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Index

Heeng

Why in the News?

The Council of Scientific and Industrial Research (CSIR) recently announced that heeng (asafoetida) cultivated in Palampur, Himachal Pradesh, has flowered and set seeds for the first time in India. This marks a breakthrough in India's efforts to domestically cultivate the spice that has traditionally been entirely imported from countries like Afghanistan and Iran.

Background

- Heeng, or Ferula assa-foetida, is a perennial herbaceous plant native to Iran, Afghanistan, and Central Asia.
- India is one of the largest consumers of heeng in the world (around 1,200 tonnes per year), but until recently, 100% of its demand was met through imports.
- Cultivation in India was historically absent, primarily due to unsuitable agro-climatic conditions and a lack of suitable planting material.

In 2020, CSIR-Institute of Himalayan Bioresource Technology (IHBT) in Palampur introduced Ferula assa-foetida for cultivation in the cold desert conditions of Lahaul-Spiti, Himachal Pradesh.

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Features of Heeng and Its Cultivation

Botanical Features

- **Scientific name:** Ferula assa-foetida
- **Family:** Apiaceae (same as carrots, celery)
- **Plant type:** Herbaceous perennial
- **Time to flower:** 5 years after plantation

Climatic and Soil Conditions

- Soil: Sandy, well-drained, low moisture
- Rainfall: Less than 300 mm annually

Temperature range:

- Optimal: 10–20°C
- Tolerates: up to 40°C
- Dormant at: –4°C and below

Extraction of Asafoetida

- Heeng is not harvested like fruit; rather, it is extracted as a milky latex from the taproot of the plant.
- This latex solidifies into a resin, which is then used in culinary, medicinal, and aromatic applications.
- 40–64% of the dried gum consists of resin.

Nutritional and Medicinal Value

- Known for its digestive, anti-flatulent, anti-microbial, and anti-inflammatory properties.
- Used in Ayurveda and traditional medicine to treat bronchitis, asthma, and indigestion.

Challenges

- Agro-climatic Suitability Heeng requires cold and arid conditions with low rainfall, only found in the Himalayan and trans-Himalayan zones.

Long Gestation Period

- Takes 5 years to mature and flower, making it commercially unattractive for many farmers.

Lack of Domestic Germplasm

- India lacks the native species Ferula assa-foetida. Only other species like Ferula jaeschkeana and Ferula narthex are found, which do not yield edible heeng.

Limited Awareness and Expertise

- Farmers are unfamiliar with its cultivation cycle and post-harvest processing techniques.

Uncertain Market Linkages

- Even if grown, establishing a reliable supply chain and price realisation remains a hurdle.

Way Forward

Research and Development

- CSIR and agricultural universities must expand trial plantations in similar agro-climatic zones such as Ladakh, Uttarakhand, and Sikkim.
- Germplasm conservation and genetic research must be promoted to adapt the species to Indian conditions.

Farmer Awareness and Training

- Conduct hands-on training for farmers in hemp-growing regions, focusing on planting techniques, resin extraction, and storage.

Policy and Incentives

- Heeng cultivation should be brought under the National Horticulture Mission or a speciality spice cultivation scheme.
- Provide financial incentives/subsidies for farmers during the long gestation period.

Building Value Chains

- Encourage startups and cooperatives to engage in heeng processing and branding, similar to saffron or GI-tagged spices.
- Promote organic certification and export branding.

Reduce Import Dependency

- With strategic cultivation expansion, India can cut down import bills, boost spice self-reliance, and even position itself as a global supplier.

Conclusion

India's successful domestication of heeng after centuries of import dependence is not only a scientific milestone but also an opportunity to revolutionise high-value spice farming in arid Himalayan regions. With sustained policy support, local adaptation, and value chain creation, heeng cultivation can transform the rural economy in India's cold deserts while enhancing agro-biodiversity and food sovereignty.

Main

Q. India has been one of the largest consumers of asafoetida (Heeng), yet it remained entirely import-dependent until recently. Examine the significance of domestic Heeng cultivation, the challenges involved, and the policy measures needed to ensure its sustainable expansion.

Q. About Ferula assa-foetida (Heeng), recently in the news, consider the following statements:

1. The oleo-gum resin used as asafoetida is extracted from the leaves and flowers of the plant.
2. Heeng requires cold, arid climates and can survive temperatures as low as –4°C.
3. India is one of the top producers and exporters of asafoetida in the world.
4. The first successful flowering and seed setting of Ferula assa-foetida in India was reported from Palampur.

Which of the above statements is/are correct?

A. 2 and 4 only
B. 1 and 3 only
C. 1, 2, and 3 only
D. 2, 3, and 4 only

Answer: A. 2 and 4 only

Explanation:

- **Statement 1 is incorrect:** The oleo-gum resin is extracted from the taproot and rhizome, not from leaves or flowers.
- **Statement 2 is correct:** Heeng thrives in cold arid conditions and tolerates temperatures down to –4°C.
- **Statement 3 is incorrect:** India imports 100% of its Heeng; it is not a producer/exporter yet.
- **Statement 4 is correct:** CSIR-IHBT reported successful flowering in Palampur, Himachal Pradesh.

