).

About

- Gold now makes up **9.32% of India's total foreign exchange reserves**, a rise from 8.15% in March 2024.

- On a global scale, **India ranks 8th for gold reserves**. The top-ranking countries are the United States, Germany, and Italy, with the U.S. holding nearly as much gold as the combined reserves of Germany, Italy, and France.

Gold Reserves

- Gold has **lower co-relation with other asset classes** and, therefore, provides a **safety cushion** during periods of geopolitical stress and prevailing economic uncertainty and/or downturn in markets.
- **Prices of gold are** suggested to hold an **inverse relationship with interest rates**.
 - ♦ When interest rates are tightened gold becomes less attractive to investors as they do not offer any yield.
 - ♦ Conversely, lower interest rates coupled by a weaker dollar can prompt investors to also opt for the safety bullion cushion.
- **Central banks accumulate gold for several reasons:**
 - ♦ **Monetary Stability:** Gold provides a store of value and is often used as a safeguard against economic uncertainty.
 - ♦ **Currency Support:** Gold reserves enhance a nation's currency credibility, as it is seen as a backing for the currency's value.
 - ♦ **Investment Diversification:** Holding gold diversify a central bank's assets, reducing risk in their investment portfolios.
 - ♦ **International Trade and Payments:** Gold reserves facilitate international trade and payments, serving as a universally accepted form of currency.
- Countries with significant gold reserves include the **United States, Germany, Italy, and France**.

Gold Reserves Strategy

- The RBI continues to retain 324 tonnes of its gold reserves under the protection of the **Bank of England and the Bank for International Settlements**, which collectively hold a substantial portion of India's gold abroad.
- **The Bank of England**, established in **1697**, is renowned for its extensive gold storage facilities and remains the world's second-largest gold custodian after the New York Federal Reserve.
 - ♦ Storing part of India's gold in London provides the RBI with **immediate access to the London bullion market**, allowing for enhanced liquidity.

Source: TH

NEWS IN SHORT

WHO'S GLOBAL TUBERCULOSIS REPORT 2024

Context

- The World Health Organization (WHO) has highlighted both progress and ongoing challenges in India's fight against tuberculosis (TB) in its **latest Global TB Report**.

About

- **Global TB Cases:** TB remains the leading infectious killer, surpassing COVID-19, with 8.2 million new cases in 2023.
- **India's TB Burden:** India, with the highest TB burden globally, recorded 2.8 million cases in 2023. India alone accounted for 26% of global cases and 29% of global TB deaths (315,000 deaths).
 - ♦ India is followed by Indonesia (10%), China (6.8%), the Philippines (6.8%), and Pakistan (6.3%).
- **Multidrug-Resistant TB:** India represents 27% of the world's multi-drug-resistant TB cases, underscoring the need for specialized treatment approaches.

What is Tuberculosis?

- Tuberculosis (TB) is an **infectious disease** that most often affects the lungs and is caused by the **bacteria Mycobacterium tuberculosis**.
- It spreads through the air when infected people **cough, sneeze or spit**.
- **Symptoms:** prolonged cough (sometimes with blood), chest pain, weakness, fatigue, weight loss, fever, night sweats.
 - ♦ While TB usually affects the lungs, it also affects the kidneys, brain, spine and skin.
- **Treatment:** It is **preventable and curable** with antibiotics.
 - ♦ **TB Vaccine: The Bacillus Calmette-Guérin (BCG) vaccine** remains the only licensed vaccine against TB; it provides moderate protection against severe forms of TB (TB meningitis) in infants and young children.
- India's goal is to **eliminate tuberculosis (TB) by 2025**, five years ahead of the **global target of 2030**.

Source: IE

STATE FORMATION DAY

In News

- Prime Minister Narendra Modi extended his greetings on the formation day of Madhya Pradesh, Karnataka, Kerala, Haryana, and Chhattisgarh, highlighting each state's unique qualities.

Independence and Formation of states

- On Independence Day, British rule ended, creating two dominions, India and Pakistan.
- Over 550 princely states had the choice to join either nation, with most joining India.
- **Integration of Princely States:** The Indian National Congress had envisioned a union of states, and Sardar Vallabhbhai Patel led efforts to integrate princely states. Hyderabad and Junagadh were incorporated after military action, and Kashmir joined India under pressure.
- **Early Linguistic Underpinnings:** The Indian National Congress accepted the idea of linguistic provinces in 1920. The S.K. Dhar and JVP committees initially rejected linguistic reorganization.
- **First Linguistic State (1953):** Andhra Pradesh was created for Telugu speakers after Potti Sriramulu's protest. This triggered the formation of the States Reorganisation Commission (SRC), leading to the States Reorganisation Act of 1956.
- **States and Union Territories in 1956:** The Act formed 14 states and six union territories, based primarily on linguistic lines.
- **Bombay Reorganisation (1960):** Due to linguistic movements, Maharashtra and Gujarat were formed from Bombay State.
- **Punjab Reorganisation (1966):** The Punjabi Suba movement led to Punjab for Punjabi speakers, Haryana for Hindi speakers, and the creation of Himachal Pradesh.
- **Integration of Goa, Daman, and Diu (1961):** Indian troops captured these Portuguese territories, making Goa a state in 1987 and Daman and Diu a Union Territory.
- **North-East Reorganisation:** Post-independence, Assam was initially the only northeastern state. Movements led to statehood for Nagaland (1963), Meghalaya (1972), Manipur, and Tripura. Arunachal Pradesh gained statehood in 1982.
 - ♦ **Sikkim's Merger (1975):** Sikkim transitioned from a protectorate to an Indian state, with the monarchy abolished.

