



INSIDE

GS PAPER 1

WO	RL	D	HI	ST	0	RY	7

1. India and the Korean war 5

GEOGRAPHY & IMPORTANT GEOPHYSICAL PHENOMENA

- 2. Apex body for glacier management
- 3. Without action plans, India's poorest will continue to bear brunt of heatwaves: Study 7
 - a. Heat Index (HI)
 - b. Difference between Hazard, Risk, Vulnerability and Disasters:

HOW CAN WE REDUCE RISK?

RISK = (HAZARD) x (EXPOSURE) x (VULNERABILITY)



and forecast hazards



their exposure to them





6

9

The greatest benefits can be achieved by reducing the vulnerability to natural hazards

GS PAPER 2

IMPORTANT ASPECTS OF GOVERNANCE, TRANS-PARENCY AND ACCOUNTABILITY

- 1. India needs public policy education 11
- 2. Three months to set up online RTI portals: SC 12
- Parliamentary Committee: Reduce the civil services examination's selection cycle
- 4. 2 years after the Finance panel suggested, the Centre 'evaluating' 26 proposals for new cities14

MECHANISMS, LAWS, INSTITUTIONS AND BODIES CONSTITUTED FOR THE PROTECTION AND BETTER-MENT OF VULNERABLE SECTIONS

5. Karnataka: Reservation for Muslims under the OBC category 16

ISSUES RELATED TO HEALTHCARE

6. Healthcare in India has made great progress, but challenges remain 17

ISSUES RELATING TO THE DEVELOPMENT AND MANAGEMENT OF SOCIAL SECTOR/SERVICES RELATING TO EDUCATION, HUMAN RESOURCES

Institute of Eminence (I	IOE) status	
--	-------------	--

18

IMPORTANT INTERNATIONAL INSTITUTIONS, AGENCIES AND FORA - THEIR STRUCTURE, MANDATE

8. Understanding IMF bailouts

20

37

GS PAPER 3

INDIAN ECONOMY AND ISSUES RELATING TO PLAN-NING, MOBILIZATION OF RESOURCES, GROWTH, DEVELOPMENT AND EMPLOYMENT

- 1. Competition (Amendment) Bill, 2022 passed in LS 22
- 2. will mega textile parks help boost the sector?
- 3. Parliamentary panel calls for notification of e-commerce policy to address sector's 'strategy vacuum' 26

SCIENCE & TECHNOLOGY

4.Experts urging a halt to Artificial Intelligence training
27

5.Technology at your service - Transforming lives and society 29

ENVIRONMENT, CONSERVATION, POLLUTION AND DEGRADATION

- 6. Green hydrogen is not a holy grail of the energy transition 30
- 7. Draft Carbon Credit Trading Scheme 32
- 8. How to manage India's solar PV waste problem? 33
- 9. India ranks fifth in national contribution to warming:Study35
- 10. World Bank Report: <u>Air Pollution</u> and Public Health in South Asia36

INTERNAL SECURITY

11. 'Disturbed areas' tag under AFSPA

CONTENT FOR MAINS EN-RICHMENT (CME)

- Universal Basic Income scheme in Tamil Nadu 38
- Uttarakhand: QR code-based project to prevent littering
 38
- 3. Children's Champion Award 2023 39
- 4. Children's use of social media5. Book Bank initiatives for poor students39
- 6. UAE Food Bank 39
- 7. Ubuntu 40
- 8. Bitumen from Husk 40
- 9. Fight for Climate Justice 40



54

61

		V	
10. Blended finance	40	8.National Database on Sexual Offenders (NDSO)	50
11. GDPs Without Borders	41	9. National Rabies Control Programme (NRCP)	
12. "SECURE" SCO		10.New India Literacy Programme	
FACTS FOR PRELIMS (FFP)		INTERNATIONAL RELATIONS, NEWS & ORGANITIONS	ZA
GS PAPER 1		11. Saudi Arabia in SCO	52
		12. Japan to connect la	nd

INDIAN HERITAGE & CULTURE

1. Scholarship and Fellowship Scheme to	protect folk
song artists	42
2. ICHR to use Ancestry records	42

GEOGRAPHY/GEOPHYSICAL PHENOMENA

3. Upwar	d Ligh	itning			42
4.India's	first	Bauxite	Certified	Reference	Material
(CRM)					43
5. South Atlantic Anomaly		44			

GS PAPER 2

DOCTRINES/JUDICIARY

1. The doctrine of "guilt by association"	45
2. Affinity test	45
3.Dawoodi Bohras	46

GOVERNANCE, POLICY, LEGISLATIONS, GOVT INI-**TIATIVES**

4. Rajasthan Day 46



5. Use of Technology for election	47
6. GST Appellate Tribunal (GSTAT)	48
7. Deen Dayal Upadhyaya Grameen Kaushalya	Yojana
(DDII-GKY)	49

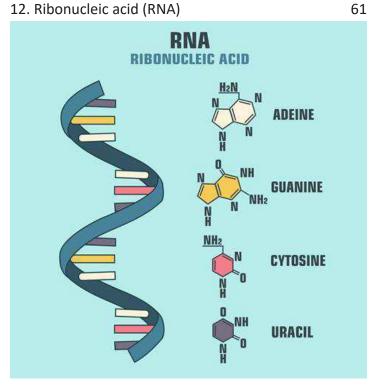
locked North East with Bangladesh 13. Multilateral Development Banks 53

GS PAPER - 3

ECONOMY, BANKING & FINANCIAL INCLUSION

1. New fees on UPI payments

2. Index Providers	54
3. Annual Periodic Labour Force Survey (PLFS)	Report
2021-22	55
4. Framework to prevent fraud by stock brokers	56
5. \$750 Billion of India's exports	56
SCIENCE & TECHNOLOGY	
6. Moore's law	57
7. Biotransformation technology	58
8. Universal Acceptance Day	58
9. Quantum-based telecom network link	59
10. Piezoelectric effect in liquids	60
11. Gamma Ray Bursts (GRB)	60





13. India's first cloned desi Gir female calf Ganga 62
AGRICULTURE
14. CRISP 63
15. Berry borer infestation 64
SPACE TECHNOLOGY
16. Successful launch of LVM3 with 36 @OneWeb satel-
lites 66
17.'Pellet-beam' propulsion 66
ENVIRONMENT, CLIMATE & CONSERVATION
18. eVTOL air taxi 66
19. Plastiglomerate 67
20. Salt marshes 67
21. Aravalli Green Wall Project 68
22. Marine protected areas (MPA) 69
23. Vembanad and Ashtamudi Lake 69
DEFENCE
24. Weapons containing depleted uranium 70
Radioactive weapons An estimated 286 tons of depleted uranium munitions were fired by the U.S. in Iraq and Kuwait in 1991. An estimated 130 tons were used in the 2003 invasion. DU, a chemical toxin, is about 60 percent as radioactive as natural uranium. War workhorses that use radiated ammunition M-1 ABRAMS TANK Up 10 120 mm sitell 30 mm canon 30 mm canon
In armor Inner Inner Inner Inner In armor Inner In ammunition In ammunit
pounds of DU structure Small bits of DU signife, causing

71

72

73

74

26. Conservation Plan for Great Indian Bustards

28. Mahoba's Desawari variety betel leaf

25. AFINDEX 2023

SPECIES IN NEWS

27. Sarus crane



GS PAPER 1

WORLD HISTORY

1. INDIA AND THE KOREAN WAR



Context	In its G20 year, India has shown renewed interest in the only other diplomatic intervention by India in a distant war (apart from the recent Russian-Ukraine) seven decades ago - The Korean War .	
Fought between:	It was fought between North Korea (supported by China and the then Soviet Union and invaded South Korea) and South Korea (supported by the US and allied countries) in 1950 and ended with an armistice in 1953 .	
An outcome of:	 It was the result of the Cold War rivalry between the then superpowers US (capitalist) and the Soviet Union (communist). 	
	The peninsula had been divided at the end of World War II along the 38th Parallel, with Soviet and US forces occupying the North and South respectively.	
	 In 1948, after the two Koreas declared themselves separate countries, and held their own elections, the occupying forces departed. 	
	 However, neither the North nor the South accepted the other and both claim the entire Korean peninsula even today. 	



India's less- er-known role in the war:	 India played a unique role, having no specific geo-political interests in the Korean Peninsula and maintaining a neutral position, and believing in the reunification of the peninsula. India's view at this time was that giving the People's Republic of China admission into the UNSC could provide a resolution in Korea. India made a huge diplomatic push to prevent an escalation into another world war, and for the parties to arrive at a quick ceasefire.
	 India sent the 60th Parachute Field Ambulance, which did outstanding work treating wounded soldiers.
India at the UN:	 At the time of the invasion, India was among the six non-permanent members of the UNSC. During its rotating presidency, 3 resolutions (moved by the US) on the war came up in quick succession. For example, calling for a withdrawal of North troops from South territory, etc. The urgent problem of what to do with the prisoners of war was given to V.K. Krishna Menon - India's Permanent Representative to the UN and a member of the UN's Special Political Committee. A Neutral Nations Repatriation Committee was set up and India was selected to chair the committee.
Conclusion	 In an essay, 'Between the Blocs: India, the UN, and Ending the Korean War', British historian Robert Barnes recognised the key role played by India To bring the Korean war to a swift conclusion by reconciling the divergent positions of the two superpower blocs, and Prevent the UN from adopting a policy that might lead to its escalation. As the world grapples to find an end to the war in Ukraine, India's role and its experience (in ending the Korean war,70 years ago) can't be neglected.

Insta Links: India-South Korea

GEOGRAPHY & IMPORTANT GEOPHYSICAL PHENOMENA

2. APEX BODY FOR GLACIER MANAGEMENT

Context	A Parliamentary Standing Committee in India has recommended the establishment of an overarching apex body for glacier management in the country
What are glaciers?	A glacier is a large, perennial accumulation of crystalline ice, snow, rock, sediment, and often liquid water that originates on land and moves downslope under the influence of its own weight and gravity.
Status of Glaciers	 Glaciers cover nearly 3% of Earth's surface and 11% of Earth's land area Source of three large river systems: Indus, Ganges, Brahmaputra Hindu Kush Himalayan Region is known as the "Water Towers of Asia" Himalayan mountains are referred to as the third pole India has over 16000 glaciers. E.g Siachen glacier in the Himalayan region.



Threats recognized	 The majority of Himalayan glaciers are melting or retreating, which will severely affect flow in Himalayan River systems
	 Melting glaciers can cause disasters like <u>Glacier Lake Outburst Floods (GLOF)</u>, glacier avalanches, etc.
	 Melting of glaciers may lead to the shift of tree lines in the Himalayas and may also cause a change in the phonological behaviour of plants.
	 Lack of data sharing on hydrological information with neighbouring countries
	 Multiple ministries/departments/institutions with different mandates for dealing with Hi- malayan glaciers
Recommendations by the parliamenta-	 Set up a single nodal agency for bringing out synergies among various government departments/ministries involved in glaciological research and monitoring
ry panel	 Establish regional cooperation for the seamless sharing of hydrological information/data on glacier movement/behaviour
	Create a multi-hazard alert and warning system
	 Increase involvement of Himalayan states, planners, scientists, and academicians in devising suitable measures for glacier management

Learn about the significance of glaciers: Here

Insta Links:

Erosion by ice/glacier

Prelims Links: (UPSC 2020)

Q. Siachen Glacier is situated to the

- (a) East of Aksai Chin
- (b) East of Leh
- (c) North of Gilgit
- (d) North of Nubra Valley

Answer: D

Mains link: UPSC 2020

Q.How will the melting of Himalayan glaciers have a far-reaching impact on the water resources of India?

3. WITHOUT ACTION PLANS, INDIA'S POOREST WILL CONTINUE TO BEAR BRUNT OF HEATWAVES: STUDY

Context:

A new report by the think-tank Centre for Policy Research on "How is India Adapting to Heatwaves?" indicates that the country is ill-prepared to face the heat.

Background:

What are	heat	 Heat waves are prolonged periods of excessively hot weather that may be accompanied
waves?		by high humidity, often leading to a range of negative impacts on human health and the
		environment.
		 It is considered as a heatwave if the maximum temperature of a station reaches at least 40°C for Plains and at least 30°C for Hilly regions.



Landmark heat- waves and their im- pact	
HAPs	Governments across India have responded by creating heat action plans (HAPs), which prescribe a variety of measures to decrease the impact of heatwaves: Preparatory activities Post-heatwave response
The report analysed 37 HAPs:	At the city (9), district (13) and State (15) levels across 18 States, to evaluate how policy action is keeping up with the warming weather in India.

Findings of the report:

- 1. <u>Heat waves</u> (prolonged periods of extreme heat) have increased in frequency in recent decades due to <u>climate</u> <u>change</u>.
- 2. HAPs are not built for local contexts.
- 3. Nearly all HAPs -
 - Fail to identify and target vulnerable groups
 - Are **underfunded** with weak legal foundations → reduces bureaucratic incentives to prioritise and comply with HAPs instructions
 - Are insufficiently transparent
- 4. Only 2 HAPs carry out and present **vulnerability assessments** (systematic studies to locate where the people most likely to be affected are in a city, district, or State).
- 5. There is **no national repository of HAPs** and very few HAPs are listed online.

Recommendations:

- 1. **HAPs must identify sources of financing** either from new funds or by combining actions with existing national and State policies.
- 2. Set up **rigorous independent evaluations** as a basis for constant improvement.
- 3. Raise public awareness on issues related to environmental sustainability and climate change.

Indian govt initiatives to deal with the impact of heat waves:

Thursday gove initiatives to dear with		
Initiative	Explanation	
Mission LiFE (Lifestyle for Environment)	To promote sustainable lifestyles and practices that conserve the environment and have climate co-benefits.	
Environment Education Programme (EEP)	To sensitise children/youth, on issues related to the environment and to motivate them to adopt sustainable lifestyles.	
National Programme on Climate Change and Human Health:	To increase public awareness on the subject of the health impacts of climate change including heat waves.	
India Meteorological Department (IMD)	Issues colour-coded impact-based heat wave warnings for public benefit through mass media.	
The National Disaster Management Authority (NDMA) and IMD	They are working with 23 States prone to high temperatures leading to heatwave conditions for supporting HAPs.	
Water Technology Initiative (WTI):	Aims to develop research-based solutions for existing and emerging water challenges facing the country in the area of water quality, quantity, water reuse and recycling.	



Per Drop More Crop (PDMC) scheme	It focuses on enhancing water use efficiency at the farm level through micro irrigation viz. drip and sprinkler irrigation systems	
The Startup India Seed Fund scheme (SISFS)	Under the Startup India initiative, the scheme provides - "Simplification and handholding', "Funding support and incentives' and "Industry- academia partnership and incubation' for, prototype development, etc.	

Conclusion:

Without implementation-oriented HAPs, India's poorest will continue to suffer from extreme heat, paying with both their health and incomes.

Insta Links: Heatwaves in India

Prelims Links: (UPSC 2015)

"Each day is more or less the same, the morning is clear and bright with a sea breeze; as the Sun climbs high in the sky, heat mounts up, dark clouds form, then the rain comes with thunder and lightning. But the rain is soon over."

Which of the following regions is described in the above passage?

- 1. Savannah
- 2. Equatorial
- 3. Monsoon
- 4. Mediterranean

Ans: 2

A. HEAT INDEX (HI)

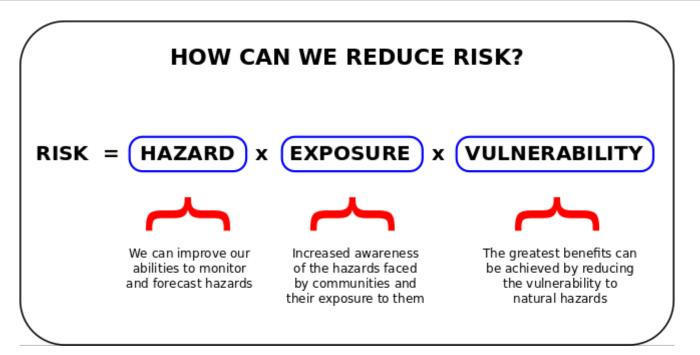
Context:	 India Meteorological Department (IMD) is planning to issue a heat hazard analysis for India, including Delhi. IMD will soon issue a Heat Index (in addition to the day's maximum and minimum temperatures) 	
What is a Heat Index?	It will be a colour-based warning that will give an estimation of what temperature actually feels like .	
It factors in a Day's	 Relative humidity Wind speed Maximum temperature Cloud cover 	
Usage of HI	 It will not only warn against Heat waves hazard but also list precautions people can take. Calculation of HI will help states in formulating better Heat Action Plans (HAPs) for heatwave assessment, forecast, preparedness and mitigation. 	



B. DIFFERENCE BETWEEN HAZARD, RISK, VULNERABILITY AND DI-



Term	Definition	Focus	Nature	Example
Hazards	Natural or human-made events or conditions that can cause harm or damage to people, the environment, or property.	Source of harm	Inherent	Earthquakes, floods, fires, chemical spills, terrorism
Risk	The probability or likelihood that harm or damage will occur as a result of exposure to a hazard.	Probability of harm	Calculable	The likelihood of a flood, earthquake, or fire occurring in a particular area
Vulnerability	The characteristics and circumstances of people, communities, or systems that make them more or less susceptible to harm or damage from a hazard.	Susceptibility to harm	Modifiable	Poverty, lack of access to resources or information, age, disability
Disasters	Events or situations that result in significant harm or damage to people, communities, or systems, often involve a combination of hazards, risks, and vulnerabilities.	Consequence of harm	Unpredictable	Hurricane Katrina, COVID-19 pandemic, 9/11 attacks





GS PAPER 2

IMPORTANT ASPECTS OF GOVERNANCE, TRANSPARENCY AND ACCOUNTABILITY

1. INDIA NEEDS PUBLIC POLICY EDUCATION

Context	Even though good public policies spur economic growth, and public welfare and improve the ease of living for citizens, there is little interest in public policy education in India.	
Background	 Most executive jobs in the organised sector are in government/govt-owned agencies and require an understanding of public policy and public administration/public management. Though the Indian bureaucracy has many talented people, governance is still perceived to be lagging behind private sector management (efficient, effective). This is largely due to a lack of training in public management → policymakers are under-equipped to develop effective policies. 	