India's population hits 146.39 crore: UNFPA (United Nations Population Fund)

Why in the News?

The United Nations Population Fund (UNFPA) in its latest flagship report - "State of the World Population 2025: The Real Fertility Crisis" - estimates India's population to have reached 146.39 crore (1.4639 billion) by April 2025.

- It confirms India's status as the world's most populous country, overtaking China, which is estimated at 141.61 crore.
- The report also highlights a significant demographic shift: India's Total Fertility Rate (TFR) has dropped to 1.9, below the replacement level of 2.1.
- It projects that India's population will peak at around 170 crore in the next 40 years before beginning to decline, raising critical questions about the nation's long-term demographic, economic, and social stability.

Background

India has long grappled with the challenge of rapid population growth. From 361 million in 1951, the country's population grew to 1.21 billion in 2011, according to census data. The 2021 Census was delayed due to the pandemic and is now expected by March 2027.

DEMOGRAPHIC INDICATORS

	Population	15-64 years	65+	TFR	Life expectancy
India	1,428.6 mn	68%	7%	2.0	72.5 yrs
China	1,425.7 mn	69%	14%	1.2	79 yrs
World	8,045 mn	65%	10%	2.3	73.5 yrs

UNFPA's State of World Population Report 2023

Historically, India's Total Fertility Rate (TFR) was 5.9 in 1951, which dropped to 2.0 by 2021, according to the Sample Registration System (SRS).

Demographic Transition Model (DTM)

India is currently transitioning from Stage 3 to Stage 4 of the DTM:

- **Stage 3**: Declining fertility and mortality
- **Stage 4:** Low fertility and low mortality, stable or declining population

With a TFR of 1.9, India has officially entered below-replacement fertility, similar to countries like China, South Korea, and many in Europe.

Features of India's Demographic Profile

Population Size

- 146.39 crore (as of April 2025)
- Expected to peak at 170 crore by 2065

Total Fertility Rate (TFR)

- Declined to 1.9 (UNFPA)
- Replacement rate is 2.1
- Varies across states: higher in Bihar (2.98), lower in Kerala, Tamil Nadu, Delhi (<1.8)

Youth Bulge

- 24% aged 0–14 years
- 26% aged 10–24 years
- Demographic dividend window still open, but closing fast

Working-Age Population

- 68% between 15–64 years
- Potential economic driver, known as the Demographic Dividend.

Elderly Population
- 7% aged 65+ in 2025
- Expected to double by 2050
- Rising old-age dependency ratio

Life Expectancy
- 71 years for men, 74 years for women
- Improved from 63 (1991) to 72.5 (2025)

Urban-Rural Divide
- The urban population is growing rapidly
- But the fertility transition started earlier in urban areas

Challenges
The 'Real' Fertility Crisis: Agency, Not Arithmetic
- The report shifts focus from numbers to reproductive agency - the right to freely decide family size, contraception, and timing of childbirth.
- Unmet contraceptive needs, gender inequality, and social coercion persist.

Regional Imbalances
- States like Bihar, Uttar Pradesh, and Jharkhand still have high TFRs and poor health indices.
- This creates a dual burden: population momentum in some states, and population ageing in others.

Shrinking Demographic Dividend
- India's median age is rising (currently ~29 years).
- The demographic dividend will decline post-2040.
- Lack of quality jobs, skilling, and labour reforms may waste this potential.

Ageing Population and Social Security
- The elderly population is expected to be over 20% by 2050.
- India lacks comprehensive pension, geriatric healthcare, and elderly insurance systems.

Urban Overcrowding and Infrastructure Stress
- A growing population in metros creates a burden on housing, water, transport, and waste.
- Slums and informal settlements proliferate.

Women's Workforce Participation
- **Paradox:** falling fertility but low female labour force participation rate (~25%)
- Cultural, economic, and safety issues restrict women's economic empowerment.

Education and Health Gaps
- Uneven access to reproductive health, education, and sanitation.
- Large sections of youth are NEET (Not in Education, Employment, or Training).

Census Delay and Data Vacuum
- India's last census was in 2011; without the 2021 census, planning is based on outdated projections.
- Absence of real-time granular data hurts policy targeting.

Way Forward
Strengthen Reproductive Rights and Health
- Ensure universal access to family planning services.

- Improve access to contraceptives, reproductive health literacy, and menstrual health
- Promote consensual family planning, not coercion or incentives

State-Specific Population Policies

- Avoid “one-size-fits-all” population control narratives
- High fertility states need targeted interventions in women’s education, nutrition, and health
- Low fertility states need ageing policy frameworks

Census 2027: A Critical Priority

- Ensure a transparent, comprehensive, and digital-friendly census
- Use geospatial tools, Aadhaar integration, and AI to enhance data fidelity

Harness the Demographic Dividend

- Focus on skilling, employability, and entrepreneurship
- Leverage schemes like PMKVY, Skill India, and Startup India
- Reform labour laws and incentivise youth-centric industries

Prepare for Population Ageing

- Build a robust pension and health insurance ecosystem
- Promote geriatric care, senior citizen welfare policies
- Encourage community-based care and active ageing programs

Women's Empowerment is Central

- Invest in education, transport, workplace safety, and childcare infrastructure.
- Implement laws like the Maternity Benefit Act, POSH, and equal pay provision.s
- Promote women-led entrepreneurship and STEM education

Urban Planning for Population Density

- Encourage smart cities, satellite towns, and decongested metros
- Invest in sustainable transport, vertical housing, and water recycling
- Involve urban local bodies in participatory governance

Cross-Sectoral Investment

- Link population policy with education, health, agriculture, urbanisation, and climate resilience
- Avoid focusing merely on numerical control and embrace a human development approach.

