DAILY CURRENT AFFAIRS 11-04-2025

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1. **Megalithic Period**

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2. **Bear Market**
3. **Acute Promyelocytic Leukemia (APL)**
4. **Pamban Rail Bridge**
5. **INS Varsha**

Megalithic Period

Syllabus: GS-1; Ancient History

Context

- Ancient megalithic-era artefacts unearthed in **Manimoola during Jal Jeevan Mission works**

1. Introduction to Megalithic Culture

- **Time Period:** Roughly 1500 BCE – 300 BCE (Neolithic-Chalcolithic to Early Iron Age).
- **Definition:** Megaliths (Greek: mega = large, lithos = stone) are large stone structures used as burial sites or memorials.
- **Geographical Spread**: Predominantly in Peninsular India (Deccan, South India), Northeast India, and parts of Kashmir.

2. Types of Megalithic Structures

Megaliths are classified based on their form and function:

- **Burial Megaliths:**
  - Dolmen: Table-like structure with three or more upright stones supporting a capstone.
  - Cairn Circles: Heap of stones with a surrounding circle.
  - Cist Burials: Stone coffins, often with grave goods.
  - Sarcophagus: A box-like burial container.
  - Urn Burials: Cremated remains stored in urns (e.g., Adichanallur, Tamil Nadu).
- **Non-Burial Megaliths:**
  - Menhirs: Single standing stones (e.g., Brahmagiri, Karnataka).
  - Alignments: Rows of menhirs.
  - Stone Circles: Used for rituals or demarcation.

3. Key Features of Megalithic Culture

- **Iron Age Association:** Megalithic people were among the earliest iron users in India (iron tools, weapons, and implements found).
- **Grave Goods:** Burials contained pottery (Black-and-Red Ware), iron objects, beads, and ornaments, indicating belief in afterlife.
- **Agriculture & Economy**: Practiced farming (rice, millets), domestication of animals, and trade.
- **Social Hierarchy:** Differences in burial goods suggest social stratification.

4. Important Megalithic Sites in India

Site	Location	Significance
Brahmagiri	Karnataka	Multiple burials, Ash mound
Adichanallur	Tamil Nadu	Urn burials, Iron artifacts
Nagpur Region	Maharashtra	Rich megalithic clusters
Junnar	Maharashtra	Rock-cut caves & megaliths

Site	Location	Significance
Sanur	Tamil Nadu	Hero stones & memorials
Hallur	Karnataka	Evidence of early iron

5. Megalithic Culture & Contemporary Civilizations

- Overlap with Vedic Period: While Vedic culture flourished in North India, megalithic traditions dominated the Deccan and South.
- Link to Sangam Age: Some megalithic practices continued into early historic Tamilakam (Sangam literature references).

6. Decline of Megalithic Culture

- Gradual integration into early historic kingdoms (e.g., Satavahanas, Cheras, Cholas).
- Shift towards more elaborate memorial practices (e.g., hero stones).

Bear Market

Syllabus: GS-3; Economy

Context

- Wall Street wobbles as S&P 500 flirts with bear market

1. Definition of Bear Market

- A bear market refers to a **prolonged period of declining stock prices**, typically by 20% or more from recent highs.
- It is characterized by pessimism, low investor confidence, and economic slowdown.
- Opposite of a bull market (rising prices).

2. Causes of a Bear Market

- **Economic Recession:** Decline in GDP, rising unemployment, reduced consumer spending.

- **High Inflation & Interest Rates:** Central banks raising interest rates to control inflation can reduce liquidity.
- **Geopolitical Tensions:** Wars, trade wars, or political instability.
- **Market Bubbles Bursting:** Overvalued stocks correcting sharply (e.g., Dot-com bubble, 2008 Financial Crisis).
- **Pandemics/Natural Disasters:** COVID-19 initially triggered a bear market in 2020.

3. Characteristics of a Bear Market

- Falling Stock Prices (sustained decline over weeks/months).
- Low Investor Confidence (investors sell off holdings).
- Increased Volatility (sharp price swings).
- Rise in Safe-Haven Assets (gold, bonds, USD demand increases).

4. Phases of a Bear Market

- Phase 1: High prices & investor optimism.
- Phase 2: Sharp decline in stock prices, panic selling begins.
- Phase 3: Speculators re-enter, minor rallies occur.
- Phase 4: Prolonged low prices, slow recovery begins.

5. Impact of a Bear Market

- **On Investors**: Wealth erosion, reduced risk appetite.
- **On Companies**: Lower profits, layoffs, reduced investments.
- **On Economy:** Lower consumption, reduced GDP growth.
- **On Government:** Fiscal deficits may rise due to stimulus measures.

6. Historical Examples

- The Great Depression (1929-1932) – 90% market crash.
- Dot-com Bubble (2000-2002) – NASDAQ fell ~78%.
- Global Financial Crisis (2007-2009) – S&P 500 dropped ~50%.
- COVID-19 Crash (2020) – Shortest bear market (1 month).

7. How Governments & Central Banks Respond

- **Monetary Policy**: Interest rate cuts, quantitative easing.
- **Fiscal Policy**: Stimulus packages, tax relief.
- **Regulatory Measures**: Circuit breakers, short-selling bans.

