

THINK IAS

JOIN SAMYAK

Samyak
An Institute For Civil Services

DAILY

CURRENT **गामा**

For UPSC CSE

29 August 2024

 **9875170111**

 **SAMYAK IAS, NEAR RIDDHI-SIDDHI, JAIPUR**

Art and Culture

1. Maharashtra's geoglyphs discovery - Indian Express

Geography

2. Typhoon Shanshan - The Hindu

Polity

3. Himachal Bill raises women's marriage age; what happens next? - Indian Express

World Affairs

4. On Ukraine's surprise incursion into Kursk - The Hindu
5. Bangladesh lifts ban on Jamaat: short history of organisation Hasina tried to crush - Indian Express

Economy

6. 10 years of Jan Dhan - Indian Express
7. Cabinet nod for setting up 12 industrial cities to boost manufacturing; outlay ₹28,602 crore - The Hindu

Environment

8. Dhaincha - The Hindu
9. ZSI discovers 2 new spider species from Western Ghats - Indian Express
10. Orcas/ Killer Whales - Indian Express
11. Railways plans to go nuclear as part of its green drive - The Hindu
12. Tale Wildlife Sanctuary - Indian Express
13. Eastern Equine Encephalitis (EEE) - The Hindu

Sci and Tech

14. Further transmission of Chandipura virus possible in coming weeks, warns WHO - The Hindu
15. HOW ISRO DESIGNED HUMANOID SKULL WHICH WILL BE USED IN GAGANYAAN - Indian Express
16. Quasar - Indian Express

Defence

17. India signs repeat order for 73,000 SIG 716 rifles; deliveries by 2025-end - The Hindu

Miscellaneous

18. National Investigation Agency (NIA) - The Hindu
19. Bhatti appointed new CISF DG; Chaudhary named BSF chief - Indian Express

Art and Culture

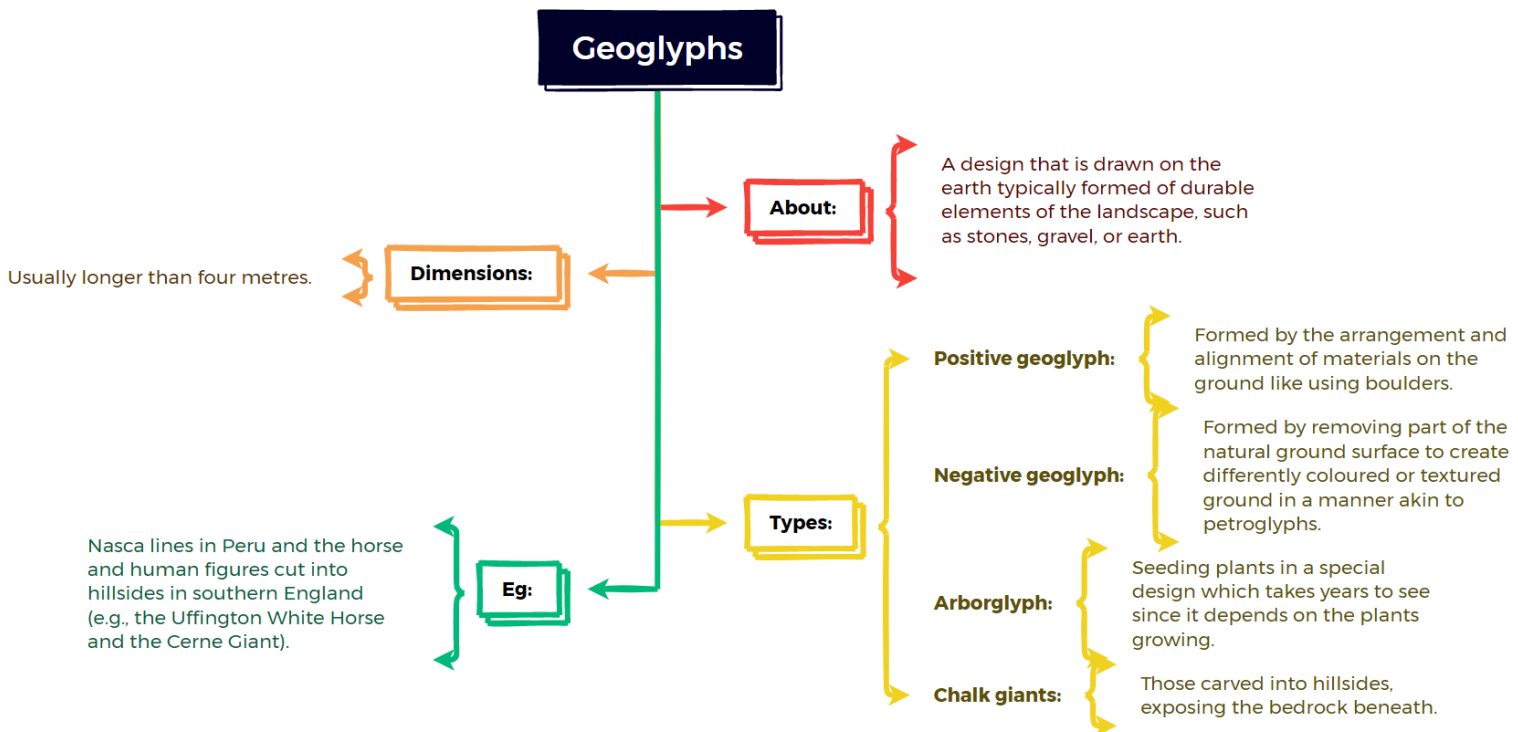
1. Maharashtra's geoglyphs discovery - Indian Express