Promote Public Awareness

- Encourage media, schools, and community groups to spread rational discourse on population.
- Counter misinformation around the population explosion narrative.

Conclusion

India’s journey from high fertility to below-replacement fertility reflects a remarkable demographic transformation. However, demographic dividends are not automatic; they must be converted through sound policy, investments in human capital, and inclusive growth.

Main question

India's population has reached 146.39 crore, while its fertility rate has declined below replacement level. In this context, critically examine the demographic challenges and opportunities India faces in the coming decades. Also, suggest suitable policy responses to ensure sustainable development. **(250 words)**

Which of the following statements regarding the UNFPA's State of the World Population 2025 report and India's demographic profile is/are correct?

1. India's Total Fertility Rate (TFR) of 1.9 is above the replacement level, indicating a stable population.
2. India's working-age population (15–64 years) constitutes about 68% of the total population.
3. The UNFPA report identifies the real fertility crisis as people having more children than they want due to a lack of access to contraception.
4. The elderly population (65+ years) in India is expected to decline due to falling fertility rates.

Select the correct option:

A. 2 only
B. 1 and 3 only
C. 2 and 3 only
D. 2 and 4 only

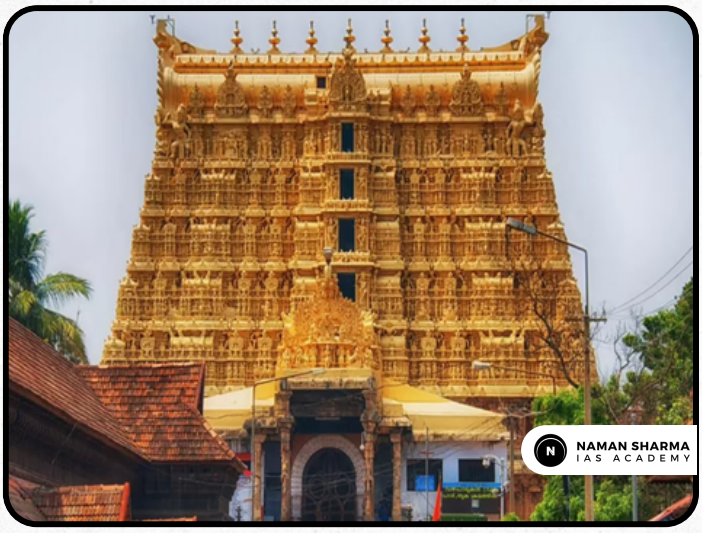
Answer: A. 2 only

Explanation:

- **Statement 1 is incorrect:** A TFR of 1.9 is below the replacement level (which is 2.1), not above it.
- **Statement 2 is correct:** The report states that 68% of the population is in the working-age group (15–64 years).
- **Statement 3 is incorrect:** The real fertility crisis, as per the report, is that people are unable to have as many children as they want, not more than they want.
- **Statement 4 is incorrect:** The elderly population is expected to rise, not decline, due to increasing life expectancy.

Sree Padmanabhaswamy Temple

Why in the News?
A Maha Kumbhabhishekam (consecration ritual) was recently performed at the Sree Padmanabhaswamy Temple in Thiruvananthapuram, Kerala, for the first time in 270 years.



Background

About the Temple:

Deity: Lord Vishnu in the Anantha Shayanam posture on serpent Adisheshan.
Location: Thiruvananthapuram, Kerala - literally translates to "Abode of Lord Ananta".

- **Historical Significance:**
- Recorded in texts from the 8th to 9th century CE, though believed to be older.
- Rebuilt by Marthanda Varma, the Travancore king who dedicated his kingdom to the deity in 1750 in the famous act of "Thrippadi Danam".

Architecture:

- Unique blend of Kerala and Dravidian styles.
- Seven-tier gopuram, richly carved and ornamented.
- Dhvajastambha (flag post): 80 ft high, gold-plated copper.
- Murals and paintings: Life-sized depictions of deities like Vishnu, Ganapati, Gaja Lakshmi, Narasimha.

Mathilakam Records:

Over 3 million palm-leaf manuscripts from the 14th century CE.
Contains administrative and financial data of the Travancore kingdom.

Features of the Maha Kumbhabhishekam

- Performed after a gap of 270 years.
- Involves ritual purification, homams (fire sacrifices), and ritual reconsecration of the deity and temple premises.
- Aligns with Agama Shastra and Tantric traditions.
- Ceremonies lasted 11 days, witnessed by lakhs of devotees.
- Major components include ritual baths, Yagasala rituals, and Pancha-Gavya purification.