Why does public management remain a neglected field in India?

- 1. **Inadequate formal education** in public management as compared to business management education (there are ~3,182 institutions).
 - Only ~130 public, private and not-for-profit universities offer public administration programmes and only 29 institutes offer public policy programmes.
- 2. **Few jobs** available for people pursuing such courses are the reason why universities don't have many programmes in public management.
 - Therefore, neither educational institutes nor students find any incentive to prefer public management courses.
- 3. **Very few civil servants have had exposure** to public management before joining the service. Also, there are a **few opportunities for in-service officers to study public management** in India and abroad.

Suggestions:

- 1. Public management should be **one of the compulsory subjects for the UPSC civil service examination**. This will help -
 - Civil servants have formal education in public management before they enter service.
 - In creating **an opportunity or incentive** for universities and private institutions to offer the subject at the graduate or PG level.
 - Students become better citizens as well as effective private sector managers.
- 2. The existing training institutions of the government should have a larger component of public policy as part of induction training.
- 3. The government can create **certain specialised positions for public policy analysts** to create new job avenues for the graduates of public policy programmes.

Insta Links: Governance: Important aspects

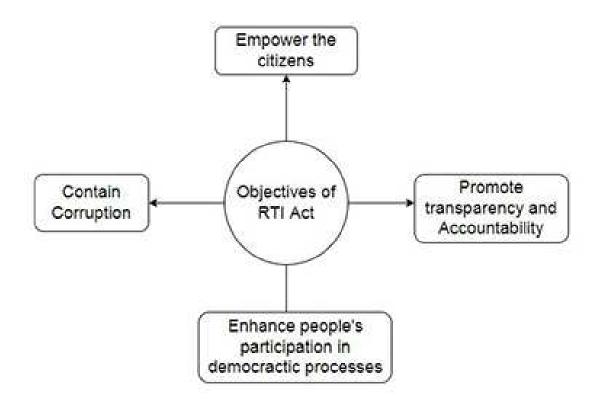
Mains Links:

Q. "Pressure groups play a vital role in influencing public policy making in India." Explain how the business associations contribute to public policies. (UPSC 2021)



2. THREE MONTHS TO SET UP ONLINE RTI PORTALS: SC

Context:	The Supreme Court has directed States and Union Territories to set up and operationalize online Right to Information (RTI) portals within three months to ensure transparency in governance.	
What is RTI?	The Right to Information Act 2005 (RTI) gives Indian citizens the right to access information held by public authorities (all levels of government, judiciary, as well as any non-governmental organizations that receive public funding).	
Genesis of RTI act:	In 1986, the Indian Supreme Court ruled in the case of Mr Kulwal v/s Jaipur Municipal Corporation that the freedom of speech and expression guaranteed under Article 19 of the Indian Constitution includes the right to information.	
Why Online Portal?	Section 6(1) of RTI, 2005 stipulated that an information seeker had a statutory right to move an application through electronic means.	
Issues with the online portal:	Even after 17 years of the act being passed, several High Courts and most district courts entertain only physical RTI applications. Issues of the 'digital divide', lack of digital infrastructure, and lack of digital literacy hamper RTI progress	
Recent Examples	Recently, Supreme Court and some HCs in Madhya Pradesh , Odisha, and Delhi have set up an online portal facilitating requests for the supply of information.	
More about Section 6 of the RTI Act	 A person who desires to obtain any information under this Act can do so in writing or through electronic means. Language: English/Hindi/official language of the area Fee: Prescribed fee. No need to disclose the reasons: For making the request or their personal details except for such information that might be required for contacting them. 	



Insta Links

Is the RTI Act fulfilling its purpose?



Mains Links

Q. Is the Right to Information (RTI) Act, 2005 fulfilling its purpose of ensuring transparency and accountability in governance? State your opinion.

3. PARLIAMENTARY COMMITTEE: REDUCE THE CIVIL SERVICES EX-AMINATION'S SELECTION CYCLE

Context:

Asserting that the **nearly 15 months long recruitment process wastes** candidates' prime years besides taking a **heavy toll on their physical and mental health**, a Parliamentary Committee has asked the UPSC to reduce the civil services examination's selection cycle

Major Recommendations of the Parliamentary Panel:

Recommendations	Benefits
Reduce the civil services examination's selection cycle	Reduced recruitment duration, the less physical and mental strain on candidates.
Examine reasons for the low turnout of candidates	Improved understanding of barriers to participation and ways to increase participation rates.
Furnish details of examination fees collected	Improved transparency in fee collection and expenditure.
Form an expert committee to assess the equal opportunity	Improved equity in the recruitment process.
Appoint an expert group to assess the impact of changes	More informed decision-makin g on changes to recruitment scheme and syllabus.
Publish the answer key after the preliminary stage of the exam	Improved transparency and fairness in the examination process.
Collect feedback and effect improvements	Improved candidate experience and fairness in the examination process.

Suggestions by other Committee for recruitment

	Suggested Reforms
Hota Committee	Reduction in the age limit for general category candidates from 32 to 26 years; Introduction of a common preliminary examination for all central services
2nd ARC Report	Introduction of lateral entry of specialists into civil Services; Recruitment of specialists through domain-specific Examinations; Strengthening the training and capacity-building of civil servants



Other issues with Civil Services in India

Issue	Description	
Conversion of ICS into IAS	No attempts were made to link IAS with India's philosophy of public administration, thereby prolonging the colonial attitude of civil servants.	
Excessive Element of Security	Article 311 of the Constitution of India acts as a safeguard for civil servants so that they are not dismissed arbitrarily from service. However, security cover provides them with a sense of permanency in power, and their behaviour often shows a total disregard for transparency and accountability.	
Lack of Specialisation	It makes it impractical for them to handle assignments that require specific expertise.	
Absence of Systematic Mechanism	There is no inbuilt mechanism for the re-inculcation of sense of purpose and motivation in the civil services. The absence of such a mechanism can lead to insensitivity and lack of concern.	

Reform initiatives taken in recent years:

Initiatives	Description	
Mission Karmayogi	National Programme for Civil Services Capacity Building (NPCSCB)	
Lateral Entry Reform	Personnel from the private sector are selected for administrative posts in the government	
e-Samiksha	Real-time online system for monitoring and follow-up action on government decisions	
Citizen Charters	Mandated for all Ministries/Departments and regularly updated and reviewed	
National Conference on e-Gov- ernance	The platform for engagement with experts and intellectuals to exchange experiences relating to e-Governance initiatives	
CPGRAMS	Online system for lodging and tracking grievances	
National e-Governance Service Delivery Assessment	Assessment of the efficiency of e-Governance service delivery by States, UTs, and Central Ministries.	

Conclusion:

Civil services reform esp. in recruitment and training, is necessary to enhance administrative capability in response to new challenges faced by the state institution managing public affairs.

Insta Links

Civil Services Reforms: 2nd ARC

Mains Links

Q. "Institutional quality is a crucial driver of economic performance". In this context suggest reforms in the Civil Service for strengthening democracy. (UPSC 2020)

4. 2 YEARS AFTER THE FINANCE PANEL SUGGESTED, THE CENTRE **'EVALUATING' 26 PROPOSALS FOR NEW CITIES**

Context	The Union Housing and Urban Affairs Ministry is currently evaluating 26 proposals from 21 states for the creation of new cities in India.
Recommenda-	15th Finance Commission recommended Rs 8,000 crore for the incubation of eight new cities (Rs
tions for new	1000 cr to each) in the country through a challenge.
cities:	
Criteria	A state can have only one new city through this fund.
Criteria	A maximum of 9 new cities in nine states can be selected



The proposals		
received for new		
cities or expan-		
sion of existing		
ones are:		

Gurgaon (Haryana), Jabalpur Extension (Madhya Pradesh), Ayodhya (Uttar Pradesh), GIFT City Expansion (Gujarat), Nagaki Global City (Nagaland), New MOPA Ayush City (Goa), and Bantala Greenfield City (West Bengal)

Need for New cities:

Need for new cities	Supporting data	
Rapid urbanization	According to the United Nations, 68% of the world population is projected to live in urban areas by 2050 . This trend is driven by factors such as population growth, migration, and increasing economic opportunities in cities. The share of the urban population in India is over 35% (2021)	
Congestion and pollution in existing cities	This can have negative impacts on health, quality of life , and the environment.	
Housing shortages	Nearly 2 million people in India are homeless	
Economic develop- ment	For example, the creation of the Shenzhen Special Economic Zone in China in 1980 has been credited with spurring economic growth and development in the region.	
Disaster resilience	For example, after the 2011 earthquake and tsunami in Japan, the government began planning a new city called "Smart City Kashiwa-no-ha" that is designed to be resilient to earthquakes and other disasters.	

New cities developed in India since Independence:

Chandigarh, Gandhinagar, Navi Mumbai, Bhubaneswar, Naya Raipur, Amravati (Andhra Pradesh), Dholera, Gift City, Kochi Smart City, GIFT City Gujarat, Auroville (Puducherry)

Government programmes for City development:

Programme Name	Description
Smart Cities Mission (2015)	It aims to develop 100 smart cities across India by providing them with advanced and modern infrastructure.
AMRUT (2015)	It aims to provide basic amenities like water supply, sewerage, and urban transport to improve the quality of life of citizens. It focuses on 500 cities and towns with a population of over 100,000.
Pradhan Mantri Awas Yojana - Urban (2015)	It aims to provide affordable housing to the urban poor by 2022.
Swachh Bharat Abhiyan (2014)	It focuses on constructing toilets, solid waste management, and creating awareness among citizens to maintain cleanliness.
Heritage City Development and Augmentation Yojana (HRIDAY) (2015)	It aims to preserve and revitalize the heritage cities and their cultural heritage.
National Urban Livelihoods Mission (NULM) (2013)	It aims to reduce poverty and vulnerability of urban poor households by enabling them to access gainful self-employment and skilled wage employment opportunities.

Insta Links:

Smart Cities Mission (SCM)

Mains Links

Q. In the backdrop of the smart cities mission, can it address the contemporary and future needs of India's urbanization? Critically analyse. (250 Words)



MECHANISMS, LAWS, INSTITUTIONS AND BODIES CONSTITUTED FOR THE PROTECTION AND BETTERMENT OF VULNERABLE SECTIONS

5. KARNATAKA: RESERVATION FOR MUSLIMS UNDER THE OBC CATE-**GORY**

Context:

The Karnataka government's recent decisions on the reservation have come under intense political debate.

Decisions	Need	Criticism
 Did away with the 4% reservation for Muslims in the OBC category. This 4% is to be distributed equally among the Veerashaiva-Lingayats and Vokkaligas - the 2 dominant land-owning communities in the State. Accorded internal reservation for 101 Scheduled Castes (SC). 	 The OBC reservation quota cannot be extended based on religion The community no longer remains socially and educationally backward 	 Vote-bank politics The Muslims were included based on the recommendations by the Sachar Committee, L.G. Havanur and Chinnappa Reddy Commissions. Any addition or deletion of a community from the reservation matrix should be based on an empirical study by the Karnataka BC Commission.

Reservation to religious minorities:

- 1. At present, there is no reservation in Civil Posts and Services under the GoI and admission to Central Educational Institutions for Minority Communities.
- 2. However, the Central Government carved out a sub-quota of 4.5% for minorities, as defined under the National Commission for Minorities Act 1992.
- 3. This will be within the 27% reservation for OBCs in Civil Posts and Services under the GoI and admission to Central Educational Institutions.
- 4. The constitutional validity of the matter is presently sub-judice in the SC.

Insta Links: The key to revitalising India's reservation system

Mains Links:

Q. Whether the National Commission for Scheduled Castes (NCSC) can enforce the implementation of constitutional reservation for the Scheduled Castes in the religious minority institutions? Examine. (UPSC 2018)



ISSUES RELATED TO HEALTHCARE

6. HEALTHCARE IN INDIA HAS MADE GREAT PROGRESS, BUT CHAL-LENGES REMAIN

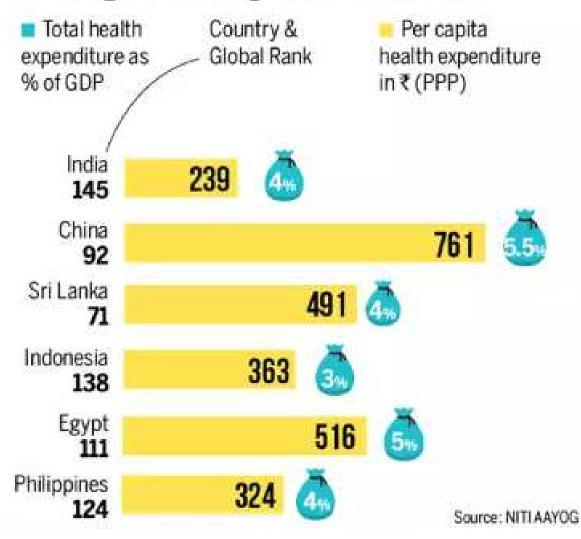
Context:	India will continue to have the world's youngest population for more than three decades, but to fully capitalise on this advantage there is the need to overcome certain difficult health issues.		
Some recent achievements in the health sector:	 NFHS-5: Total fertility rate (TFR): India achieved a TFR of 2.1 (replacement level) in 2020. Maternal and infant mortality: Even in the BIMARU states, hospital deliveries have soared to 89%. Increase in insurance coverage: 74% of Indians are either covered or eligible for health insurance coverage. Ayushman Bharat insurance scheme (2018) provides insurance against hospitalisation for up to Rs 5 lakh per year per family. 		
	 1.Cardiovascular diseases (CVDs), cancers, diabetes: Rising due to behavioural risk factors - an unhealthy diet, lack of physical activity and use of tobacco and alcohol. As a result, the proportion of deaths due to non-communicable diseases (NCDs) has increased from around 38 - 62% in 2016. 2.The state of infrastructure: 		
Challenges affect-	 Huge variations between states: Jharkhand, Karnataka and UP had the lowest number of primary healthcare institutions operating at full institutional capacity. People have to bank on the private sector, which owns two-thirds of the country's hospital beds. 3.Gaps in services available in the metros and districts: 95% of private hospital beds are provided 		
ing everyone in the population:	by district hospitals and nursing homes, yet they are unable to offer multispecialty care including tertiary and quaternary care.		
	4.Low health insurance penetration:		
	 Out-patient doctor consultation costs, diagnostics and drugs account for the biggest chunk (50%) of out-of-pocket (OOP) personal expenditures. 		
	 It is essential to provide insurance for the unorganised middle class to include identified out-patient costs. 		
	5.Ethical and regulatory concerns around the use of AI and digital technology:		
	 Surgery assisted by robots, the use of genetic codes, and clinical judgements based on AI are already widespread. 		
	 However, medical malpractice in substandard institutions and by unqualified medical practitioners is still not regulated. 		
	Way Ahead		
 Building awareness about the benefits of leading a healthy life will save millions from illness and decelerate premature death. More cost-effective treatment → bolster primary healthcare by establishing health and wellness centres. 			

- More cost-effective treatment → bolster primary healthcare by establishing health and wellness centres.
- Making the **centrally-run hospitals** and the district hospitals fully functional.
- Bridging gaps in hospital services between large urban agglomerations and tier II and tier III cities.
- Ethical and regulatory concerns prompted the ICMR to release guidelines foreseeing the problems of a lack of accountability for machine-made medical decisions.

Conclusion India has shown how the impossible can be achieved. What is needed is out-of-the-box thinking and the resolve to steer the ship before a storm arrives.



India's health system lags in key indicators



Insta Links: Problems pertaining to the Healthcare sector in India

ISSUES RELATING TO THE DEVELOPMENT AND MANAGEMENT OF SO-CIAL SECTOR/SERVICES RELATING TO EDUCATION, HUMAN RESOURC-ES

7. INSTITUTE OF EMINENCE (IOE) STATUS

The Rajya Sabha Department-related Parliamentary Standing Committee on Education, Women, Children, Youth and Sports, has recommended

To accelerate the process for granting the Institute of Eminence (IOE) status.

To realign the IoE scheme with the National Education Policy, 2020.



About the IOE Scheme	 The UB 2016-17 announced 10 public and 10 private HEIs are to be recognised to emerge as world-class institutions. 	
	As a result, UGC launched the IoE scheme in 2017 to -	
	 Provide for high-quality teaching and research → excellence, and innovations. Engage in areas of specialisation. 	
	 Enable HEIs to emerge as top 100 institutions in the world over time (top 500 by 2027). 	
Benefits	Greater autonomy:	
	 Administrative and academic: Free to decide fee, flexible course duration and structure, exemption from approvals for collaborations with foreign institutions. Financial: The selected public institutions will get Rs 1,000 crore each from the Minis- 	
	try of Education.	
	However, no financial assistance to the private institutions.	
Criteria for se- lection	 The institutions should be among the top 50 in the NIRF in their category, and top 500 in internationally recognised rankings. 	
	 Public institutes eligible to apply are central universities, govt-owned and controlled deemed to be universities, institutions of national importance (IITs, NITs), and state univs. 	
Procedure	Institutes need to submit a proposal \rightarrow with milestones to be achieved over the next 5 to 15 years \rightarrow To the Empowered Expert Committee (EEC constituted by UGC).	
Revocation of	In case the institute fails to achieve scheme objectives at the end of the 5th and subsequent years, the	
the status:	EEC could penalise them.	
	Final action on revocation is to be taken by the Ministry of Education.	
Analysis of the Scheme		

- So far 12 8 public + 4 private institutes have been granted the IoE status.
- So far 8 public institutes have been sanctioned Rs 3,428 crore, with IISc Bangalore accounting for the highest share (Rs 620.59 crore).
- It has helped 8 public universities **step up ambitious reforms and growth** riding on the financial boost each has got as part of the scheme.
- However, many of the selected private campuses are **yet to realise the promised benefits** of the scheme.
- The **Government is dragging its feet on awarding the IoE status** to 2 public and 5 private HEIs. The absence of an EEC is holding up the process.

