



Major Ports in India

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- Ports in India are classified as **Major** and **Minor Ports** according to the jurisdiction of the Central and State government as defined under the **Indian Ports Act, 1908** i.e. Major Ports are owned and managed by the Central Government and Minor ports are owned and managed by the State Governments.
- The **Major Port Authorities Act, 2021** provides for regulation, operation and planning of major ports in India and provide greater autonomy to these ports. It replaced the Major Port Trusts Act, 1963.
- There are **12 major ports**. **13th Major Port** (under construction) is **Vadhavan port, Maharashtra**.

Genetic Information and Privacy

Prelims: Genetic Information and Privacy, DNA Test, Supreme Court, Article 21, Article 14, Right to Privacy.

Mains: Genetic Information and Privacy.

Why in News?

Recently, the [Supreme Court](#) has ruled that children have the right to protect their genetic information from being revealed in [Deoxyribonucleic Acid \(DNA\) Tests](#) without their consent.

- The judgment came in a petition filed by a man who questioned his second child's paternity while accusing his wife of an adulterous relationship.
- The apex court concluded on the facts of the case that no adverse inference could be drawn on the ground that the **mother declined to subject the child to a paternity test.**

What is the Judgement?

- Genetic information is personal and intimate. It sheds light on a person's very essence.
- It allows individuals to **make informed decisions about their health, privacy, and identity.**
- Children have the **right to protect their genetic information from DNA testing** in divorce proceedings, as it is part of their fundamental right to privacy.
 - This is guaranteed under [Article 21 of Indian Constitution](#).
- It is imperative that children do not become the focal point of the battle between spouses.
- Rights of privacy, autonomy and identity are recognised under the [United Nations' Convention on the Rights of the Child](#).
 - The Convention **acknowledges the control** that individuals, including children, have **over their own personal boundaries** and the means by which they define who they are in relation to other people.
 - Children are not to be deprived of this entitlement to influence and understand their sense of self simply by virtue of being children.

What is the Status of Genetic Information in India?

- **Genetic Data and Privacy:**
 - Genetic data privacy is a term that seeks to prevent a third party or anyone else from using a person's genetic data without his permission.
 - Technological advances have **made it easy to extract personal information from DNA samples, violating privacy rights.**
 - While genetic research holds promise for the future, misapplication can have negative consequences. Due to the significance of genetic data as the blueprint for a person's physical being, privacy protection is crucial.
- **Advantages of Genetic Information:**
 - Genetic information can reveal details **about disease, health, and ancestry.**
 - This knowledge can increase a **person's awareness of their own health**, be used in medical research, and enable early intervention for disease prevention.
- **Disadvantages of Genetic Information:**
 - Genetic data consists of a person's DNA and chromosomes and can reveal personal information about health and ancestry. Direct-to-consumer genetic tests are not always reliable **and can result in unintended exposure of private information.** Unauthorized access to genetic data can result in negative impacts, such as unwelcome responses from employers, insurance providers, and the government, affecting a person's privacy and life.
- **Status of Genetic Privacy:**
 - In 2018, The Delhi High Court ruled against United India Insurance Company's

- discrimination in health insurance against a person with a heart disease that was thought to be a genetic disorder.
- Genetic discrimination is a **breach of Article 14**, which guarantees that everyone is treated fairly under the law.
 - The Supreme Court of India unanimously stated that the [Right to Privacy](#) is a **Fundamental Right under Article 21** in Justice *KS Puttaswamy (Retd.) & Anr. v. Union of India*.
 - Genetic discrimination is **illegal in almost all countries**. In 2008, **the United States passed the Genetic Information Non-discrimination Act (GINA)**, a federal law that protects people from genetic discrimination in health care and jobs.

Way Forward

- From a **legal standpoint**, there is a need to **develop more comprehensive privacy laws and regulations specifically tailored to genetic information**.
 - It may include stricter requirements for obtaining informed consent for genetic testing and data sharing, as well as penalties for unauthorized access or use of genetic information.
- Technologically, there may be **opportunities to enhance privacy protections through advancements in encryption**, secure storage, and data sharing protocols.
 - For example, homomorphic encryption techniques could be used to allow computation on encrypted genetic data without revealing the underlying information.
- From an Ethical perspective, it will be important to continue to engage in public dialogue and **education around the value and risks of genetic testing and data sharing**.
 - It may involve **efforts to promote transparency, openness, and accountability around how genetic data is collected, used, and shared**, as well as initiatives to promote equitable access to genetic testing and benefits.

