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Small Satellite Launch Vehicles (SSLV)

Context: Dr. Jitendra Singh, the Union Minister, has shared that a new spaceport will be established in Kulasekarapattinam, Tamil Nadu. This spaceport will focus on launching ISRO's Small Satellite Launch Vehicles (SSLV).

Highlights:

- **Configuration:** 3-stage launch vehicle.
- **Propulsion:** Three solid propulsion stages.
- **Terminal Stage:** Liquid propulsion-based Velocity Trimming Module (VTM).
- **Dimensions:** 2 meters in diameter, 34 meters in length.
- **Lift Off Weight:** Approximately 120 tonnes.
- **Payload Capacity:** Capable of launching ~500kg satellite.
- **Orbit:** Specifically designed for 500km planar orbit from SDSC/SHAR.
- **Cost-Effective:** Designed for low cost operations.
- **Quick Turn-Around:** Short preparation time between launches.
- **Flexible:** Can accommodate multiple satellites.
- **On-Demand Launch:** Feasibility for launch on demand.
- **Minimal Infrastructure:** Requires minimal launch infrastructure.
- **Additional Benefits:** Enhanced flexibility, reduced costs, and efficient operations.

Stages of SSLV

Stage	Fuel	Max. Vacuum Thrust (kN)	Burn Time (sec)
Stage 1	Solid Fuel: Hydroxyl-Terminated Polybutadiene (HTPB)	2496	94.3
Stage 2	Solid Fuel: Hydroxyl-Terminated Polybutadiene (HTPB)	234.2	113.1
Stage 3	Solid Fuel: Hydroxyl-Terminated Polybutadiene (HTPB)	160	106.9

Dogleg Manoeuvre

- **Safety Shift:** Dogleg manoeuvre is a deliberate change in a rocket's trajectory after lift-off to avoid risky airspace or sensitive areas.
- **Fuel Consumption:** It optimizes the rocket's flight while adhering to safety regulations and achieving desired orbit, but it requires extra fuel.
- **Advanced Systems:** Modern rockets employ advanced navigation and guidance systems for precise angle adjustments.
- **Payload Flexibility:** Dogleg allows flexibility in launch direction; aiding mission needs and regulatory compliance.
- Dogleg manoeuvre will not be required when launching from Kulasekarapattinam.

Compulsorily Convertible Debentures

Context: Investors from Mauritius, Cyprus, and Singapore have received notices about gains from investing in Indian companies' compulsorily convertible debentures (CCDs).

Compulsory Convertible Debenture (CCD)

- A compulsory convertible debenture (CCD) is a type of bond that must be converted into stock within a specified timeframe.
- It is classified as a hybrid security, sitting between bonds and stocks in nature.
- The conversion usually takes place by a predetermined date.

Debenture

- A debenture is a debt security issued by companies to borrow money at a fixed interest rate.
- Unlike many corporate bonds, it lacks collateral and relies solely on the issuer's credit.
- Essentially, an unsecured corporate bond can be considered a debenture.

Types of Debentures

- Debentures come in two forms: non-convertible and convertible.
- Non-convertible debentures cannot be converted into equity shares; holders receive interest payments and principal at maturity.
- Convertible debentures can be converted into equity shares after a specified period.

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Advantages of Convertible Debentures

- Convertibility attracts investors, leading to lower interest rates compared to non-convertible debentures.
- Compulsory Convertible Debenture (CCD) is a type of convertible debenture with a unique characteristic.

CCD Specifics

- CCD holders must accept company stock upon maturity, unlike traditional convertible debentures.
- Conversion ratio determines the number of shares each CCD converts into, often expressed per bond or per centum.

Benefits for Companies

- CCDs allow debt repayment without cash expenditure, as they convert into equity.
- Conversion ratio and terms are decided by the issuer during issuance.

Trading and Features

- CCDs are traded as equity but resemble structured debt.
- CCDs may include a put option, requiring the company to repurchase shares at a fixed price.

Risk and Impact

- CCDs do not pose credit risk for issuers as they convert to equity.
- CCDs can ease downward pressure on underlying stock that a pure equity issuance might cause.

Article 3

Context: The Kerala Assembly has approved a resolution to change the state's name to "Keralam."

