Finger Minutiae Record - Finger Image Record (FMR-FIR) Modality

For Prelims: [Aadhaar-enabled Payment System (AePS)](#), Aadhar Lock, Silicone thumbs

For Mains: Vulnerabilities associated with the AePS, Challenges of using biometric authentication in financial transactions, Role of financial literacy and digital skills in preventing AePS frauds

[Source: IE](#)

Why in News?

Recently, the **[Unique Identification Authority of India (UIDAI)](#)** has rolled out an in-house **[Artificial Intelligence/Machine Learning (AI/ML)](#)** technology-based **Finger Minutiae Record – Finger Image Record (FMR-FIR) modality.**

- This technology, specifically designed to enhance **[Aadhaar-enabled Payment System (AePS)](#) transactions,** aims to tackle **fraudulent activities,** including the misuse of cloned fingerprints.

What is Finger Minutiae Record - Finger Image Record (FMR-FIR) Modality?

- **About:**
  - The **FMR-FIR modality** is an **advanced AI/ML-based technology** developed by the UIDAI to bolster security measures within the **Aadhaar-enabled Payment System (AePS).**
- **Key Features and Functionality:**
  - **Hybrid Authentication:**
    - FMR-FIR combines the analysis of two distinct components – **finger minutiae** and **finger image** – to establish the **authenticity of fingerprint biometrics during Aadhaar authentication.**
  - **Liveness Detection:**
    - The modality's primary function **lies in assessing the liveness of the captured fingerprint.**
    - It can differentiate between a **genuine, "live" finger and a cloned or fake fingerprint,** thereby preventing spoofing attempts.
  - **Real-time Verification:**
    - FMR-FIR operates in real-time, providing instant verification results during the authentication process.
  - **Robust Fraud Prevention:**
    - By detecting and deterring the use of cloned fingerprints, the technology significantly reduces the risk of AePS frauds.
- **Rationale and Implementation:**
  - **Addressing Emerging Threats:** The emergence of fraudulent activities involving cloned fingerprints necessitated the development of a sophisticated solution to safeguard AePS transactions.
    - Payment-related frauds have surged in India, with **over 700,000 reported in FY21.**

- The figures dramatically **escalated to nearly 20 million in FY23**, according to data from supervised entities of the **Reserve Bank of India (RBI)**.
- While many cases go unreported due to limited awareness about cyber frauds, instances of financial frauds remain significant.
  - **Silicone-based Fraud:** Instances of unauthorized money transfers through **fake fingerprints created using silicone** prompted the need for a more secure and technologically advanced approach.
  - **Integration of AI/ML:** The integration of **artificial intelligence** and **machine learning technologies** enhances the accuracy and effectiveness of fingerprint authentication.
- **Advantages and Implications:**
  - UIDAI's FMR-FIR technology bolsters security, mitigates vulnerabilities, boosts transaction confidence, and exemplifies technological innovation for societal welfare.

What is the Unique Identification Authority of India?

- **Statutory Authority:** The UIDAI is a **statutory authority established** on 12th July 2016 by the Government of India under the jurisdiction of the Ministry of Electronics and Information Technology, following the provisions of the **Aadhaar Act 2016.**
  - The UIDAI was **initially set up by the Government of India in January 2009,** as an attached office under the aegis of the **Planning Commission**.
- **Mandate:** The UIDAI is **mandated to assign a 12-digit unique identification (UID)** number (Aadhaar) to all the residents of India.
  - As of 31st October 2021, **UIDAI had issued 131.68 crore Aadhaar numbers.**

What is AePS?