Challenges

Conservation and Restoration

- Temple's architecture and murals are vulnerable to weathering, pollution, and footfall.
- Balancing modern infrastructure with traditional aesthetics remains tough.

Religious Autonomy vs. Judicial Oversight

- The 2011 treasure discovery sparked debates over temple governance, with courts stepping in to monitor management.
- A Supreme Court judgment in 2020 upheld the Travancore royal family's custodianship, adding to the debate on secular state vs. religious autonomy.

Heritage Management

- The Mathilakam records are understudied and under-digitised, though they are a potential UNESCO Memory of the World candidate.
- Preservation of manuscripts, murals, and ritual documentation requires expertise, funding, and community participation.

Accessibility and Security

- Managing pilgrim inflow, crowd control, and protection of temple vaults and artefacts is a logistical challenge.

Way Forward

Ritual Preservation and Documentation

- Document the Maha Kumbhabhishekam and its associated Vedic and Tantric knowledge.
- Collaborate with Indira Gandhi National Centre for the Arts (IGNCA), ASI, and traditional scholars.

Promote Cultural Tourism Ethically

- Develop eco-sensitive spiritual tourism models in Thiruvananthapuram.
- Maintain temple sanctity while boosting the local economy.

Digitisation of Mathilakam Records

- Digitise palm-leaf manuscripts and make them available for historical, religious, and economic research.
- Collaborate with Kerala State Archives and the national digital library projects.

Conservation of Architecture and Art

- Use modern conservation techniques to protect murals, gopurams, and stone structures from erosion and time decay.

Temple Governance Models

- Use the Sree Padmanabhaswamy Temple as a model for decentralised and community-based religious governance.
- Ensure transparent management of donations, gold reserves, and rituals.

Main question

The performance of the Maha Kumbhabhishekam at the Sree Padmanabhaswamy Temple after 270 years highlights the intersection of faith, heritage, and governance in India. Discuss the cultural and architectural significance of the temple, and examine the key challenges in preserving temple heritage in the 21st century.

Which of the following statements about the Sree Padmanabhaswamy Temple and the recent Maha Kumbhabhishekam is/are correct?

1. The Maha Kumbhabhishekam ritual was performed after 270 years as per Tantric and Vedic traditions.
2. The temple's architecture reflects a blend of Nagara and Vesara styles.
3. The Mathilakam records consist of palm-leaf manuscripts dating back to the 14th century, chronicling Travancore's temple administration.
4. The Travancore royal family was removed from temple management by a 2020 Supreme Court verdict.

Select the correct option:

A. 1 and 3 only
B. 1 and 2 only
C. 2 and 4 only
D. 1, 2, and 4 only

Answer: A. 1 and 3 only

Explanation:

- **Statement 1 is correct:** The Maha Kumbhabhishekam was performed after 270 years following Vedic and Tantric traditions.
- **Statement 2 is incorrect:** The temple reflects a blend of Kerala and Dravidian styles, not Nagara or Vesara.

- **Statement 3 is correct**: The Mathilakam records are palm-leaf manuscripts from the 14th century, documenting Travancore's temple and administrative affairs.
- **Statement 4 is incorrect:** In 2020, the Supreme Court restored the Travancore royal family's custodianship, not removed it.

Civil Registration System

Why in the News?

Recently released data from the Civil Registration System (CRS) reveals that around 86.5 lakh deaths were registered across India in 2022, a substantial decrease from the record high witnessed during the COVID-19 pandemic in 2021.

The data, released by the Office of the Registrar General of India (ORGI), is critical for understanding demographic trends, policy-making, and health infrastructure planning.

This comes in the wake of amendments to the Registration of Births and Deaths Act in 2023, aiming to modernise, digitise, and enhance the comprehensiveness of the CRS, making it a cornerstone for evidence-based governance.

Background

What is the Civil Registration System (CRS)?

The Civil Registration System (CRS) is the continuous, permanent, compulsory, and universal recording of vital events- births, deaths, and stillbirths per the Registration of Births and Deaths (RBD) Act, 1969.

It is one of the oldest and most significant demographic data systems in the country.

Legal Foundation

- Registration of Births and Deaths (RBD) Act, 1969: Enacted to bring uniformity and comparability in registration across Indian states.
- CRS under Concurrent List: Falls under Entry 30 of the Concurrent List (both Centre and States can legislate).
- The Act was recently amended in 2023, enhancing the role of digital records and central data maintenance.

Institutional Framework

- Office of the Registrar General, India (ORGI) under the Ministry of Home Affairs (MHA) supervises the CRS at the national level.
- At the State/UT level, the Chief Registrar heads the operations.
- Local registrars are appointed for municipalities, panchayats, and urban bodies.

Features of the Civil Registration System

Universal Coverage of Vital Events

The CRS aims to cover every birth, death, and stillbirth across the country, regardless of social or geographic differences.

Legal Documentation

- Registered births and deaths provide individuals with legal identity documents - birth certificates, death certificates, etc. - essential for accessing rights and services.