Relevance: Indian Culture - Salient aspects of Art Forms, Literature and Architecture from ancient to modern times

Context

Under the Maharashtra Ancient Monuments and Archaeological Sites and Remains Act of 1960, the Maharashtra government last week declared 1,500 geoglyphs spread across 70 locations in 210 square-kilometre area of the Ratnagiri district as 'protected monument'.

Geoglyphs



Geography

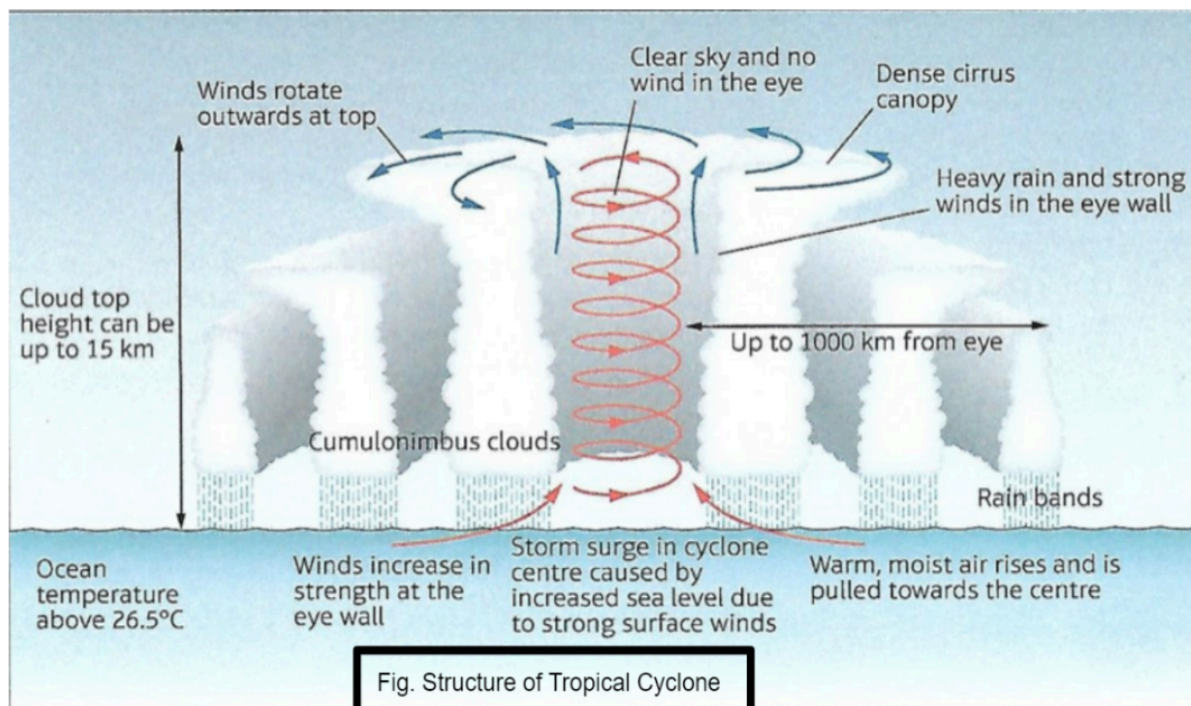
2. Typhoon Shanshan - The Hindu

Relevance: Important Geophysical Phenomenon

Context

Japan issued an emergency warning as it braced for a powerful typhoon as it slowly approached the southwest of the country, threatening to bring heavy rain and strong winds.