IISC ■ ₹40 crore for additional FUNDS TILL JAN 31: floors in four buildings. ₹620 crore ■ 10 new academic programmes. ■ 125 postdoctoral fellows IIT Madras supported with ₹20 crore. Highest seed grant of up FUNDS TILL JAN 31: to ₹2.5 crore to new faculty. ₹474 crore Four new hostels being ■₹175 crore on over 60 constructed. projects IIT Delhi ₹100 crore on infra-FUNDS TILL JAN 31: structure, including hostel for international students. ₹555 crore ₹25-40 crore on campus Research equipment housing for visiting foreign worth over ₹40 crore. faculty.

Insta Links:

<u>Institutions of Eminence (IoEs) to set up campuses abroad</u>

Mains Links:

Q. The quality of higher education in India requires major improvements to make it internationally competitive. Do you think that the entry of foreign educational institutions would help improve the quality of higher and technical education in the country? Discuss. (UPSC 2015)

Mains Links:

Q. In order to enhance the prospects of social development, sound and adequate healthcare policies are needed particularly in the fields of geriatric and maternal healthcare. Discuss. (UPSC 2020)



IMPORTANT INTERNATIONAL INSTITUTIONS, AGENCIES AND FORA -THEIR STRUCTURE, MANDATE

8. UNDERSTANDING IMF BAILOUTS

Context	The International Monetary Fund (IMF) confirmed a \$3 billion bailout plan for Sri Lanka's struggling economy and is also in negotiations with Pakistan for a \$1.1 billion bailout plan.
Background	 The IMF was set up in 1945: as an outcome of the Bretton Woods conference. The primary goal of the IMF back then was to bring about international economic coordination to prevent competing currency devaluation by countries trying to promote their own exports. Eventually, the IMF evolved to be a lender of last resort to governments of countries that had to deal with severe currency crises.

Why do nations seek an IMF bailout?

- **Central banks mismanagement** \rightarrow forced by governments (populist spending) \rightarrow create fresh money \rightarrow rapid rise in the money supply \rightarrow prices rise \rightarrow exchange value of the currency drops \rightarrow destroy confidence in the currency.
- A country's domestic economic policies (that imperil productivity) can also have an adverse impact on its currency's exchange rate and foreign exchange reserves.
- Bad luck can also contribute to a crisis. For example, a decrease in foreign tourists visiting Sri Lanka led to a steep fall in the flow of U.S. dollars into the nation.
- In such a scenario, many countries (facing a major macroeconomic risk/currency crisis) are forced to seek help from the IMF to meet their external debt and other obligations, to purchase essential imports, etc.

How does the IMF help countries?

- The IMF basically lends money, often in the form of special drawing rights (SDRs), to troubled economies through a number of its lending programs such as the
 - The extended credit facility,
 - A flexible credit line,
 - Stand-by agreement, etc.
- SDRs simply represent a basket of five currencies, namely the U.S. dollar, the euro, the Chinese yuan, the Japanese yen, and the British pound.
- Countries can use the SDRs for various purposes depending on their individual circumstances.

Strings attached to an IMF bailout:

- The IMF usually imposes **conditions on countries** before it lends any money to them.
- For example, a country may have to implement certain structural reforms as a condition to receive IMF loans.

The Pros and Cons of IMF's conditional lending:

Cons	Pros
Too tough on the public	Essential for the success of IMF lending
Influenced by international politics	 Throwing money without reforming policies that caused the crisis/corruption does not make sense
	Ensures independence of its central bank



The 1991 Indian economic crisis:

- It resulted from a balance of payments deficit due to excess reliance on imports and other external factors.
- The Government of India's **immediate response was to secure an emergency loan of \$2.2 billion from the IMF** by pledging 67 tons of India's gold reserves as collateral security.
- The crisis paved the way for the <u>liberalisation of the Indian economy</u>, since one of the conditions stipulated in the World Bank and IMF loan (structural reform), required India to open its economy.

Insta Links: IMF

Mains Links:

Q. The World Bank and the IMF, collectively known as the Bretton Woods Institutions, are the two inter-governmental pillars supporting the structure of the world's economic and financial order. Superficially, the World Bank and the IMF exhibit many common characteristics, yet their role, functions and mandate are distinctly different. Elucidate. (UPSC 2013)

Prelims Links: (UPSC 2019)

In the context of India, which of the following factors is/are contributors to reducing the risk of a currency crisis?

- 1. The foreign currency earnings of India's IT sector
- 2. Increasing the government expenditure
- 3. Remittances from Indians abroad

Select the correct answer using the code given below.

- 1. 1 only
- 2. 1 and 3 only
- 3. 2 only
- 4. 1, 2 and 3

Ans: 2



GS PAPER 3

INDIAN ECONOMY AND ISSUES RELATING TO PLANNING, MOBILIZA-TION OF RESOURCES, GROWTH, DEVELOPMENT AND EMPLOYMENT

1. COMPETITION (AMENDMENT) BILL, 2022 PASSED IN LS

Context:

The Lok Sabha on Wednesday cleared the Competition (Amendment) Bill, 2022

Aim of the Bill:

Bring in greater regulation of corporates (particularly Big Tech firms)

and promote and sustain competition in markets, protects consumers' interest, and ensures freedom of trade for market participants.

Background of the bill:

It was introduced by the Ministry of Finance to amend the Competition Act, 2002 to bring it in line with the modern development of new technology and the digital market. In December 2022, the Bill was referred to the Parliamentary Standing **Committee** on Finance for further scrutiny.

Key Features of the Competition (Amendment) 2022 Act

Feature	Description	Significance
Increases the regulation of combinations based on the 'Value of Transaction'	Definition: 'Combinations' means mergers, acquisitions, or amalgamation of an enterprise. Any transaction exceeding ₹2,000 crore would require CCls approval, helping to bring acquisitions in digital markets (Big Tech firms) under it. Also, the bill prohibits entering into a combination that may cause an appreciable adverse effect on competition.	Enhances scrutiny and regulation of larger transactions to prevent anti-competitive practices.
Reduces the time limit for approval of combinations	The bill reduces the time limit for CCI approval on such transactions to 150 days from 210 days	Speeds up the approval process for combinations, providing greater certainty for businesses.
Expands the definition of 'control' for the classification of combinations	Definition: 'Control' means, who (individual or other enterprises) exercises influence in the company. The bill expands the definition of control as the ability to exercise material influence over the management, affairs, or strategic commercial decisions of an enterprise.	It now provides greater clarity on which transactions will be scrutinized.



Broadens the scope of Anti-competitive agreements	Definition: Anti-competitive agreements are any agreement for goods or services which has an appreciable adverse effect on competition in India and is therefore prohibited. As per the new Bill, even the enterprises or persons not engaged in identical or similar businesses shall be presumed to be part of such agreements if they actively participate in such agreements.	Including participation by unrelated entities, strengthens the regulation of such agreements.
	Previously, such entities were exempted.	
Introduces Framework for Settlement and Commitment in anti-competitive proceedings	The bill provides a framework for settlement and commitment for faster resolution of investigations by CCI.	Allows for faster resolution of anti-competitive proceedings and encourages enterprises to self-regulate.
	The bill limits the time period for filing information on it to CCI to three years.	
Decriminalisation of certain offences	The Bill changes the nature of punishment for certain offences from the imposition of fines to civil penalties .	Reduces the burden on courts and provides a more proportionate punishment for certain offences.
Penalties	CCI can impose a penalty of up to 10% of a company's average turnover in the "relevant market.	Experts say this is the highly contentious provision that will result in higher penalties for global multi-product companies.
	"Turnover" will refer to the "global turn- over derived from all the products and ser- vices by a person or an enterprise"	

Terms used in the Bill

- **Hub-and-Spoke Cartels:** Entities not engaged in similar businesses but have influence. The amendment broadens the **scope of 'anti-competitive agreements'** to catch entities that facilitate cartelisation even if they are not engaged in identical trade practices.
- Gun Jumping: Gun jumping refers to the illegal practice of prematurely disclosing information or completing a
 transaction related to a merger or acquisition before the transaction has been fully approved by regulatory authorities.
- New Age Market: New technology-enabled firms or new types of businesses, that are not under the preview of CCI

Way forward:

'A National Competition Policy' is needed in India: E.g. Competition policy has also been adopted and implemented by the UK, Australia, Denmark, Italy, Turkey, Mexico, Hong Kong, Malawi and Botswana.

Conclusion:

With the new changes, the Commission should be better able to manage certain aspects of the New Age market and make its operation more robust.



About CCI

The Competition Commission of India (est. 2009 under the Competition Act, 2002; Ministry Of Corporate Affairs) is a **statutory, quasi-judicial body**, which primarily pursues three issues of anti-competitive practices in the market:

- Anti-competitive agreements.
- Abuse of dominance.
- Combinations.

CCI consists of one Chairperson and six Members who shall be appointed by the Central Government.

Related News:

NCLAT upholds penalty on Google

Context: The National Company Law Appellate Tribunal (NCLAT) has upheld a penalty of Rs 1,337 crore imposed by India's competition regulation body on Google for its **anti-competitive conduct** in the Android ecosystem.

• However, the NCLAT set aside some of the conditions that would have severely impacted Google's products.

What is the issue about?

The CCI, last year, had imposed a penalty of Rs 1,337 crore on Google for mandating pre-installation of its **entire Google Mobile Suite (GMS),** a family of key Google apps and services, on smartphones running on Android. This, according to the CCI, was an abuse of Google's market dominance.

About NCLAT

The National Company Law Appellate Tribunal (est. 2016) is also the Appellate Tribunal to hear and dispose of appeals against any direction issued or decision made or order passed by the Competition Commission of India (CCI). NCLAT is also the Appellate Tribunal to hear and dispose of appeals against the orders of the National Financial Reporting Authority.

About Anti-trust laws:

Antitrust laws are **regulations that encourage competition** by limiting the market power of any particular firm. CCI is responsible for Anti-trust laws in India.

Mains Links

Q. How would the recent phenomena of protectionism and currency manipulations in world trade affect the macroeconomic stability of India? (UPSC 2018)



2. WILL MEGA TEXTILE PARKS HELP BOOST THE SECTOR?

Context:

The central government announced that 7 mega textile parks would be set up under the ₹4,445-crore PM Mega Integrated Textile Regions and Apparel (PM MITRA) scheme in the first phase.

Textile and Apparel Sector in India:

textile and Apparet Sector in India.			
Background	PM MITRA	Significance of PM MITRA	
Challenges: The MSME sector controls ~80% of the textiles and apparel currently made in India Indian textile products and export (~65%) are cotton-based Exports have stagnated at around the \$40-billion mark (target - \$100 billion by 2030) Price competitiveness Sustainability Govt. schemes to support the development of common infrastructure: Apparel Park Scheme (2002) Scheme for Integrated Textile Parks (2005)	 Launched by the Ministry of Textiles in 2021 to streamline the textile value chain (by setting up mega textile parks) into one ecosystem, taking in spinning, weaving and dyeing to printing and garment manufacturing. The parks will be established in two stages - The selection of Sites, Development of the Park. Proposals to set up such parks are prepared by the State Governments. States must have contiguous parcels of a minimum of 1000 acres → transfer land to the Special Purpose Vehicle (SPV with 51% equity shareholding of the State and 49% of Central Government). 	 A unique initiative with differentiating factors - Large-scale production, provision of plug-and-play manufacturing centres, joint implementation Central-State governments, located in States that have inherent strengths, etc. Each park will have effluent treatment plants, skill training centres, etc. Enable scale of operations Reduce logistics costs by housing the entire value chain at one location Attracting investment worth ₹70,000 crore Generating employment (~20 lakh) and augmenting export potential. Leverage the PPP model. In line with the 5F vision - Farm to Fibre to Factory to Fashion to Foreign 	

Way ahead:

- Expanding the fibre and product line from the current 5%.
- Taking a cue from countries such as **Turkey** where integrated textile parks are highly efficient.
- **Encouraging MSME units to invest** in the PM MITRA parks and scale up. The government can **combine PLI scheme II with PM MITRA** to support the MSME players.
- Giving thrust to the PM MITRA parks for **sustainable and cost-effective solutions** for pollution control.

Insta Links: PM MITRA scheme



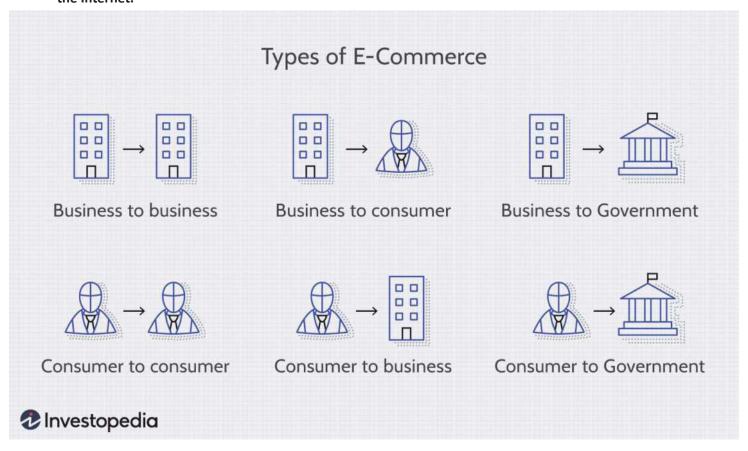
3. PARLIAMENTARY PANEL CALLS FOR NOTIFICATION OF E-COM-MERCE POLICY TO ADDRESS SECTOR'S 'STRATEGY VACUUM'

Context:

A Parliamentary panel report 'Promotion and Regulation of E-Commerce in India' suggested that a national e-commerce policy needs to be notified by the Government at the earliest as the absence of a dedicated policy had resulted in fragmented and ineffective regulation and created a strategy vacuum for the sector.

About e-Commerce:

• Electronic commerce or e-commerce is a business model that lets firms and individuals buy and sell things over the Internet.



Need for the policy:

• Ensure protection of consumer rights and privacy and include anti-counterfeiting, and anti-piracy measures.

Suggestions given:

Pro-customer frame- work	Customer comes first
Skill development strategy	By gauging the various requirements in the e-commerce value chains.
Suitable social security schemes	Proposed framing of suitable social security schemes related to insurance, working conditions, disability and other benefits by the government.
Appropriate <u>labour</u> <u>laws</u>	relating to working hours, and holidays. minimum pay, etc., for gig and platform workers, should be framed and e-commerce must be mandated to extend these benefits.



Enforcement of rules	DPIIT should develop appropriate mechanisms for the enforcement of rules related to Intel-
related to Intellectual	lectual Property Rights in the e-commerce space in consultation with the relevant Ministries/
Property Rights	Departments
e-pharmacy/e-health platforms	Need to <u>notify e-pharmacy rules</u> and formulate comprehensive guidelines with regard to e-pharmacy/e-health platforms.

Related News:

India should target \$350 bn exports through e-commerce by 2030: GTRI

Context: The Global Trade Research Initiative (GTRI) in its report suggested that India should target **USD 350 billion worth** of goods exported through e-commerce by 2030

India's current e-commerce export numbers remain far below their potential. Currently, e-commerce exports account for only USD 2 billion, less than 0.5 per cent of the country's total goods export basket.

Suggestions:

- Government should issue a separate e-commerce export policy. Such policies in countries including China, Korea, Japan, and Vietnam, have helped many firms sell globally.
- Redefining responsibilities of sellers; simplifying payment reconciliation and processes; developing business ecosystem; and setting up a National Trade Network for the medium.

Insta links:

Sansad TV: Committee Report- Promotion & Regulation of E-Commerce

Mains Link: UPSC 2015

Q. What are the impediments in marketing and supply chain management in developing the food processing industry in India? Can e-commerce help in overcoming these bottlenecks?

Prelims Link: UPSC 2022

- Q. With reference to foreign-owned e-commerce; firms, operating in India, which of the following statements is/are correct?
- 1. They can sell their own goods in addition to offering their platforms as marketplaces.
- 2. The degree to which they can own big sellers on their platforms is limited.

Which of the above statements is/are correct?

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

Answer: b

SCIENCE & TECHNOLOGY

4.EXPERTS URGING A HALT TO ARTIFICIAL INTELLIGENCE TRAINING

Context:

Key figures in the field of artificial intelligence (AI), including **Twitter's Elon Musk and Apple co-founder Steve Wozniak**, have signed an open letter calling for a **suspension of the training of powerful AI systems**



What are the dangers of developing super-intelligent AI?

Dangers from AI	Examples
Risks to Human safety	Al-powered Autonomous weapons systems that can make decisions without human intervention may lead to accidents, harm or death to civilians and military personnel.
Job displacement and unemployment	Al automation in industries such as marketing, manufacturing, law, accounting and healthcare may lead to job losses. Vulnerable sections and minorities are especially vulnerable to it.
Social manipulation	E.g., Social media platforms like TikTok rely on AI to saturate a user's feed with content related to previous media they've viewed, making it easier to create an echo-chamber of manipulation.
Social surveillance	Governments and police may use facial recognition technology to track a person's movements and gather data on their activities, relationships, and political views.
Biases	Al may be developed by humans who are inherently biased , leading to data and algorithmic bias that can amplify each other
Existential risks	E.g., scenarios where AI surpasses human intelligence, gains autonomy, and seeks to protect itself, potentially leading to conflicts with humans.

However, AI is also needed for solving the biggest challenges we face

Problem	How AI can help	Example/Fact
Climate Change	Al can help reduce energy consumption, improve renewable energy, and monitor and predict climate patterns.	, , ,
Disease Detec- tion and Treat- ment	Al can help identify diseases and develop treatments faster, improving patient outcomes.	,
Hunger and Food Security	Al can help optimize farming practices , improve crop yields, and reduce food waste.	The use of AI in precision agriculture has been shown to increase crop yields by up to 30%.
Poverty	Al can help improve access to education and job opportunities for underserved communities.	Al-powered chatbots are being used to provide education and job training to refugees in Lebanon.
Natural Disasters	Al can help predict and respond to natural disasters, reducing their impact on human life and infrastructure.	IBM's Watson is being used to analyze data to predict the path of hurricanes, helping communities to prepare and evacuate in advance.