Decentralised but Centrally Supervised

- While registration is done at the local level, data is aggregated and monitored at the national level by ORGI.

Integration with Health Systems

- Increasingly, the CRS is being integrated with health infrastructure, including hospitals, PHCs, and municipal health departments, for real-time recording.

Data on Causes of Death

- The system also records Medical Certification of Cause of Death (MCCD), helping in public health surveillance.

Digital and Real-Time Entry (Post-2023 Amendment)

- States are now transitioning to online platforms for civil registration.
- Central database: ORGI maintains a unified digital repository of all registered vital events.

Link to Aadhaar and Other Services

- The 2023 amendments allow for automatic population register updates, facilitating integration with social schemes, passports, and school admissions.

Significance of the CRS

Policy Formulation

- CRS data aids targeted policymaking in health, education, social security, and employment.

Public Health

- Accurate mortality statistics help assess disease burden, monitor epidemics, and design National Health Missions and insurance schemes.

Demographic Trends

- CRS data reveals fertility, mortality, and population growth trends—vital for population policy and long-term planning.

Disaster Response

- In events like pandemics, floods, or earthquakes, the system provides baseline data to estimate casualties and plan relief.

Legal and Administrative Utility

- Birth certificates are essential for citizenship, education, and inheritance.
- Death certificates are required for insurance claims, property succession, and updating official records.

Recent Trends and Insights (2022 Data)

- 86.5 lakh deaths were registered, a notable drop from the 92 lakh-plus in 2021 (COVID-19 peak).
- Death registration completeness is improving, reaching nearly 100% in some states.
- Sex-disaggregated data show disparities in male and female registration rates.
- Urban areas fare better than rural areas in registration completeness.
- Medical certification of deaths remains low (~20%), with major gaps in rural reporting.

Challenges in the Civil Registration System

Under-registration and Data Gaps

- Despite progress, not all births and deaths are registered, especially in rural, tribal, and remote areas.
- Female births are less likely to be registered in some regions.

Incomplete Medical Certification

- Only about 20% of deaths are medically certified in India.
- Most rural deaths occur at home, with no medical cause recorded.

Technological Disparities

- Digital registration systems are not uniformly implemented.
- Connectivity issues affect real-time data entry in backwards districts.

Bureaucratic Delays and Corruption

- People often face hurdles in obtaining certificates due to local inefficiencies or bribes.

Awareness and Social Barriers

- Lack of public knowledge about the importance of registration, especially among marginalised communities.

Privacy and Data Security Concerns
- Integration with Aadhaar and digital platforms raises questions about data protection and misuse.

2023 Amendment to the RBD Act: A Game Changer?
Key Provisions
- Creation of a national population register based on civil registration data.
- Use of digital registration for efficient service delivery.
- Real-time sharing of registration data with user agencies like UIDAI, passport office, school boards, etc.

Concerns Raised
- Federal concerns: States worry about central overreach on a concurrent subject.
- Surveillance fears: Critics argue it may become a tool of profiling or targeting specific groups.
- Digital exclusion: Vulnerable sections without digital access may be left out.

Way Forward
Strengthen Institutional Capacity
- Train and incentivise local registrars, health workers, and Anganwadi staff.
- Ensure district-level monitoring and grievance redressal mechanisms.

Universal Digital Access
- Provide mobile-based and offline tools for rural/remote registration.
- Promote multi-lingual, user-friendly interfaces.

Link CRS with Health and Welfare Systems
- Integrate CRS with Ayushman Bharat, PMMVY, and school admission portals to improve usage and visibility.

Improve Medical Certification
- Expand the Medical Certification of Cause of Death (MCCD) to rural areas using trained ASHAs or health assistants.
- Encourage telemedicine-based certification where hospitals are far.

Community Awareness Campaigns
- Conduct IEC campaigns in local languages to raise awareness.
- Use PRI bodies, schools, and SHGs to reach rural households.

Data Privacy and Ethical Use
- Introduce a strong data protection framework for CRS data.
- Ensure voluntary and informed consent in data linkage.

Balanced Federal Approach
- Consult with states for the harmonious implementation of central guidelines.
- Encourage state-level innovations, like Odisha's e-Vital or Gujarat's Janam-Maran software.

Conclusion
The Civil Registration System is the backbone of demographic intelligence and legal identity in India. The recent CRS data for 2022 and the subsequent amendments reflect India's intent to build a modern, responsive, and integrated system of birth and death recording.

Main question
Discuss the significance of the Civil Registration System (CRS) in India's governance framework. Examine the key challenges in its implementation and suggest measures to ensure universal and accurate registration of vital events.

Q. Which of the following statements regarding the Civil Registration System (CRS) in India is/are correct?

1. The CRS functions under the Registration of Births and Deaths (RBD) Act, 1969, which falls under the Union List of the Constitution.
2. The RBD Act was amended in 2023 to enable real-time digital registration and the creation of a national population registry.
3. The Office of the Registrar General of India (ORGI) collects data from state-level Chief Registrars under CRS.
4. CRS data is used only for health sector planning and not for legal identity or social welfare schemes.

