Idate Commission Report

For Prelims: **National Human Rights Commission (NHRC)**, **Idate Commission report**, Nomadic, Semi Nomadic, and De-Notified Tribes (NTs, SNTs, and DNTs) in India, **National Commission for Schedule Tribes**

For Mains: Role of National Commission for Schedule Tribes, Problems of Schedule Tribes, Relevance of the recommendations of Idate Commission Report

Source: TH

Why in News?

Recently, the **National Human Rights Commission (NHRC)** emphasised the importance of executing the recommendations of **the Idate Commission report,** to address the concerns of **Nomadic, Semi-Nomadic, and De-Notified Tribes** (NTs, SNTs, and DNTs) in India.

- The NHRC urged the government to repeal the **Habitual Offenders Act, 1952,** or appoint a representative from the De-notified Tribe community along with **nodal officers** as mandated by the Act.
    - Additionally, it recommended excluding DNTs/NTs/SNTs from SC/ST/OBC categories and creating tailored policies for them.

What were the Major Recommendations of the Idate Commission?

- **About:**
    - It was **established in 2014** under the leadership of **Bhiku Ramji Idate,** to compile a statewide catalogue of Denotified, Nomadic, and Semi-Nomadic Tribes (DNTs).
    - Another mandate was **to recognize those excluded from** Scheduled Castes (SC)**,** Scheduled Tribes (ST) and **Other Backward Classes (OBC)** categories and recommend welfare measures for their well-being.
- **Recommendations:**
    - Assign individuals not identified in the SCs/STs/OBCs list to the OBC category.
    - Enhance **legal and constitutional safeguards** by incorporating a third schedule into the **Scheduled Castes and the Scheduled Tribes (Prevention of Atrocities) Act, 1989** to prevent atrocities and restore the feeling of security amongst the members of the community.
    - Create a **permanent commission** with legal standing for the DNTs, SNTs, and NTs.
    - Form a **distinct department** to address the welfare of these communities **in states with significant populations.**
    - Undertake a **thorough survey of DNT families** to determine their estimated numbers and distribution.

Who are Denotified, Nomadic, and Semi-Nomadic Tribes?

- **About:**

- They are also known as **'Vimukt Jatis.** These communities are among the most vulnerable and disadvantaged.
- De-notified communities, once labelled as **'born criminals'** during British rule under laws like the **Criminal Tribes Act, 1871.**
  - They were officially de-notified by the **Indian Government in 1952.**
- A few of these communities which were listed as de-notified were also nomadic.
  - **Nomadic and semi-nomadic communities** are defined as those who move from one place to another rather than living in one place all the time.
- Historically, Nomadic Tribes and De-notified Tribes **never** had **access to private land** or home ownership.
- While most DNTs are spread across the **Scheduled Castes (SC), Scheduled Tribes (ST)** and **Other Backward Classes (OBC)** categories, some DNTs are not covered in any of the SC, ST or OBC categories.

- **Major Committees/Commissions for NTs, SNTs, and DNTs Communities:**
  - The **Criminal Tribes Inquiry Committee,** 1947 constituted in the United Provinces (now Uttar Pradesh).
  - **Ananthasayanam Ayyangar Committee,** 1949.
    - **Criminal Tribes Act, 1871 was repealed** based on the recommendation of this committee.
  - **Kaka Kalelkar Commission** (also called first **OBC Commission**), 1953.
  - The **B P Mandal Commission**, 1980.
    - The commission also made some recommendations related to the issue of NTs, SNTs, and DNTs Communities.
  - The **National Commission to Review the Working of the Constitution (NCRWC)**, 2002 held that **DNTs have been wrongly stigmatised as crime prone** and subjected to high handed treatment as well as exploitation by the representatives of law and order and general society.

- **Distribution:**
  - In India, roughly **10% of the population** is composed of NTs, SNTs, and DNTs Communities.
  - While the number of Denotified Tribes is about 150, the population of Nomadic Tribes consists of about 500 different communities.
    - It has been estimated that **South Asia** has the world's **largest nomadic population.**

What are the Challenges Faced by Nomadic Tribes?

- **Lack of Basic Infrastructure Facilities:** Communities lack essential facilities such as access to drinking water, shelter, and sanitation, which deprives them of basic amenities. Additionally, healthcare and education services are unavailable to them.
- **Lack of Social Security Cover:** Due to their frequent mobility, these individuals lack a permanent settlement, leading to an **absence of social security** coverage and exclusion from government welfare schemes that require **documents** like Ration Cards, Aadhar Cards and caste certificates.
- **Bad Treatment by Local Administration:** Due to the stigma of being labelled as criminals in the past, they continue to be treated as such and subjected to torture by the local administration and police.
- **Ambiguous Caste Categorisation:** The **classification of castes is ambiguous for these communities**, as they are categorized as Scheduled Castes (SC) in certain states and as Other Backward Classes (OBC) in others.

What Developmental Efforts have been Taken for these Tribes?

- **Dr Ambedkar Pre-Matric and Post-Matric Scholarship for DNTs**:
  - This **Centrally Sponsored Scheme** was launched in 2014-15 for the welfare of those DNT students who are not covered under SC, ST or **OBC**.
  - The scheme of **Pre-matric Scholarships** for DNT students is helpful in spreading education amongst DNT children, especially the girl child.
- **Nanaji Deshmukh Scheme of Construction of Hostels for DNT Boys and Girls:**

- This Centrally Sponsored Scheme, launched in 2014-15, is implemented through State Governments/UT Administrations/Central Universities.
- The goal of the program is to offer hostel accommodations to DNT students who do not fall under the categories of SC, ST, or OBC.
  - This support is intended to facilitate their pursuit of higher education.
- **Scheme for Economic Empowerment of DNTs:**
  - It aims to provide **free competitive exam coaching,** health insurance, housing assistance, and livelihood initiatives.
  - It ensures expenditure of Rs. 200 crores to be spent over five years beginning 2021-22.
  - The **DWBDNCs** (Development and Welfare Board for De-notified, Nomadic and Semi-Nomadic Communities) has been tasked with the implementation of this scheme.

National Human Rights Commission (NHRC)

- **About:**
  - Ensures protection of rights related to life, liberty, equality, dignity of individuals and rights guaranteed by the Indian Constitution and **international covenants** enforceable by Indian courts.
- **Establishment:**
  - Established on October 12, 1993, under the **Protection of Human Rights Act, 1993**.
  - Amended by the Protection of Human Rights (Amendment) Act, 2006, and Human Rights (Amendment) Act, 2019.
  - Established in conformity with the **Paris Principles,** adopted for promoting and protecting human rights.
- **Composition:**
  - The Commission consists of a chairperson, five full-time Members and seven deemed Members.
  - Chairman is a former Chief Justice of India or a Supreme Court judge.
- **Appointment and Tenure:**
  - Chairman and members appointed by the President on the recommendations of a six-member committee.
  - The committee consists of the Prime Minister, the Speaker of the Lok Sabha, the Deputy Chairman of the Rajya Sabha, leaders of the Opposition in both Houses of Parliament, and the Union Home Minister.
  - Chairman and members **hold office for a term of three years or until they reach the age of 70.**
- **Role and Function:**
  - Possesses **powers of a civil court with judicial proceedings.**
  - Empowered to utilise services of central or state government officers or investigation agencies for investigating human rights violations.
  - Can investigate matters within one year of their occurrence.
  - Functions are primarily recommendatory in nature.