UPSC Civil Services Examination, Previous Year Questions (PYQ)

Prelims

Q. Which of the following adopted a law on data protection and privacy for its citizens known as 'General Data Protection Regulation' in April, 2016 and started implementation of it from 25th May, 2018? (2019)

- (a) Australia
- (b) Canada
- (c) The European Union
- (d) The United States of America

Ans: (c)

Q. Right to Privacy is protected as an intrinsic part of Right to Life and Personal Liberty. Which of the following in the Constitution of India correctly and appropriately imply the above statement? (2018)

- (a) Article 14 and the provisions under the 42nd Amendment to the Constitution.
- (b) Article 17 and the Directive Principles of State Policy in Part IV.
- (c) Article 21 and the freedoms guaranteed in Part III.
- (d) Article 24 and the provisions under the 44th Amendment to the Constitution.

Ans: (c)

[Source: TH](#)

Corrupt Practices Under RPA Act 1951

Prelims: Supreme Court, Representation of People's Act 1951.

Mains: Corrupt Practices Under RPA Act 1951.

Why in News?

Recently, the [Supreme Court \(SC\)](#) has said that providing false information about electoral Candidates Qualification is not a **Corrupt Practice** under [RPA \(Representation of People's Act\) Act 1951](#).

- The SC observed that **no one in India votes for a candidate based on their educational qualifications.**

What is the Case all About?

- The SC was hearing a petition, challenging a **2017 Allahabad High Court ruling**, which held that **declaration of false information pertaining to education qualification does not interfere with the free exercise** of electoral rights of the electors.
- The petition said that the electoral candidate committed a "corrupt practice" under Section 123(2) by interfering in the free exercise of electoral rights of the voters by not **disclosing his liabilities and correct educational qualifications** in his affidavit of nomination.
 - It also argued that a "corrupt practice" under Section 123(4) was committed by the candidate **in publishing a false statement of fact about his character** and conduct to influence the outcome of his election, knowingly.
- The SC declared the Petition as "null and void", saying that providing false information about a candidate's qualifications cannot be considered a **"Corrupt Practice" under Sections 123 (2) and Section 123 (4) of the RPA, 1951.**

What are 'Corrupt Practices' under the RPA, 1951?

- **Section 123 of the Act:**
 - It defines 'corrupt practices' to include **bribery, undue influence, false information, and promotion or attempted promotion** of "feelings of enmity or hatred between different classes of the citizens of India on grounds of religion, race, caste, community, or language" by a candidate for the furtherance of his prospects in the election.
- **Section 123 (2):**
 - It deals with 'undue influence' which it defines as **"any direct or indirect interference or attempt to interfere on the part of the candidate** or his agent, or of any other person, with the consent of the candidate or his election agent, with the free exercise of any electoral right."
 - This could also include **threats of injury, social ostracism and expulsion** from any caste or community.
- **Section 123 (4):**
 - It extends the **ambit of "corrupt practices" to the intentional publication** of false statements which can prejudice the outcome of the candidate's election.
 - Under the provisions of the Act, an **elected representative can be disqualified if convicted of certain offences;** on grounds of corrupt practices; for failing to declare election expenses; and for interests in government contracts or works.

What Practices has the Court held as Corrupt Practices in the Past?

- **Abhiram Singh v C.D. Commachen Case:**
 - In 2017, the SC in '*Abhiram Singh v C.D. Commachen*' held that an election will be annulled if votes are sought in the name of a candidate's religion, race, caste, community, or language, as per **Section 123 (3)** which prohibits the same.
- **SR Bommai v. Union of India:**
 - In 1994, the Supreme Court's ruling in '*SR Bommai v. Union of India*', said that the **encroachment of religion into secular activities is strictly prohibited**, citing subsection (3) of Section 123 of the RPA Act, 1951.
- **S. Subramaniam Balaji vs State of Tamil Nadu:**
 - In 2022, the SC while reconsidering its 2013 judgment in '*S. Subramaniam Balaji vs State of Tamil Nadu*', it held that **promises of freebies cannot be termed a corrupt practice**.
 - However, the **matter is still yet to be decided**.

What is the Representation of the People Act 1951?

- **Provisions:**
 - It regulates the **conduct of elections**.
 - It specifies the **qualifications and disqualifications for membership** of the houses,
 - It provides provisions to curb corrupt practices and other offences.
 - It lays down **the procedure for settling doubts** and disputes arising out of elections.
- **Significance:**
 - The act is significant for the smooth functioning of the Indian democracy as it bars the entry of persons with criminal background into representative bodies, thus **decriminalizing Indian politics**.
 - The act requires every candidate to declare his assets and liabilities, and maintain an account of election expenses. This provision ensures the **accountability** and **transparency** of the candidate in the use of public funds or misuse of power for personal benefits.
 - It **prohibits corrupt practices** like booth capturing, bribery or promoting enmity etc., which ensures the **legitimacy** and **free & fair** conduct of elections which is essential for the success of any democratic setup.
 - The act provides that only those political parties which are registered under section 29A of the RPA Act, 1951 are eligible to receive **electoral bonds**, thus providing a mechanism to track the source of political funding and ensuring **transparency** in electoral funding.