What should be done?

- Risk analysis: The open letter argues that AI labs should halt the training of AI systems that are more powerful than **GPT-4** for at least six months to ensure that these risks are appropriately addressed.
- Development of new regulatory authorities dedicated to AI: It will ensure that the technology is developed in a way that benefits society and avoids catastrophic outcomes

Conclusion:

AI has the potential to help solve many of the world's problems, but it's not a silver bullet solution and must be implemented responsibly and ethically.

Insta Links

Artificial Intelligence and Robotics



Prelims Link:

Q. With the present state of development, Artificial Intelligence can effectively do which of the following?

- 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

Answer: d

5.TECHNOLOGY AT YOUR SERVICE - TRANSFORMING LIVES AND SO-CIETY

Context:

The digital revolution has transformed the lives of ordinary citizens, given the power to the poorest and marginalised, and offered the youth the ability to create.

Digital initiatives that have changed the lives of ordinary people:

	71 1	
Initiatives & Metrics	Explanation	
<u>Digital India</u>	Minimised the impact of disruption during the pandemic.	
Internet penetration	Increased from only 25 crore Indians (2014) to 84 crores in 2022.	
Increased Affordability	The cost of 1GB of data has been reduced from about Rs 300 to Rs 13.5 per GB. This has increased accessibility to various services such as: —	
→ leading to greater accessibility of services	Education, Teleconsultations (eSanjeevani app), Access to food supplies (One Nation One Ration Card framework), Aadhaar Enabled Payment System (AePS), Digital payments (UPI, QR codes), Reduced congestion and waiting time at the toll plazas (FASTag technology).	
Best practice - CoWIN app - Example of democratising digital technology		

- Best practice Cowin app Example of democratising digital technology
- The entire process of onboarding vaccine manufacturers, clinics, hospitals, registration of citizens and scheduling, till the final certificate of vaccination, is digital.
- This enabled India to administer 150 crore doses within the first 12 months of the vaccination drive.

What makes 2023 an inflexion point?

- AI, 5G, and quantum technology have matured to a level where they are becoming mainstream.
- India has assumed the leadership of the G20.
- Atmanirbhar Bharat.

A new initiative - OCEN (open credit enablement network):

The government is developing the OCEN, which will lead to competition among various banks for giving loans to a person \rightarrow lower the cost of credit \rightarrow propel the credit-to-GDP ratio from the current 57 to 100% by 2031.



Conclusion:

This game-changing digital and tech-led revolution, is to be replicated across different sectors.

India has entered its Amrit Kaal in times of global uncertainty. In this scenario, India's G20 Presidency will be pathbreaking, serving and sharing India's scalable public digital infrastructure with the world.

Insta Links: The Digital India Transformation

Mains Links:

Q. How is science interwoven deeply with our lives? What are the striking changes in agriculture triggered off by science-based technologies? (UPSC 2020)

ENVIRONMENT, CONSERVATION, POLLUTION AND DEGRADATION

6. GREEN HYDROGEN IS NOT A HOLY GRAIL OF THE ENERGY TRANSI-TION

Context:	According to a new report, contrary to its spot energy transition.	less reputation, green hydrogen is not the key to the	
Green hydrogen (dubbed as the 'fuel of the future'):	 It involves splitting water into hydrogen sources like sunlight/wind. It accounted for only 0.04% of globally process. 	n and oxygen using electricity from renewable energy produced hydrogen in 2021.	
Limitations of the green hy- drogen	 Energy inefficient → 30% of renewable energy is lost while producing hydrogen. Indirectly contributes to global warming → when it reacts with hydroxyl radicals (responsible for breaking down and eliminating methane - a potent GHG) → could lead to delayed climate action. Large-scale production requires vast amounts of land, water and renewable energy, which could lead to human rights violations and energy poverty. 		
Global Scenar- io	The European Union (EU): Intends to increase green hydrogen production capacity as part of the bloc's REPowerEU plan to 20 million tonnes.		
India:	 Hydrogen produced is said to be 'green' if all its inputs are green. Decarbonisation plans of many countries include green hydrogen (GH₂) because 	Technologies to adapt hydrogen fuel cells for use in vehicles are largely	



Despite obstacles countries are making progress with green hydrogen, because:	 Fossil or grey hydrogen accounts for 99% of the globally produced hydrogen. A huge lobby linked to fossil fuels is pushing the hydrogen agenda to lock in detrimental infrastructure, as well as production and consumption models.
Conclusion:	 The corporate-driven green hydrogen race unfolding in Europe follows centuries-old colonial patterns - Resources are being appropriated to fuel Europe's economy, While negative impacts like ecological damage and land conflicts are conveniently outsourced to the periphery (African countries).

THE REALITY OF TODAY'S GLOBAL HYDROGEN PRODUCTION GREY HYDROGEN Fossil Fuels [Gas, OilCoall] BLUE HYDROGEN Fossil Gas Underground storage of CO GREEN HYDROGEN Green Electricity Water

Insta Links: Powering the Amrit Kaal through an integrated approach to ensure energy security

Prelims Links: (UPSC 2019)

In the context of proposals to the use of hydrogen-enriched CNG (H-CNG) as fuel buses in public transport, consider the following statements:

- 1. The main advantage of the use of HCNG is the elimination of carbon monoxide emissions
- 2. H-CNG as fuel reduces carbon dioxide and hydrocarbon emissions
- 3. Hydrogen up to one-fifth by volume can be blended with CNG as fuel for buses
- 4. H-CNG makes the fuel less expensive than CNG

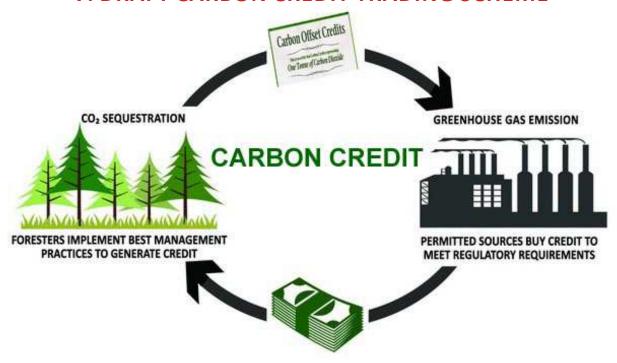
Which of the statements given above is/are correct?

- 1. 1 only
- 2. 2 and 3 only
- 3. 4 only
- 4. 1, 2, 3 and 4

Ans: 2



7. DRAFT CARBON CREDIT TRADING SCHEME



Context	The power ministry issued a draft 'Carbon Credit Trading Scheme' to set up a framework for the Indian carbon market and sought feedback from stakeholders.	
What is a Carbon Credit?	A carbon credit is a tradable permit representing the right to emit a set amount of carbon dioxide or the equivalent amount of a different greenhouse gas.	
	It equals one tonne of carbon dioxide r	removed, reduced, or sequestered from the atmosphere.
What is Carbon Credit Trading Scheme (CCTS)?		moval of greenhouse gas (GHG) emissions notified by the
Background of CCTS	The parliament passed the Energy Conservation (Amendment) Bill, 2022 . One of the provisions of this amendment included empowering the central government to "specify carbon trading scheme", in consultation with the Bureau of Energy Efficiency (BEE).	
Features of CCTS	 Verification activities in respect Setting up of the Indian Carbor rules for the Indian carbon material cates to outside India and other in the Icmon India and other in the Icmon India India	on Market Governing Board (ICMGB): for oversight, making arket, guidelines regarding the sale of carbon credit certifier regulatory functions es would be the ex-officio co-chairmen of ICMGB. at least once in a quarter of every year cy shall be the administrator for the Indian carbon market etariat for the ICMGB. d shall be the registry for the Indian Carbon Market. Commission (CERC) shall be the regulator for the trading
Types of carbon markets:	Compliance markets: created to comply with a law	 Voluntary markets: Issuance, buying and selling of carbon credits, on a voluntary basis.



Features of The Energy Conservation (Amendment) Act 2022:

- Establishes provisions for the establishment of carbon markets to encourage carbon trading and reduce carbon emissions.
- Mandates the use of non-fossil sources such as green hydrogen, green ammonia, biomass, and ethanol for energy and feedstock.
- Establishes a domestic carbon market in India.
- Brings large residential buildings under the Energy Conservation regime to ensure energy efficiency.
- Enhances the scope of the Energy Conservation Building Code to promote energy conservation in buildings.
- Amends penalty provisions to ensure stricter enforcement of energy conservation measures.
- Increases the number of members in the governing council of the Bureau of Energy Efficiency (BEE) to strengthen the agency's capabilities.
- **Empowers the State Electricity Regulatory Commissions** to make regulations for the smooth discharge of its functions related to energy conservation.
- Enables the use of clean energy, including green hydrogen, to be mandatory to promote sustainable energy practices.

Mains Links

Q. The carbon emissions trading mechanism can function as a policy instrument for managing greenhouse gas emissions, aiming to lower emissions and keeping the costs of overall emissions reduction at a minimum through market transactions. Critically examine. (15M)

8. HOW TO MANAGE INDIA'S SOLAR PV WASTE PROBLEM?

Context:	Even while Indian policymakers are working hard to shift to a <u>circular economy</u> , there are still no defined guidelines for waste management in the solar photovoltaic (PV) sector .
A typical PV panel is dominated by:	Crystalline silicon (c-Si) technology → 93% of c-Si modules (made up of silver, tin and lead) and 7% of cadmium telluride (CdTe) thin film modules (made of glass, encapsulant, and compound semiconductor).
India's solar PV deploy- ment ranking & about PV waste	 India stands 4th in solar PV deployment globally and its solar power installed capacity has reached ~62 GW by 2022. India's latest PLI scheme promotes the domestic manufacturing of high-efficiency solar PV modules. This is great, but it also indicates massive amounts of solar PV waste in the future. India could generate 50,000-3,25,000 tonnes of cumulative PV waste by 2030 and more than 4 million tonnes by 2050 (International Renewable Energy Agency) → expected to make India one of the world's top five leading PV waste producers. ~50% of total materials can be recovered through waste management and recycling processes.
Challenges:	 Growing informal (~80%) handling of PV waste → accumulates at landfills → causes acidification, leaching of toxic metals (lead, cadmium) into the soil → contaminates the local water. Gradual incineration releases pollutants like sulphur dioxide, hydrogen fluoride, and hydrogen cyanide into the atmosphere. Misinformation/ignorance about appropriate disposal practices among multiple actors and institutions (producers/owners/consumers/waste disposal facilities) across the supply chain. The market to recycle PV waste is minuscule in India because of a lack of suitable incentives and schemes. The absence of a body to measure, monitor, and report solar PV waste.



Recent initia- tives by the In- dian govt	 Revised e-waste management Rules in 2022: MoEF&CC brought solar PV cells, panels, and modules under its ambit. Green Credit Programme: Launched under the Environmental Protection Act (1986) and announced in the UB 2022-2023, it aims to promote green growth and sustainable practices.
Global Best practices:	 EU: Waste Electrical and Electronic Equipment Directive makes producers responsible for safely and responsibly disposing of end-of-life PV panels. US: States have the freedom to establish their own solar PV regulatory standards. Japan: Manufacturers are responsible for developing environment-friendly recycling technologies through PPP and launching awareness campaigns about their benefits. China: Introduced life-cycle management to improve the resource efficiency of solar PV panels. It is also developing recycling processes to recover silicon and process them back into solar wafers.
Gaps to be identified by India:	 Not to club PV waste with other e-waste. India should - Formulate provisions specific to PV waste treatment within the ambit of the e-waste guidelines. Build a legislative framework to enforce the Extended Producer Responsibility Rules. Set up a central insurance or a regulatory body to protect against financial losses incurred in waste collection and treatment. Not to classify PV wastes as 'hazardous'. India should - Run pan-India sensitisation drives and awareness programmes, Specify clear recycling targets and recycling rates in the PV waste management policy. More attention to domestic R&D efforts promoted through suitable regulatory incentives, recycling programmes, appropriate infrastructure facilities, and adequate funding.
Best practices could be a good reference point for India to develop 'Made in India' manufacturing capabilities, recycling technologies, and waste management strategies in this field.	

Insta Links: India stares at the pile of solar e-waste

Mains Links:

Q. What are the impediments in disposing of the huge quantities of discarded solid wastes which are continuously being generated? How do we safely remove the toxic wastes that have been accumulating in our habitable environment? (UPSC 2018)



9. INDIA RANKS FIFTH IN NATIONAL CONTRIBUTION TO WARMING: STUDY

Context:

According to a new study, India is responsible for 0.08 degrees Celsius of warming from the 1850s through 2021.

Overall findings:

• Contribution to warming:

CO2	1.11°C
Methane	0.41°C
Nitrous oxide	0.08°C

Ranking Of Countries as per their contribution to the Rise in temperature:

Rank	Country	Contribution in % to rise in temperature/warming
1	USA	Nearly 17%
2	China	Nearly 12%
3	Russia	Nearly 6%
4	Brazil	Nearly 5%
5	India	Nearly 5%

- Since 2005, India climbed to the fifth spot from the 10th.
- China, too, rose to the second position after overtaking Russia.
- Indonesia, Germany, the United Kingdom, Japan, and Canada each contributed 0.03-0.05°C of warming.

India-specific findings:

- Overall, **India ranks fifth** among the top 10 contributors to warming.
- India's emissions of greenhouse gases (GHGs) CO2, CH4 and nitrous oxide (N2O) from 1851-2021 have resulted in 0.04°C, 0.03°C and 0.006°C of global warming over pre-industrial levels, respectively.

Causes of warming:

- Fossil fuel remains the biggest culprit.
- Land use, land-use change, and forestry (LULUCF) accounted for 38% of the total warming from CH4 and 72% from N2O emissions between 1851-2021.
- The contribution of India, China and Brazil towards warming due to CH4 and N2O increased by 110%, 56% and 55%, respectively, compared to CO2-related warming alone.

Significance:

- These 3 GHGs are included in most countries' **Nationally Determined Contributions.** Hence, the dataset is uniquely positioned to **inform climate policy and benchmarking**.
- It would help in tracking contributions to climate change and understanding the burden of responsibility carried by each country → pursuing equitable decarbonisation pathways.

Insta Links: Air Pollution



10. WORLD BANK REPORT: <u>AIR POLLUTION</u> AND PUBLIC HEALTH IN SOUTH ASIA

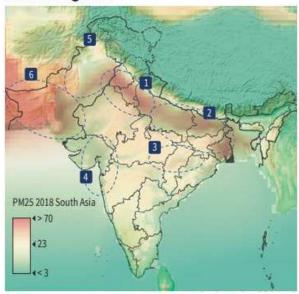
Context:

According to the World Bank's 'Striving for Clean Air: Air Pollution and Public Health in South Asia' report, 9 out of the world's 10 cities with the worst air pollution are in South Asia.

Highlights of the report:

- 1. The report quantifies particulate matter (PM) emissions and how they disperse in the atmosphere.
- 2. Ambient air pollution is a public health crisis in South Asia,
 - Not only imposing high economic costs
 - But also causing an estimated 2 million premature deaths each year.
- 3. In South Asia, **nearly 60% of the population** lives in areas where concentrations of PM2.5 exceed an annual mean of 35 μ g/m3 (WHO prescribes 5 μ g/m3).
- 4. In the densely populated Indo-Gangetic Plain, it is over 20 times higher than the WHO-prescribed levels.
- 5. It identifies six major airsheds in South Asia where spatial interdependence in air quality is high.

Figure Six illustrative airsheds in South Asia based on fine particulate concentrations, topography, and fine particulate transportation between source regions



Main causes of air pollution in South Asia:

- 1. Solid fuel combustion
- 2. The current management practices of **municipal waste** in the region, include burning plastics.
- 3. Generation of secondary PM in the form of ammonia (NH₃) emissions related to the agriculture sector.
- 4. In the western part of South Asia, natural sources, such as **dust, sea salt, and forest fires**, are an important source of air pollution.

Way ahead:

- 1. Controlling ambient air pollution is difficult without a **better understanding of the activities** that emit PM and how emissions travel across locations.
- 2. **Interdependence in air quality within airsheds** in South Asia is necessary when weighing **alternative pathways for pollution control**.
- 3. Focusing on hotspots through regional cooperation would reduce mean exposure to 26 μg/m³.



INTERNAL SECURITY

11. 'DISTURBED AREAS' TAG UNDER AFSPA

Context:

The Centre has decided to **decrease** the jurisdiction of "disturbed areas" declared under the <u>Armed Forces (Special Powers)</u> <u>Act, 1958 (AFSPA)</u> in Nagaland, Assam and Manipur from April 1st.