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Prelims:

Q. With reference to 'Changpa' community of India, consider the following statements:(2014)

1. They live mainly in the State of Uttarakhand.
2. They rear the Pashmina goats that yield a fine wool.
3. They are kept in the category of Scheduled Tribes.

Which of the statements given above is/are correct?

Third South Summit

For Prelims: **Group of 77 (G77)** and China, South-South cooperation, **United Nations Conference on Trade and Development (UNCTAD)**, **2030 Agenda for Sustainable Development.**

For Mains: Third South Summit, Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.

Source: AN

Why in News?

Recently, the **3rd South Summit** was held in Kampala, Uganda, bringing **together the** members of the Group of 77 (G77) **and China.**

- The Third South Summit brought together the **134 members of the Group of 77 and China** to boost **South-South cooperation** on trade, investment, sustainable development, climate change, poverty eradication, and digital economy, among other areas. The **theme of the summit was "Leaving No One Behind."**
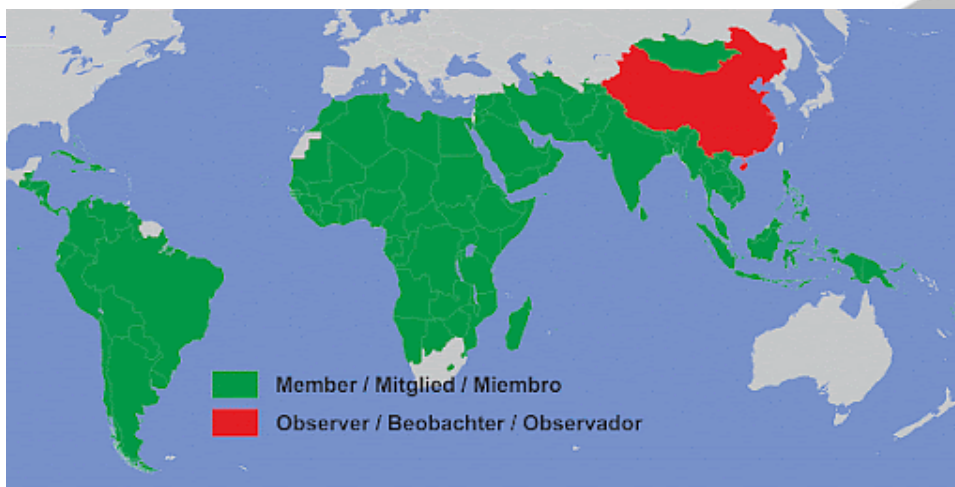
What is Group of 77 (G77)?

- **Establishment:**
  - The **Group of 77 (G-77)** was established on **15th June 1964** by signatories of the **"Joint Declaration of the Seventy-Seven Developing Countries"** issued at the end of the first session of the **United Nations Conference on Trade and Development (UNCTAD)** in Geneva.
    - The **G77 group has 134 members excluding China** because the **Chinese government does not consider itself a member, but rather a partner** that provides political and financial support to the group. **Although the group (G 77) mentiones China as its member.**
- **Aims:**
  - The Group of 77 is the **largest intergovernmental organization** of developing countries in the United Nations.
  - It provides the means for the countries of the **South to articulate and promote their collective economic interests** and enhance their joint negotiating capacity on all major international economic issues within the United Nations system.

- **Structure:**
  - A Chairman, who acts as its spokesman, coordinates the Group's action in each Chapter.
  - The Chairmanship, which is the highest political body within the organizational structure of the Group of 77, **rotates on a regional basis** (between Africa, Asia-Pacific, Latin America and the Caribbean) and is **held for one year in all the Chapters.**
    - **Chapters** refer to the **regional divisions**, currently, Uganda is the chairman, acts as the spokesperson and coordinates the actions of the G-77 on behalf of the **member countries within the African Chapter.**
      - **Chapters in G77 are the offices of the group in different** locations where they coordinate their activities and represent their interests in various UN agencies and international forums.
      - The chapters of the G77 are in Geneva (UN), Rome (FAO), Vienna (UNIDO), Paris (UNESCO), Nairobi (UNEP) and the Group of 24 in Washington, D.C. (IMF and World Bank).
  - For the year **2024, the Republic of Uganda** holds the Chairmanship of the G-77.
- **South Summit:**
  - The South Summit is the **supreme decision-making body of the Group of 77.**
  - The First and the Second South Summits were held in Havana, Cuba, in 2000 and in Doha, Qatar, in 2005, respectively.

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Member / Mitglied / Miembro
Observer / Beobachter / Observador

What are the Key Highlights of the Third South Summit Outcome Document?

- **Call for Peaceful Solution of Palestinian-Israeli conflict:**
  - Member countries emphasised that **"there can be no sustainable development** without peace and no peace without sustainable development" and called for a "just and peaceful solution of the **Palestinian-Israeli conflict."**
- **Universal Implementation of Agendas:**
  - The Outcome Document reaffirmed the commitment to implementing various global agendas, including the **2030 Agenda for Sustainable Development**, the **Addis Ababa Action Agenda (AAAA)**, the **Paris Agreement on climate change**, the **New Urban Agenda (NUA)**, and the **Sendai Framework for Disaster Risk Reduction (DRR).**
- **Poverty Eradication:**
  - Member countries reaffirmed **poverty eradication as the greatest global challenge** and an indispensable requirement for sustainable development.
  - Stressing the importance of adequate means of implementation, leaders called upon developed countries to commit to **a new phase of international cooperation through a strengthened and scaled-up global partnership for development.**
- **Strengthening Multilateral Institutions:**
  - The summit stressed the need to strengthen the role of the **UN General Assembly (UNGA)** and the **Economic and Social Council (ECOSOC)** in dealing with the reform of the international financial architecture.
  - It was highlighted that the **Global Financial System** failed to provide a global safety net

for developing countries. Deep reforms were proposed, including an SDG Stimulus of **USD 500 billion annually,** adequate capitalization of MDBs, and **expansion of contingency financing** for countries in need.
- Called for meaningful contributions to climate finance, including the delivery of **USD 100 billion per year** and the **doubling of adaptation finance by 2025,** encouraging an ambitious new finance goal at the **2024 UN Climate Change Conference (UNFCCC COP 29).**
- **Financing Needs and Debt Solutions:**
  - Member countries urged **Multilateral Development Banks (MDBs)** to meet the financing needs of all developing countries, including Low- and Middle-Income Countries, through concessional finance and grants.
  - The leaders called for scaling up **debt swaps for the Sustainable Development Goals (SDGs),** including swaps for Climate and nature.
- **Urgent Reforms for Inclusion and Equity:**
  - Leaders at the summit called for **urgent reforms in multilateral organisations** to recognize and leverage the significance of the **Global South,** emphasising the **need for an international financial system** rooted in inclusion and equity.