UPSC Civil Services, Previous Year Questions (PYQ)

Prelims

Q.1 Consider the following statements: (2021)

1. In India, there is no law restricting the candidates from contesting in one Lok Sabha election from three constituencies.
2. In the 1991 Lok Sabha Election, Shri Devi Lal contested from three Lok Sabha constituencies.
3. As per the existing rules, if a candidate contests in one Lok Sabha election from many constituencies, his/her party should bear the cost of bye-elections to the constituencies vacated by him/her winning in all the constituencies.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) 1 and 3
- (d) 2 and 3

Ans:(b)

Exp:

- In 1996, the Representation of the People Act, 1951 was amended to restrict from 'three' to 'two' the number of seats one candidate could contest in Lok Sabha and Assembly elections. **Hence, statement 1 is not correct.**
- In 1991, Shri Devi Lal contested three Lok Sabha seats, Sikar, Rohtak and Ferozepur seats. **Hence, statement 2 is correct.**
- Whenever a candidate contests from more than one seat and wins more than one, the candidate has to retain only one, forcing bypolls in the rest. It results
- in an unavoidable financial burden on the public exchequer, government manpower and other resources for holding by-election against the resultant vacancy. **Hence, statement 3 is not correct.**
- **Therefore, option (b) is the correct answer.**

Mains

Q. Discuss the procedures to decide the disputes arising out of the election of a Member of the Parliament or State Legislature under The Representation of the People Act, 1951. What are the grounds on which the election of any returned candidate may be declared void? What remedy is available to the aggrieved party against the decision? Refer to the case laws. **(2022)**

[Source: IE](#)

Biodiversity Beyond National Jurisdiction

Prelims: UNCLOS, BBNJ, IUCN, Treaty of the High Seas.

Mains: BBNJ Treaty, Conservation.

Why in News?

India has urged the member nations to **stay dedicated to the conservation and preservation of the oceans and its biodiversity** during the ongoing session (Feb-March 2023) Of Intergovernmental Conference (IGC) i.e., **IGC-5** of [Biodiversity Beyond National Jurisdiction \(BBNJ\)](#).

- India supported the high ambition coalition for the **early conclusion** of the International **Legally Binding Instrument of BBNJ** under [United Nations Convention on the Law of the Sea \(UNCLOS\)](#).

What are the Key Developments?

- Several rounds of intergovernmental talks have been ongoing since 2014, with the **most recent one taking place in Feb-March 2023.**
- Despite significant progress on several major issues, negotiations are still ongoing, and **consensus not arrived at important issues like funding, intellectual property rights and institutional mechanisms.**

- **India's approach** to biodiversity management is congruent with three globally accepted principles: **conservation, sustainable usage, and equitable benefit** sharing.

What is the BBNJ Treaty?

- The "BBNJ Treaty", **also known as the "Treaty of the High Seas"**, is an international agreement on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction **within the framework of the UNCLOS**.
- BBNJ **encompasses the high seas, beyond the exclusive economic zones or national waters of countries**.
 - According to the [International Union for Conservation of Nature \(IUCN\)](#), these areas account for **"almost half of the Earth's surface"**.
 - These areas are **hardly regulated and also least understood or explored** for its biodiversity - only 1% of these areas are under protection.
- Launched at the [One Ocean Summit](#) in February 2022, the **High Ambition Coalition on Biodiversity Beyond National Jurisdiction** brings together many delegations engaged in the BBNJ negotiations on a common and ambitious outcome at the highest political level.
- The negotiations are **centered around a package of elements** agreed upon in 2015, namely:
 - the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, in particular, together and as a whole, marine genetic resources, including questions on the sharing of benefits
 - area-based management tools, including marine protected areas
 - environmental impact assessments
 - capacity-building and the transfer of marine technology

What is the Need of Legally Binding Instrument for BBNJ?

- Biodiversity in areas beyond national jurisdiction is **critical for the health of the ocean, the well-being of coastal people, and the overall sustainability of the planet**.
- **Areas beyond national jurisdiction comprise 95% of the ocean** and provide invaluable ecological, economic, social, cultural, scientific and food-security benefits to humanity.
 - However, these areas are now **vulnerable to growing threats**, including pollution, overexploitation, and the impacts already visible of climate change.
 - The **increasing demand for marine resources in the coming decades** - for food, minerals or biotechnology - threatens to exacerbate this problem.
- The **deep seafloors**, believed to be the harshest habitat, the **extinction process** is setting in there.
 - The 184 species (of Molluscs) assessed, 62% are listed as threatened: 39 are critically endangered, 32 are endangered and 43 are vulnerable. Yet, the International Seabed Authority, a Jamaica-based intergovernmental body, is allowing deep sea mining contracts.
- Biodiversity occurring in areas beyond national jurisdiction remains **a vital resource from the global seas**, with more than **60% of it still to be managed** and regulated with a legal frame work aimed at conservation.