Tropical Cyclone



- **Origin:** Over warm ocean waters in tropical regions.
- **Mechanism:**
 - Warm, moist air rises from the ocean surface, creating a low-pressure area.
 - Surrounding higher-pressure air moves towards the low-pressure area causing the air to warm up and rise further.
 - As the rising air cools, it forms clouds.
 - This system of spinning clouds and wind intensifies with the ocean's heat.
 - As wind speeds increase, an eye forms at the centre.
- **Characteristics of a Tropical Cyclone:**
 - Calm centre with very low air pressure.
 - Average wind speed - 120 km/h.
 - Closed isobars, leading to higher wind velocities.
 - Move from east to west under the effect of trade winds

- Seasonal in nature (late summers)
- **Naming:** Named by one of five regional bodies:
 - ESCAP/WMO Typhoon Committee
 - WMO/ESCAP Panel on Tropical Cyclones (responsible for naming cyclones in the Indian Ocean)
 - RA I Tropical Cyclone Committee
 - RA IV Hurricane Committee
 - RA V Tropical Cyclone Committee

Classification:



Cyclone Category	Wind Speed in Km/h	Damage Capacity	Type of Disturbances	Wind Speed in Km/h
01	120-150	Minimal	Low Pressure	Less than 31
02	150-180	Moderate	Depression	31-49
03	180-210	Extensive	Deep Depression	49-61
04	210-250	Extreme	Cyclonic Storm	61-88
05	250 +	Catastrophic	Severe Cyclonic Storm	88-117
			Very Severe Cyclone	118-221
			Super Cyclone	More than 221

Polity

3. Himachal Bill raises women's marriage age; what happens next? - Indian Express

Relevance: Parliament and State Legislatures

Context

The Himachal Pradesh Assembly recently passed Prohibition of Child Marriage (Himachal Pradesh Amendment) Bill, 2024 to raise the minimum age of marriage for women from 18 to 21 years by voice vote. The Bill amended the Prohibition of Child Marriage (PCM) Act, which was passed by Parliament in 2006.

Amendments to the PCM Act

- **Change in definition of a child:** The Bill eliminates the distinction on basis of age between “males” and “females” (21 years & 18 years) (Section 2(a)) & defines “child” as “a male or female who has not completed 21 years of age”.
- **Section 2(b) of the PCM Act:** It defines “child marriage” as “a marriage to which either of the contracting parties is a child”. The Bill has added a clause giving it overriding effect which means that the new marriage age for women will apply to everyone in Himachal regardless of what any other law may state, or even if the religious or cultural practices allow it.
- **Introduction of Section 18A to the PCM Act:** It gives the same overriding effect to the entire central law and its provisions.
- **Increased time-period for filing a petition to annul a marriage:** Under Section 3 of the PCM Act, the “contracting party who was a child at the time of the marriage” can file a petition to annul the marriage within two years of attaining majority (before they turn 20 for women, and 23 for men). The Bill increases this period to five years.

World Affairs

4. On Ukraine's surprise incursion into Kursk - The Hindu

Relevance: Effect of Policies and Politics of Developed and Developing Countries on India's interests, Indian Diaspora

Context

In the early hours of August 6, the regional government of Kursk, a federal subject of Russia that borders Ukraine to the west, sent an alarm asking residents to run for shelter from incoming missile attacks. Hours later, the channel posted images of dilapidated residential buildings.

A limited advance

As of August 19, according to Ukraine President Volodymyr Zelenskyy, his forces were in control of 92 settlements in Kursk and 1,250 square kilometres of Russian territory