- **2000s State Formation for Development:** Jharkhand, Chhattisgarh, and Uttarakhand were formed to address underdevelopment in specific regions of larger states.
- **Creation of Telangana (2014):** Long-standing demands led to Telangana's formation out of Andhra Pradesh due to perceived neglect of the region's infrastructure and resources.
- **Jammu and Kashmir Reorganisation (2019):** Special status was revoked, creating the Union Territories of Jammu and Kashmir, and Ladakh, aiming for economic and security benefits.

Source: TH

ASSET RECOVERY INTERAGENCY NETWORK-ASIA PACIFIC (ARIN-AP)

In News

- India, through its Directorate of Enforcement (ED), has joined the Steering Committee of the **Asset Recovery Interagency Network-Asia Pacific (ARIN-AP)**.

About ARIN-AP

- ARIN-AP, with **28 member jurisdictions** and nine observers, enables cross-border collaboration for asset tracing, freezing, and confiscation through a network of contact points.
- It is part of the **Global CARIN Network** dedicated to combating the proceeds of crime across Asia-Pacific.
- It facilitates intelligence-sharing, helping agencies trace and recover assets linked to crimes across borders.
- India is set to assume the ARIN-AP presidency and host its Annual General Meeting in 2026, reinforcing its leadership in asset recovery.
- This role will enhance India's involvement in ARIN-AP's decision-making and administrative processes, supporting global asset recovery efforts.

Source:TH

FIRST 'BLACK HOLE TRIPLE' SYSTEM DISCOVERED

In News

- Astronomers have found a rare triple black hole system called **V404 Cygni** that changes our understanding of **how black holes form**.

About

- Located about 8,000 light-years from Earth, V404 Cygni has a black hole with two orbiting stars—one very close, circling every 6.5 days, and a second much farther away, around 100 times the distance of Pluto from our Sun.
- Insights from V404 Cygni
- This V404 Cygni system suggests a different formation method called “**direct collapse**,” where a black hole forms quietly without a supernova explosion. Thousands of simulations confirmed that this was the most likely way V404 Cygni’s black hole formed, sparing the second, distant star from being ejected by a violent explosion.

WHAT IS A BLACK HOLE?

Black holes are mysterious and terrifying – and we've got a simple guide to how they work...

■ A black hole is a region of space where absolutely nothing can escape.

■ That's because they have extremely strong gravitational effects, which means once something goes into a black hole, it can't come back out.

■ They get their name because even light can't escape once it's been sucked in – which is why a black hole is completely dark.

■ Most black holes are made when a supergiant star dies.

■ This happens when stars run out of fuel – like hydrogen – to burn, causing the star to collapse.

■ When this happens, gravity pulls the centre of the star inwards quickly, and collapses into a tiny ball.

■ It expands and contracts until one final collapse, causing part of the star to collapse inward thanks to gravity, and the rest of the star to explode outwards.

■ The remaining central ball is extremely dense, and if it's especially dense, you get a black hole.

■ We don't know for sure what happens when you enter a black hole. A popular theory is that objects become stretched out and lose all dimensional form, before disappearing completely. So don't try it.

What is Black Hole?

- It is a region in space with such strong gravity that nothing, not even light, can escape from it. According to **Einstein’s theory of general relativity**, a black hole is created when a large mass becomes very compact, bending spacetime. The boundary of no return is called the event horizon.
- **Types:** There are four main types of black holes:
 - ◆ **Stellar Black Holes:** Formed by collapsing stars.
 - ◆ **Intermediate Black Holes:** Larger than stellar but smaller than supermassive.
 - ◆ **Supermassive Black Holes (SMBH):** The largest type, found at the centers of galaxies, like Sagittarius A* in our galaxy.
 - ◆ **Micro Black Holes:** Very small, hypothetical black holes, proposed by Stephen Hawking in 1971.
- Black holes form when a massive star runs out of fuel. Stars shine because of nuclear fusion, which pushes outward against gravity. But when a star exhausts its fuel, this outward pressure stops, and gravity takes over, causing the star to collapse.

Source: TH

LIDAR**Context**

- Scientists have detected a **lost Mayan city**, hidden for centuries by the dense Mexican jungle, using LiDAR.