Conclusion

- Adoption of **Legally binding instrument of BBNJ** will signal the international community's strong commitment to the conservation and sustainable use of marine biodiversity in the areas beyond national jurisdiction, and will provide a clear mandate for the implementation of the agreement.

UPSC Civil Services Examination, Previous Year Question (PYQ)

Q.1 With reference to the United Nations Convention on the Law of Sea, consider the following statements: (2022)

1. A coastal state has the right to establish the breadth of its territorial sea up to a limit not exceeding 12 nautical miles, measured from baseline determined in accordance with the convention.

2. Ships of all states, whether coastal or land-locked, enjoy the right of innocent passage through the territorial sea.
3. The Exclusive Economic Zone shall not extend beyond 200 nautical miles from the baseline from which the breadth of the territorial sea is measured.

Which of the statements given above are correct?

- (a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

Ans: (d)

Exp:

- All statements are correct. Under limits of the territorial sea every State has the right to establish the breadth of its territorial sea up to a limit not exceeding 12 nautical miles, measured from baselines determined in accordance with this Convention. **Hence, statement 1 is correct.**
- Under INNOCENT PASSAGE IN THE TERRITORIAL SEA, Subject to this Convention, ships of all States, whether coastal or land-locked, enjoy the right of innocent passage through the territorial sea. **Hence, statement 2 is correct.**
- The exclusive economic zone is an area beyond and adjacent to the territorial sea, subject to the specific legal regime established in this Part, under which the rights and jurisdiction of the coastal State and the rights and freedoms of other States are governed by the relevant provisions of this Convention. Under this the exclusive economic zone shall not extend beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured. **Hence, statement 3 is correct.**

[Source:PIB](#)

India to Contribute 15% of Global Growth in 2023: IMF

For Prelims: International Monetary Fund, Gross domestic product, Russia- Ukraine War, World Inequality Report 2022, Special economic zones.

For Mains: Factors Responsible for India's Economic Rise, Roadblocks in Achieving Sustainable Economic Growth.

Why in News?

According to the [International Monetary Fund \(IMF\)](#), India will alone contribute **15% of the global growth in 2023** and continues to remain a relative "**bright spot**" in the world economy.

Which Factors are Most Responsible for India's Economic Rise?

- **Growth Prospects:** India remains a bright spot at a time when the IMF is projecting 2023 to be difficult with **global growth** slowing down from **3.4% in 2022 to 2.9% in 2023**.

- For FY 2023/24 (April 2023 to March 2024) India's growth rate is projected at 6.1% a bit slow like the rest of the world economy, but **way above the global average**.
 - And in that way, India is providing about **15% of global growth in 2023**.
- **Digitalisation:** According to the IMF, India has turned **digitalisation** into a driver of **overcoming the pandemic** and creating job opportunities, while the **country's fiscal policy has been responsive to economic conditions**.
- **Investment in Green Economy:** The **country's fiscal responsibility** has been translated into a medium-term framework, with a **strong anchor to public finances**.
 - **Also**, India is **investing in the green economy**, including **renewables with potential to shift the country towards clean energy**.
- **Capital Spending:** The capital spending has increased, which would amount to **3.3% of gross domestic product**, and will be the biggest such jump after an increase of more than **37% between 2020-21 and 2021-22**.
- **Demographic Dividend:** India does have a young population. **15 million people are added to the labour force every year**. Strong investment climate that **generates jobs is a great advantage for India**. Women can be a fabulous driver for India's growth.

What are the Roadblocks in Achieving Sustainable Economic Growth?

- **Contemporary Geopolitical Issues:** Emerging markets (including India) bear the brunt of the geopolitical risk in more ways than one including **supply chain constraints** widening the gap between demand and supply.
 - For instance, the **Russia- Ukraine War** has resulted in **global food shortages**.
- **Jobless Growth in Recent Past:** According to **CMIE (Centre for Monitoring Indian Economy)**, the unemployment rate in India is around **8% (December 2022)**. This is because **job growth has not kept pace with GDP growth**.
 - Only **40% of the labour force that is capable of working** is actually working or looking for work, in which women have a lower participation rate.
- **Widening Rich-Poor Gap:** As per the **'World Inequality Report 2022'**, **top 10% of India's population hold 57% of the total national income** while the bottom **50% share has gone down to 13%**.
 - India's inequality is driven by **limited upward mobility due to unequal opportunity**.
- **Widening Trade Deficit:** India's export trend has declined, with India's trade deficit reaching a **record 31 billion dollars in July 2022** due to recessionary trends in developed economies (like the US) and higher commodity prices.
 - The **capital outflows and the rising current account deficit** is putting pressure on the Indian rupee.