Select the correct answer using the code below:

A. 1 and 4 only
B. 2 and 3 only
C. 1, 2, and 3 only
D. 2, 3, and 4 only

Answer: B. 2 and 3 only
Explanation:

- **Statement 1 is incorrect:** CRS is under the Concurrent List (Entry 30), not the Union List.
- **Statement 2 is correct:** The 2023 amendment introduced real-time digital updates and a population database.
- **Statement 3 is correct:** ORGI collects and compiles data from the Chief Registrars in States/UTs.
- **Statement 4 is incorrect:** CRS data is critical for legal identity, welfare schemes, education, pensions, and more, not limited to the health sector.

United Nations Ocean Conference (UNOC3)

Why in the News?

The Third United Nations Ocean Conference (UNOC3) was recently held in Nice, France, co-hosted by France and Costa Rica. India took a prominent role, advocating for urgent international cooperation on marine conservation and showcasing major national ocean-related initiatives.

Background

What is UNOC?

The United Nations Ocean Conference (UNOC) is a global platform focused on SDG 14 – Life Below Water, aimed at conserving and sustainably using the oceans, seas, and marine resources.

Timeline of UNOC Conferences:

- **2017:** 1st UNOC in New York, co-hosted by Fiji and Sweden
- **2022:** 2nd UNOC in Lisbon, co-hosted by Portugal and Kenya
- **2025:** 3rd UNOC in Nice, co-hosted by France and Costa Rica
- **2028:** 4th UNOC to be hosted by Chile and South Korea (yet to be formally announced)

Legal Backing:

Operates within the framework of the United Nations Convention on the Law of the Sea (UNCLOS), which governs maritime zones, freedom of navigation, deep-sea mining, and environmental obligations.

Achievements So Far:

Over $130 billion mobilised since 2014

More than 2,160 voluntary commitments have been made to protect the oceans

Features of UNOC3

India's Major Contributions Highlighted:

Deep Ocean Mission: Progress on Samudrayaan, India's first manned deep-sea submersible (target depth: 6,000m by 2026).

Marine Plastic Reduction:

- Ban on single-use plastics
- Swachh Sagar, Surakshit Sagar campaign cleaned 1,000+ km coastline, removed 50,000+ tonnes of plastic
- Draft Marine Litter Policy in place
- Support for Global Plastics Treaty

Blue Economy Push:

- $80 billion under Sagarmala for port-led development
- $2.5 billion under PM Matsya Sampada Yojana; 10% rise in fish production
- Creation of 1,000+ Fish Farmer Producer Organisations (FFPOs)

Marine Biodiversity Conservation:

- 6.6% of India's EEZ is under Marine Protected Areas (MPAs)
- Restoration of 10,000+ hectares of mangroves

Marine Data Governance:

- Launch of the AHAV Portal for transparent and scientific ocean governance
- Global Leadership:
- Co-leader of 'Blue Talks'
- Participation in high-level UN panels
- Advocacy for equitable access to marine data and capacity-building for developing nations

Global Themes Addressed:

Combatting marine pollution

- Tackling overfishing and IUU fishing (Illegal, Unreported, Unregulated)

- Responding to ocean acidification and rising sea levels
- Financing sustainable ocean development
- Enhancing international collaboration on ocean science and technology

Challenges

Fragmented Governance:
- Overlapping mandates between various global and regional bodies, lack of coordinated action.

Marine Pollution Crisis:
- Only 9% of plastic is recycled globally; marine plastic may outweigh fish by 2050 (UNEP projection).

Overexploitation of Resources:
- One-third of global fish stocks are overexploited; destructive fishing methods remain prevalent.

Climate Change Impact:
- Oceans absorb ~90% of excess heat and ~30% of CO_2, leading to coral bleaching, sea level rise, and biodiversity loss.

Limited Financing for Developing Nations:
- The gap between ocean protection needs and available capital for Small Island Developing States (SIDS) and Least Developed Countries (LDCs).

Lack of Equitable Access to Marine Technology and Data:
- Developing countries face a digital divide in ocean research and forecasting capabilities

Non-ratification of UNCLOS by Key Powers:
- Countries like the USA have not ratified UNCLOS, weakening global consensus.

Way Forward

Strengthen UNCLOS and Global Governance:
- Promote universal ratification and implementation of UNCLOS and the BBNJ Treaty (Biodiversity Beyond National Jurisdiction).

Support Global Plastics Treaty:
- Push for a legally binding agreement on plastics at the upcoming UNEP Intergovernmental Negotiations.

Enhance Marine Science Diplomacy:
- Expand initiatives like SAHAV and support the UN Decade of Ocean Science (2021–2030) for evidence-based policymaking.

Blue Financing Mechanisms:
- Develop Blue Bonds, ocean-focused climate funds, and carbon markets to support sustainable fisheries, MPAs, and ecosystem restoration.

Technology Transfer & Capacity Building:
- Establish a global framework for sharing marine tech and data with developing nations under SDG 14 targets.

Mainstream Ocean Health in Climate Action:
- Integrate oceans into Nationally Determined Contributions (NDCs) and climate resilience plans under the Paris Agreement.