Sources: Reuters, BBC, FT, ISW

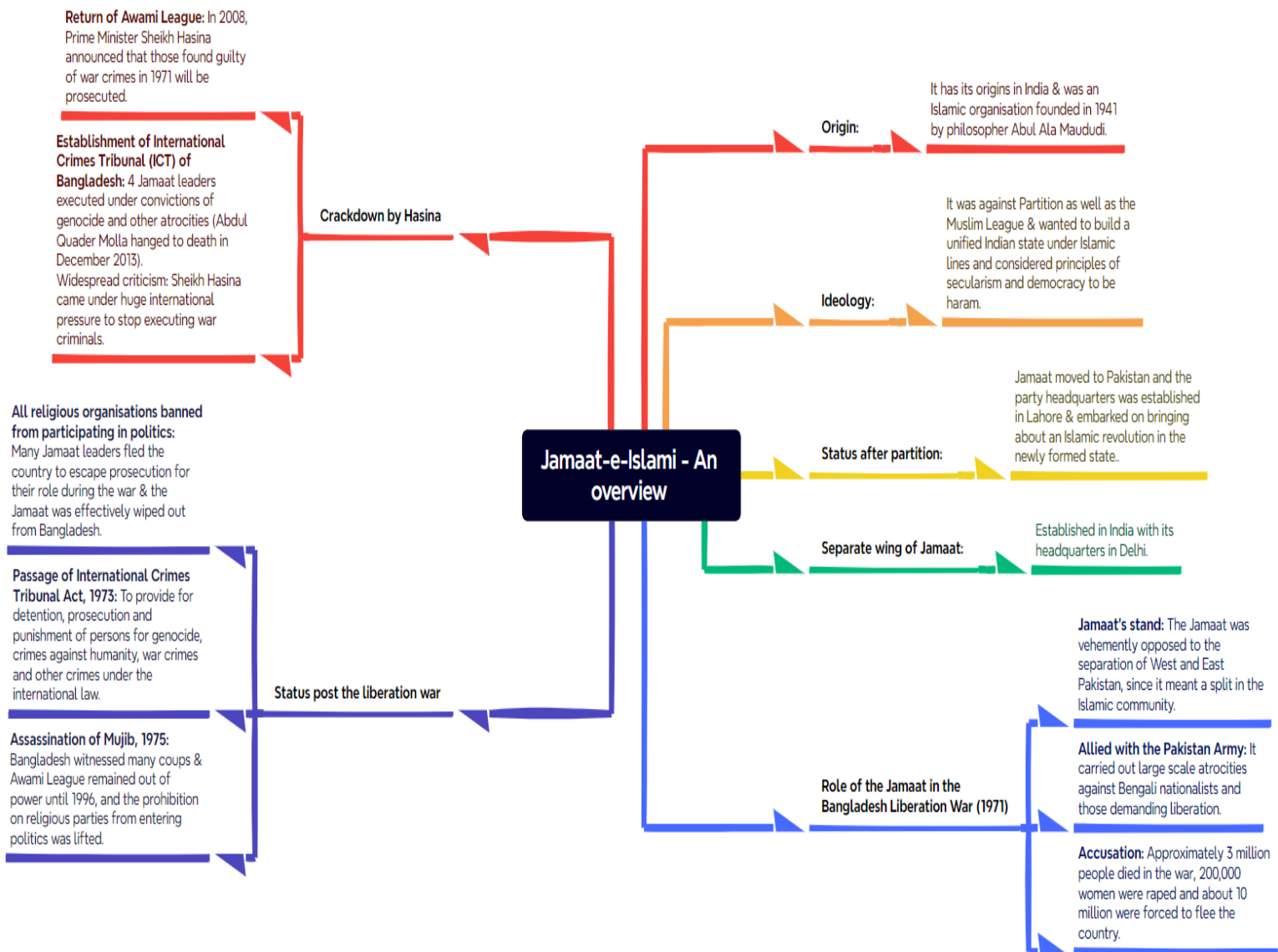
© GRAPHIC NEWS

5. Bangladesh lifts ban on Jamaat: short history of organisation Hasina tried to crush - Indian Express

Relevance: India and its Neighbourhood Relations

Context

Bangladesh's Interim government recently lifted the ban on the Bangladesh Jamaat-e-Islami, paving the way for its return to active politics. The Sheikh Hasina government had cracked down on the Jamaat for being a "militant and terrorist" organisation, and hanged or imprisoned many of its top leaders for "war crimes" committed during the 1971 Liberation War. The Jamaat was barred from contesting elections in 2013 on the ground that its charter violated Bangladesh's constitution by "opposing secularism".



Economy

6. 10 years of Jan Dhan - Indian Express

Relevance: Money and Banking

Context

As the Pradhan Mantri Jan Dhan Yojana (PMJDY) completed 10 years, Prime Minister hailed the “momentous” achievement of the scheme that has been “paramount in boosting financial inclusion and giving dignity to crores of people, especially women, youth, and the marginalised communities”.

PM Jan Dhan Yojana (PMJDY)



Increased financial inclusion: The opening of more than half a billion bank accounts has fuelled demand for banking services, encouraging commercial banks to expand their infrastructure.

Eased retail transactions: The rollout of payment solutions such as UPI launched two years after the PMJDY has eased and increased banking transactions.