- The AePS is a bank-led model that allows **online interoperable financial transactions at Point of Sale (PoS) or micro-ATMs** through the **Business Correspondent (BC)** of any bank using the **Aadhaar authentication.**
- It was taken up by the **National Payments Corporation of India (NPCI)** - a joint initiative of the **Reserve Bank of India (RBI)** and the **Indian Banks' Association (IBA).**
- The AePS is meant to provide **easy and secure access to banking services** for the poor and marginalized sections of society, especially in rural and remote areas.
- It **eliminates the need for OTPs, bank account details,** and other financial information.
- Transactions can be carried out with only the **bank name, Aadhaar number, and captured fingerprint during Aadhaar enrollment.**

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Prelims

Q1. In India, under cyber insurance for individuals, which of the following benefits are generally covered, in addition to payment for the loss of funds and other benefits? (2020)

1. Cost of restoration of the computer system in case of malware disrupting access to one's computer
2. Cost of a new computer if some miscreant wilfully damages it, if proved so
3. Cost of hiring a specialised consultant to minimise the loss in case of cyber extortion
4. Cost of defence in the Court of Law if any third party files a suit

Select the correct answer using the code given below:

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

Ans: (b)

Q2. In India, it is legally mandatory for which of the following to report on cyber security incidents? (2017)

1. Service providers
2. Data centres
3. Body corporate

Select the correct answer using the code given below:

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

Ans: (d)

Q3. Consider the following statements: (2018)

1. Aadhaar card can be used as a proof of citizenship or domicile.
2. Once issued, Aadhaar number cannot be deactivated or omitted by the Issuing Authority.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Ans: (d)

Mains

Q. What are the different elements of cyber security ? Keeping in view the challenges in cyber security, examine the extent to which India has successfully developed a comprehensive National Cyber Security Strategy. **(2022)**

Sub-Categorisation of OBCs

For Prelims: Commission for the sub-categorisation of Other Backward Classes (OBC), Mandal Commission, 102nd Constitution Amendment Act.

For Mains: Historical Evolution of the OBC Reservation Status in India, Need for Sub-categorisation of OBCs.

Source: IE

Why in News?

The **Justice G. Rohini-headed Commission for the sub-categorisation of Other Backward Classes (OBC)** caste groups submitted its long-awaited report to the Ministry of Social Justice and Empowerment after nearly six years of work.

- The **details of the recommendations have not been made public yet**, and the government is expected to deliberate on the report before any implementation.

What are the Terms of Reference of the Rohini Commission?

- **About:**
  - The commission was set up on **2ⁿᵈ October, 2017** under **Article 340 of the Constitution (President's power to appoint a Commission** to investigate the conditions **of the backward classes).**
- **Terms of Reference:**
  - Examine the inequitable distribution of benefits among OBCs listed in the Central List.
  - Propose a scientific approach and parameters for sub-categorisation within OBCs.
  - Identify and classify the respective castes or communities into their respective sub-categories.
  - Study the entries in the Central List of OBCs and recommend corrections for repetitions, ambiguities, inconsistencies, and errors in spelling or transcription.

What is the Need for Sub-categorisation of OBCs?

- **OBCs get 27% reservation** in central government jobs and educational institutions, but it is perceived that only a **few dominant caste groups among them benefit from this quota.**
- In 2018, the **commission analyzed the data of 1.3 lakh central government jobs and OBC admissions** to central higher education institutions over the preceding years, **revealing that 97% of benefits went to 25% of OBC castes.**
- **Around 983 OBC communities (37% of the total) had zero representation in jobs and educational institutions,** highlighting the need for sub-categorisation.
- Sub-categorisation aims to **create quotas within the 27% reservation to provide more opportunities for historically underrepresented** and **crowded-out OBC communities.**

What is the Historical Evolution of the OBC Reservation Status in India?

- The journey began with the establishment of the **Kalelkar Commission in 1953**, which marked the **first instance of recognizing backward classes beyond the Scheduled Castes (SCs) and Scheduled Tribes (STs)** on a national level.
- In **1980**, the **Mandal Commission Report** estimated that the **OBC population constituted 52% and identified 1,257 communities as backward.**
  - To address the inequity, it **suggested an increase in the existing quotas** (which were previously applicable only to SC/ST) **from 22.5% to 49.5%, extending the reservation to include OBCs.**
  - Following these recommendations, the **central government implemented the reservation policy, reserving 27% of seats in union civil posts and services for OBCs** under **Article 16(4).**
    - This policy was also enforced in central government educational institutions under **Article 15(4).**
- In 2008, the Supreme Court intervened and directed the central government to **exclude the "creamy layer" (advanced sections) among the OBCs** from benefiting from the reservation policy, ensuring that it reaches the most disadvantaged.
- In 2018, **102ⁿᵈ Constitution Amendment Act** granted **constitutional status to the National Commission for Backward Classes (NCBC).**
  - This elevated the **NCBC from its previous status as a statutory body under the Ministry of Social Justice and Empowerment,** giving it more authority and recognition in safeguarding the interests of backward classes, including the OBCs.