How India can Ensure Sustainable Economic Growth?

- **Setting up Economic Development Goals:** India's performance depends not only on how well it addresses the challenges of today but **also in its preparedness for future challenges**.
 - India needs to **ensure that its policy choices are robust and forward looking with modern technological solutions**. For this, an effective strategy for India needs to be based on a **transparent articulation of the country's economic development goals**.
 - These goals should outline an ambition that is **bold, energising, and reflective of the aspirations of the country**.
- **Manufacturing in India, for India and World:** There is a need to strengthen the **Make in India** initiative with special emphasis on the **'zero defect zero effect'**.
 - There is also a need for **reform in the banking sector** that can help boost small-scale manufacturing instead of only large-scale.
- **Unlocking the Potential of Indian Women:** Closing the **gender gap in education** and financial and digital inclusion of women and **breaking down the glass ceiling should be the priorities**.
- **Strengthening Special Economic Zones:** More **special economic zones** are needed to enhance foreign investment, increase exports, and support regional development.
 - **Baba Kalyani Committee on SEZs** has recommended that MSME investments in SEZs be promoted by **linking them to MSME schemes and allowing sector-specific SEZs**.

Social

Economic growth that is matched by social progress

Solid

Economic performance that is resilient in facing shocks

Sustainable

Economic activities that are carbon neutral and aligned with environmental sustainability

Shared

Economic opportunities that are shared across Indian society

Prosperity

UPSC Civil Services Examination, Previous Year Question (PYQ)

Prelims

Q.1 With reference to the Indian economy after the 1991 economic liberalisation, consider the following statements: (2020)

1. Worker productivity (Rs. per worker at 2004-05 prices) increased in urban areas while it decreased in rural areas.
2. The percentage share of rural areas in the workforce steadily increased.
3. In rural areas, the growth in the non-farm economy increased.
4. The growth rate in rural employment decreased.

Which of the statements given above is/are correct?

- (a) 1 and 2 only
- (b) 3 and 4 only
- (c) 3 only
- (d) 1, 2 and 4 only

Ans: (b)

Mains

Q. Do you agree that the Indian economy has recently experienced V-shaped recovery? Give reasons in support of your answer. **(2021)**

Source: IE

Keeladi Findings

For Prelims: Findings of Keeladi, Sangam era.

Why in News?

Recently, the [Archaeological Survey of India \(ASI\)](#) has submitted a detailed **report on the findings during the first two phases** of the digging at the [Sangam-era site](#) and their significance.

- Also, the **Keeladi Site Museum** is coming up in Sivaganga that would house significant ones of the **over 18,000 artefacts unearthed so far**.

What are the Keypoints about Keeladi?

- Keeladi is a tiny hamlet in the **Sivaganga district in south Tamil Nadu**. It is about **12 km south-east to the temple city of Madurai** and is located along the Vaigai river.
- The excavations here from 2015 prove that an **urban civilization existed in Tamil Nadu** in the **Sangam age** on the banks of the Vaigai river.

What are the Key Findings?

- In the **eight rounds of excavations**, including the **first three by the ASI**, over **18,000 artefacts** have been unearthed from the site and the unique artefacts will be on display at the museum to be opened soon.
- Unearthing of heaps of pottery suggest the **existence of a pottery making industry**, mostly made of locally available raw materials. Over **120 potsherds containing Tamil Brahmi inscriptions** have been found.
 - Over a thousand inscribed potsherds, found at Keeladi and other sites **clearly suggest the long survival of the script**.
- Spindle whorls, copper needles, terracotta seal, hanging stones of the yarn, terracotta spheres and earthen vessels to hold liquid **suggest various stages of a weaving industry**. There also existed a **dyeing industry and a glass bead industry**.
- Gold ornaments, copper articles, semi-precious stones, shell bangles, ivory bangles and ivory combs **reflect the artistic, culturally rich and prosperous lifestyle** of the Keeladi people.
- Agate and carnelian beads **suggest import through commercial networks** while terracotta and ivory dice, **gamesmen and evidence of hopscotch have been unearthed revealing their pastime hobbies**.

What is the Significance of the Findings?

- **Linkages with Sangam Age:**
 - The Sangam age is a period of history in ancient Tamil Nadu which was believed to be from the **3rd century BCE to the 3rd century CE** and derives its name from the renowned [Sangam assemblies](#) of the poets of Madurai from that time.
 - A recent **ASI report has pushed the Sangam age to 800 BCE** based on these archaeological findings.
 - Keeladi could also provide crucial evidence for **understanding the missing links of the Iron Age (12th century BCE to sixth century BCE) to the Early Historic Period (sixth century BCE to fourth century BCE)** and subsequent cultural developments.
- **Potential Linkages with Indus Valley:**
 - The unearthed Keeladi artefacts have led academics to describe the site as part of the **Vaigai Valley Civilization**. The findings have also invited **comparisons with the [Indus Valley Civilization](#)** while acknowledging the cultural gap of 1,000 years between the two places.
 - The **gap is filled with Iron Age material in south India**, which serve as residual links.
 - According to Tamil Nadu State Archaeology Department (TNSDA) Keeladi has all the

characteristics of an urban civilization, with brick structures, luxury items and proof of internal and external trade.