Bedrock of the government's DBT architecture: PMJDY accounts have ensured faster delivery of benefits to the poor & improved efficiency by weeding out ineligible or fake beneficiaries.

Total no. of accounts: 53.13 crore including 35.37 crore accounts in rural and semi-urban areas, and 17.76 crore accounts in urban.

Women account holders: Over half the PMJDY accounts (29.56 crore) are in the names of women.

RuPay debit cards: A total 36.14 crore RuPay debit cards have been issued to PMJDY account holders.

Bankwise share: The largest share of accounts is with public sector banks, followed by Regional Rural Banks, private sector banks, and Rural Cooperative Banks.

Statewise data: Maximum accounts have been opened in UP and the fewest in Lakshadweep.

States with more than 1 crore PMJDY bank accounts: UP, Bihar, West Bengal, MP, Rajasthan, Maharashtra, Assam, Odisha, Karnataka, Jharkhand, Gujarat, Chhattisgarh, TN, Andhra Pradesh, Telangana, and Haryana.

PMJDY holders are eligible for Direct Benefit Transfers (DBT), Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY), Pradhan Mantri Suraksha Bima Yojana (PMSBY), Atal Pension Yojana (APY), and the Micro Units Development & Refinance Agency Bank (MUDRA) scheme.

Other benefits:

Impact

Launch: August 28, 2014

Aim: To promote financial inclusion by providing access to financial services, including banking/savings accounts, remittance, credit, insurance, and pensions, affordably.

Significance: Backbone for several government economic initiatives and facilitates Direct Benefit Transfers (DBTs).

Eligibility: Indian Nationals

Aged between 18 and 59 years.

Minors above ten years can apply but they will require support from their legal guardians to administer their PMJDY account.

PM Jan Dhan Yojana (PMJDY)

Jan Dhan Account: Can be opened with zero balance but, if the account holder gets a chequebook, she/he will have to fulfil the minimum balance criteria.

RuPay card: The account holders will be given a RuPay debit card which can be used across all ATMs for cash withdrawal.

Accident insurance cover: Initially Rs 1 lakh available with RuPay cards & was enhanced to Rs 2 lakh for new PMJDY accounts opened after August 28, 2018.

Overdraft: Eligible account holders can avail overdraft facility up to Rs 10,000.

7. Cabinet nod for setting up 12 industrial cities to boost manufacturing; outlay ₹28,602 crore - The Hindu

Relevance: Indian Economy

Context

The Union Cabinet recently approved 12 new project proposals under the National Industrial Corridor Development Programme (NICDP) with an estimated investment of ₹28,602 crore.

National Industrial Corridor Development Programme (NICDP)

- **About:** A programme to develop new industrial cities as "Smart Cities" and converging next generation technologies across infrastructure sectors.
- **Aim:** Development of futuristic industrial cities in India which can compete with the best manufacturing and investment destinations in the world.
- **Benefit:** It will create employment opportunities and economic growth leading to overall socio-economic development.
- **Projects:** 11 Industrial Corridors Projects are being taken up for development with 32 Projects to be developed in 04 phases up to 2024-25.

Industrial Smart Cities

THE PROJECTS

► 5 along Amritsar-Kolkata industrial corridor

- Rajpura-Patiala (Punjab)
- Khurpia (Uttarakhand)
- Agra (Uttar Pradesh)
- Prayagraj (Uttar Pradesh)
- Gaya (Bihar)

► 2 along Delhi-Mumbai industrial corridor

- Jodhpur-Pali (Rajasthan)
- Dighi (Maharashtra)

► 1 each along industrial corridors of Vizag-Chennai; Hyderabad-Bengaluru; Hyderabad-Nagpur; and Chennai-Bengaluru

- Koppaathy (Andhra Pradesh)
- Orvakal (Andhra Pradesh)
- Zaheerabad (Telangana)
- Palakkad (Kerala)

► The name of one city was not revealed as the 'Model Code of Conduct' is in force in poll-bound states

Environment

8. Dhaincha - The Hindu

Relevance: Conservation, Environmental Pollution and Degradation

- **About:** A green manuring crop in India & is a tall branching annual herb adapted to wet areas and heavy soils.
- **Usage:** Used for feeding livestock and for soil improvement in India.
- **Growing Season:** Grown in all seasons when sufficient moisture is available
- **Sowing:** March – April
- **Soil:** Grown in all soil conditions