UPSC Civil Services Examination, Previous Year Question:

Offshore Areas Mineral (Development and Regulation) Amendment Bill, 2023

For Prelims: Offshore Mining Sector, MMDR (Mines and Minerals Development and Regulation) Act, Exclusive Economic Zone.

For Mains: Offshore Areas Mineral (Development and Regulation) Amendment Bill, 2023

Source: PIB

Why in News?

The Rajya Sabha recently passed the **Offshore Areas Mineral (Development and Regulation) Amendment Bill, 2023**, aiming to introduce crucial reforms in India's offshore mining sector.

- This amendment seeks to modify the existing **Offshore Areas Mineral (Development and Regulation) Act, 2002**, to enable the auction as the method of **allocating operating rights in offshore areas.**

What are the Key Features of the Amendment Bill?

- **Introduction of Auction Regime:**
    - Two types of operating rights, production lease, and composite licence, to be granted through auction by competitive bidding exclusively to the private sector.
    - **Operating rights to be granted to PSUs** in the mineral bearing areas reserved by the Central Government. PSUs will be **exclusively granted operating rights** for atomic minerals.
        - Atomic minerals include **mainly minerals containing uranium,** thorium, rare metals, viz. niobium, tantalum, lithium, beryllium, titanium, zirconium, and **Rare Earth Elements (REEs)** as well as beach sand minerals.
- **Fixed Period for Production Lease:**
    - The provision for renewal of production **leases has been removed.**

- The production lease period is set at **50 years, aligning with the [Mines and Minerals (Development and Regulation) Act, 1957 (MMDR Act) .](#)**
- **Area Acquisition Limit:**
  - A limit has been imposed on the **total area** one entity can acquire offshore.
  - The maximum **acquisition area is restricted to 45 minutes latitude by 45 minutes longitude** for any mineral or prescribed group of associated minerals under one or more operating rights.
- **Non-lapsable Offshore Areas Mineral Trust:**
  - To ensure funds for exploration, disaster relief, research, and benefits to affected parties, **a non-lapsable Offshore Areas Mineral Trust** will be established.
  - The trust will be funded by an additional levy on mineral production, not exceeding one third of the royalty, with the exact rate prescribed by the Central Government.
- **Ease of Business and Timelines:**
  - Provisions for easy transfer of composite licence or production lease.
  - Timelines for commencement of production and dispatch after execution of **production lease to ensure timely start of production.**
- **Revenues:**
  - Royalty, auction premium, and other revenues from mineral production in offshore areas will accrue to the Government of India.

What is the Need for Such an Amendment Bill?

- **Lack of Activity in Offshore Areas:**
  - Despite the enactment of the **Offshore Areas Mineral (Development and Regulation) Act, 2002,** there has been no mining activity in offshore areas.
  - This indicates a lack of interest or effective utilization of the vast maritime resources available to India.
  - The Amendment Bill seeks to **address the underlying issues and incentivize exploration** and mining in these offshore areas.
- **Discretion and Lack of Transparency:**
  - The current Act suffers from the problem of discretion and lacks transparency in the allocation of **operating rights for mining in offshore areas.**
  - The Amendment Bill aims to introduce a transparent auction mechanism to allocate operating rights, inspired by the successful amendments to the **MMDR Act for onshore areas.**
- **Harnessing Maritime Resources:**
  - India holds a unique **Maritime Position,** with an [**Exclusive Economic Zone (EEZ)** **covering over two million square kilometers**](#), rich in recoverable resources. Geological Survey of India (GSI) estimates **significant reserves of lime mud, construction-grade sand, heavy mineral placers, phosphorite, and polymetallic ferromanganese nodules** and crusts in various offshore areas.
  - However, the potential of these resources remains largely untapped. The Amendment Bill seeks to **harness the full potential of these maritime resources** to support India's high-growth economy by promoting exploration and mining through the participation of both the public and private sectors.