- It comes across as an **industrious and advanced civilization** and has given evidence of urban life and settlements in Tamil Nadu **during the Early Historic Period.**

What was the Controversy Surrounding Keeladi?

- After reports of possible links with the Indus Valley Civilization, there was **“no significant finding” in the third round**, which was **seen as an attempt to play down the excavation findings.**
- On the intervention of the Madras High Court, the **TNSDA has been carrying out excavations since 4th round** instead of ASI to unearth more about the history of Tamil civilization.

Sangam Age

- The word ‘Sangam’ is the Tamil form of the Sanskrit word **Sangha** which means a group of persons or an association.
- The Tamil Sangam was an **academy of poets** who flourished in three different periods and in different places under the patronage of the **Pandyan kings.**
- The **Sangam literature** which was largely consolidated from the **third Sangam**, throws information on conditions of life of people around the beginning of the Christian era.
 - It deals with the **secular matter** relating to the public and social activities like government, war, charity, trade, worship, agriculture, etc.
 - Sangam literature consists of the earliest Tamil works (such as the **Tolkappiyam**), the ten poems (**Pattupattu**), the eight anthologies (Ettutogai) and the eighteen minor works (**Padinenkilkanakku**), and the three epics.

Tamil-Brahmi Script

- The Brahmi script was the earliest script that the Tamils used.
- In the late ancient and early medieval period, they started evolving a new angular script, called the **Grantha script**, from which the modern Tamil is derived.

Vaigai River

- It is an **east-flowing river.**
- The Vaigai river basin is an important basin among the 12 basins lying between the **Cauvery and Kanyakumari.**
- This basin is bounded by the **Cardamom Hills and the Palani Hills** on the West and by **the Palk Strait and Palk Bay** on the East.

UPSC Civil Services Examination, Previous Year Questions (PYQ)

Q. Though not very useful from the point of view of a connected political history of South India, the Sangam literature portrays the social and economic conditions of its time with remarkable vividness. Comment. **(2013)**

Source:TH

Sagar Parikrama

For Prelims: Sagar Parikrama, Pradhan Mantri Matsya Sampada Yojana, Palk Bay Scheme, Fisheries and Aquaculture Infrastructure Development Fund (FIDF).

For Mains: Status of the Fisheries Sector in India, Challenges Related to India's Fishery Sector.

Why in News?

The [Sagar Parikrama Phase III](#), a program by the **Department of Fisheries, Ministry of Fisheries, Animal Husbandry and Dairying and National Fisheries Development Board**, was started on **19th Feb 2023** from Surat, Gujarat.

What are the Major Highlights of the Program?

- The main objectives of the program are to **disseminate information about various fisheries related schemes and programs**, promoting **responsible fisheries** with a focus on sustainable balance, and protection of marine ecosystems.
- The Phase-I of the program started in **March 2022 from Mandvi and ended on 6th March 2022 at Porbandar, Gujarat.**
- [Kisan Credit Card \(KCC\)](#) cards were distributed to fishers and fish farmers.
- It was also declared that the **Satpati Fish Market** would be inaugurated according to the **state-of-the-art standards.**

What is Sagar Parikrama?

- **About:**
 - It is a **navigation journey** to be conducted in all **coastal states/UTs** through a pre-decided sea route to demonstrate solidarity with all **fisherfolk, fish farmers** and concerned stakeholders.
- **Significance:**
 - It will focus on **sustainable balance between the utilisation of marine fisheries** resources for [food security](#) of the nation and livelihoods of coastal fisher communities and protection of marine ecosystems.

What is the Status of the Fisheries Sector in India?

- **About:**
 - India is the **second major producer of fish** through aquaculture in the world.
 - India is the **4th largest exporter of fish in the world** as it contributes 7.7% to the global fish production.
 - **Also, India ranks 1st** in inland capture fish production and **3rd in overall fish production** in the world.
 - Currently, this sector provides livelihood to more than **2.8 crore people within the country.**
- **Initiatives related to Fisheries Sector:**
 - [Pradhan Mantri Matsya Sampada Yojana](#)
 - [Palk Bay Scheme](#)
 - [Fisheries and Aquaculture Infrastructure Development Fund \(FIDF\)](#)
- **Challenges Related to India's Fishery Sector:**
 - **Illegal, Unreported, and Unregulated (IUU) Fishing:** [IUU fishing](#) is a significant problem in India's fishery sector, and it often goes undetected.