What is Global South?

- **About:**
  - The Global South, often **misconceived as a purely geographical concept,** encompasses diverse countries, drawing upon geopolitical, historical, and developmental factors.
    - While it is not solely defined by location, it broadly represents nations facing developmental challenges.
    - Many countries included in the Global South are in the northern hemisphere, such as India, China and all of those in the northern half of Africa.
      - Whereas, Australia and New Zealand, both in the southern hemisphere, are not in the Global South.
- **Historical Context:**
  - **Brandt Line:** The line was proposed by former German Chancellor Willy Brandt in the 1980s as a visual depiction of the north-south divide based upon per-capita GDP.
    - This line symbolizes the global economic divide, zigzagging across continents, encompassing parts of **Africa, the Middle East, India, and China, excluding Australia and New Zealand.**

- **G-77**: In 1964, the **Group of 77 (G-77)** countries came into existence when they signed a Joint Declaration during the first session of the **UN Conference on Trade and Development (UNCTAD)** in Geneva.
  - The G-77 is a coalition of developing nations, **primarily from the global south,** formed

to collectively address economic and development **issues at the United Nations.**
- **Resurgence of Global South:**
  - **Economic Dynamics:**
    - **Economic Imbalances Exposed by Covid-19:** The pandemic amplified existing economic disparities, disproportionately impacting Global South countries due to limited healthcare infrastructure, disrupted supply chains, and heavy reliance on sectors vulnerable to lockdowns.
    - **Shifts in Trade and Supply Chains:** Reevaluations of global supply chains post-pandemic and in context of recent geopolitical conflicts like **Russia-Ukraine war,** opened discussions on repositioning production centers, providing an opportunity for some Global South economies to restructure and enhance their roles.
  - **Geopolitical Realities:**
    - The Global South's collective voice gained traction in international forums like **G20,** altering power dynamics and prompting greater consideration of their perspectives and interests.
  - **Environmental and Climate Impact:**
    - **Vulnerability to Climate Change:** The Global South is disproportionately affected by climate change, driving discussions on climate adaptation, resilience-building, and the need for equitable global climate action.
    - **Renewable Energy and Sustainable Development:** Emphasis on sustainable development goals, renewable energy investments, and environmental conservation initiatives within the Global South attracted global attention and support.

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Prelims:

Q. In which one of the following groups are all the four countries members of G20? (2020)

(a) Argentina, Mexico, South Africa and Turkey
(b) Australia, Canada, Malaysia and New Zealand
(c) Brazil, Iran, Saudi Arabia and Vietnam
(d) Indonesia, Japan, Singapore and South Korea

Ans: (a)

Mains:

Q. 'The long-sustained image of India as a leader of the oppressed and marginalised nations has disappeared on account of its new found role in the emerging global order.' Elaborate. **(2019)**

Extension of BSF Jurisdiction

For Prelims: Border Security Force (BSF)**,** Seven Central Armed Police Forces**,** Code of Criminal Procedure (CrPC) of 1973, the **Passports Act 1967, the Passport (Entry into India) Act 1920**, and the **Narcotic Drugs and Psychotropic Substances Act (NDPS), 1985**

For Mains: Extension of BSF Jurisdiction, Role of external state and non-state actors in creating challenges to internal security.

Why in News?

The Supreme Court (SC) is set to hear the dispute over the expansion of the Border Security Force (BSF) **jurisdiction** in Punjab.

- In 2021, the Ministry of Home Affairs issued a notification expanding the jurisdiction of the BSF in Punjab, West Bengal and Assam. This was challenged by the Punjab government.

What is BSF?

- The BSF was **raised in 1965, after the** India-Pakistan war.
- It is one of the **seven Central Armed Police Forces** of the Union of India under the administrative control of the Ministry of Home Affairs (MHA).
    - Other **Central Armed Police Forces are:** Assam Rifles (AR)**,** Indo-Tibetan Border Police (ITBP)**,** Central Industrial Security Force (CISF)**,** Central Reserve Police Force (CRPF)**,** National Security Guards (NSG) **and** Sashastra Seema Bal (SSB).
- The 2.65-lakh force is deployed along the Pakistan and Bangladesh borders.
    - It is deployed on the Indo-Pakistan International Border, Indo-Bangladesh International Border, and Line of Control (LoC) **along with the Indian Army and in** Anti-Naxal Operations.
- BSF has been defending Sir Creek **in the Arabian Sea and** the Sundarbans delta **in the** Bay of Bengal with its state of the art fleet of Water Crafts.
- It contributes dedicated services to the **UN peacekeeping Mission** by sending a large contingent of its trained manpower every year.

Why was the BSF Jurisdiction Extended?

- **Jurisdiction of BSF:**
    - The BSF is **meant to secure India's borders with its neighbouring nations** and is empowered to arrest, search and seize under a number of laws, such as the **Code of Criminal Procedure (CrPC) of 1973**, the Passports Act 1967, the **Passport (Entry into India) Act 1920**, and the Narcotic Drugs and Psychotropic Substances Act (NDPS), 1985 **etc.**
        - **Section 139(1) of the BSF Act** allows the central government, through an order, to designate an area **"within the local limits of such area adjoining the borders of India"** where members of the BSF can **exercise powers to prevent offences under any Acts** that the central government may specify.
- **Extension of BSF Jurisdiction:**
    - Prior to the notification issued in October 2021, the BSF could exercise its powers within 15 kilometres of the border in Punjab, West Bengal and Assam. The Centre expanded **this to within 50 kilometres of the border.**
        - The notification states that, within this larger 50-kilometre jurisdiction, the BSF can only exercise powers under the **CrPC, the Passport (Entry into India) Act and the Passports Act.**
        - For **other central legislations,** the 15-km limit remains.
    - In the **states of Manipur, Meghalaya, Mizoram, Nagaland, Tripura, Jammu & Kashmir and Ladakh, it extends to the entire area of the state.**
- **Reasons for Extension of Jurisdiction:**
    - **Increased Use of Drones and UAVs:** The expansion of the Jurisdiction of BSF was in **response to the increased use of drones** and **Unmanned Aerial Vehicles (UAV)**, which have long-range capabilities and enable spying and smuggling of arms and fake currency.
    - **Cattle Smuggling:** Cattle Smuggling is another issue that the BSF aims to combat. The extension of jurisdiction allows the BSF to address the challenges posed by smugglers who

may attempt to take advantage of areas beyond the original jurisdiction of the force.
- Smugglers **often seek refuge** outside BSF jurisdiction.
- **Uniform Jurisdiction:** Extension of BSF Jurisdiction in Punjab, West Bengal and Assam **establishes uniformity in the jurisdiction of the BSF across states in India** by standardising the 50-kilometer limit, which was already applicable in Rajasthan.
    - Additionally, the notification **reduced the jurisdiction in Gujarat from 80 kilometres to 50 kilometres.**

What are the Issues Raised by the States Related to the Extension of BSF Jurisdiction?