Conclusion

- By introducing auction as the method of allocation of operating rights, the Bill **aims to promote transparency,** attract private sector participation, and optimize India's maritime resources to support its economic growth ambitions.
- This reform aligns with **India's vision to harness its vast maritime resources** while ensuring sustainable and responsible mining practices.

Henrietta Lacks: HeLa Cells

Why in News?

Recently, the **Henrietta Lacks'** family settled a lawsuit against a biotech company accused of profiting from her cells without her consent, which revolutionized medicine.

Who was Henrietta Lacks and Why are Her Cells/HeLa Cells Important?

- Henrietta Lacks was an **African-American woman** who died of **cervical cancer** in 1951 at the age of 31.
- Without her knowledge or consent, doctors took a **sample of her tumour** and sent it to a lab, where it was discovered that **her cells could grow indefinitely in culture.**
- Her cells, known as **HeLa cells,** became the **first immortalized human cell line** and one of the **most widely used in biomedical research.**
- HeLa cells have contributed to many scientific breakthroughs, such as the development of the **polio vaccine**, **gene mapping**, **cancer treatment**, **Acquired Immuno Deficiency Syndrome (AIDS) research,** cloning, stem cell studies, and Covid-19 vaccines.
- The **World Health Organization (WHO)** awarded Henrietta Lacks **posthumously with a WHO Director-General's award** on October 13, 2021. The award acknowledges her story, which is one of **inequity, and recognizes her world-changing legacy to science and health.**
  - The WHO Director-General's Award is a prestigious recognition given by the WHO to **individuals or groups who have made outstanding contributions to advancing global health,** demonstrated leadership and commitment to regional health issues, and embodied lifelong dedication, relentless advocacy, and selfless service to humanity.

Cervical Cancer

- Cervical cancer is cancer that starts in the **cells of the cervix.** The cervix is the **lower, narrow end of the uterus (womb).**
  - The cervix connects the **uterus to the vagina (birth canal).**
- Cervical cancer usually develops slowly over time. Before cancer appears in the cervix, the **cells of the cervix go through changes known as dysplasia**, in which **abnormal cells begin to appear in the cervical tissue.** Over time, if not destroyed or removed, the **abnormal cells may become cancer cells** and start to grow and spread more deeply into the cervix and to surrounding areas.
- Almost all **cervical cancer cases (99%) are linked to infection with high-risk Human papillomavirus (HPV),** an extremely common virus transmitted through sexual contact.

Forest Cover in India: Progress and Initiatives

Why in News?

Recently, the **Union Ministry of Environment, Forest and Climate Change** provided valuable insights into the **various initiatives to boost forest cover in India** during a written reply in the Lok Sabha.

What are the Major Forest Conservation Initiatives in India?

- **About Forest Cover in India:**
  - The **Forest Survey of India (FSI), Dehradun** has been conducting **biennial (once every two years)** assessments of **forest cover since 1987,** and the findings are published in the **[India State of Forest Report (ISFR).](#)**
  - As per the latest assessment in **ISFR 2021,** India's total forest and tree cover stands at **8,09,537 square kilometers, which accounts for 24.62%** of the country's geographical area.
  - Notably, this represents an **increase of 2261 square kilometers compared to the ISFR 2019 assessment,** indicating positive strides in forest conservation efforts.
- **Government Initiatives to Boost Forest Cover:**
  - **[Green India Mission (GIM):](#)** Started in the Financial Year 2015-16, GIM focuses on afforestation activities.
    - Over the last five years, **Rs. 755.28 Crores** has been released to seventeen States and one union territory to support afforestation efforts.
  - **[National Afforestation Programme:](#)** Implemented for regeneration of degraded forests and adjoining areas.
    - **The National Afforestation Programme is now merged with Green India Mission.**
  - **[Nagar Van Yojana (NVY):](#)** Launched in 2020, NVY aims to create **600 Nagar Vans and 400 Nagar Vatika in urban and peri-urban areas** by 2024-25.
    - The initiative intends to enhance the **green cover, preserve biological diversity, and improve the quality of life** for urban dwellers.
  - **[Compensatory Afforestation Fund (CAMPA):](#)** Utilized by States/UTs for compensatory afforestation to offset forest land diversion for developmental projects.
    - **90% of the CAF money is to be given to the states** while 10% is to be retained by the Centre..
  - **Multi-Departmental Efforts:** Apart from the central initiatives, afforestation activities are taken up under various programs and schemes of line Ministries, State Governments/UT Administrations, Non-Government Organizations, Civil Society, and Corporate bodies.
    - Some notable efforts include participation in the **[Mahatma Gandhi National Rural Employment Guarantee Scheme](#)**, **[National Bamboo Mission](#)**, **and [Sub-Mission on Agroforestry.](#)**
  - **Draft National Forest Policy:** The policy focuses on **integrating climate change mitigation and adaptation measures into forest management practices.** It emphasizes building resilience to climate change, particularly among forest-dependent communities.