- IUU fishing can lead to a **decline in fish stocks**, and it also puts legitimate fishers at a disadvantage.
- **Lack of Infrastructure:** The fishery sector in India lacks adequate infrastructure, such as **cold storage, processing facilities, and transportation**, which results in post-harvest losses and limits access to higher-value markets.
- **Limited Access to Credit:** Small-scale fishers in India often struggle to access credit, which hinders their ability to invest in their businesses and improve their **livelihoods**.
- **Climate Change:** Climate change is impacting India's fishery sector, causing changes in fish distribution and affecting **fish reproduction rates**.
- It also leads to increased risks of natural disasters, such as **cyclones and flooding**, which can destroy fishing boats and infrastructure.

Way Forward

- **Promoting Sustainable Fishing Practices:** The government can encourage sustainable fishing practices such as promoting responsible fishing techniques and setting quotas and restrictions to prevent overfishing. This will ensure the **longevity of fish stocks** and protect the livelihoods of fishers.
- **Strengthening IUU Fishing Regulations:** The government should strengthen regulations to combat **illegal, unreported, and unregulated fishing**. This can include measures such as satellite monitoring of fishing boats and penalties for violators.
- **Developing Infrastructure:** Investment in infrastructure such as cold storage facilities, processing plants, and transportation will improve the quality of fish products and reduce **post-harvest losses**.

UPSC Civil Services Examination Previous Year Question (PYQ)

Prelims

Q. Under the Kisan Credit Card scheme, short-term credit support is given to farmers for which of the following purposes? (2020)

1. Working capital for maintenance of farm assets
2. Purchase of combine harvesters, tractors and mini trucks
3. Consumption requirements of farm households
4. Post-harvest expenses
5. Construction of family house and setting up of village cold storage facility

Select the correct answer using the code given below:

- (a) 1, 2 and 5 only
 (b) 1, 3 and 4 only
 (c) 2, 3, 4 and 5 only
 (d) 1, 2, 3, 4 and 5

Ans: (b)

Mains

Q. Defining blue revolution, explain the problems and strategies for pisciculture development in India. (2018)

Source: PIB

Electron's Magnetic Moment with Precision

Why in News?

Recently, physicists have made a **groundbreaking achievement in metrology** by measuring the **electron's magnetic moment** with record-breaking precision. It is significant because it provides the **most precise test so far of the Standard Model of particle physics**.

- The measurement was reported to be **0.13 parts per trillion (ppt), which is 2.2 times more accurate than the previous best record** from 14 years ago.

What is the Standard Model?

- The **Standard Model (SM) is a theory that describes the properties of subatomic particles**, classifies them into groups, and determines how they are affected by three of the four fundamental forces: **strong-nuclear, weak-nuclear, and electromagnetic**.
 - But it can't explain gravity.
- The **SM predicted the existence of the Higgs boson**, which was discovered in 2012, and has **successfully predicted the properties of many particles**, making it one of the most successful theories in physics.
 - The **Higgs boson is an elementary particle, which means that it cannot be broken down into smaller components**. It has no electric charge, spin, or other intrinsic properties, but it does have mass.
 - The mass of the Higgs boson is around 125 billion electron volts, or about 133 times the mass of a proton.
- Despite its successes, the **SM is unable to explain certain phenomena, such as the excess of matter** over antimatter in the universe, dark matter, and dark energy.
- Further research in this field could help us understand more about the fundamental nature of the **universe and how it operates**.

What is Dark Matter and Dark Energy?

- The content of the Universe is widely thought to consist of three types of substance: **normal matter, dark matter and dark energy**.
 - In the currently popular 'concordance model' of the Universe, **70% of the cosmos is thought to be dark energy**, 25% dark matter and 5% normal matter.
- **Normal matter** consists of the atoms that make up **stars, planets, human beings and every other visible object in the Universe**.
- **Dark matter makes up most of the mass of galaxies and galaxy clusters**, and is responsible for the way galaxies are organized on grand scales.
- Dark energy, meanwhile, is the **name we give the mysterious influence** driving the accelerated expansion of the universe.

What is Electron's Magnetic Moment?

- This magnetic moment is a fundamental property of the electron and is related to the **electron's charge and its intrinsic spin**.
- The magnetic moment of an electron is an important physical property that is used to explain many phenomena in atomic and molecular physics, such as the **behaviour of electrons in magnetic fields and the magnetic properties of materials**.