- **Concerns about State Powers:**
    - The expansion of BSF's jurisdiction **would encroach upon the state's exclusive powers to legislate** on matters related to the **police and public order.**
    - These powers are **granted to the states under Entries 1 and 2 of the State List as per Article 246** of the Constitution.
        - Although, the Union government also has the **legislative capacity** to issue the direction under **Entries 1 (defence of India), 2 (armed forces)** and **2A (deployment of armed forces)** of the Union Lists.
    - By extending the BSF's jurisdiction, the central government has overstepped into areas where **states traditionally have authority.**
- **Non-Cooperative Federalism:**
    - Some states view the extension of BSF's jurisdiction as a challenge to the **principles of** Federalism, which emphasize a distribution of **powers between the central government and the states.**
- **Geographical Differences:**
    - In Punjab, a significant number of cities and towns would fall within the 50-kilometer jurisdiction, while in Gujarat and Rajasthan, the areas along the international border **are sparsely populated**, primarily consisting of marshlands or deserts.
    - This geographical difference is one of the Prime factors influencing the **impact of the jurisdiction extension.**

What Needs to be Done for Borders Management Without Compromising Jurisdiction of States?

- **Collaborative Approach:**
    - There is a need to foster **collaboration between central and state law enforcement agencies** to jointly manage border security.
    - Establishing a framework for **information sharing and coordination** among different security forces.
        - **Create joint task forces** comprising both central and state police personnel for specific border regions.
- **Involvement of State Police:**
    - There is a need to **involve units of state police** in border surveillance to complement the efforts of central forces like the BSF.
        - Adopt a model similar to the arrangements made by the Coast Guard **and** Indian Navy **at sea**, where each force has **exclusive jurisdiction but engages in mutual vigilance.**
- **Technology Integration:**
    - Invest in **advanced surveillance technologies**, including drones, sensors, and communication systems, to enhance border monitoring.
    - Establish a centralised information-sharing platform that integrates data from **different sources for real-time analysis.**
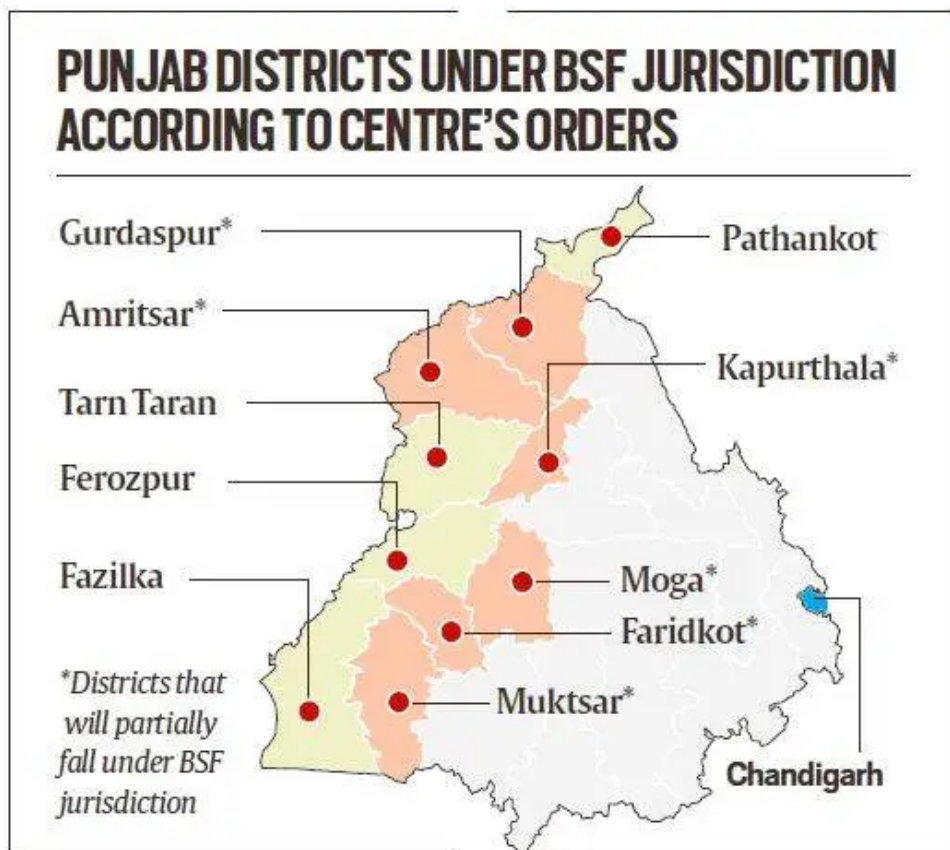- **Clear Legal Framework:**
    - Develop a **clear legal framework that outlines the roles, responsibilities,** and jurisdiction of both central and state forces in border areas.
    - Establish protocols for addressing cross-border incidents and conducting joint investigations when required.

- **Regular Consultations:**
  - There is a need to **conduct regular consultations and meetings** between central and state authorities to address concerns and challenges related to border management.
  - Establish a platform for continuous dialogue to adapt strategies based on evolving security dynamics.
- **International Cooperation:**
  - Engage in diplomatic initiatives to enhance cooperation with neighbouring countries on border security matters.
  - Explore joint initiatives, information sharing, and coordinated patrols with neighbouring countries to address transnational security challenges.

What is the Constitutional Viewpoint on Deployment of Armed Forces in States?

- Under **Article 355**, the central government has the **authority to deploy its forces to safeguard a state from "external aggression and internal disturbance,"** even in cases where the state has not requested assistance from the Centre and is hesitant to accept central forces.
- In the case of a state's opposition to the deployment of armed forces of the Union, the right course for the Centre is to first issue **directives under Article 355** to the state concerned.
- In the event of the state not complying with the directive of the Central government, the Centre can take further action under **Article 356 (President's Rule).**

What are the Constitutional Provisions Related to Centre-State Relations in India?

- **Legislative Relations:**
  - **Articles 245 to 255** in Part XI of the Constitution deal with the legislative relations between the Centre and the states.
    - Given the federal nature of the Indian Constitution, it divides the legislative powers between the Centre and the states with respect to both the territory and the

subjects of legislation.
- **Distribution of Legislative Subjects (Article 246):** The Indian Constitution provides for a **division of the subjects between the Centre and the states through three lists – List-I (Union), List-II (State) and List-III (Concurrent)** in the Seventh Schedule.
- **Parliament Legislation in State Field (Article 249):** In abnormal times, the scheme of distribution is either modified or suspended.
- **Administrative Relations (Article 256-263):**
  - Articles spanning from 256 to 263 in Part XI of the Constitution deal with the administrative relations between the Centre and the states.
- **Financial Relations (Article 256-291):**
  - Articles spanning from 268 to 293 in Part XII of the Constitution deal with Centre – state financial relations.
    - Because India is a federal country, it adheres to the division of powers when it comes to taxation, and it is the responsibility of the Centre to allocate funds to the states.
- **Article-131: Original Jurisdiction:**
  - The **SC (as a federal court of India)** possesses original jurisdiction **to decide the disputes arising between different units of the Indian Federation** like:
    - Centre and one or more states; or
    - Centre & any state(s) on one side and one or more states on the other; or
    - Two or more states.
      - In the above-mentioned cases, the **SC has exclusive original jurisdiction**, which means that **no other court in the country** can decide such disputes and SC has the power to hear such disputes in the first instance & not by way of appeal.