Expand MPAs and Ocean Literacy:
- Aim to protect 30% of the oceans by 2030 (30x30 target), and promote ocean literacy among students and coastal communities.

Promote Equitable Blue Economy Models:

- Ensure that blue growth respects local livelihoods, Indigenous rights, and environmental sustainability.

Conclusion

The Third UN Ocean Conference in Nice served as a critical global forum to reinvigorate momentum for ocean conservation under SDG 14. India's leadership, ranging from Samudrayaan to SAHAV, signals a strong commitment to a rules-based, science-driven, and equitable blue future. But realising the ocean's potential as a climate ally and economic engine will require deeper global collaboration, innovative financing, and inclusive governance.

Q.. "The Third United Nations Ocean Conference (UNOC3) reflects a global shift towards inclusive and sustainable ocean governance." Critically examine India's role and commitments at UNOC3 in light of SDG 14 and the UNCLOS framework.

Which of the following Indian initiatives was showcased at UNOC3 as part of India's marine conservation efforts?

1. Samudrayaan under Deep Ocean Mission
2. Swachh Sagar, Surakshit Sagar Campaign
3. SAHAV Portal
4. PM Gati Shakti Portal

A. 1 and 2 only
B. 1, 2 and 3 only
C. 2 and 4 only
D. All of the above

Correct Answer: B

Explanation: The first three initiatives relate to ocean governance. PM Gati Shakti focuses on multimodal logistics infrastructure, not marine conservation.

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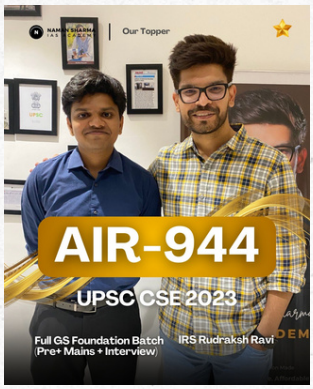

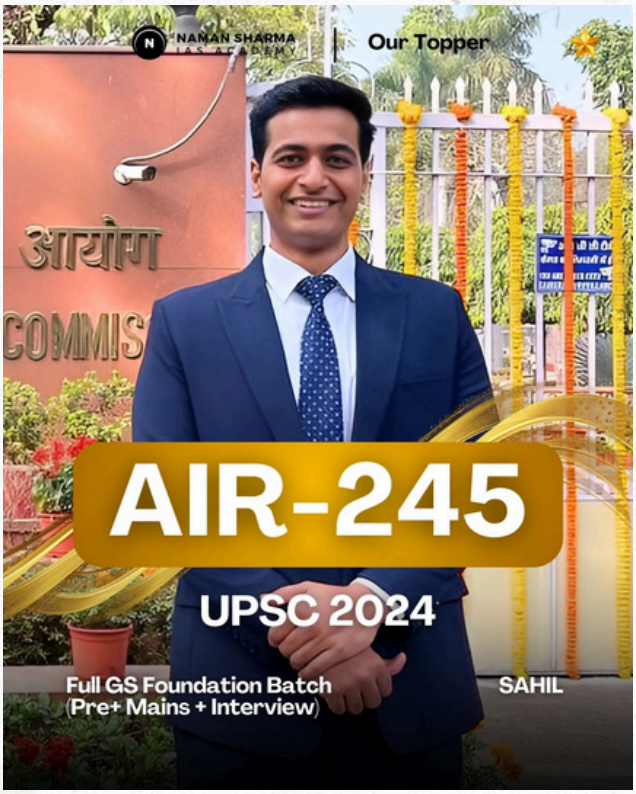

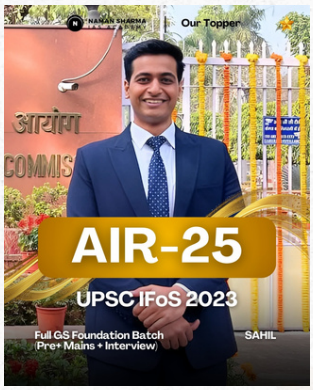

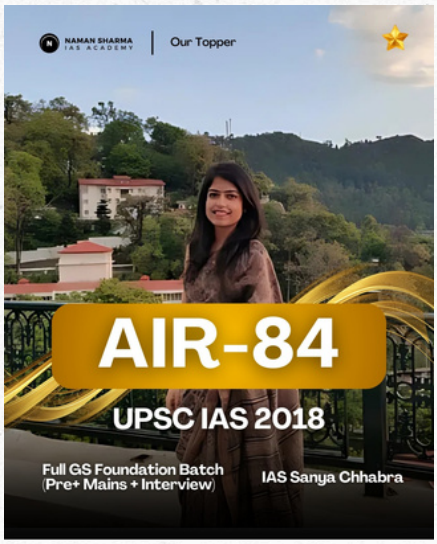

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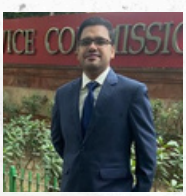