8. Bear Market vs. Correction

Feature	Bear Market	Market Correction

Feature	Bear Market	Market Correction
Decline	≥20%	10%-20%
Duration	Months to years	Short-term (weeks)
Recovery	Slow	Quick

9. Key Terms

- Secular Bear Market (long-term downtrend)
- Dead Cat Bounce (temporary recovery before further fall)
- Risk-Off Sentiment (investors move to safer assets)

Acute Promyelocytic Leukemia (APL)

Syllabus: GS-3; Science & Technology

Context

- **Acute promyelocytic leukemia (APL)** is a rare and aggressive form of leukemia, a cancer that affects blood cells.
- It is caused by a genetic mutation where two genes, **PML and RARA**, mistakenly fuse together.
- The fusion of the two genes leads to the production of fewer white blood cells and platelets, which reduce the body's ability to fight infections and control bleeding.
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Genetic Abnormality:

- Caused by a translocation between **chromosomes 15 and 17**, leading to the PML-RARA fusion gene.
- This mutation disrupts normal cell differentiation, causing immature **promyelocytes to accumulate.**

Symptoms:

- Fatigue, bleeding tendencies (due to low platelets), infections, and bruising.
- **Disseminated Intravascular Coagulation (DIC**) is a life-threatening complication due to abnormal clotting and bleeding.

Diagnosis:

- Blood tests (low RBCs, platelets, abnormal WBCs).
- Bone marrow biopsy (excess promyelocytes).
- Genetic testing (PML-RARA fusion gene confirmation).

Treatment:

- Differentiation Therapy (ATRA - All-Trans Retinoic Acid):
- Forces leukemic cells to mature, reducing their malignancy.

Arsenic Trioxide (ATO):

- Induces apoptosis (cell death) in leukemic cells.
- Chemotherapy (in high-risk cases).
- Supportive care (blood transfusions, antibiotics).

Prognosis:

- One of the most curable leukemias if diagnosed early (90% survival rate with ATRA + ATO).
- Delayed treatment can lead to fatal bleeding/DIC.

Pamban Rail Bridge

Syllabus: GS-3; Infrastructure Development

Context

- An India-Sri Lanka direct rail or road link needs just a 25-km-long bridge.

- The Pamban Bridge, recently inaugurated by PM Narendra Modi, completes a crucial part of a direct train from **Chennai to Colombo.**
- Planned by the British, and brought to the drawing table time and again, an India-Lanka rail link would boost both ties and trade.

1. About

- **Location**: Connects Rameswaram Island (Pamban Island) to mainland Tamil Nadu.
- **Type:** Cantilever bridge with a double-leaf bascule section (opens for ships).
- **Length:** 2.065 km (6,776 ft) – India's longest sea bridge until 2010 (when Bandra-Worli Sea Link was completed).
- **Construction**: Built by British India in 1914.
- **Operational**: Part of the Southern Railway zone.

2. Historical Significance

- Constructed during British rule to improve connectivity to Rameswaram, a major Hindu pilgrimage site.
- Engineer: Designed by Scherzer rolling lift technology (German engineer William Scherzer).
- First major sea bridge in India, showcasing early 20th-century engineering.

3. Engineering & Design

- **Unique Feature:** Bascule (lifting) section (mid-span) to allow ships to pass.
- Manually operated earlier, now mechanized.

- Materials: Steel girders on concrete piers.
- **Challenges:** Built in a cyclone-prone zone with strong ocean currents and corrosive seawater.

4. Importance & Connectivity

- Links: Connects Mandapam (mainland) to Pamban (island).
- Railway Significance: Only rail link between mainland India and Rameswaram.
- Economic Role: Facilitates trade and pilgrimage (Rameswaram is a key Char Dham site).

5. Environmental & Geographical Factors

- Located in the Ram Setu (Adam's Bridge) region – a sensitive marine zone.
- Cyclone Vulnerability: Frequently damaged by storms (e.g., 1964 cyclone caused severe damage).
- Corrosion Management: Regular maintenance due to saltwater exposure.

INS Varsha

Syllabus: GS-3; Security

Context

- In a major development in maritime defence capabilities, India is set to establish a new naval base for nuclear submarines and warships in coastal Andhra Pradesh by 2026.

1. Overview of INS Varsha

- Location: Near Rambilli, Andhra Pradesh (about 50 km from Visakhapatnam).
- Purpose: To serve as the new headquarters for the Eastern Naval Command and a strategic nuclear submarine base.
- Significance: Strengthens India's nuclear triad (land, air, and sea-based nuclear capabilities) under the Arihant-class submarine program.

2. Key Features

- **Underground Facilities:** Designed with hardened shelters to protect submarines from aerial attacks.
- **Strategic Depth**: Located away from international shipping lanes, enhancing secrecy and security.
- **Proximity to Shipbuilding Centre**: Close to Visakhapatnam Shipyard, facilitating maintenance and operations.

3. Strategic Importance

- **Nuclear Deterrence:** Supports India's SSBNs (Ship Submersible Ballistic Nuclear) like INS Arihant.
- **Countering China:** Enhances operational readiness in the Indo-Pacific, particularly near the Malacca Strait.
- **Second Nuclear Submarine Base**: The first is INS Karanja in Mumbai (Western Naval Command).

4. Development & Challenges

- **Constructed by:** Indian Navy in collaboration with ECHS (Ex-Servicemen Contributory Health Scheme).
- **Delay**s: Due to land acquisition, environmental concerns, and technical challenges in building underground docks.
- **Cost**: Estimated at ₹10,000–15,000 crore.