9. ZSI discovers 2 new spider species from Western Ghats - Indian Express

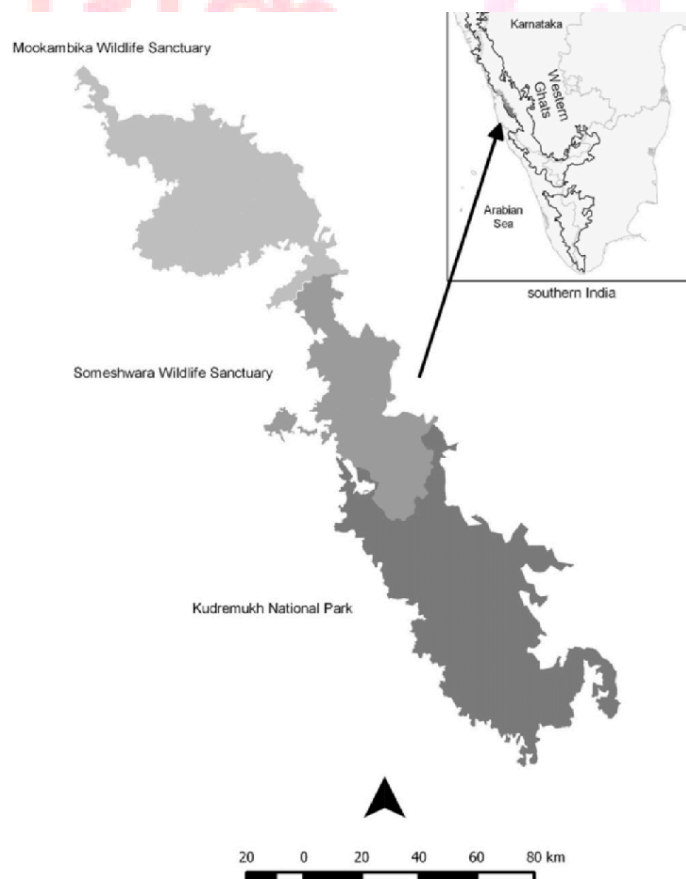
Relevance: Conservation, Environmental Pollution and Degradation

Context

The Zoological Survey of India (ZSI), Kolkata, has discovered two new species of spiders from the southern Western Ghats, a biodiversity hotspot. The newly-discovered species are *Mimetus spinatus* and *Mimetus parvulus*.

Mimetus spinatus* and *Mimetus parvulus

- **Discovery:** From the Mookambika Wildlife Sanctuary, Karnataka and Ernakulam district of Kerala, respectively.
- **Family:** *Mimetidae* commonly known as pirate or cannibal spiders.
- **Feeding habits:** These spiders infiltrate the webs of other spiders, mimicking the vibrations of prey or mates to deceive and kill the host spider.



Mookambika Wildlife Sanctuary

- **Naming:** Derives its name from the Kollur Mookambika Temple.
- **Location:** In the Western Ghats
- **Geological features:** Kodachadri Hills are located in the sanctuary.
- **Area:** Over 370.37 sq km
- **Vegetation:** Evergreen, semi-evergreen and moist deciduous forests of the Western Ghats, and small patches of teak plantations.
- **A connecting link:** Located between Someshwara Wildlife Sanctuary located (south) and Sharavathi Wildlife Sanctuary (north).
- **Rivers:** River Chakra and River Souparnika
- **Waterfalls:** Koosalli waterfalls, Belkal Theertha waterfalls
- **Fauna:** Tigers, wild dogs, sloth bears, wild boars, jackals, deers.
- **Birds:** Myna, Drongo, Brahminy Kites, lapwings, Hornbill, Bulbul, Egrets, Kingfishers, Golden Oriole, Magpie Robin, Purple Sunbirds, flycatchers, etc.
- **Reptiles:** Python, King Cobras, and others

10. Orcas/ Killer Whales - Indian Express

Relevance: Conservation, Environmental Pollution and Degradation

- **About:** The largest member of the Delphinidae family, or dolphins.
- **Members of the family:** Dolphin species, & other larger species, like long-finned pilot whales and short-finned pilot whales, whose common names also contain "whale" instead of "dolphin".
- **Nature:** Highly social, and live in social groups called pods (groups of maternally related individuals seen together more than half the time).
- **Communication:** Killer whales rely on underwater sound to feed, communicate, and navigate.

MAX LENGTH
30 FEET

MAX WEIGHT
UP TO 9 TONS

LIFE SPAN
50 TO 80 YEARS IN THE WILD

ENDANGERED STATUS
NOT LISTED

FUN FACT
ORCA PODS ARE MADE UP OF FIVE TO 40 WHALES, AND THE POD LEADERS ARE FEMALES.