UPSC Civil Services Examination, Previous Year Question (PYQ)

Prelims

Q1. At the national level, which ministry is the nodal agency to ensure effective implementation of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006? (2021)

(a) Ministry of Environment, Forest and Climate Change
(b) Ministry of Panchayati Raj
(c) Ministry of Rural Development
(d) Ministry of Tribal Affairs

Ans: (d)

Q2. A particular State in India has the following characteristics: (2012)

1. It is located on the same latitude which passes through northern Rajasthan.
2. It has over 80% of its area under forest cover.
3. Over 12% of forest cover constitutes the Protected Area Network in this State.

Which one among the following States has all the above characteristics?

City Investments to Innovate, Integrate and Sustain 2.0

Source: PIB

Why in News?

Recently, the Government has approved the **'City Investments to Innovate, Integrate and Sustain 2.0 (CITIIS 2.0)'.**

What is CITIIS 2.0?

- **About:**
    - It is a part of the **Smart Cities Mission** and aims to promote integrated waste management and climate-oriented reform actions.
        - CITIIS will **consider Smart City Projects in the following four themes**:
            - Sustainable Mobility.
            - Public Open Spaces.
            - Urban E-governance and ICT.
            - Social and Organisational Innovation for Low-Income Settlements.
    - The program will run **for a period of four years, i.e., from 2023 till 2027.**
- **Objective:**
    - The program envisages to support **competitively selected projects promoting circular economy** with focus on **integrated waste management** at the city level, **climate-oriented reform actions** at the State level, and institutional strengthening and knowledge dissemination at the National level.
    - CITIIS 2.0 aims to leverage and scale up the learnings and **successes of CITIIS 1.0**.
        - **CITIIS 1.0 was launched jointly in 2018** and **consisted of three components:**
            - 12 city-level projects selected through a competitive process.
            - Capacity-development activities in the State of Odisha.
            - Promoting integrated urban management at the national level through activities undertaken by , **National Institute of Urban Affairs (NIUA)**, which was the Program Management Unit (PMU) for CITIIS 1.0.
- **Funding:**
    - The funding for CITIIS 2.0 would include a loan from AFD and KfW and a technical assistance grant from the EU.
- **Components: CITIIS 2.0 has three major components:**
    - Financial and technical support for **up to 18 Smart Cities** for projects promoting **circular economy** with focus on **Integrated Waste Management.**
    - Support to all States/Union Territories (UTs) for **Climate action.**

- Interventions at National level to support **scale-up across all cities and towns.**
  - **Significance:**
    - CITIIS 2.0 will supplement the climate actions of Government of India through its ongoing **National programs (National Mission on Sustainable Habitat**, **AMRUT 2.0**, **Swachh Bharat Mission 2.0 and Smart Cities Mission**), as well as contributing positively to India's **Intended Nationally Determined** Contributions (INDCs) and **Conference of the Parties (COP26)** Commitments.

Smart Cities Mission (SCM)

- The Government launched the SCM with the aim of boosting economic growth and enhancing people's quality of life through local development and the use of technology to achieve smart results that benefit citizens.
  - **Launched:** 2015
  - **Nature:** Centrally Sponsored
  - **Nodal Ministry**: Ministry of Housing & Urban Affairs
  - **Implemented through:** A Special Purpose Vehicle (SPV) at city level
  - **Mission Deadline:** Extended to June 2023
  - **Coverage:** Developing 100 selected cities as Smart Cities

What Initiatives are Taken by Government of India's for Urban Development?