UPSC Civil Services Examination Previous Year Question (PYQ)

Prelims

Q. Department of Border Management is a Department of which one of the following Union Ministries? (2008)

(a) Ministry of Defence
(b) Ministry of Home Affairs
(c) Ministry of Shipping, Road Transport and Highways
(d) Ministry of Environment and Forests

Ans: (b)

Mains

Q1: Analyze the multidimensional challenges posed by external state and non-state actors, to the internal security of India. Also, discuss measures required to be taken to combat these threats. **(2021)**

Ethical Use of Generative AI in Healthcare

For Prelims: Ethical Use of Generative AI in Healthcare, World Health Organization (WHO), Generative

Source: DTE

Why in News?

Recently, the **World Health Organization (WHO)** has released guidance on the ethical use and governance of **Large Multi-Modal Models (LMM)** in healthcare, acknowledging the transformative impact of **Generative Artificial Intelligence (AI)** technologies like ChatGPT, Bard, and Bert.

What are Large Multi-Modal Models (LMM)?

- LMMs are models that use **multiple senses to mimic human-like perception.** This allows **AI (Artificial Intelligence)** to respond to a **wider range of Human communication**, making interactions more natural and intuitive.
- LMMs integrate multiple data types, such as images, text, language, audio, and other heterogeneity. This allows the **models to understand images, videos, and audio, and converse with users.**
- **Some examples of multimodal LLMs include** GPT-4V, MedPalm M, Dall-E, Stable Diffusion, and Midjourney.

What are the WHO's Guidelines Regarding the Use of LMMs in Healthcare?

- The new WHO guidance outlines **five broad applications of LMMs in healthcare:**
  - **Diagnosis and clinical care**, such as responding to patients' written queries;
  - **Patient-guided use,** such as for **investigating symptoms and treatment;**
  - **Clerical and administrative tasks,** such as documenting and summarizing patient visits within electronic health records;
  - **Medical and nursing education,** including providing trainees with simulated patient encounters, and;
  - **Scientific research and drug development,** including to identify new compounds.

Note

 Indian Council of Medical Research issued **ethical guidelines for AI** in biomedical research and healthcare in June 2023.

What Concerns has WHO Raised about LMMs in Healthcare?

- **Rapid Adoption and Need for Caution:**
  - LMMs have experienced **unprecedented adoption, surpassing the pace** of any previous consumer technology.
    - LMM is known for their ability to mimic human communication and **perform tasks without explicit programming.**
  - However, this rapid uptake underscores the critical importance of carefully weighing **their benefits against potential risks.**
- **Risks and Challenges:**
  - Despite their promising applications, LMMs pose risks, including the **generation of false, inaccurate, or biased statements** that could misguide health decisions.

- - The data used to train these models can **suffer from quality or bias issues,** potentially perpetuating disparities based on **race, ethnicity, sex, gender identity or age.**
  - **Accessibility and Affordability of LMMs:**
    - There are broader concerns as well, **such as the accessibility and affordability of LMMs, and the risk of Automation Bias** (tendency to rely too much on automated systems) in healthcare, leading **professionals and patients to overlook errors.**
  - **Cybersecurity:**
    - **Cybersecurity** is another critical issue, given the sensitivity of patient information and the **reliance on the trustworthiness** of these algorithms.

What are the Key Recommendations of WHO Regarding LMMs?

- **Called for a collaborative approach** involving governments, technology companies, healthcare providers, patients and civil society, in all **stages of LMM development and deployment.**
- Stressed on the need for **global cooperative leadership to regulate AI technologies** effectively. Governments from all countries must cooperatively lead efforts to effectively regulate the development and use of AI technologies, such as LMMs.
- The new guidance offers a **roadmap for harnessing the power of LMMs in healthcare** while navigating their complexities and ethical considerations.
  - In May 2023, the WHO had highlighted the **importance of applying ethical principles and appropriate governance**, as enumerated in the **WHO guidance on the ethics and governance of AI for health**, when designing, developing and deploying AI for health.
- The **six core principles identified by WHO are:**
  - Protect autonomy
  - Promote human well-being, human safety, and the public interest
  - Ensure transparency, explainability, and intelligibility
  - Foster responsibility and accountability
  - Ensure inclusiveness and equity
  - Promote AI that is responsive and sustainable.

How is Global AI currently Governed?

- **India:**
  - **NITI Aayog**, has issued some guiding documents on AI Issues such as the National Strategy for Artificial Intelligence and the **Responsible AI for All report.**
  - Emphasises social and economic inclusion, innovation, and trustworthiness.
- **United Kingdom:**
  - Outlined a light-touch approach, asking regulators in different sectors to apply existing regulations to AI.
  - Published a white paper **outlining five principles** companies should follow: **safety, security and robustness; transparency and explainability; fairness; accountability and governance; and contestability and redress.**
- **US:**
  - The US **released a Blueprint for an AI Bill of Rights (AIBoR)**, outlining the harms of AI to economic and civil rights and **lays down five principles for mitigating these harms.**
  - The Blueprint, instead of a horizontal approach like the EU, **endorses a sectorally specific approach to AI governance**, with policy interventions for individual sectors **such as health, labour, and education,** leaving it to sectoral federal agencies to come out with their plans.
- **China:**
  - In 2022, China came out with some of the **world's first nationally binding regulations targeting specific types of algorithms and AI.**
  - It enacted a law **to regulate recommendation algorithms with a focus on how they disseminate information.**

Q1. With the present state of development, Artificial Intelligence can effectively do which of the following? (2020)

1. Bring down electricity consumption in industrial units
2. Create meaningful short stories and songs
3. Disease diagnosis
4. Text-to-Speech Conversion
5. Wireless transmission of electrical energy

Select the correct answer using the code given below:

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

Ans: (b)

Q2. Consider the following pairs: (2018)

	Terms sometimes seen in news	Context/Topic
1.	Belle II experiment	Artificial Intelligence
2.	Blockchain technology	Digital/Cryptocurrency
3.	CRISPR–Cas9	Particle Physics

Which of the pairs given above is/are correctly matched?

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

Ans: (b)

Mains:

Q.1 What are the areas of prohibitive labour that can be sustainably managed by robots? Discuss the initiatives that can propel the research in premier research institutes for substantive and gainful innovation. **(2015)**

Q.2 "The emergence of the Fourth Industrial Revolution (Digital Revolution) hasinitiated e-Governance as an integral part of government". Discuss. **(2020)**

Pulsar Glitches

For Prelims: Pulsar Glitches, PSR B1919+21, **Neutron Stars**, Properties of Superfluids.