11. Railways plans to go nuclear as part of its green drive - The Hindu

Relevance: Conservation, Environmental Pollution and Degradation

Context

Indian Railways is exploring the use of nuclear power through captive units as it seeks to increase reliance on non-fossil fuel sources and renewable ones. The Railways plans to become a net zero carbon emitter by 2030. And it expects to need 30,000 MW of renewable capacity by 2029-30 to achieve this.

Nuclear-Powered Trains

- **About:** They utilise the heat generated from a nuclear reaction to produce steam, which drives turbines.
- **Mechanism:** One turbine powers the train, while another generates electricity for auxiliary systems such as lighting and air conditioning.
- **Invention:** The idea of nuclear-powered trains gained attention in the 1950s, in the USSR.
- **Design:**
 - A portable nuclear reactor which heats a fluid to produce steam, which then powers electric turbines which generate electricity to propel the train.
- **Thorium reactors:** Considered for their lower radiation risks compared to other nuclear materials & have advanced safety mechanisms to minimize risks and prevent potential misuse.

12. Tale Wildlife Sanctuary - Indian Express

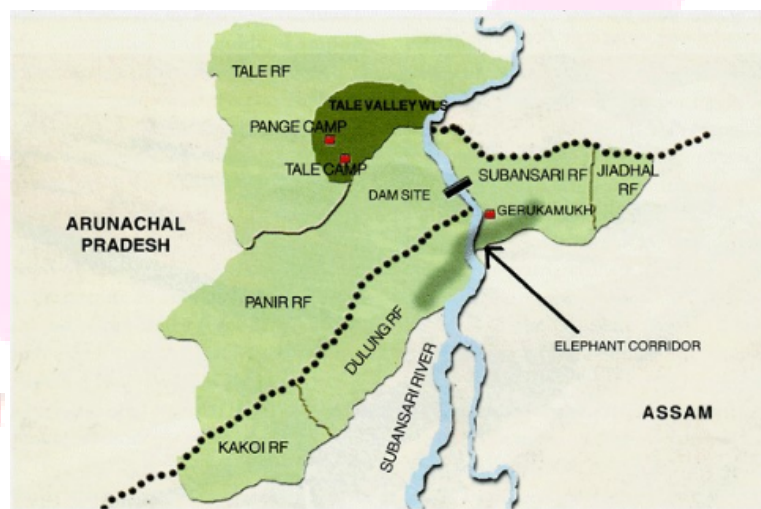
Relevance: Conservation, Environmental Pollution and Degradation

Context

A Mumbai-based lepidopterist has recorded as many as 85 butterfly species during a four-day expedition to the Tale Wildlife Sanctuary in Arunachal Pradesh's Lower Subansiri district.

Tale Wildlife Sanctuary

- **Location:** Lower Subansiri district of Arunachal Pradesh at an altitude of 2400 metres.
- **Area:** ~ 337 sq. km.
- **Rivers flowing:** Pange, Sipu, Karing, and Subansiri
- **Tribes:** Apatani tribe
- **Flora:** Silver fir trees, ferns, orchids, bamboo and rhododendrons and *Pleioblastus simone*, one of its kind of bamboo.
- **Fauna:** Elephants, barking deer, giant squirrels, porcupines, leopards, clouded leopards, wild boars, etc.