The Kerala Chief Minister's proposal to rename the state to "Keralam" was unanimously approved, pending clearance from the Union Ministry of Home Affairs.

Origin of the name

- The earliest epigraphic mention of Kerala dates back to Emperor Asoka's Rock Edict II of 257 BC.
- This ancient inscription identifies the local ruler as "Keralaputra" and mentions the Chera dynasty, referring to the ruler as the son of Chera.
- The term "Keralam" is thought to have its roots in "Cheram," according to scholars.
- The reorganization of states along linguistic lines led to the recommendation by the State Reorganisation Commission of the Union Government to establish the state of Kerala.
- Kerala officially came into existence on November 1, 1956.
- While referred to as "Keralam" in Malayalam, the state was known as "Kerala" in English.

Article 3 of the Indian Constitution

Article 3 of the constitution empowers only the Parliament, and not the States, to:

- Establish a new state by dividing territory from an existing state, merging two or more states, or combining territory with part of a state.
- Modify the size of any state, either by expansion or reduction.
- Amend the name of any state.
- Adjust the borders of a state.

Process of changing the name of a State

- The Parliament or State Legislative Assembly can propose changes, but in Parliament, a President's recommendation is needed.
- States affected must present their state's legislation along with the bill.
- State Legislature's views aren't binding on the President or Parliament, yet it upholds federal spirit.
- After State Legislature's input or the set time, the bill returns to Parliament for further discussion.
- Passing the bill requires a simple majority (50%+1 vote).
- The President ratifies the bill after approval, turning it into an Act.
- The Act is enforced, officially changing the state's name.

Belem Declaration

Context: At the Amazon Summit, leaders of Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname, and Venezuela could not agree on rainforest protection goals.

Amazon Summit

- The Amazon Summit, hosted by Brazil, aimed to safeguard the vital rainforests of the region against climate change's threats.

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- Amazon forests play a critical role in mitigating climate change, but they are facing a crisis.
- Leaders from eight Amazon countries attended the summit but couldn't agree on rainforest protection goals.
- The Amazon Summit was organized by the Amazon Cooperation Treaty Organization (ACTO).
- The countries involved are Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname, and Venezuela.
- ACTO focuses on promoting sustainable development in the Amazon Basin.
- Colombia suggested protecting 80% of the Amazon from deforestation and degradation by 2025, but not all members supported this proposal.
- The lack of consensus on protected areas could impact the goals of the Convention on Biological Diversity's Global Biodiversity Framework (GBF).
- Member countries pledged to safeguard at least 30% of land and sea by 2030 under the GBF.

Belem Declaration

- It was released during the Amazon Summit and recognizes Indigenous knowledge as a condition for biodiversity conservation.
- The declaration calls for ensuring full and effective participation of Indigenous Peoples in decision-making and public policy formulation processes.
- The declaration promotes sustainable use of biodiversity resources in the Amazon.



NEWS IN BETWEEN THE LINES

Deflation



What is Deflation?

A continuous drop in prices of goods and services in an economy, opposite of inflation, leading to negative inflation.

Causes:

Imbalanced demand-supply, tech advancements, global competition, economic downturns, and credit constraints lower prices.

Deflation Effects: Consumers delay spending, borrowers face higher real debt, businesses see lower revenue and job cuts, while central banks struggle with near-zero rates.

Deflation vs. Disinflation:

Deflation is a continual drop in general prices, while disinflation is a slower inflation rate, where prices still rise, but at a reduced pace.

History: Like U.S. Great Depression, Japan's "Lost Decades."

China's Case: Ongoing deflation despite demand efforts, rooted in structural problems.

UNESCO



UNESCO advised a universal ban on smartphones in schools to address classroom disruptions, enhance learning and protect children from cyberbullying.

What is UNESCO?

UNESCO (United Nations Educational, Scientific and Cultural Organization) is a United Nations group that helps people everywhere learn, share ideas and protect important things like culture, nature and history. It is a specialized agency of the United Nations (UN) established in 1945.

Headquarters: Paris, with over 50 field offices worldwide.

Membership: 193 Members and 11 Associate Members.

Objectives: Peace through international cooperation in education, science, and culture.

Global Priorities: Focus on "Africa" and "Gender Equality."

Initiatives: Works on education, culture preservation, science, and communication.

Reports: Publishes reports on education, science and cultural heritage.