- **Atal Mission for Urban Rejuvenation and Urban Transformation (AMRUT)**.
- **Pradhan Mantri Awas Yojana-Urban (PMAY-U).**
- **Integrated Command and Control Centres (ICCCs).**
- **Climate Smart Cities Assessment Framework 2.0.**
- **TULIP-The Urban Learning Internship Program.**

Vivad se Vishwas – II

Source: PIB

Why in News?

Recently, the Ministry of Finance launched the scheme, **"Vivad se Vishwas II** to effectively settle the pending **contractual disputes of government** and government undertakings.

- The scheme was announced in the **Union Budget 2023-24** by the Union Finance Minister.

What is the Vivad Se Vishwas-II Scheme?

- **About:**
  - It is a **voluntary settlement scheme** to resolve long-standing contractual disputes involving government agencies.
  - It is designed **specifically for disputes where the Arbitral Award** is under challenge in a court.
    - Arbitral Award is an award that brings **finality to the arbitral proceeding.**
  - Under the scheme, standardised terms will be introduced, and **graded settlement options will be provided** based on the level of pendency of the dispute.
- **Objectives:**
  - The Scheme aims to provide a platform **for resolving contractual disputes** efficiently and promptly, promoting ease of doing business with the government and encouraging

fresh investments in the country.

- **Implementation:**
    - It will be implemented through an online functionality on the **[Government e-Marketplace (GeM)](#) portal.**
- **Coverage:**
    - The scheme will cover all disputes with Central government agencies, including autonomous bodies, public sector banks and financial institutions, central public sector firms, union territories, and the National Capital Territory of Delhi, along with their respective agencies.
    - However, organizations such as metro corporations, where the **Centre holds a 50% stake,** can choose to opt out of the scheme at their discretion, provided they secure board approvals.
- **Settlement Amount:**
    - For cases involving Court awards, the settlement amount offered to the **contractor will be up to 85% of the net amount awarded** or upheld by the court, while the same threshold will be "up to" **65% of the net amount in case of arbitral awards.**

Note: Earlier, the Ministry of Finance launched the scheme, **"Vivad se Vishwas I – Relief to MSMEs"** for providing relief to **[Micro, Small and Medium Enterprises (MSMEs)](#)** for **[Covid-19](#)** period.

Rapid Fire Current Affairs

Purchasing Managers' Index (PMI)

According to S&P Global, The Services **[Purchasing Managers' Index (PMI)](#)** recently reached an **impressive 13-year high of 62.3 in July** after a three-month low in June. Highlights the sector's resilience and its role in driving economic growth.

- PMI is a **survey-based measure** that provides information about **current and future business conditions** to company **decision-makers, analysts, and investors**. It is a survey-based measure
- It is calculated separately for the **manufacturing and services sectors** and then a **composite index is also constructed.** The **PMI is a number from 0 to 100.**
    - A **PMI above 50 indicates expansion,** while a **PMI below 50 indicates contraction.**
- **Bangladesh, Nepal, Sri Lanka and the UAE** emerged as key sources of growth for India's services sector.

Read more: [Purchasing Managers Index](#)