About AFSPA	Description	
Definition	Areas declared as "disturbed" under Section 3 of AFSPA due to a "dangerous" or "disturbed" situation.	
What are "Disturbed areas"?	When a part or whole state/UT is in such a condition that the use of armed forces in aid of civil power is necessary.	
Who can declare a "disturbed area"?	It can be declared by the Governor of state or administrator of Union Territory or by the Central government.	
Purpose	It grants special powers to armed forces to maintain public order in "disturbed areas.	
Powers	Armed forces can use force, arrest without a warrant, search without a warrant, and shoot to kill	
AFSPA completely withdrawn in	Meghalaya (2018), Tripura (2015) and Mizoram (1980s)	
AFSPA in effect	Nagaland (8 out of 9 districts), Assam (8 districts), Manipur (except a few areas), the whole of Jammu and Kashmir and parts of Arunachal Pradesh	
Need for AFSPA in North-east	Protection of members of armed forces; To handle involvement of proxy groups; dissuade advancement of terrorist activities; To handle insurgency and militancy-affected areas	

Issues with the use of AFSPA

issues with the use of Arspa		
Issue	Explanation	
Violation of human	It has been dubbed as a 'license to kill';	
rights	 Justice Verma committee (on offences against women in conflict areas) said "AFSPA legit- imizes impunity for sexual violence"; 	
	 Justice Santosh Hegde Committee described it as a "symbol of oppression". 	
Cases of fake en-	For instance, the Extrajudicial Execution Victim Families Association of Manipur filed a case in the	
counters	Supreme Court alleging 1,528 fake encounters between 1979 and 2012.	
Opposition by the	States like Nagaland, Tripura, and Manipur have constantly opposed its imposition.	
state government		
Poor checks and	The Act gives powers to security forces to open fire but only after a prior warning is given to the	
balance	suspect. There is a lack of accountability.	
Poor investigation	In Manipur, with the Supreme Court taking up the extra-judicial killings, the CBI has investigated	
	only 39 cases (94 killings).	
Fuels the cycle of	People's disillusionment with the democratic setup is exploited by secessionists and terror sym-	
violence	pathizers, leading to more violence and counter-violence	

Reforms Needed in AFSPA

Proposed Measures	
Ensure compliance with human rights while maintaining operational effectiveness	
Ensure provisions for robust safeguards within the parameters of the law	



Thorough inquiry for every death caused by armed forces

No absolute immunity for Army personnel who commits a crime

Clearly define terms like "disturbed", "dangerous", and "land forces" to ensure greater clarity

Set up committees at the district level with representatives of the army, administrators, and the public to report, assess and track complaints in that area

Justice Jeevan Reddy Committee Recommendations: Repeal AFSPA and insert appropriate provisions in the Unlawful Activities (Prevention) Act, 1967

2nd ARC: It recommended the repeal of AFSPA

Conclusion:

With the improvement in the situation in the Northeast, AFSPA should be gradually removed. To reduce the possibility of its misuse, AFSPA should be made more comprehensive, with elaborate rules concerning the method of investigations of alleged human rights violations

Mains Links

Q. The Armed Forces Special Powers Act (AFSPA) is an anachronistic law and its repeal can strengthen the foundation of our democracy. Critically examine. (15M)

CONTENT FOR MAINS ENRICHMENT (CME)

UNIVER-SAL BASIC INCOME **SCHEME IN TAMIL NADU**

Tamil Nadu government announced that 1 crore women, including street vendors, fisherwomen, construction workers, and domestic helpers, will receive ₹1,000 per month as part of a Universal Basic Income scheme.

Aim:

- To recognize women's lifelong work and eradicate poverty by complementing their livelihoods; To improve their self-respect and standard of living.
- UBI could reduce poverty by half and help women prioritize children's education, nutrition, medical expenses, and small businesses.

Other countries: For a short period of time, Iran and Mongolia had universal basic income. Currently, no countries in the world have a universal basic income.

Values: UBI for women can promote a more just and equitable society by recognizing the value of unpaid care work, promoting gender equality, upholding human dignity, promoting social justice, and empowering women.

UTTARA-KHAND: QR CODE-BASED **PROJECT TO** PREVENT LIT-**TERING**

The government of Uttarakhand in India is implementing a unique waste-disposal system to prevent littering the Char Dham yatra route with plastic bottles and packets.

Mechanism: Visitors will scan a QR code on each plastic bottle and multi-layer plastic bag and pay a deposit over the maximum retail price, which they can claim back as a refund when they deposit the waste at a point at the end of the yatra.

Impact: Last year, the pilot project saved over 1.63 lakh single-use plastic bottles from entering the fragile mountain ecosystem.

Values shown: Environmental Responsibility; Sustainability; Social Responsibility; Respect for Culture and Heritage; Responsible Tourism and use of technology



CHILDREN'S **CHAMPION AWARD 2023**

An Assam-based NGO named Tapoban has won the Children's Champion Award 2023 in the health and nutrition category for their consistent efforts to provide quality care to special and autistic children.

Work: Tapoban provides speech therapy, physiotherapy, occupational therapy, music, and other skills for specially-abled children apart from creating awareness about their needs.

Values: Compassion and empathy for children with special needs, Importance of education and awareness, Community involvement and support

About the Award:

The award was instituted by the Delhi Commission for the Protection of Child Rights and received 1,100 nominations from individuals and organizations across the country.

CHILDREN'S **USE OF SO-**CIAL MEDIA

Usage: Such examples can be cited as legal measures to minimise the impact of social media on children

Children's use of social media

US state Utah's state legislature has passed measures to restrict children's use of social media, requiring parents' consent before they can sign up for websites like TikTok and Instagram.



- The measures prohibit kids under 18 years from using social media between 10:30 p.m. and 6:30 a.m. unless parents allow it.
- Websites can also be fined for "addictive" design features.



Children spending more than three hours a day on social media are twice as likely to suffer from poor mental health. Their immersion in a virtual world delays their emotional and social development.

> Aim: These measures aim to control the impact of social media on younger generations.

California has already enacted a law prohibiting tech companies from profiling children or using personal information in ways that could harm children physically or mentally.

To know more Visit Insights IAS Daily Current Affairs

BOOK BANK INITIATIVES FOR POOR **STUDENTS**

The Prime Minister has lauded the book bank initiative of Ranchi Lok Sabha MP, Shri Sanjay

Sanjay Seth, has opened a book bank for underprivileged students at his office in Argora in the Jharkhand capital. The books were donated from various areas in and around Ranchi. The students can take the books free of cost and return them after finishing their studies.

Seth has also floated two landline numbers and appealed to NGOs, academicians, writers, researchers, and even students to donate the books in their possession at the nearest sansad samadhan kendras.

Values shown in the example: Education accessibility, Empathy and compassion, Community participation, Volunteerism, Sustainable resource use, Responsibility and accountability

UAE FOOD BANK

The UAE Food Bank, in partnership with various organizations, is launching a campaign to distribute three million meals and food parcels to disadvantaged individuals and families during Ramadan, in line with the National Food Security Strategy.

Aim: Raise awareness about the importance of reducing the wastage of food and promoting **sustainable practices**, as well as encouraging volunteer participation.

Values: Social Responsibility, Sustainable Practices, Community Empowerment, Compassion for poor



	Meaning of word	"Humanity" in Nguni Bantu; It can also mean "I am because we are" or "humanity towards others"	
	Focus	Altruism rather than rampant individualism	
UBUNTU	Belief	Universal bond of sharing that connects all humanity	
OBOILTO	How can it help solve the Climate crisis?	It will help us focus on and rebuild our relationship with the natural world and prioritise interconnectedness, value our indigenous knowledge and invoke a spirit of collective, global and regional inter-governmental action.	
	Values shown	Collective responsibility, ensures distributive justice, enables Interconnectedness, encourages Altruism, allows Sustainability	
5.5	•	Transport and Highways stated that making bitumen (used for laying roads) waste like rice husk can save up to ₹30,000 crores annually in import bills.	
FROM HUSK	Bitumen is a thick low-grade crude oil that is generally composed of asphaltene resin and is the main fossil fuel component of oil sands. Bitumen is known for its waterproofing and adhesive properties.		
	Usage: The exam on fossil fuel	ple shows the use of innovations, ways to reduce imports and less reliance	
	emissions or prot	te justice means finding solutions to the climate crisis that not only reduce ect the natural world, but that do so in a way that creates a fairer, more just world in the process.	
FIGUT FOR	Eg. 1: The European Court of Human Rights held the first-ever public hearing addressing the duty of states to reduce greenhouse gas emissions, including a case brought by the Swiss Senior Women for Climate Protection against Switzerland.		
FIGHT FOR CLIMATE JUS-	Example 2: UN General Assembly adopted a resolution calling upon the International Court of Justice to issue an opinion on state legal responsibilities to protect the climate system.		
TICE	Example 3: IPCC released the Sixth Synthesis Report, presenting a clear roadmap to a liveable future.		
	tional Court of Jus	atu (a small Island nation) secured the approval of the UN to ask the Internastice (the world's highest court) if countries can be sued under international slow down climate change.	
	Usage : The examples highlight ethical values of Environmental Responsibility, Intergenerational equity, social justice, international cooperation		
		is a financing mechanism that combines public, private, and philanthropic social and environmental projects.	
BLENDED FI-	Significance : Blended finance can help attract private capital to projects that are otherwise difficult to finance (e.g., projects related to the fulfilment of SDGs), and help achieve social and environmental objectives while generating financial returns for investors.		
NANCE	care (Samridh) is	able Access to Markets and Resources for Innovative Delivery of Health- a blended financing entity, that mobilized a capital pool of \$300 million to bebt financing provisions to healthcare enterprises and innovators during the mic.	
	The scheme was launched by the Indian government, USAID, The Rockefeller Foundation etc.		
	Usage: The example shows an innovative way to finance social and environmental projects.		



GDPS WITH-	Japanese farmers are hiring labour from India to cut and carry down Koyamaki (umbrella pines) from mountains, due to its ageing populations.
OUT BORDERS	Significance : This mutually beneficial agreement helps Japan with its worker shortages and India with its overabundance of young farmers.
	Usage : The example can be used to justify that—Creating barriers to immigration hurts both richer and poorer countries. Facilitating a more immigrant workforce will benefit the global economy and create GDPs Without Borders .
	'S' stands for Security for Citizens 'E' for Economic Development
	'C' for Connectivity
"SECURE" SCO	'U' for Unity
	'R' for Respect for Sovereignty and Territorial Unity 'E' for Environment Protection.
	Usage : the acronym can be used for deliberating on the dimensions of SCO in an International Relations paper.



FACTS FOR PRELIMS (FFP)

GS PAPER 1

INDIAN HERITAGE &CULTURE

1. SCHOLARSHIP AND FELLOWSHIP SCHEME TO PROTECT FOLK SONG **ARTISTS**

Context	The Ministry of Culture is implementing a Scheme by the name of 'Scheme of Scholarship and Fellowship for Promotion of Art and Culture' to protect all genres of artists including folk song artists.		
	1. Award of Scholarships to Young Artists (SYA) (a Scholarship of Rs.5000/- per month)		3. Award of Tagore National Fellowship for cultural research.
What is folk art?	Folk art covers all forms of visual art made in the context of folk culture. It is produced from an in-digenous culture and is characterized by a native style , in which customary rules of proportion and perspective are not employed.		

2. ICHR TO USE ANCESTRY RECORDS

Context	ICHR is looking to use the records kept by genealogy priests called Pandas to fill "gaps" in Indian history.	
Who are the Pandas?	The Pandas (under the Hindu religious system), who number around 2,500 in Haridwar, hold records of families going back 15 to 20 generations, with details like place of origin, names, birthedeaths, reason of death, place of residence, grants made to temples, caste, and clan.	
Use of the records	Historians say the records can be a rich source of information to understand past famines, epidemics, migration, and movement of people, as well as social history on how clans and communities were organised. The ICHR plans to help make these records available to researchers, scholars, and historians.	

About Indian Council of Historical Research

The Indian Council of Historical Research (est. 1972; HQ: New Delhi) is a captive body of the Ministry of Education, established by an Administrative Order. The body has provided financial assistance to historians and scholars through fellowships, grants, and symposia.

GEOGRAPHY/GEOPHYSICAL PHENOMENA

3. UPWARD LIGHTNING

Context	Brazilian researchers recently captured high-speed video footage of positive upward discharges of
	electricity from lightning conductor rods in São José dos Campos



What is Upward lightning?	Upward lightning is a phenomenon where lightning streaks develop from tall objects that travel upward toward electrified storm clouds (opposite to normal Lightening)
How does it happen?	Upward lightning occurs when there is a tall object, such as a building or a lightning rod, on the ground and there is an electrically charged storm cloud overhead. The tall object creates a strong electric field near the ground, and this can initiate a channel of ionized air, called an upward leader, which moves upward from the object towards the cloud. When this upward leader connects with a downward-moving stepped leader from the cloud, it completes the circuit, and a discharge of electricity flows from the cloud to the ground.

4.INDIA'S FIRST BAUXITE CERTIFIED REFERENCE MATERIAL (CRM)

Context	National Aluminium Company Limited (NALCO) and Bhabha Atomic Research Centre (BARC) have jointly developed India's first Bauxite Certified Reference Material (CRM) named BARC B1201.	
	This is the fifth CRM of its kind in the world.	
What is CRM?	A Bauxite Certified Reference Material (CRM) is a standardized sample of bauxite that has been certified to have a known and consistent composition.	
What are its uses?	 CRMs are used as calibration standards for analytical methods, instrument performance evaluation, and data quality control in routine analysis of bauxite. The use of CRMs ensures the accuracy and reliability of analytical results and facilitates inter-laboratory comparisons. 	

About NALCO

National Aluminium Company Limited (est. 1981; HQ: Bhubaneshwar) is a **government company** having integrated and diversified operations in mining, metal and power under the ownership of the Ministry of Mines.

About Bhabha Atomic Research Centre (BARC)

It is India's premier nuclear research facility (est. 1954; HQ: Trombay, Mumbai; founder: Homi Jehangir Bhabha) for a multidisciplinary research program essential for India's nuclear program.

About Bauxite

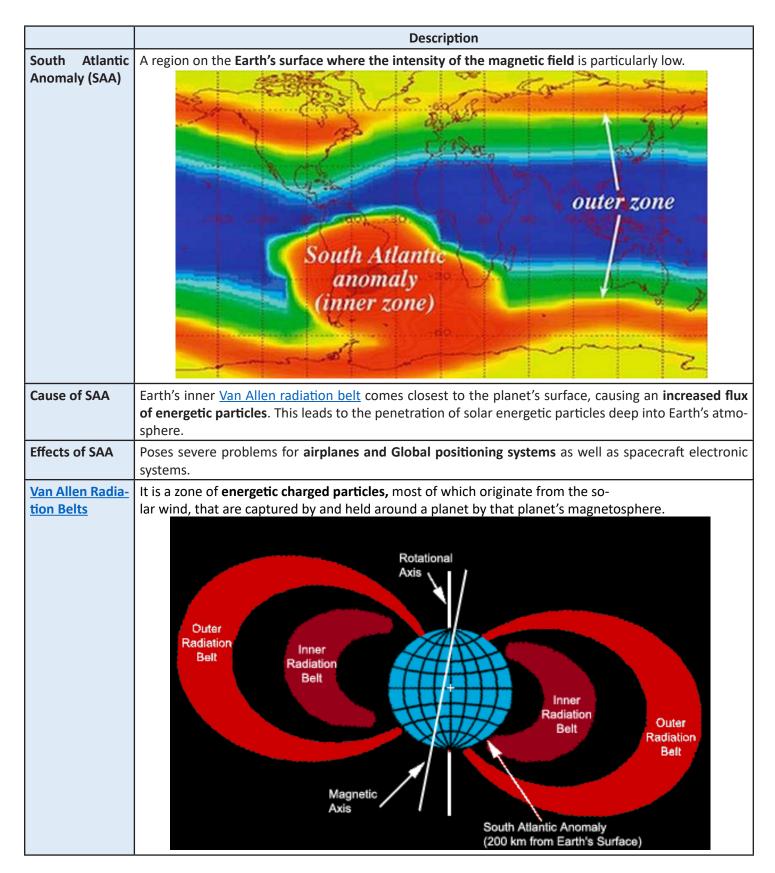
Bauxite is a **sedimentary rock** with a relatively high aluminium content. It is the world's main source of aluminium and gallium



5. SOUTH ATLANTIC ANOMALY

Context:

NASA is monitoring South Atlantic Anomaly in Earth's magnetic field between South America and southwest Africa.





GS PAPER 2

DOCTRINES/JUDICIARY

1. THE DOCTRINE OF "GUILT BY ASSOCIATION"

Context:

SC has restored the doctrine of "guilt by association" in criminal jurisprudence in India.

About the Judgement	Description	
What did SC say?	Mere membership in a banned organization is a crime under <u>UAPA</u>	
Meaning of "Guilty by Association"	One can be guilty of association if they have involvement with a person who has committed a crime	
Previous judgement	SC has overruled its own judgement of 2011 (Mere membership of a banned organization cannot be a crime)	
Section 3 of UAPA	Empowers Central Government to declare an association "unlawful activity"	
SC affirmed Section 10(a)(i) of UAPA	Continued membership in a banned organization is a crime punishable by up to 2 years of jail	
About UAPA	India's main law against terrorism and unlawful activities, enacted in 1967	
Meaning of "Unlawful activity"	Any action intended to disrupt the territorial integrity and sovereignty of India	
Major features of the	Absolute power to the central government to declare an activity unlawful	
Act	Both Indian and foreign nationals can be charged (even outside India)	
	The highest punishment includes the death penalty and life imprisonment	
	Individuals can be designated as terrorists on certain grounds	
	The Director General of NIA can grant approval for the seizure or attachment of prop-	
	erty	
	Officers of the NIA can investigate cases of terrorism	

2. AFFINITY TEST

Context	and the second of the second o	
What is an affinity test?		
Used for		
Why can't the affinity test be the sole criterion?	 An applicant's knowledge of SC/ST traits may not be an accurate measure of his or her belonging to a particular caste or tribe, as he or she may have learned these traits from other sources. Also, if the applicant has stayed in urban areas outside his community for decades, the applicant may not know the facts The court recognized that the test can be helpful, but it cannot be conclusive proof of caste or tribe status. 	
Significance of the ruling	The court's ruling resolves conflicting views on the use of affinity tests to determine caste or tribe status.	