For Mains: Pulsar Glitches, Achievements of Indians in science & technology.

Why in News?

In 1967, two astronomers at the University of Cambridge discovered the First Pulsar, later named **PSR B1919+21**, setting the **stage for a journey into the depths of neutron stars and their enigmatic pulsar counterparts.**

What are Pulsars?

- **About:**
    - Pulsars are **rapidly rotating** Neutron Stars that blast out pulses of radiation at **regular intervals** ranging from seconds to milliseconds.
    - Pulsars have **strong magnetic fields** that funnel particles along their magnetic poles accelerating them to relativistic speeds, which produces two powerful beams of light, one from each pole.
    - The periodicity of pulsars is caused by these beams of light crossing the line of sight on Earth, with the pulsar appearing to 'switch off' at points when the light is facing away from Earth.
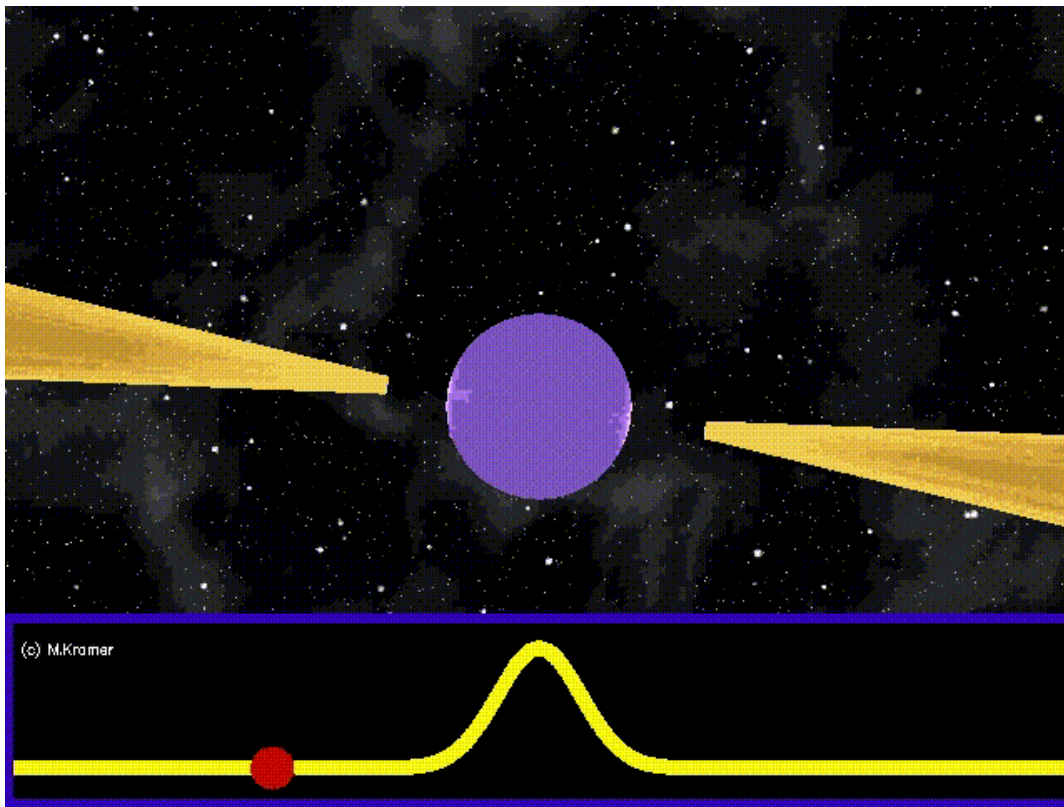   - The time between these pulses is the **'period' of the pulsar.**

What are the Theories Related to the Discovery of the Pulsars and their Behaviour?

- **Link with the Discovery of Neutrons:**
    - The discovery of pulsars is **closely linked to James Chadwick's 1932 discovery of neutrons.**
        - Neutrons in a group resist having the same energy, **seeking the lowest available energy level.** When heavy stars die, their cores implode. If they aren't heavy enough to become black holes, **they collapse into a ball of neutrons, creating a neutron star.**
- **Pulsars as Rotating Neutron Stars:**
    - The signals, coming from a very small patch of the sky and that they repeated frequently, led **scientists to identify Pulsars as Rotating Neutron Stars.**
        - Radio signals emitted from near the poles of such a star would form a narrow cone that sweeps past the earth with every rotation – like the light from a **lighthouse shining over a ship on the sea.**

(c) M.Kramer

- **Unexpected Glitches:**
  - **Over time, the neutron stars experienced a slowing of their rotation.** The energy preserved through this reduction in rotation rate was **utilised to propel electric charges outside the star,** resulting in the generation of radio signals.
  - In 1969 when researchers observed **a glitch in the pulsar PSR 0833-45.**
    - Glitches, characterised by abrupt **changes in rotation rate of pulsar followed by gradual relaxation**, introduced a new layer of complexity to pulsar dynamics.
  - The subsequent decades witnessed the observation of over 3,000 pulsars, with around 700 glitches recorded.
    - These glitches became intriguing phenomena, prompting scientists to delve deeper into the underlying mechanisms governing these celestial events.

How are the Pulsars Formed?

- **Supernova Explosion:**
  - Pulsars are formed from the **remnants of massive stars with masses between 1.4 and 3.2 times** that of our Sun. When such a star exhausts its nuclear fuel, it undergoes a supernova explosion.
- **Formation of Neutron Star:**
  - The outer layers of the **star are blasted off into space** during the supernova, and the inner core contracts due to gravity. The gravitational pressure becomes so intense that **it overcomes the electron degeneracy pressure,** causing electrons and protons to be crushed together to form neutrons.
- **Neutron Star Characteristics:**
  - The resulting object is a neutron star, which is extremely dense and **has a strong gravitational field (about 2 x 10^11 times that of Earth's gravity).**
- **Angular Momentum Conservation:**
  - As the star collapses, it **conserves its angular momentum**. The collapse leads to a much smaller size, **causing a dramatic increase in rotational speed.**
- **Pulsar Emission:**
  - The rapidly rotating **neutron star emits beams of electromagnetic radiation along its magnetic field lines.** If Earth intersects these beams as the neutron star rotates, astronomers **observe periodic pulses of radiation,** and the object is identified as a pulsar.

How are Pulsars Linked with the Chandrasekhar Limit?

- The Chandrasekhar limit is the **maximum mass a stable white dwarf star can have**. It's about **1.4 times the mass of the sun.**
    - The **limit was named after Subrahmanyan Chandrasekhar,** an Indian-born astrophysicist who calculated it in 1930.
- If a star is more massive than the Chandrasekhar limit, it will continue to **collapse and become a neutron star**. This collapse is caused by the force of gravity.
- The pulses from a pulsar appear periodic because they come at the same rate as the rotation of the neutron star. From a distance, the **pulses look similar to a lighthouse beam rotating.**

What led to the Occurrence of Glitches in Pulsars?