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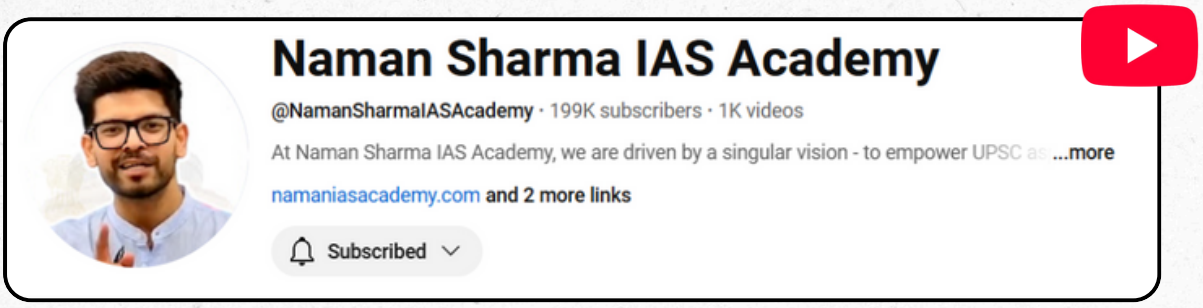

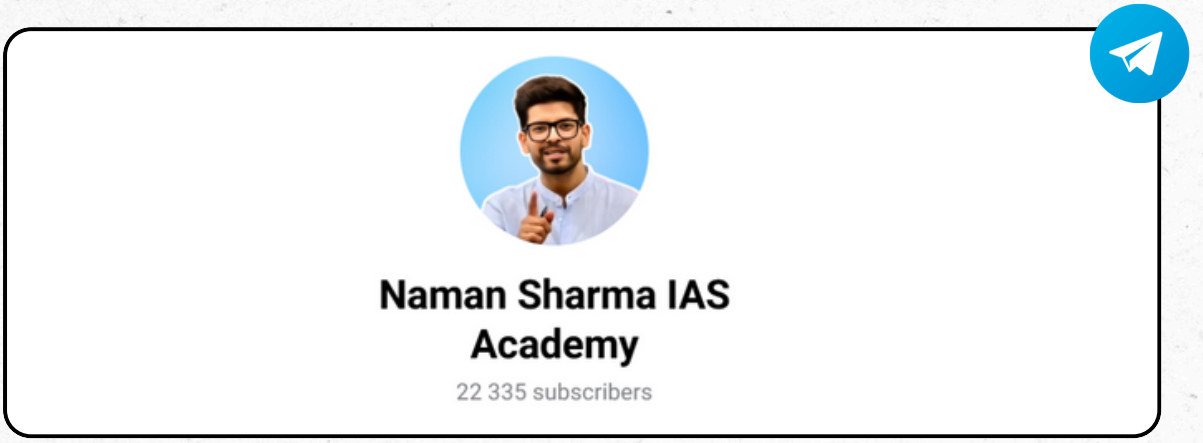

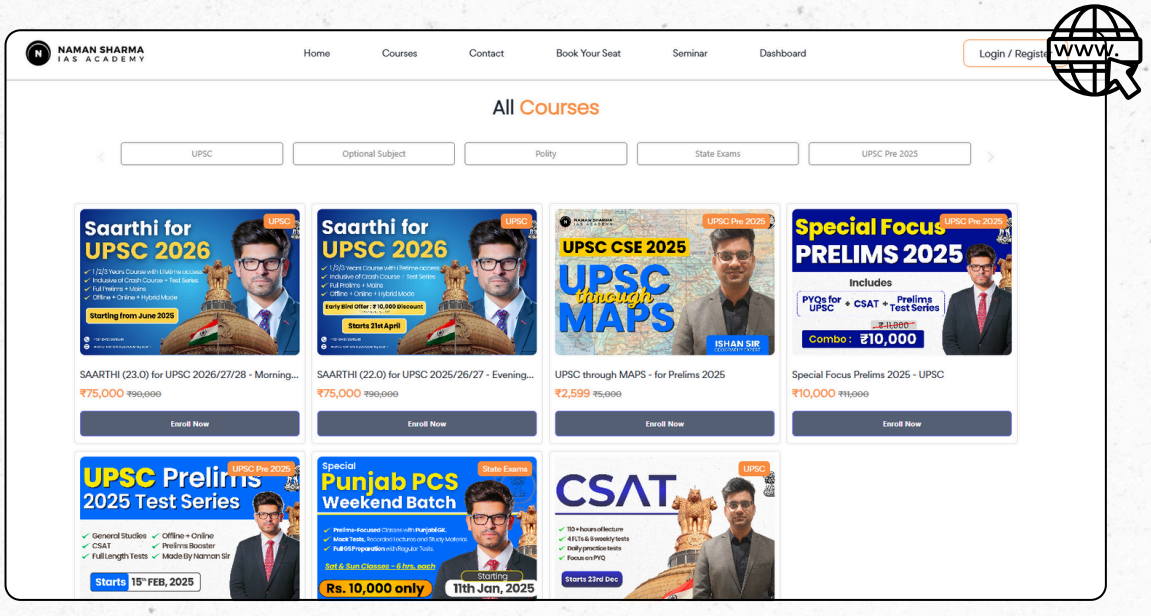

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