3.DAWOODI BOHRAS

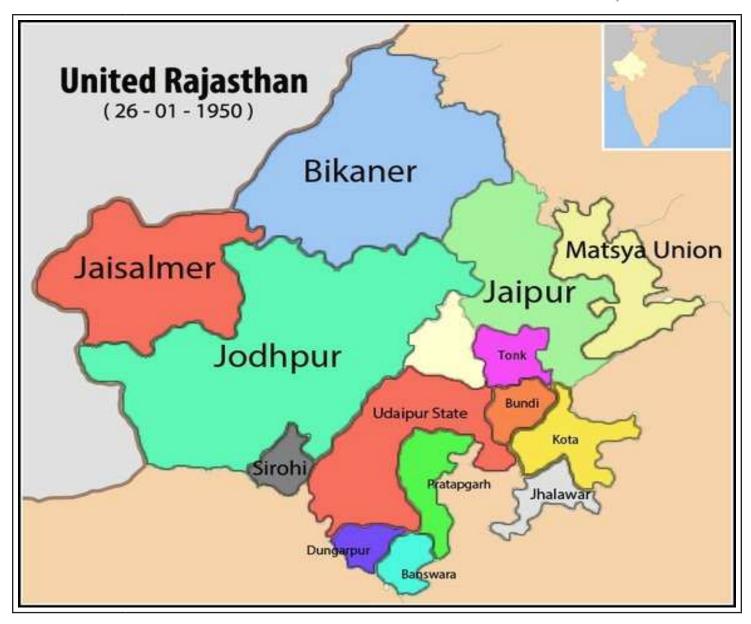
Context	The Bombay HC will hear the dispute between the current leader of the Dawoodi Bohra sect and his challenger for the post.
Who are the D a w o o d i Bohras?	 They are a religious denomination among Shia Muslims. Traditionally a community of traders and entrepreneurs, it has over 5 lakh members in India and over 10 lakh members across the world. The top religious leader of the community is known as the Dai-al-Mutlaq - appointed through "divine inspiration". A "nass" (conferment of succession) can be conferred upon any deserving member of the community and not necessarily a family member of the current Dai, although the latter is often the practice.
What is the dispute about?	 In 2014, the 52nd Dai-al-Mutlaq, Syedna Mohammad Burhanuddin passed away, and his son Mufaddal Saifuddin succeeded him. This was challenged by the late Syedna's half-brother in the Bombay HC.
The practice of ex-communication in the Dawoodi Bohra community:	 The leader of the community has the right to excommunicate (not being allowed to access a mosque or a burial) its members (generally those who contested the headship of the leaders). However, the Bombay Prevention of Excommunication Act 1949 invalidates the ex-communication of any member of any community. A petition on the constitutional validity of the practice is pending before the 9-judge Bench of the SC. The bench was constituted to review the 2018 Sabarimala judgement - considering larger issues of essential religious practice.

GOVERNANCE, POLICY, LEGISLATIONS, GOVT INITIATIVES

4. RAJASTHAN DAY

Context	Every year, March 30, is celebrated as Rajasthan Day, marking the foundation of India's largest state in 1949.	
Process of formation:	Rajasthan was created in phases, with the final modifications occurring in 1956 after India's independence .	
	 At that time, Rajasthan was almost wholly contained in the Rajputana Agency, a political office of the British Indian Empire. 	
	 Rajasthan consists of 22 princely states and estates, all of which assimilated in less than 22 months after India's independence. 	
	Most rulers were Rajput with the exception being Bharatpur and Dholpur which had Jat rulers.	





5. USE OF TECHNOLOGY FOR ELECTION

Context	ECI will use IT measures for election to the Legislative Assembly of Karnataka.	
New technolo-	cVIGIL Application: for filing Model Code of Conduct Violation	
gies being used:	Suvidha Portal: allows online nomination, Permission etc for political parties and candidates	
	GARUDA (Geographical Asset Reconnaissance Unified Digital App)—It helps in coordination	
	between Booth Level officers (BLOs)	

Other Proposed technological Reforms

- Using blockchain technology to enable remote/e-voting
- Linking of Aadhaar with voter ID
- Electronically Transmitted Postal Ballot System (ETPBS)
- A voter verification system that uses biometric software, such as facial recognition



About ECI

The Election Commission of India (formed 25th January 1950; HQ: New Delhi) is a 3-member constitutional autonomous body to conduct and regulate elections to the offices of the President and Vice-President of India, Parliament, State Legislative Assemblies and Legislative councils

Prelims Links

Q. Consider the following statements: (UPSC 2017)

- 1. The Election Commission of India is a five-member body.
- 2. Union Ministry of Home Affairs decides the election schedule for the conduct of both general elections and bye-elections.
- 3. Election Commission resolves the disputes relating to splits/mergers of recognised political parties.

Which of the statements given above is/are correct?

A. 1 and 2 only

B. 2 only

C. 2 and 3 only

D. 3 only

Ans: D

6. GST APPELLATE TRIBUNAL (GSTAT)

Context:

The Lok Sabha passed Finance Bill, 2023 including the setting up of the GST Appellate Tribunal (GSTAT)



GST appellate tribunal (GSTAT)



Goods and Services Tax (GST) Council recently announced the constitution of GST appellate tribunal

Significance of the move:

- · Help resolve the rising number of disputes under GST regime.
- · Help unclog the pendency of number of cases related to GST in High Courts and other judicial fora.



Composition



GSTAT will have one principal bench in New Delhi and benches or boards in states (each state can decide on state level benches, subject to approval of the council).

North-eastern states could opt for one bench for 2-3 states

Members

Two technical and two judicial members, with equal representation from the Centre and states (composition of a bench will depend on the threshold or value of dues involved in the dispute)

· For a particular state bench, all judicial and technical members will be from that state Visit Insights IAS CA



Other changes through the Finance Bill 2023:

0 0	
Short-term capital gains tax	Taxation of mutual funds which have less than 35% invested in equity shares of an Indian company will be taxed as short-term capital gains.
	Short-term capital is the profit one makes when the individual sells their 'Capital assets' within one year. (Long-term: More than one year)
A committee under Finance	It will be set up to address employees' needs and maintain fiscal prudence.
Secretary on the Pension Sys-	
tem	
Regarding Liberalized Remit-	Proposal for Liberalized Remittance Scheme (LRS) payments made through credit cards
tance Scheme payments	for foreign tours be considered under LRS and be subject to Tax Collection at Source (TCS)

What is a **Finance Bill**?

'Finance Bill' means the Bill ordinarily **introduced each year to give effect** to the financial proposals of the Government of India.

- It contains some provisions related to taxation and expenditure and additionally contains provisions related to any other matter
- A Money Bill is a type of financial bill that contains provisions solely related to the matters mentioned in Article
 110 of the Indian Constitution

7. DEEN DAYAL UPADHYAYA GRAMEEN KAUSHALYA YOJANA (DDU-GKY)

Context	The Ministry of Rural Development has launched a new initiative called "Captive Employment" under the Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY) program	
Who are captive employers?		
Features	 It aims to train and place more than 31,000 rural youth in their own establishment or subsidiary companies. The trained candidates are assured post-training placement of a minimum of six months with a minimum CTC of Rs 10,000/ 	
Objectives	 For greater industry participation in skilling rural poor youth to bridge the gap between job seekers and job providers and contribute to sustainable development goals. 	

About DDUGKY

- Launched: 2014
- Ministry: Under Rural Development
- Part of the National Rural Livelihood Mission (NRLM)
- Objective: Demand-led skill training aimed at rural poor youth between 15 and 35 years of age. Mandatory coverage of socially disadvantaged groups (SC/ST 50%; Minority 15%; Women 33%). The emphasis is on Career Progression rather than just training.



8.NATIONAL DATABASE ON SEXUAL OFFENDERS (NDSO)

Context:

NDSO and various other agencies are helping law enforcement agencies in their investigations and solving crimes

Agencies	Objective	Status/About
National Database of Sexual Offenders (NDSO) (est. 2018; Ministry: Home; Database maintained by NCRB)	13 lakh sexual offenders in India. It contains the names, addresses,	 It helps investigation officers track habitual sex offenders and prevent further crimes. Law enforcement agencies have access to the Inter-operable Criminal Justice System (ICJS)
Crime and Criminal Tracking Network & Systems (CCTNS) (est. 2009; Ministry: Home)		Almost all the police stations (total of 16,597) in India are registering 100 per cent FIRs directly on Crime and Criminal Tracking Network and Systems.
Indian Cyber Crime Coordination Centre (I4C) (est. 2020; Ministry: Home)	•	It has currently more than 20 lakh cyber-crime complaints and over 40,000 FIRs registered. It has a helpline number '1930' to report cyber financial frauds.
National Crime Records Bureau (NCRB) (est. 1986; Ministry: Home)	formation on crime and criminals	Publishes an annual report 'Crime in India'

9. NATIONAL RABIES CONTROL PROGRAMME (NRCP)

	Context	The Central Government has launched the National Rabies Control Programme (NRCP) for the prevention and control of Rabies.
I	The Strategies of the National Rabies Control Program are as follows:	

- Provision of rabies vaccine & rabies immunoglobulin through national free drug initiatives
- Training on appropriate animal bite management, prevention and control of rabies, surveillance and intersectoral coordination
- Strengthening surveillance of animal bites and rabies deaths reporting
- Creating awareness about rabies prevention

10.NEW INDIA LITERACY PROGRAMME

The government has launched a new Centrally Sponsored Scheme namely, the "New India Literacy Programme" (NILP) for implementation during five years from the FYs 2022-23 to 2026-27



About the Scheme	Description	
Implementation	5 years from FYs 2022-23 to 2026-27	
Target	All Non-literates aged 15 years and above, with a target of 5.00 crore beneficiaries	
Components	Foundational Literacy and Numeracy, Critical Life Skills, Vocational Skills Development, Basic Education, Continuing Education	
Identification	Door-to-door survey on Mobile App, direct registration through the mobile app	
Teaching Method	Volunteerism, technology-based and predominantly online	
Teaching Material	Teaching resources available on the DIKSHA platform of NCERT , dissemination through TV, Radio,	
	Samajik Chetna Kendra	

INTERNATIONAL RELATIONS, NEWS & ORGANIZATIONS

11. SAUDI ARABIA IN SCO

Context:

Saudi Arabia has approved a memorandum granting the kingdom the **status of a dialogue partner** in the <u>Shanghai Cooperation Organization (SCO)</u>

What is a dialogue partner?

Dialogue Partners refer to **individual sovereign states** and not members, but with a special interest and/or capacity to contribute, particularly in the areas of common interest.

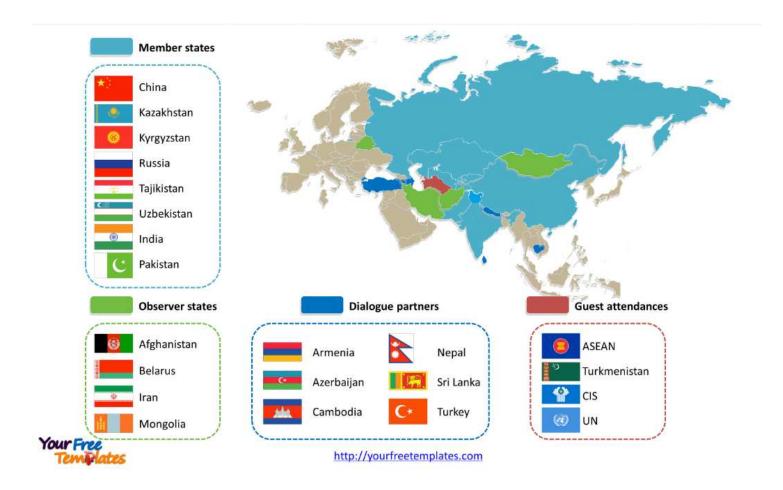
The number of dialogue partners in SCO is 7 (including Saudi Arabia)

About SCO	Description	
Formation	Intergovernmental Organization founded in 2001 in Shanghai by China, Kazakhstan, Kyrgyzstan,	
	Russia, Tajikistan, and Uzbekistan	
Focus	Regional security, fighting terrorism, separatism, and extremism	
Permanent Bodies	SCO Secretariat in Beijing and Executive Committee of the Regional Anti-Terrorist Structure (RATS) in Tashkent	
Observer Status	Has observer status in the UN General Assembly	
Current Chair	India	
India's Membership	In June 2017 India became a full member (same day as Pakistan)	
Significance to India	Use it as a forum to counter the influence of China and Pakistan in the region; strengthen ties with Central Asian countries; access to the Eurasian market and resources; manage the negative implications of Taliban in Afghanistan; and counter terrorism-related activities in the region through RATS.	

Learn about "SECURE" SCO here



Member states

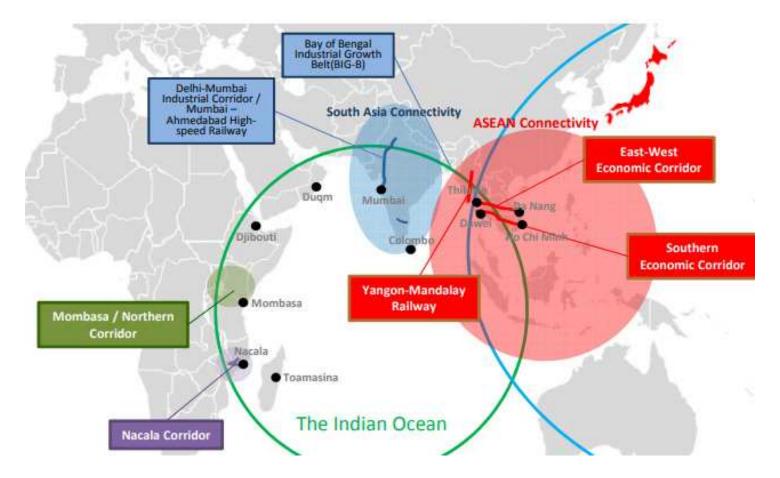


12. JAPAN TO CONNECT LANDLOCKED NORTH EAST WITH BANGLA-**DESH**

Context	Landlocked Northeast India may soon get a trade gateway through Matarbari deep sea port in Bangladesh being constructed by Japan, under its Free and Open Indo-Pacific strategy
Bay of Bengal Industrial Growth Belt (BIG-B) initiative	Through this initiative, Japan is helping Bangladesh develop infrastructure and Industrial Belt along Dhaka-Chittagong-Cox's Bazar belt area and beyond.
India-Japan Act East Forum (AEF	Through this, Japan has been supporting the development of India's North East through connectivity to Bangladesh and Southeast Asia.



•	Japan will promote the Bay of Bengal-Northeast India industrial value chain concept to foster the growth of the entire region. The strategy consists of three pillars:
strategy	 Promotion and establishment of rule of law, freedom of navigation and free trade Pursuit of economic prosperity Commitment to peace and stability (capacity building on maritime law enforcement, HA/DR cooperation, etc.)
Other projects for India's North East	 Kaladan Multimodal Transit Transport Project (for connectivity with Myanmar) Protocol on Inland Water Transit and Trade between India and Bangladesh India-Myanmar-Thailand Trilateral Highway.



13. MULTILATERAL DEVELOPMENT BANKS

Context	Under the aegis of India's G20 Presidency, an 11-member G20 Expert Group on "Strengthening Multi-lateral Development Banks (MDBs) has been constituted.
What is an MDB?	MDB is a financial institution established by multiple member countries and falls under international law. E.g., International Monetary Fund, World Bank, Asian Development Bank etc.
Focus Areas	How can World Bank and other bodies contribute towards climate finance, critical for developing and LDCs to make a smooth transition to lower carbon emissions without compromising on growth.
Objectives of MDB	Stabilizing the global financial system during the time of crisis; Providing long-term financing; Providing lower-cost financing
Issues	Currently, MDBs are dominated by developed Countries (WB by USA, IMF by EU and ADB by Japan); they impose conditionality in loans; there is a lack of Transparency and Accountability.



GS PAPER - 3

ECONOMY, BANKING & FINANCIAL INCLUSION

1. NEW FEES ON UPI PAYMENTS

Context	The National Payments Corporation of India (NPCI) has allowed prepaid payment instruments (PPIs) to be part of the interoperable <u>Unified Payments Interface (UPI)</u> ecosystem.	
What does the new guideline say?	• The new guidelines, effective from April 1st, levy a 1.1% charge on UPI transactions above ₹2,000 while using PPIs.	
	 The charges are only applicable for PPI merchant transactions, and there are no charges for the bank account to bank account-based UPI payments. 	
Explanation using an example	A PPI payment via UPI means a transaction done via a wallet, like PhonePe Wallet through a UPI QR code. This means that if users have money in their say PhonePe Wallet and want to make a payment via the merchant's UPI QR code, then on transactions above Rs 2,000, an interchange fee of up to 1.1% will be levied. This fee is charged to the merchant and not the customer.	
Benefits	 The move is expected to help UPI merchants, who can accept wallet payments regardless of the wallet being used by the customer, thereby increasing payment alternatives for customers. The interoperability of KYC wallets will also eliminate the need for customers to carry multiple cards and reduce fraud and theft. 	

What are PPIs?

The payment and Settlement Act, 2005 defined Prepaid Payment Instruments (PPIs) as instruments of payment that facilitate buying of goods and services, including the transfer of funds, financial services and remittances, against the value stored within or on the instrument.

Examples: Online wallets like PAYTM wallets, Amazon Pay wallets and preloaded gift cards

About NPCI

The National Payments Corporation of India (est. 2008, HQ: Mumbai) is an umbrella organization for operating retail payments and settlement systems in India, is an initiative of the Reserve Bank of India (RBI) and the Indian Banks' Association (IBA) under the provisions of the Payment and Settlement Systems Act, 2007, for creating a robust Payment & Settlement Infrastructure in India.

It is a not-for-profit organisation registered under Section 8 of the Companies Act 2013

2. INDEX PROVIDERS

Context:

SEBI has released a consultation paper on the regulatory framework for index providers to bring more transparency and structure to the market.



	Description
What are Index Providers?	Institutions that formulate and manage indices, determine the level of investment in the market through passive mutual fund schemes. Provides an overview of market trends, e.g., Nifty50 for NSE in India.
Features of the proposed regula- tion	 Index providers must be legal entities with a minimum net worth of ₹25 crores. Must maintain independence and integrity of the index determination process. Must exercise due diligence in onboarding data submitters.
Need for regula- tion	Necessary to safeguard investor interests since index providers' services determine the level of investment in the market through passive mutual fund schemes.
Index providers in India	Generally carried out by subsidiaries of stock exchanges , as a joint venture between the exchange and an index provider. Examples include Nifty50 by NSE Indices and Sensex by a venture of S&P Dow Jones and BSE.
About SEBI	The Securities and Exchange Board of India is the statutory regulatory body for securities and commodity markets in India, established in 1988, headquartered in Mumbai, and owned by the Ministry of Finance within the Government of India.
About IOSCO	The International Organization of Securities Commissions is an association of organizations that regulate the world's securities and futures markets, established in 1983, and headquartered in Madrid, Spain. SEBI is a member.

3. ANNUAL PERIODIC LABOUR FORCE SURVEY (PLFS) REPORT 2021-22

Context:

The Annual PLFS Report 2021-22 gives the estimated percentage distribution of workers at the All-India level in usual status by broad industry division as per National Industrial Classification (NIC) 2008.