- **Neutron Star Structure:**
    - A neutron star, **characterised by a solid crust and a superfluid core,** provides a unique backdrop for the interplay of forces governing celestial dynamics.
    - The contrast between the crust's deceleration and the sustained vortex speed within the superfluid core becomes pivotal in comprehending the origins of glitches.
- **Superfluid State Inside Neutron Stars:**
    - Post-glitch behaviour strongly suggests the **presence of a superfluid state inside these cosmic entities.**
        - The neutron star is a 20-km-wide sphere with a solid crust and a core. The **core predominantly contains the superfluid, and no solid parts.**
- **Peculiar Properties of Superfluids:**
    - Superfluids, when set in motion inside a container, exhibit an extraordinary characteristic — they continue moving indefinitely. This property of perpetual motion without friction becomes crucial in understanding the behavior of the superfluid core within neutron stars.

Note

Despite advancements, the **glitch mechanism remains a subject of ongoing scientific inquiry.** Contested details, triggers in space, and the evolution of glitches over time provide fertile ground for further exploration.

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Q. 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 intergalactic space travel through 'wormhole' was confirmed.

(d) It enabled the scientists to understand 'singularity'

Ans: (b)

Q. Consider the following (2008):

Bharat Ratna to Karpoori Thakur

[Source: TH](#)

Why in News?

Recently, the **[President of India](#)** announced that the **[Bharat Ratna](#)** would be awarded to **socialist leader and former Chief Minister of Bihar Karpoori Thakur,** posthumously.

- This comes at a time when three-day celebrations are being held in Bihar to mark his birth centenary.

Who was Karpoori Thakur?

- **About:** Karpoori Thakur, called as **"Jan Nayak"**, was a prominent Indian politician who served as the **11th Chief Minister of Bihar** twice, from 1970-71 and 1977-79.
- **Early Life and Political Foundation (1942-1967):** He was a **freedom fighter and a staunch socialist** who worked under the guidance of stalwarts such as **Jayaprakash Narain, Dr Rammanohar Lohia and Ramnandan Mishra.**
    - Represented the **Nai community, listed as an** [Extremely Backward Class](#) **(EBC) among OBCs.**
        - Entered politics in **1952**, serving as a legislator until **1985.**
- **Chief Ministerial Term and Policies:** In 1977, during his Chief Ministership, **Mungeri Lal Commission** recommended reclassifying backward classes into extremely backward classes (including weaker sections of Muslims) and backward classes.
    - In 1978, he introduced a groundbreaking reservation model, allocating **26% of reservations with specific quotas for OBCs, EBCs, women**, and economically backward classes among upper castes.
        - This reclassification was also seen as a percussor of the [Mandal Commission](#) **report**, advocating for **27% reservations for Other Backward Classes.**
    - Implemented wide-ranging policies, including **the promotion of Hindi, and Urdu as the second official language, waiving school fees,** and strengthening Panchayati Raj.
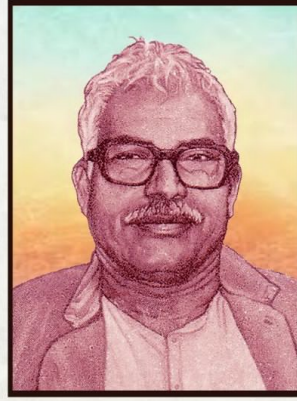
What is Bharat Ratna Award?

- **About: Bharat Ratna** is the highest civilian award of the **Republic of India.**

- **History and Evolution:** Instituted in 1954, the award is conferred in recognition of exceptional service/performance of the highest order, **without distinction of race, occupation, position, or sex.**
  - The award was originally limited to achievements in the **arts, literature, science, and public services.**
  - But in December 2011, the government expanded the criteria to include **any field of human endeavour.**
- **First Recipients:** The first recipients of the Bharat Ratna were C. Rajagopalachari**,** Sarvepalli Radhakrishnan**, and** C. V. Raman, honoured in **1954.**
  - Most recently, in 2019, it was awarded to Nanaji Deshmukh, Bhupen Hajarika and Pranab Mukherjee**.**
- **Key Aspects:**
  - It is **not mandatory** that Bharat Ratna be awarded every year.
  - There is **no written provision** that Bharat Ratna should be awarded to Indian citizens only.
    - The award has been awarded to a naturalized Indian citizen, **Agnes Gonxha Bojaxhiu, better known as Mother Teresa (1980)** and to two non-Indians - **Khan Abdul Ghaffar Khan and Nelson Mandela (1990).**
  - Recommendations for Bharat Ratna are made by the Prime Minister of India to the President.
  - The number of Bharat Ratna Awards is **restricted to a maximum of three** in a particular year.
  - On conferment of the award, the **recipient receives a Sanad (certificate) signed by the President and a medallion.**
    - **The Award does not carry any monetary grant.**
  - In terms of **Article 18 (1) of the Constitution,** the award cannot be used as a prefix or suffix to the recipient's name.
    - However, an award holder consider it necessary, using the following expression in their biodata/letterhead/visiting card etc. to indicate that he/she is a recipient of the award: Awarded Bharat Ratna by the President or Recipient of Bharat Ratna Award.

Jan Nayak Karpoori Thakur

■ Shri Karpoori Thakur was born in 1924 in one of the most backward sections of society - the Nai Samaj. He was a remarkable leader whose political journey was marked by his unwavering commitment to the marginalised sections of society.

■ He served as the Chief Minister of Bihar and was a key figure in the struggle against social discrimination and inequality.

■ Karpoori Thakur's commitment to affirmative action gave representation and opportunities to the poor, oppressed, exploited and deprived sections of the country.

■ Karpoori Thakur's policies and reforms were pioneering in bringing about significant changes in the lives of many, especially in the fields of education, employment and farmer welfare.

By honouring Shri Thakur with Bharat Ratna, the government recognizes his role as a symbol of democracy and social justice.

The government also acknowledges his deep impact as a motivating figure for the marginalised sections of society.

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Q. Consider the following statements in respect of Bharat Ratna and Padma Awards: (2021)

1. Bharat Ratna and Padma Awards are titles under the Article 18(1) of the Constitution of India.
2. Padma Awards, which were instituted in the year 1954, were suspended only once.
3. The number of Bharat Ratna Awards is restricted to a maximum of five in a particular year.

Which of the above statements are not correct?

Investment Forum for Advancing Climate Resilient Agrifood Systems in India

Source: PIB

Why in News?

Recently, the **National Institution for Transforming India (NITI Aayog)**, the Ministry of Agriculture and Farmers' Welfare (MoA&FW) of the Government of India, and the **Food and Agriculture Organization (FAO)** of the **United Nations** jointly launched the 'Investment **Forum for Advancing Climate Resilient Agrifood Systems in India'** in New Delhi.

What is the Investment Forum for Advancing Climate Resilient Agrifood Systems in India?