About

- **LiDAR, or Light Detection and Ranging**, is a remote sensing technology that uses light in the form of a pulsed laser to measure ranges of a sensor, usually mounted aboard an aircraft.
 - ◆ Data can be used to create **high-resolution 3-D models** of ground elevation.
- **Working:** LiDAR instrumentation comprises **a laser, a scanner, and a GPS receiver**.
 - ◆ The rapidly firing laser travels to the ground where it hits vegetation, building, and various topographic features.
 - ◆ This light is reflected or scattered, and recorded by the LiDAR sensor.
- **Significance:** LiDAR is used to generate precise, three-dimensional information about the shape of the Earth and its surface characteristics.

- ◆ This is useful information for geographers, policy makers, conservationists, and engineers.

Source: IE

DURGESH ARANYA ZOOLOGICAL PARK

Context

- Himachal Pradesh is set to introduce **India's first IGBC-certified zoological park** in **Kangra's Dehra constituency**.
 - ◆ The **Durgesh Aranya Zoological Park**, located in Bankhandi, will feature sustainable and eco-friendly infrastructure, making it a pioneer in green-certified wildlife parks.

Indian Green Building Council

- It is a part of the Confederation of Indian Industry (CII) and was established in **2001**.
- Its primary goal is to promote sustainable building practices in India and to facilitate the development of green buildings.
- IGBC develops various rating systems for different types of buildings, including residential, commercial, and institutional projects.
- These ratings help in assessing the environmental performance of buildings and encourage the adoption of green practices in construction.

Source: HT

AIR QUALITY INDEX (AQI)

In Context

- The air quality in many places in India took a hit, with the Air Quality Index (AQI) reaching more than 300, which is categorized as "very poor."

About Air Quality Index (AQI)

- The AQI is a measure **launched in 2014** as part of the **Swachh Bharat campaign** to help people understand air pollution levels. The **AQI condenses pollution data into a single**, easy-to-read score and color code:
 - ◆ Good (0-50)
 - ◆ Satisfactory (50-100)
 - ◆ Moderately polluted (100-200)
 - ◆ Poor (200-300)
 - ◆ Very Poor (300-400)
 - ◆ Severe (400-500)

- The AQI score is based on several pollutants, **including PM 2.5, PM 10, nitrogen dioxide, and others**.

Health Impact of PM 2.5 and PM 10

- Smaller pollutants like PM 2.5 (particles less than 2.5 micrometers) are particularly harmful as they can enter the lungs and bloodstream, potentially causing asthma, heart disease, and other chronic conditions.

Graded Response Action Plan (GRAP)

- The Graded Response Action Plan (GRAP) is a **framework** designed to combat air pollution in the **Delhi-NCR region**. It was introduced as an emergency response mechanism, and its implementation is triggered when the AQI reaches "poor" levels.
- The **Commission for Air Quality Management (CAQM)** in NCR and adjoining areas oversees the implementation of GRAP. It collaborates with the **Ministry of Environment, Forest and Climate Change (MoEFCC)**.
 - ◆ The **GRAP for Delhi-NCR** is divided into **four stages of air quality** — Stage 1 for "poor" Air Quality Index (AQI) ranging between 201 and 300, Stage 2 for "very poor" AQI of 301-400, Stage 3 for "severe" AQI of 401-450 and Stage 4 for "severe plus" AQI more than 450.
 - ◆ This plan enforces emergency measures to reduce pollution, such as banning coal use in eateries, restricting diesel generators, and other actions to curb emissions.

Source: IE

EXERCISE VAJRA PRAHAR

Context

- The 15th edition of **India-US joint Special Forces Exercise VAJRA PRAHAR** commenced at Orchard Combat Training Centre in Idaho, USA.

About

- **Initiated in 2010**, the exercise will enhance combined capabilities in executing joint Special Forces Operations in desert/ semi desert environment.
- **Aim of Exercise VAJRA PRAHAR** is to promote military cooperation between India and the US through enhancement of interoperability, jointness and mutual exchange of special operations tactics.

Other Military Exercises involving India-USA

- **Bilateral Military Exercises:** Yudh Abhyas (Army), Cope India (Air Force), Tiger Triumph (Tri-Service) and Sangam (Naval Special Forces).
- **Multilateral Military Exercises:** Malabar (Navy), Rim-of-the-Pacific (RIMPAC, Navy), Milan (Navy), La Perouse (Navy), Pitch Black (Air Force), and Red Flag (Air Force).

Source: PIB

EXERCISE GARUD SHAKTI**Context**

- The 9th edition of India-Indonesia Joint Special Forces **Exercise GARUD SHAKTI** commenced at Jakarta, Indonesia.

About

- The **first edition** was conducted in the year **2012** in India.
- **Aim:** To acquaint both the sides with each other's operating procedures, enhance mutual understanding, cooperation and interoperability between the Special Forces of both armies.

Do you know?

- **Exercise Samudra Shakti** and the **IND-INDO CORPAT** (India-Indonesia Coordinated Patrol) are conducted between the Indian Navy and the Indonesian Navy. However, **no regular** bilateral air exercises are held between the two powers.

Source: PIB