Broad industry division as per NIC-2008	Male (%)	Female (%)	Person (%)
Agriculture	38.1	62.9	45.5
Manufacturing	11.8	11.2	11.6
Construction	15.6	5.0	12.4
Trade, hotel & restaurant	14.7	5.9	12.2

Analysis:

Agriculture has the highest estimated percentage distribution of female workers followed by manufacturing

	About PLFS	
Launched By	National Statistical Office (NSO) in 2017	
Aim	To estimate the key employment and unemployment indicators (for example, LFPR, etc) in	
	 A short time interval of 3 months for the urban areas only in the Current Weekly Status (CWS = 7 days preceding the date of the survey). Both usual status and CWS in both rural and urban areas annually. 	
Key indicators of PLFS	 Activity Status: Activities pursued by the person during the specified reference period. Usual Status: Determined on the basis of the reference period of the last 365 days preceding the date of the survey. CWS 	



Govt steps to improve women's labour force participation:

- 1. Enhancement in **paid maternity leave** from 12 weeks to 26 weeks.
- 2. Provision for mandatory crèche facility in establishments with 50 or more employees.
- 3. Permitting women workers in the night shifts with adequate safety measures.
- 4. The Equal Remuneration Act 1976 now subsumed in the <u>Code on Wages, 2019</u> provides for no discrimination on the ground of gender.
- 5. Training through a network of Women Industrial Training institutes, National Vocational Training Institutes and Regional Vocational Training Institutes.

4. FRAMEWORK TO PREVENT FRAUD BY STOCK BROKERS

Context:

SEBI, the markets regulator in India, has approved several proposals for boosting the corporate governance ecosystem and preventing fraud and market abuse by stockbrokers

Measures Introduced	Description	Significance
Ending permanent di- rectorship	SEBI has ended the practice of individuals holding permanent directorship on boards of listed companies.	This move aims to boost corporate governance and encourage the appointment of independent directors who can provide an objective view.
Framework to prevent fraud	SEBI has put in place a formal mechanism to prevent fraud and market abuse by stockbrokers.	This step is expected to safeguard investors' money from misuse by stockbrokers.
Private equity funds as sponsors of mutual funds	, ,	This move is expected to deepen the mutual fund industry in India.
ESG disclosures	SEBI has given its nod to norms for Envi- ronmental, Social, and Governance (ESG) disclosures by listed companies.	This step is expected to enhance transparency and encourage responsible corporate behaviour.
Fund-blocking facility	SEBI will introduce a fund-blocking facility for secondary market transactions, similar to the one used for Initial Public Offerings (IPOs).	This measure is aimed at safeguarding investors' money from misuse by stockbrokers.

5. \$750 BILLION OF INDIA'S EXPORTS

Context	Prime Minister, Shri Narendra Modi has lauded the people of India for achieving over \$750 Billion in exports in the 75th year of India's independence
Value of India's goods and services exports	It touched an all-time high of \$422 billion and \$254 billion respectively in 2021-22.
Share of India's exports	USA (18% share)> UAE (6%)> China (5%)> Bangladesh
India's target:	\$ 2 trillion in exports by 2030



SCIENCE & TECHNOLOGY

6. MOORE'S LAW

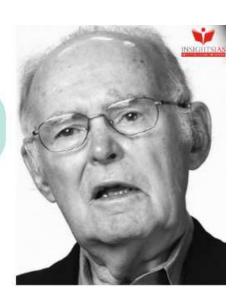
Significance of the law:		
Role in Digital Revolution	It played a crucial role in the development of the digital revolution of the 20th century.	
Acted as a guide to:	The prediction has helped guide the semiconductor industry , governments, and militaries in their investments and technological targets.	
Cultural expectations of technology:	It has created an expectation of continuous improvement and innovation, which has driven consumer demand for newer and more advanced products.	

Moore's law

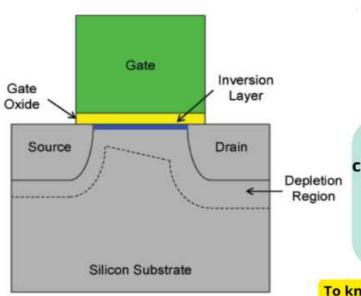
Context: Gordon Earle Moore (an American businessman, engineer, and the co-founder of Intel Corporation) died recently.

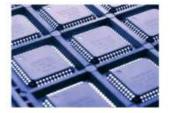
What is Moore's law?

"The number of transistors in an integrated circuit doubles about every two years."



Values: Gordon Moore's life and work suggest a commitment to innovation, vision, sustainability, education, and philanthropy.





A microchip (also called an integrated circuit or IC) is a set of electronic circuits on a small flat piece of silicon. On the chip, transistors act as miniature electrical switches that can turn a current on or off.

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7. BIOTRANSFORMATION TECHNOLOGY

Context:

A UK-based startup claims to have developed a technology - "biotransformation" - that could alter the state of plastics and make them biodegradable.

Background:

Plastic Waste Generated by India	 India generates 3.5 billion kgs of plastic waste annually The per capita plastic waste generation has also doubled in the past 5 years.
Steps taken by the Indian government	 Introduced a plastic waste management gazette to help tackle the ever-growing plastic pollution caused by single-use plastics. Imposed a ban on single-use plastics to bring a stop to their use in the country. The National Dashboard on Elimination of Single-Use Plastic and Plastic Waste Management brings all stakeholders together to track the progress made. An Extended Producer Responsibility (EPR) portal helps in facilitating ease of compliance reporting in relation to EPR obligations of the producers, importers and brand-owners.

	About Biotransformation technology:		
What is it?	It is a novel technology that would digest plastic waste naturally with the help of microbes and biodegrade the waste without leaving behind any microplastics.		
Applicable to sectors:	Food packaging and healthcare industries are the two prime sectors that could use this technology to reduce waste.		
Benefits	It will ensure that plastics escaping refuse streams are processed efficiently and broken down.		
	Alternatives to reduce plastic waste:		
 A switch to jute or paper-based packaging could potentially cut down plastic waste. The Government of Tamil Nadu showcased alternatives made using coir, bagasse, rice and wheat bran, etc. 			

8. UNIVERSAL ACCEPTANCE DAY

Context	The Ministry of Electronics and Information Technology (MeitY) organised a two-day event on Universal Acceptance Day (March 28) to promote multilingual internet for digital inclusion in India	
	The event was organized by the National Internet Exchange of India (NIXI)	
What is Universal Acceptance Day?	It is a day to encourage policies towards inclusive and multi-lateral internet.	
Organized by:	Collaborative effort of Universal Acceptance Steering Group (UASG), and Internet Corporation for Assigned Names and Numbers (ICANN)	
Potential	Experts noted that the next 1 billion internet users are likely to come from non-English speaking countries , heightening the importance of a multilingual internet.	
Potential for India	 With over 900 million internet users, India is the second largest online market in the world, behind China. 	
	 The adoption of Universal Acceptance in India can add another 500 million broadband users to add value to the digital economy, promote startup ecosystems, and generate employment opportunities. 	



About ICANN:

The Internet Corporation for Assigned Names and Numbers (est. 1988; HQ: Los Angeles) is an American multistakeholder group and nonprofit organization responsible for coordinating the maintenance and procedures of several databases related to the namespaces and numerical spaces of the Internet, ensuring the network's stable and secure operation.

About NIXI

The National Internet Exchange of India (est. 2003; under MeitY) is a **non-profit company** (under the Companies Act, 1956) with the objective of facilitating improved internet services in the country.

9. QUANTUM-BASED TELECOM NETWORK LINK

Context:

India's first quantum computing-based telecom network link is now operational between **Sanchar Bhawan and the National Informatics Centre office** located in CGO Complex in the national capital.

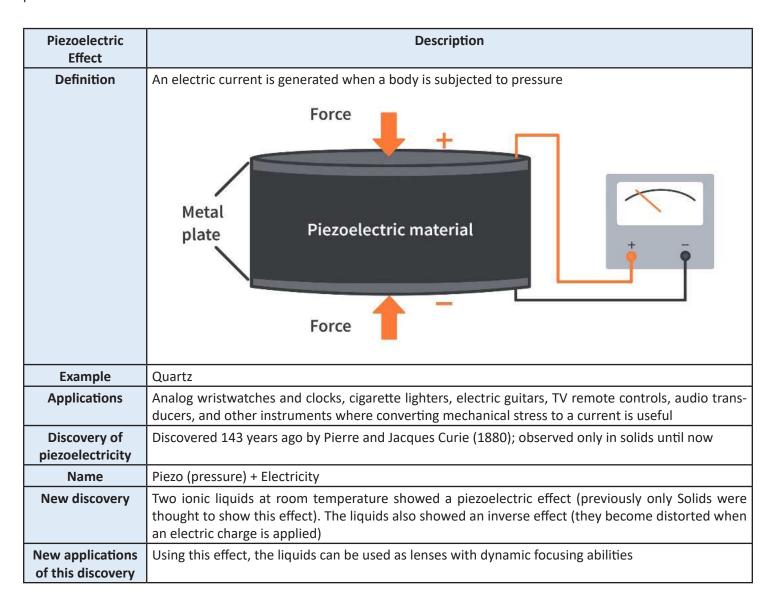
About the news	Description	
Developed by	Centre for Development of Telematics (C-DOT), under the Department of Telecommunications	
Quantum Hack- athon 2023	The government has opened a challenging round, for anybody who breaks this secure quantum system and system developed by C-DoT, we will be giving Rs 10 lakh per break	
What is Quantum Communication?	It refers to communication channels that leverage laws of quantum physics (use of 'qubit' instead of '0' and '1') to protect data and make it more secure than traditional transmission.	
Working of Quan- tum Communica- tion	It uses quantum properties such as entanglement and superposition to transmit information, which cannot be intercepted or copied without being detected by the sender and the receiver. This makes quantum communication very secure and ideal for transmitting sensitive information such as financial transactions and classified messages.	
What is Quantum Key Distribution?	QKD involves the transmission of encrypted data as classical bits while the decryption key is encoded and transmitted in a quantum state using qubits. QKD System QKD System QkD System QkD System Classical Channel Quantum Channel Plaintext m Encryptor Ciphertext E _K (m) Encryptor Plaintext m	
About C-DOT	The Centre for Development of Telematics (est. 1984; founder: Sam Pitroda; HQ: Delhi) is an Indian Government owned telecommunications technology development centre.	



10. PIEZOELECTRIC EFFECT IN LIQUIDS

Context:

Scientists have reported evidence of the piezoelectric effect in liquids for the first time, in pure ionic liquids at room temperature.



11. GAMMA RAY BURSTS (GRB)

Context	Astronomers recorded the brightest gamma-ray radiation ever in October 2022, causing disruptions in radio signals on Earth and cutting across our solar system.
	The radiation pulse, named GRB 221009A, was a birth cry of a black hole and lasted five minutes.
The observation challenges the the- ory of how GRB jets produce light	The observation has shown unexpected behaviour in the radio signals from the afterglow of the burst, which may indicate a completely new emission component.
What are GRBs?	GRBs are a very bright and powerful explosion of gamma rays, the most energetic form of light. Most GRBs are caused by massive stars collapsing into black holes or by the merging of two neutron stars.



Significance	They are important to study because they can give us insights into the early universe and the pro-	
	cesses that drive the most powerful explosions in the cosmos.	l

Related News:

As per a recent observation, a **supermassive black hole** (hundreds of thousands to billions of times the Sun's mass) has changed its direction and is directly facing toward the Earth. A **black hole** is a region of spacetime where gravity is so strong that nothing, not even light, can escape from it.

12. RIBONUCLEIC ACID (RNA)

Context:

The article explains why **most deadly viruses contain RNA**, unlike most organisms which use DNA to store genetic information

What is an RNA?

Property	RNA	DNA (Deoxyribonucleic acid)
Structure	Single-stranded RNA RIBDNUCLEIC ACID NAME GUANINE NAME CYTOSINE NAME URACIL	Double-stranded = Adenine = Thymine = Cytosine = Guanine = Phosphate backbone
Sugar compo- nent	Ribose	Deoxyribose
Bases	Adenine, guanine, cytosine, uracil	Adenine, guanine, cytosine, thymine
Function	 mRNA carries genetic information from DNA to the ribosomes for protein synthesis Transfer RNA (tRNA) delivers amino acids to the ribosomes Ribosomal RNA (rRNA) helps to catalyse protein synthesis 	Genetic material carries genetic information
Stability	Less stable	More stable
Mutation rate	Higher mutation rate	Lower mutation rate
Replication	Not self-replicating, need a DNA template	Self-replicating Self-replicating
Genetic information	Can act as genetic material in some viruses	The primary genetic material in organisms



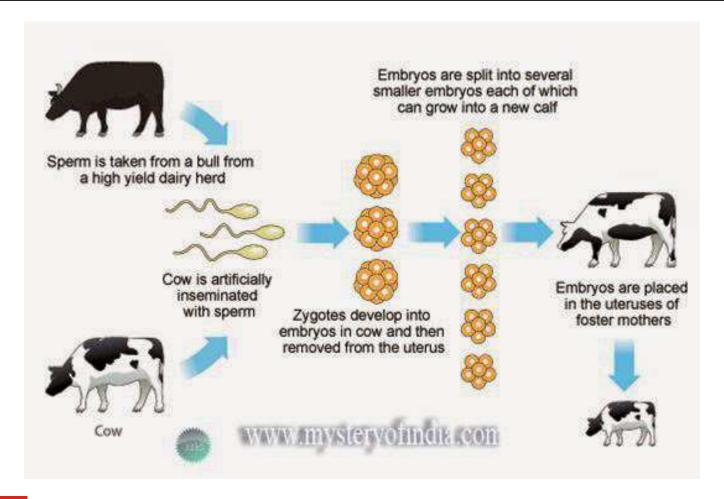
Why do most deadly viruses contain RNA?

Reasons	Explanation	Examples
High mutation rate	RNA viruses change quickly, allowing them to adapt to new environments and host species	Influenza virus, HIV, SARS-CoV-2
Recombination	RNA viruses can exchange genetic material, leading to the emergence of new strains	Norovirus, Hepatitis C virus, Rotavirus
Wide host range	RNA viruses can infect a variety of hosts, including animals and humans, leading to zoonotic diseases	Ebola virus, Zika virus, Nipah virus
High viral loads	RNA viruses can replicate quickly, producing large amounts of virus that can overwhelm the host's immune system	Hepatitis A virus, Dengue virus, yellow fever virus

On the other hand, **DNA** is more stable, error-free and doesn't mutate easily.

13. INDIA'S FIRST CLONED DESI GIR FEMALE CALF GANGA

Context	The National Dairy Research Institute (est. 1956, under ICAR, based in Haryana's Karnal) has produced the first-ever clone of a calf belonging to the indigenous Gir cow breed . The calf has been named Ganga.
Process Scientists used three animals for producing this calf: Oocyte was taken from the Sahiwal be a somatic cell from the Gir breed, and a surrogate animal was a crossbreed.	
What is Reproductive cloning is a process by which an exact genetic replica, or clone, or cloning? Reproductive cloning is a process by which an exact genetic replica, or clone, or cloning called somatic cell nuclear transfer involves removing the nucleus of an egg cell and replacing it with the nucleus of a support non-reproductive cell) from the organism to be cloned.	
Other breeds of Cow	Sahiwal, Tharparkar, and Red Sindhi





Related news:

Policy on cattle dehorning & castration

The Central Government has notified the **Prevention of Cruelty to Animals (Animal Husbandry Practices and Procedures) Rules, 2023**, which outlines the procedures for dehorning cattle and castration, branding or nose-roping of any animal.

- All procedures like **castration and dehorning** must be carried out with the involvement of a **registered veterinary practitioner** and the mandatory **use of general and local anaesthetics**.
- The rules also prescribe a methodology for euthanasia for ill animals to avoid a painful death.

Aim: The rules aim to prevent cruelty against animals and promote more humane animal husbandry practices.

AGRICULTURE

14. CRISP

Context	Rubber Board has launched a mobile app—CRISP (Comprehensive Rubber Information System Platform—to inform growers about rubber cultivation and provides solutions online	
Developed By	Rubber Research Institute of India (RRII) in collaboration with the Digital University of Kerala.	

Rubber

Natural rubber is a polymer of isoprene, an organic compound and obtained from the latex of a number of tropical trees of which Para Rubber tree (Hevea brasiliensis) is the most important.

- Age: around 32 years in plantations.
- Soil: Well-drained and well-weathered soils e.g., Lateritic type, alluvial, sedimentary types
- Precipitation and Temperature: An evenly distributed rainfall with at least 100 rainy days a year and a temperature range of about 20 to 34°C.
- Conditions: A humidity of around 80%, 2000 hours of sunshine, and absence of strong winds
- Uses: Natural rubber is preferred over synthetic rubber due to its high tensile strength and vibration dampening properties, along with tear resistance.



World (major producers):
Thailand, Indonesia, Malaysia,
India: Kerala (over 75%) > Tamil
Nadu > Karnataka
India fifth largest producer and
2nd largest consumer of
Natural Rubber (India currently
meets 40% of its requirement
through imports)



A A

Rubber Board of India (est. 1955; HQ: Kottayam, Kerala): The Board (under Ministry of Commerce and Industry) is responsible for the development of the rubber industry in India.

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Q. Which one of the following groups of plants were domesticated in the 'New World' and introduced into the 'Old World'? (UPSC 2019)

- (a) Tobacco, cocoa and rubber
- (b) Tobacco, cotton and rubber
- (c) Cotton, coffee and sugarcane
- (d) Rubber, coffee and wheat

Ans: A

Q. Match List-I with List-II and select the correct answer using the code given below the Lists: (UPSC 20
--

List-I (Board)

List II (Headquar-

ters)

A. Coffee Board

1. Bengaluru

B. Rubber Board

2. Guntur

C. Tea Board

3. Kottayam

D. Tobacco Board

4. Kolkata

Code: A B C D

(a) 2 4 3 1

(b) 1342

(c) 2 3 4 1

(d) 1432

Answer: B

15. BERRY BORER INFESTATION

Context	The Coffee Board has issued an advisory to coffee farmers to tackle the attack of berry borer in Robusta coffee plants.	
What is Berry borer infestation?	Berry borer infestation is a common problem in coffee production. It is caused by a small beetle called the coffee berry borer, which lays its eggs inside coffee berries.	
Measures to control it	 The berry borer-infested gleanings, leftover fruits, and off-season berries should be collected and disposed of by burning or burying them in the soil or disinfested by dipping them in boiling water to mitigate the attack in the next season Brocca traps, an effective measure to control the berry borer population in coffee plantations, should be installed and backing irrigation should be provided for Robusta coffee plants. 	