India's Engagement: Indian National Commission for Cooperation with UNESCO (INCCU), UNESCO offices in India, preservation of cultural heritage.

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Federal Funds Rate



What is Federal Funds Rate?

The Federal Funds Rate refers to the interest rate at which depository institutions (banks and credit unions) lend reserve balances to other depository institutions overnight on an uncollateralized basis. It is a key tool used by central banks, like the U.S. Federal Reserve, to influence the economy's overall direction.

Role and Impact:

- Influences interbank borrowing and lending.
- Affects broader rates like mortgages, loans, savings.

Cascade Effect: Alters consumer spending, business investments, and economy.

Monetary Policy Tool:

- **Primary Instrument:** Federal Reserve uses it to control policy.
- **Adjustment:** Raises/lowers rate to manage inflation, growth, employment.

Economic Impact:

- **Lower Rate:** Spurs borrowing, spending, boosts economy.
- **Higher Rate:** Slows borrowing, spending, controls inflation.

Historical Context:

- **Post 2008 Crisis:** Near-zero rate aided recovery.
- **COVID-19 Pandemic:** Further cuts to prevent severe downturn.

UPDIC Project



What is UPDIC Project?

The Uttar Pradesh Defence Industrial Corridor (UPDIC) is a transformative initiative led by Chief Minister Yogi Adityanath. Originating from an investors' summit in 2018, UPDIC aims to establish Uttar Pradesh as a global hub for defence and aerospace manufacturing.

Objectives & Features:

- Empower India in defence and aerospace.
- 6 strategic nodes: Agra, Aligarh, Lucknow, Kanpur, Chitrakoot, Jhansi.
- Infrastructure, technology, agriculture focus.
- Connects western, central, Bundelkhand regions.
- 6 expressways, 16 domestic, 5 international airports.

Partnerships:

Firms: BrahMos Aerospace, Adani, Tata Technologies, Ancor Research Labs, Aerolloy Technologies.

DPSUs: Bharat Electronics Limited, Hindustan Aeronautics Limited.

Suswagatam Portal



About Suswagatam Portal:

- Chief Justice Chandrachud announced the launch of the "Suswagatam" portal.
- It's a web-based and mobile-friendly application.

Purpose and Users:

- Allows online registration for various users, including advocates, visitors, and interns.
- Facilitates obtaining e-passes to enter the Supreme Court premises.

Functionality:

- Users can request e-passes for specific purposes like attending court hearings, meetings with advocates, etc.
- Eliminates the need to wait in morning queues for entry passes.

Positive Feedback and Usage:

- Successfully tested as a pilot project since July 25, 2023.
- Received positive feedback from users.
- Over 10,000 e-passes issued through the portal by August 9.

Impact:

- Reflects the court's commitment to embracing technology for smoother processes.
- Aligns with the broader push towards digitization and paperless systems.

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Places in News Hawaii

Recently, the picturesque island of Maui in Hawaii faced a devastating catastrophe as raging wildfires swept through its landscape.

Political Boundaries:

The island of Hawaii, commonly referred to as the Big Island, is one of the eight main islands of the Hawaiian archipelago. It falls within the state of Hawaii, which is part of the United States of America.

Physical Features:

Volcanic Mountains:

Mauna Kea: Tallest peak at about 13,796 feet, known for observatories.

Mauna Loa: Massive volcano, around 13,678 feet, with historic eruptions.

Kilauea: Active shield volcano with ongoing volcanic activity.

Coastlines: Diverse formations, rocky cliffs, sandy beaches, rugged shores.

Craters and Lava Fields:

Hawaii Volcanoes National Park: Home to Kilauea and Mauna Loa, craters, lava tubes.

Extensive lava fields, showcasing volcanic history.



POINTS TO PONDER

- ❖ **What is NavIC (Navigation with Indian Constellation)?** - India's GPS system
- ❖ **Which organization was behind the Belem Declaration?** - Amazon Cooperation Treaty Organization (ACTO)
- ❖ **Which institute developed MATSYA6000?** - National Institute of Ocean Technology (NIOT), Chennai.
- ❖ **Which political boundaries does the Mediterranean Sea separate?** - Europe from Africa.
- ❖ **When was the 8th Edition of Raisina Dialogue held?** - March 2023

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