UPSC Civil Services Examination, Previous Year Questions (PYQ)

Q1. The terms 'Event Horizon', 'Singularity', 'String Theory' and 'Standard Model' are sometimes seen in the news in the context of (2017)

- (a) Observation and understanding of the Universe
- (b) Study of the solar and the lunar eclipses
- (c) Placing satellites in the orbit of the Earth
- (d) Origin and evolution of living organisms on the Earth

Ans: (a)

Q2. The efforts to detect the existence of Higgs boson particle have become frequent news in the recent past. What is/are the importance/importances of discovering this particle? (2013)

1. It will enable us to understand as to why elementary particles have mass.
2. It will enable us in the near future to develop the technology of transferring matter from one point to another without traversing the physical space between them.
3. It will enable us to create better fuels for nuclear fission.

Select the correct answer using the codes given below:

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Ans: (a)

Q3. Recently, scientists observed the merger of giant 'blackholes' billions of light-years away from the Earth. What is the significance of this observation? (2019)

- (a) 'Higgs boson particles' were detected.
- (b) 'Gravitational waves' were detected.
- (c) Possibility of inter-galactic space travel through 'wormhole' was confirmed.
- (d) It enabled the scientists to understand 'singularity'.

Ans: (b)

[Source: TH](#)

Rapid Fire Current Affairs

Anopheles Stephensi: Deadly Malaria Species

A deadly **malaria vector from Asia has been detected in Kenya**. Kenya is **now the sixth and latest country in Africa to report an invasion of the deadly malaria species**.

Anopheles Stephensi **originated in Southeast Asia, West Asia and the Arabian Peninsula. The species has been expanding its geographic range over the last decade**, with detections in Africa first reported in Djibouti (2012), Ethiopia and Sudan (2016), Somalia (2019), and Nigeria (2020). It **also poses a significant threat** because, unlike other main malaria-causing mosquito vectors that

primarily **breed in rural areas**, **Anopheles Stephensi** is highly adaptive and can thrive in urban environments.

Malaria is a life-threatening mosquito borne **blood disease caused by plasmodium parasites**. It is predominantly **found in the tropical and subtropical areas of Africa, South America as well as Asia**. It is preventable as well as curable.

In India, **malaria elimination efforts were initiated in 2015** and were intensified **after the launch of the National Framework for Malaria Elimination (NFME) in 2016** by the Ministry of Health and Family Welfare.

Read More: [Initiatives to Curb Malaria](#)

Kanak Rele



Recently, the Classical dance legend **Kanak Rele and the Mohiniyattam** (classical dance form from the state of Kerala) exponent, who **was awarded the first Guru Gopinath National Puraskaram of the Government of Kerala passed away**.

In 1973, Dr. Rele **established the Nalanda Nritya Kala Mahavidyalaya and Nalanda Dance Research Centre** offering undergraduate, post-graduate and Ph.D degrees affiliated to the Bombay University. In 1977, she earned her Ph.D in dance, **the first in India**. Her doctoral thesis was titled, **'Mohini Attam: All aspects and Spheres of Influence'**. She was **awarded with various awards like Padma Shri (1989), Sangeet Natak Akademi Award (1994), M. S. Subbulakshmi Award, Kalidas Samman (2006)**. Later in 2013, **she was conferred the Padma Bhushan**.

Read More: [Indian Classical Dances](#)

26th Meeting of WMCC

WHY LAC OFTEN FLARES UP

23 “disputed and sensitive” areas along the unresolved 3,488-km-long LAC witness aggressive patrolling & face-offs between troops from the two sides

FLASHPOINTS INCLUDE:



For the first time since the **India-China border stand-off began in 2020**, India visited Beijing for the 26th meeting of the **Working Mechanism for Consultation & Coordination on India-China Border Affairs (WMCC)**. This was the **first in-person WMCC meeting since the 14th meeting held in July 2019**.

The WMCC **was established in 2012 as an institutional mechanism for consultation and coordination for management of India - China border areas**, as well as to exchange views on strengthening communication and cooperation, **including between the border security personnel of the two sides**.

The two **sides reviewed the situation along the Line of Actual Control (LAC) in the Western Sector of India-China border areas and discussed proposals for disengagement in the remaining areas** in an open and constructive manner, which **would help in restoration of peace and tranquillity along the LAC in Western Sector and create conditions for restoration of normalcy in bilateral relations**.

Read More: [India-China Relations](#)

Minimum age for Admission

The Union ministry of education **has directed all states and Union territories to fix the minimum age for admission in Class 1 as six years** in line with the **National Education Policy (NEP) 2020**.

The foundational stage, according to NEP-2020, **consists of five years of learning opportunities for all children** (between 3 to 8 years) that **includes three years of preschool education followed by Classes 1 and 2**. NEP 2020 **promotes seamless learning and development of children from pre-school to class 2**.

It has also **advised states to initiate the process of designing and running a two-year diploma in preschool education (DPSE) course** in their respective jurisdiction. The course is expected to **be designed by the State Council of Educational Research and Training (SCERT)** and run or implemented **through District Institute of Education and Training (DIETs) under supervision and hold of SCERTs**.

Read More: [National Education Policy 2020](#)