About Coffee Board of India:

Coffee Board of India (formed 1942; HQ: Bengaluru) is a **statutory organisation** managed by the Ministry of Commerce and Industry of the government of India to promote coffee production in India.

Coffee

About Coffee

- Climate: Hot and humid (15-28 degree
 C); Dry weather is necessary at the time of ripening of the berries.
- Rainfall: High (150-250 mm)
- Location: Rainforest of Western Ghats
- States: Karnataka (highest) > Kerela>
 Tamil Nadu> Andhra Pradesh
- India's position: Sixth highest producer in the world (65-70% of India's coffee is exported). Brazil is the largest producer.











Varieties of Coffee

	Robusta Coffee	Arabica Co	offee
Origin	Africa	Ethiopia	
Cultivation	Grown in low-altitude areas of the	Grown in high-altitude	areas, mainly in
Area	world, primarily in Asia and Africa	Latin America, Africa, a	and Asia
Plant Height	Taller (up to 10 meters)	Shorter (up to 5 meters)	
Bean Shape	Round and straight	Oval and S-shaped	
Caffeine	Higher (up to 2.7%)	Lower (up to 1.5%)	To know more
Content	3		Visit Insights IA
Taste Profile	Harsh and Bitter	Mild and Complex	Daily Current
Price	Less expensive	More expensive	Affairs



SPACE TECHNOLOGY

16. SUCCESSFUL LAUNCH OF LVM3 WITH 36 @ONEWEB SATELLITES

Context	ISRO's heaviest payload rocket, GSLV-Mk3/LVM3 carrying 36 OneWeb satellites onboard took off from	
	Satish Dhawan Space Centre SDSC-SHAR, Sriharikota, under the OneWeb India-1 mission .	

About the OneWeb India-1 mission:

- It is a Network Access Associates Limited, UK (Bharti-backed OneWeb Group Company) and the NewSpace India Limited (NSIL) joint mission to launch 72 satellites to Low-Earth Orbits (LEO).
- In its **second mission**, **LVM3 placed 36 OneWeb Gen-1** satellites totalling about 5,805 kg recently.
- It will open the door for India to advance toward gaining access to LEO connectivity and the spread of spacebased internet.

17.'PELLET-BEAM' PROPULSION

Context	A new propulsion system concept called 'pellet-beam' propulsion has been proposed that could potentially beam a heavy spacecraft outside of our Solar System in less than 5 years.	
	The pellet-beam concept was partly ins ing on a 'light-sail' propulsion system.	pired by the Breakthrough Starshot initiative, which is work-
What is a propulsion system?		
Working of 'Pellet-beam' propulsion	peam' pro- traditional chemical-fuelled rockets.	
	Spacecraft 1	Spacecraft 2
10 MW lawy micrometer 30 AU/o	Goes into orbit around Earth	Sets off for interstellar space
planna pelet-beam 1 ton	It will shoot a beam of tiny microscopic particles at the interstellar spacecraft, which would be heated up by lasers, causing part of them to melt into plasma that accelerates the pellets further, a process known as laser ablation	The heated pellets could reach 120 km/second and either hit the sail of the interstellar spacecraft or repel a magnet within it, helping to propel the spacecraft to huge speeds

NASA is developing **bimodal nuclear propulsion** – a two-part system consisting of Nuclear Thermal and Nuclear Electric Propulsion (NTP and NEP element; therefore 'bimodal') – that could enable transits to Mars in just 45 days

ENVIRONMENT, CLIMATE & CONSERVATION

18. EVTOL AIR TAXI

Context:

India aims to be part of the global initiative to offer electric vertical take-off and landing (eVTOL) aircraft by 2025



What is eVTOL?	A type of VTOL aircraft that uses electric power for vertical take-off and landing
Advantages	Flexibility, manual or automatic operation, lower noise levels, fully electric powered, sustainability, independence from runways
Applications	Short-haul air mobility services (air taxis), disaster management, military operations, commercial services
Countries adopting	Singapore, UAE, France, Germany, the UK and the US have already announced their plans to launch these air taxis by 2025.

19. PLASTIGLOMERATE

	Context	A team of marine biologists working in the Andaman and Nicobar Islands have stumbled upon a piece of rock (Plastiglomerate) made from plastic from a beach on Aves Island. This is the first such find from India.
	What is plasti- glomerate?	It is a rock composed of sand, rock fragments, shells and other materials held together by plastic. It is a new form of plastic pollution , which scientists described in 2014.
		Laboratory analysis showed that it was made of two very commonly used plastic polymers, polyethene and polyvinyl chloride
1	About Aves Island:	

Aves Island is an island of the Andaman Islands. It belongs to the North and Middle Andaman administrative district, part of the Indian union territory of Andaman and Nicobar Islands. The island lies 140 km north of Port Blair According to the 2011 Census, there are just two people on Aves Island. Both are male.

20. SALT MARSHES

Context	More than 90% of the world's salt marshes may be lost to sea level rise by the end of the century, as		
	cording to a study by scientists from the Marine Biological Laboratory.		



Feature	Description				
Definition	Definition				
Salt marshes are	narshes are coastal wetlands that are flooded and drained by salt water brought in by the tides.				
Location	They are found in intertidal zones along coastlines, usually in protected areas such as estuaries or bays.				
Vegetation	They are dominated by grasses and other salt-tolerant plants such as sedges, cordgrass, rushes, a mangroves.				
Soil	They have nutrient-rich soils that are often anoxic (depleted of oxygen) due to high levels of organic matter.				
Ecological function	They are important habitats for many species of fish, birds, and other wildlife, and provide valuable ecosystem services such as erosion control and water filtration.				
Threats	They are threatened by sea level rise, coastal development, pollution, and climate change.				
'Coastal squeeze'	The movement of salt marshes is obstructed by sea level rise , anthropogenic activities and geographical factors .				
	E.g., a seawall that protects a home from inundation will prevent a wetland from naturally migrating to higher ground.				

21. ARAVALLI GREEN WALL PROJECT



- Forest belt likely to run roughly from Porbandar to Panipat, covering entire Aravali range and beyond
- 'Green wall' will act as barrier for dust from west and check eastward march of Thar desert
- It will check desertification by restoring degraded land through massive afforestation
- Project yet to get formal nod, details to be worked out

The government recently launched the Aravalli Green Wall Project , a major initiative to km buffer area around the Aravalli Hill Range in four states at a function organised to International Day of Forests in Haryana.				
About Aravalli Green Wall Project				
Vision	The Project is part of the Union Environment Ministry's vision to create green corridors across the			
	country to combat land degradation and desertification.			



Location	It covers the states of Haryana, Rajasthan, Gujarat and Delhi - where the Aravalli hills landscape span over 6 million hectares of land.			
What does the project involve?	The project will involve planting native species of trees and shrubs on scrubland, wasteland and degraded forest land, along with rejuvenating and restoring surface water bodies such as ponds, lakes and streams.			
Objectives:	Improve the ecological health of the Aravalli range			
	Prevent the eastward expansion of the Thar Desert and reduce land degradation			
	 help in carbon sequestration and mitigate climate change 			
	 Promote sustainable development and livelihood opportunities by involving local communities in afforestation, agro-forestry and water conservation activities that will generate income, employment, food security and social benefits. 			
	 Contribute to India's commitments under various international conventions such as UNCCD (United Nations Convention to Combat Desertification), CBD (Convention on Biological Diversity) and UNFCCC (United Nations Framework Convention on Climate Change). 			

22. MARINE PROTECTED AREAS (MPA)

Context	India will continue to support setting up two Marine Protected Areas (MPA) in Antarctica to protect marine life and its ecosystem services.		
Background	 The Southern Ocean that encircles Antarctica covers around 10% of the global ocean and is home to nearly 10,000 unique polar species. Climate change and commercial fishing are altering habitats such as sea ice and the sheltered seafloor under ice shelves that are home to a variety of species. 		
International efforts to pro- tect marine ecosystem	 Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) is an intergovernmental body set up in 1982 to conserve Antarctic marine life. The UN 30x30 Framework (reached at the COP15 to the CBD in 2022) aims to protect 30% of the world's land and sea. The Southern Ocean has 2 MPAs - one in the southern shelf of the South Orkney Islands and the other in the Ross Sea - protecting only 5% of the ocean. 		
MPAs in India:	 MPA is a defined region managed for the long-term conservation of marine resources, ecosystem services or cultural heritage. There are a total of 31 major MPAs in India (as of Feb 2022) covering coastal areas that have been notified under Wildlife Protection Act, 1972. 		

23. VEMBANAD AND ASHTAMUDI LAKE

Context:

The National Green Tribunal (NGT) has imposed a **penalty of Rs 10 crore** on the Kerala government for failing to protect the Vembanad and Ashtamudi lakes (Ramsar list of wetlands)

Issues: The wetlands had become polluted drains due to the dumping of pharmaceutical waste, plastic waste, household waste, and slaughterhouse waste.

The penalty levied per the 'polluter pays principle' should be deposited in a ring-fenced account, which should be utilized under the chief secretary's authority for conservation or restoration measures.



Feature	Vembanad Lake	Ashtamudi Lake	
Size The largest lake in Kerala, the longest in India		Second largest after the Vembanad estuary system	
Names Punnamada Lake (in Kuttanad), Kochi		Ashtamudi Kayal, Ashtamudi means 'eight braids' (8 branches) in the local Malayalam language	
Significance Nehru Trophy Boat Race, Ramsar Site		Houseboat and backwater resorts, Ramsar Site	
Ramsar Site Yes, second-largest Ramsar site in India after Sundarbans		Yes	
Bird Sanctuary Kumarakom Bird Sanctuary on the east coast			
Unique Feature The lake is situated at sea level and is sea arated from the Laccadive Sea by a narro barrier island			
Issues	Vembanad lake's water retention capacity had decreased by 85% in the last 120 years due to huge encroachment and devastation of its ecology	It has significant amounts of waste accumulation	

DEFENCE

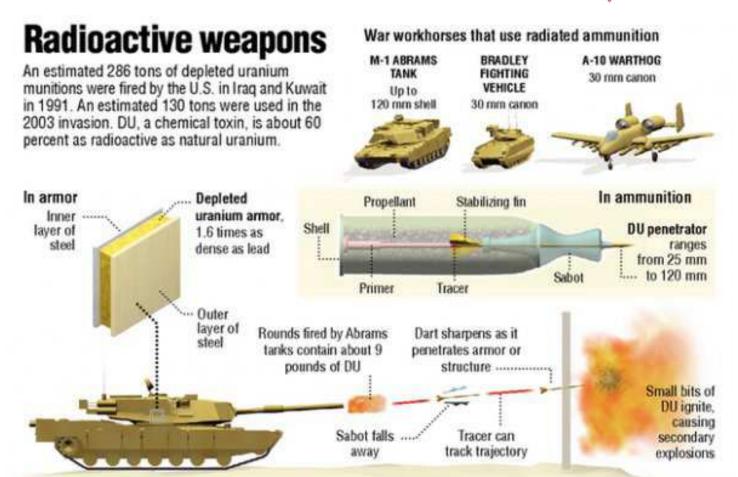
24. WEAPONS CONTAINING DEPLETED URANIUM

Context	The British government recently said that it would provide Ukraine with armour-piercing rounds containing depleted uranium. Though they aren't considered nuclear weapons, they emit low levels of radiation and can cause severe diseases.			
What is depleted uranium?	 Depleted uranium is a by-product of the process of creating enriched uranium, whi is used in nuclear reactors and nuclear weapons. In comparison to enriched uranium depleted uranium is much less radioactive and is incapable of generating a nuclear action. However, due to its high density — it's denser than lead — depleted uranium is wide used in weapons as it can easily penetrate armour plating. 			
Which countries have depleted uranium munitions?				
What are the risks of using such weapons?	 Ingesting or inhaling quantities of uranium – even depleted uranium – is dangerous: it depresses renal function and raises the risk of developing a range of cancers. Moreover, according to the International Coalition to Ban Uranium Weapons, depleted uranium munitions which miss their target can poison groundwater and soil. 			
Where have depleted uranium munitions been used?	 1991 Gulf War to destroy T-72 tanks in Iraq. 1999 NATO bombing of Yugoslavia and, During the 2003 invasion of Iraq. 			

SOURCES: U.S. Army: GlobalSecurity.org



Andy Fowle ¥ AP



25. AFINDEX 2023

Context	The 2nd edition of 10 days Africa-India Field Training Exercise (AFINDEX 2023) was held in Pune.			
	The exercise is centred around Humanitarian Mine Assistance and United Nations Peacekeeping Op ations.			
Objectives	 Promoting the idea of Africa-India Militaries for Regional Unity (AMRUT) Improving coordination in UN Peacekeeping Forces (UNPKF) 			
Other major aspects in India-Africa defence relations:				

- 1st edition of the India-Africa Army Chiefs' Conclave was organized
- Gandhinagar Declaration: To enhance cooperation in fields of training & military exercises
- India is a leading defence exporter to African countries (Mauritius> Mozambique> Seychelles)
- Guiding principles: 'SAGAR or Security and Growth for All in the Region', and 'Vasudhaiva Kutumbakam', i.e., the world is a family



Related News:

Search And Rescue (SAR) Exercise: Indian Coast Guard recently conducted Regional Search and Rescue exercise at Kakinada, Andhra Pradesh

Exercise Vayu Prahar: It is a joint Multi Domain Air-Land Exercise of the Indian Army and Air force

Project Akashteer: Indigenously developed Automated Air Defence Control & Reporting System will enable monitoring of low-level airspace over the battle areas of the Indian Army and effectively control the Ground Based Air Defence Weapon **Systems**

Sarang systems: Indigenously developed, Sarang is an advanced Electronic Support Measure system for helicopters of the

Q. Consider the following statements: (UPSC 2016)

The India-Africa Summit

- 1. held in 2015 was the third such Summit
- 2. was actually initiated by Jawaharlal Nehru in 1951

Which of the statements given above is/are correct?

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

Answer: A

SPECIES IN NEWS

26. CONSERVATION PLAN FOR GREAT INDIAN BUSTARDS

Context	Minister of State for Environment, Forest and Climate Change has taken various measures for the Conservation and protection of <u>Great Indian Bustards</u>		
Scheme	Centrally Sponsored Scheme for Species Recovery under the Integrated Development of Wildlife Habitats		
Steps Taken	 Conservation Breeding: E.g., Desert National Park at Jaisalmer Establishment of a Satellite conservation breeding Facility at Sam, Jaisalmer, Rajasthan. In-situ Conservation Proposal by Rajasthan government Consideration of funding support from State plan and/or State CAMPA funds. Project Great Indian Bustard National Bustard Recovery Plans 		



Great Indian Bustard Remaining bustard habitats **About Great Indian Bustard** Himachal Pradesh Punjab Uttaranchal · It is India's most critically Haryana endangered bird Arunachal Pr Bhutan It is considered the flagship grassland species and is a Meghalay symbol of the health of the Madhya Pradesh grassland ecology. Chhatisgarh **Threats: Power transmission** lines, hunting, habitat loss due to agricultural expansion, and Andhra Pradesh **Great Indian Bustard** other factors. Lesser Florican Legal protection: Schedule-I of **Bengal Florican** the Wild Life (Protection) Act, Pondicherry Tamil Nadu 1972, (legal protection from hunting) The population is mostly confined to **IUCN**: Critically Endangered Rajasthan and Gujarat (with a small population in Maharashtra, Karnataka, and Andhra Pradesh) To know more Visit Insights IAS Daily Current Affairs

27. SARUS CRANE

Context	A man from UP was booked under the Wildlife Protection Act 1972, for "illegally" keeping and nursing an injured Sarus crane (Grus Antigone) he found in his village.		
Habitat	 It is a large non-migratory crane found in parts of the Indian subcontinent, Southeast Asia, and Australia. In India, it is usually found in wetlands and is the state bird of UP. 		
Features	Standing at 152-156 centimetres, it is the world's tallest flying bird		
Protection Status Classified as 'Vulnerable' on the IUCN Red List and is a CITES Appendix II species.			



Wildlife Protection Act 1972:

- It provides for the protection (by prohibiting their hunting and by protecting their habitat) of wild animals, birds and plants to ensure the ecological and environmental security of the country.
- The Act prohibits capturing or hunting any species of animals listed under Schedules I-IV (Sarus crane Listed in Schedule IV), barring a few exceptions such as hunting a diseased or dangerous animal or bird.
- Any person who contravenes any provision of the Act shall be punished with up to 3 years imprisonment or fine or both.

2022 Amendment to the WPA (not yet enforced):

- It seeks to reduce the number of schedules from VI to IV. Schedule V for vermin or animals that destroy food crops will be done away with.
- It seeks to implement the provisions of CITES an international agreement between governments ensuring international trade of wild animals and plant species does not threaten their survival.
- If the offence relates to animals under the first two Schedules, imprisonment can be between three to seven years, with or without a fine.

28. MAHOBA'S DESAWARI VARIETY BETEL LEAF

Context	The Mahoba Desawari variety, which is highly valued for its unique fragrance and dissolves in the mouth , has been particularly affected by extreme weather events and rising input costs.			
Produced in:	It is produced in the Mahoba district of UP and parts of adjacent Chhatarpur district of Madhya Pradesh			
GI Tag	It received Geographical Indication (GI) tag in 2021			
Features	Their size is larger than other betel varieties and they have a unique aroma and lesser fibre with a mild bitterness and sweet taste.			



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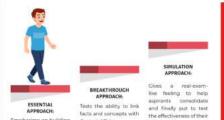
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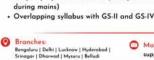
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