- **About:**
  - The initiative aims to create an investment and partnership strategy fostering **climate resilient agrifood systems** among various stakeholders in India.
  - The Forum **facilitated discussions and deliberations on six key areas** namely,
    - Climate resilient agriculture (experiences and pathways).
    - Digital infrastructure and solutions.
    - Financing climate resilient agrifood systems (domestic and global).
    - Climate resilient value chains.
    - Production practices and inputs for climate resilience.
    - Gender mainstreaming and social inclusion for climate resilience.
- **Importance of Investing in Climate-Resilient Agrifood Systems:**
  - **Climate change** has profound implications for India, particularly **affecting its economically vulnerable rural population**, largely dependent on climate-sensitive agricultural livelihoods.
    - Agriculture contributes to about **13% of total** greenhouse gas emissions **in India** and is vulnerable to the impacts of climate change.
    - Indian agriculture is **susceptible to extreme temperatures,** droughts**,** floods, cyclones**,** and soil salinity.
    - Climate change can affect crop yields, water availability, **soil health**, pest and **disease outbreaks**, and **food security.**
  - Climate resilient agrifood systems can **help mitigate and adapt to climate change**, enhance food production, reduce poverty, and improve livelihoods.
    - Climate mainstreaming into agrifood systems necessitates **larger investments from global climate finance,** domestic budgets, and the private sector.

Food and Agriculture Organization (FAO)

- The FAO is a specialised agency of the **United Nations** that leads international efforts to defeat hunger.

- FAO's goal is to **achieve food security for all** and make sure that people have regular access to enough high-quality food to lead active, healthy lives.
- With 194 member countries and the European Union including India, FAO works in over 130 countries worldwide.
- The **World Food Programme (WFP)** and the **International Fund for Agricultural Development (IFAD)** are sister organisations of the FAO.
- FAO is headquartered in **Rome, Italy.**
- **Flagship Publications:**
  - The State of World Fisheries and Aquaculture (SOFIA).
  - The State of the World's Forests (SOFO).
  - **The State of Food Security and Nutrition in the World (SOFI).**
  - **The State of Food and Agriculture (SOFA).**
  - The State of Agricultural Commodity Markets (SOCO).

UPSC Civil Services Examination, Previous Year Question (PYQ)

Prelims:

Q. The FAO accords the status of 'Globally Important Agricultural Heritage System (GIAHS)' to traditional agricultural systems. What is the overall goal of this initiative? (2016)

1. To provide modern technology, training in modern farming methods and financial support to local communities of identified GIAHS so as to greatly enhance their agricultural productivity.
2. To identify and safeguard eco-friendly traditional farm practices and their associated landscapes, agricultural biodiversity and knowledge systems of the local communities.
3. To provide Geographical Indication status to all the varieties of agricultural produce in such identified GIAHS.

Select the correct answer using the code given below:

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

Ans: (b)

Q. With what purpose is the Government of India promoting the concept of "Mega Food Parks"? (2011)

1. To provide good infrastructure facilities for the food processing industry.
2. To increase the processing of perishable items and reduce wastage.
3. To provide emerging and eco friendly food processing technologies to entrepreneurs.

Select the correct answer using the codes given below:

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

Ans: (b)

Mains:

Maratha Reservation Progress

Recently, the Maharashtra state government, responding to the **Maratha community's** demand for reservations, has issued a gazette notification proposing **amendments to the** caste certificate **rules.**

- It aims to ease and **expand the scope of offering Kunbi OBC certification to Marathas,** allowing them access to government jobs and educational institutions.
- The state has proposed to amend the **Maharashtra Scheduled Castes, Denotified Tribes (Vimukta Jatis), Nomadic Tribes, Other Backward Classes and Special Backward Category (Regulation of Issuance and Verification of) Caste Certificate Rules, 2012**, by adding the **term 'sage-soyare'** (i.e., relatives from the family tree).
    - It means that the entire family tree of everyone who has a Kunbi certificate will get the Kunbi certificate.

Read more: Maratha Quota

Aditya-L1: Deployment of Magnetometer Boom in Sun's Orbit

Recently, the **Aditya-L1 mission**, India's venture to study the Sun, marked a crucial milestone with the successful deployment of its **six-**magnetometer **boom.**

- Designed to **study the low-intensity interplanetary** magnetic field **in space**, the boom features two high-precision magnetometer sensors strategically placed at distances of 3 and 6 meters.
    - It is constructed with carbon fibre reinforced polymer segments
- **Aditya L1, positioned at** Lagrange Point 1, aims to observe the Sun's radiation, particles, and magnetic field in multiple wavelengths, marking a significant step in solar research.

Read more: Aditya-L1 mission

US Supreme Court Case Roe v Wade

- On 22nd January 1973, the **Supreme Court of the United States** ruled in **Roe v. Wade** that the **right to an abortion is a fundamental right.**
- The court ruled that the **constitutional right to privacy** includes a woman's right to choose whether to have an abortion or not. The court applied the constitutional **principles of privacy and liberty to a woman's ability to terminate a pregnancy.**
- However, the government can still regulate or restrict abortion access depending on the **stage of pregnancy.**

- The ruling also stated that a person can choose to have an abortion until a **fetus becomes viable,** which is usually between 24 and 28 weeks after conception.
  - Prior to Roe v. Wade, abortion **had been illegal throughout much of the country.** Since the 1973 ruling, many states have **imposed restrictions on abortion rights.**
  - The **Supreme Court overturned Roe v. Wade, in 2022**, ruling that there was **no longer a federal constitutional right to an abortion.** Court upheld a **Mississippi law that bans abortion after 15 weeks of pregnancy.**
    - The decision overturned 50 years of legal protection and paved the way for **individual states to curtail or ban abortion rights.**

Read more: [US' Roe v. Wade Case 1973](#)

Gallantry Awards

On the **75th Republic Day**, the **President of India approved** [Gallantry awards](#) to 80 Armed Forces and security forces personnel, 12 of which were awarded posthumously.

- Gallantry Awards have been instituted by the Government of India to honour the acts of **bravery and sacrifice of the officers/personnel** of the Armed Forces, other lawfully constituted Forces and civilians.
- Post-independence, the first three gallantry awards namely [Param Vir Chakra](#)**, Maha Vir Chakra and Vir Chakra** were instituted by the Government of India on 26th January 1950 and were deemed to have effect from the 15th August 1947.
  - After that, other three gallantry awards i.e. Ashoka Chakra Class-I, Ashoka Chakra Class-II and Ashoka Chakra Class-III were instituted by the Government of India on 4th January, 1952, which were deemed to have effect from the 15th August, 1947.
    - These awards were renamed as **Ashoka Chakra, Kirti Chakra and Shaurya Chakra** respectively in January, 1967.
- These gallantry awards are **announced twice in a year**, first on the occasion of the **Republic Day** and then on the occasion of the **Independence Day.**
- Gallantry awards are categorized into **two types:**
  - **Wartime Gallantry Awards**
    - These awards are given for bravery in the face of the enemy.
  - **Peacetime Gallantry Awards**
    - These awards are given for bravery other than in the face of the enemy.

- Order of precedence of these awards is the **Param Vir Chakra, the Ashoka Chakra, the Mahavir Chakra, the Kirti Chakra, the Vir Chakra and the Shaurya Chakra.**

Read more: [Gallantry Awards](#)

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