Pradhan Mantri JI-VAN Yojana
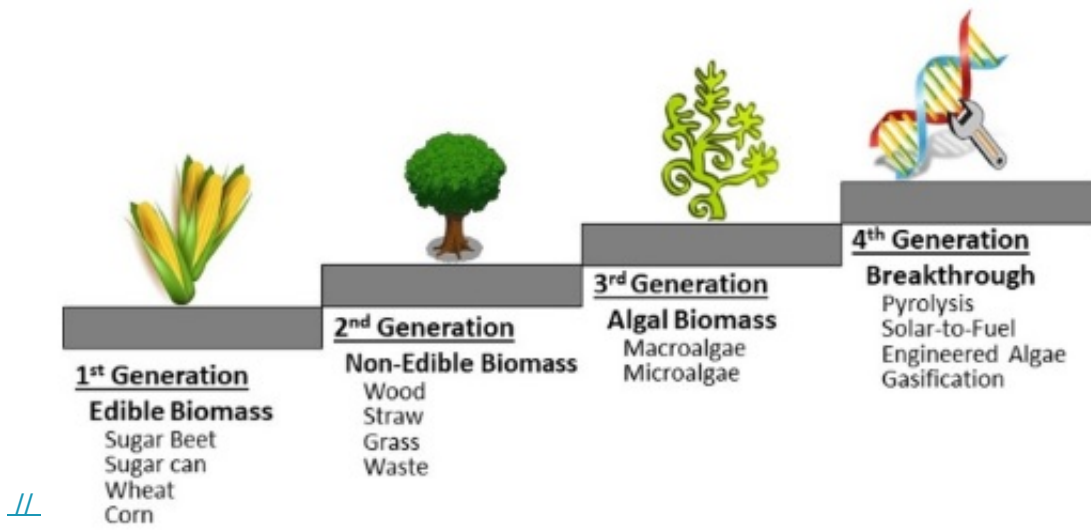
Recently, the **Ministry of Petroleum & Natural Gas** provided valuable insights into the **Pradhan Mantri JI-VAN (Jaiv Indhan- Vatavaran Anukool fasal awashesh Nivaran) Yojana** in a written reply in the **Lok Sabha.**

- Pradhan Mantri JI-VAN Yojana was launched in March 2019.
  - It focuses on **integrated** bio-ethanol **projects for Second Generation (2G) ethanol** using **lignocellulosic biomass and other renewable feedstocks.**
  - **Total financial allocation: Rs. 1969.50 crore (2018-19 to 2023-24).**
- Under this scheme the maximum financial assistance of **Rs.150 crore per project for commercial projects** and **Rs.15 crore per project for demonstration projects** has been prescribed for **enhancing commercial viability, promoting R&D,** and adoption of technologies in the **field of production of 2G ethanol.**
- **Key states benefiting:** Punjab, Haryana, Odisha, Assam, Karnataka, Andhra Pradesh.
- Steps beyond PM JI-VAN Yojana to Enhance Bio-ethanol: **Imposition of additional excise duty on non-blended fuels, Ethanol Purchase Agreements (EPA), diversification of feedstock, separate price for 2G ethanol, reduced GST on ethanol for EBP Programme.**

Read more: Pradhan Mantri JI-VAN Yojana

African Gene Variant CHD1L: Shield Against HIV Progression

A recent study published in the journal Nature reveals that certain **individuals of African descent carry a unique gene variant, Chromodomain Helicase DNA Binding Protein 1 Like (CHD1L) ,** that plays a pivotal role in moderating the progression of **human immunodeficiency virus (HIV)**.

- This variant of the **CHD1L** gene is exclusively found in the African population and has been linked to **reduced viral loads of the most virulent strain of HIV, HIV-1.**
  - The gene's function involves **coding for proteins that facilitate DNA damage repair.**
- Consequently, their potential to **transmit the virus is diminished,** and the advancement of their own illness is decelerated.
- While **4% to 13% of individuals of African origin might carry this gene variant,** the mechanisms by which it influences viral load are not yet fully understood.

Read more: Human immunodeficiency virus

MASI: Revolutionizing Child Care Institution Oversight

Recently, the **Ministry of Women and Child Development** provided valuable insights into the MASI

Portal during a written reply in the Rajya Sabha.

- The **National Commission for Protection of Child Rights (NCPCR)** has introduced an application named **'MASI' - Monitoring App for Seamless Inspection.**
- Developed to **enhance the real-time monitoring of Child Care Institutions (CCIs)** and their inspection processes across India, this app has emerged from the need to effectively manage inspections **mandated by the Juvenile Justice Act, 2015**.
- It allows unified inspections by various authorities, including **Child Welfare Committees (CWCs), State Inspection Committees,** Juvenile Justice Boards **(JJBs), and State Commissions for Protection of Child Rights (SCPCRs).**

Read more: National Commission for Protection of Child Rights, **Child Care Institutions.**

PDF Refernece URL: https://www.drishtiias.com/current-affairs-news-analysis-editorials/news-analysis/05-08-2023/print