Sci and Tech

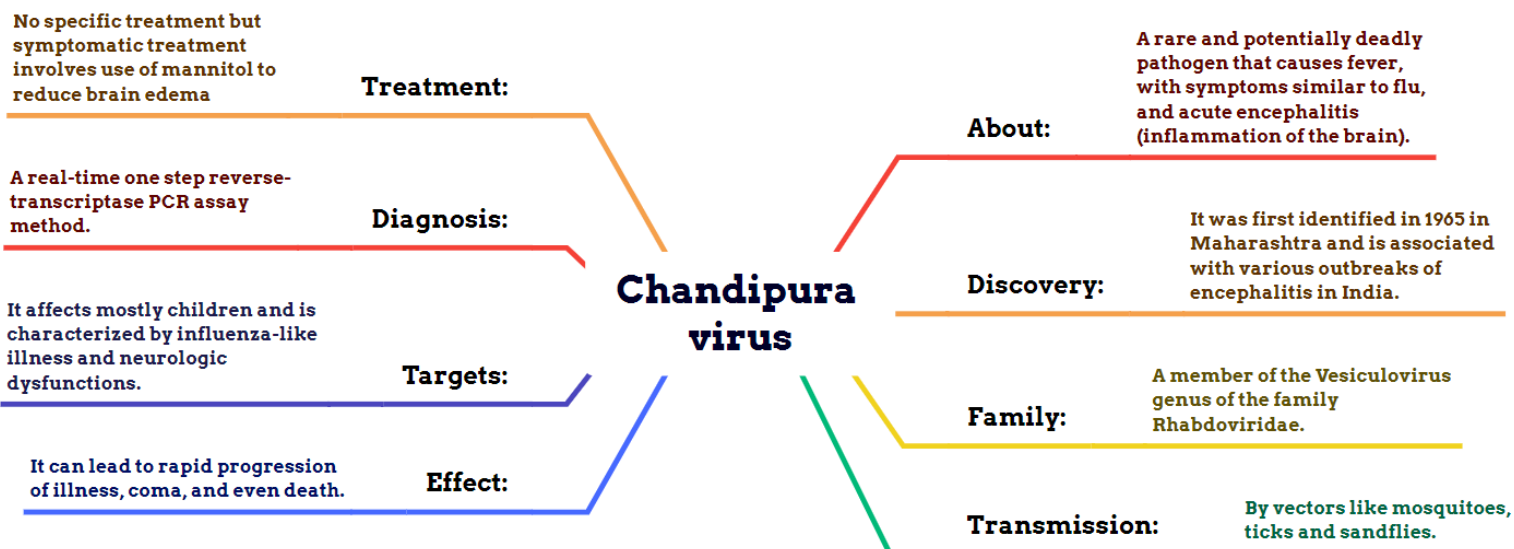
13. Further transmission of Chandipura virus possible in coming weeks, warns WHO - The Hindu

Relevance: Sci and Technology - Developments

Context

The current outbreak of Chandipura virus (CHPV) infection in India is considered the largest in the past 20 years and while authorities are making efforts to control the transmission of CHPV, further transmission is possible in the coming weeks, considering the favourable conditions for vector populations during the monsoon season in affected areas, warned the World Health Organisation (WHO) in its latest disease outbreak news on acute encephalitis syndrome due to Chandipura virus (India),

Chandipura virus



14. HOW ISRO DESIGNED HUMANOID SKULL WHICH WILL BE USED IN GAGANYAAN - Indian Express

Relevance: Sci and Technology - Developments

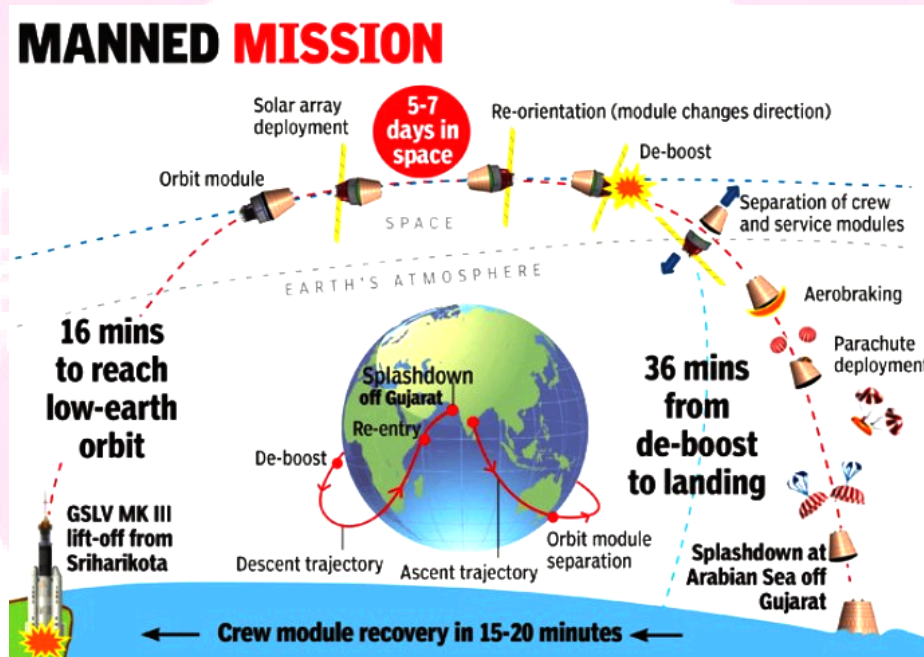
Context

The Indian Space Research Organisation's (ISRO's) uncrewed Gaganyaan mission in 2025 will carry the female half humanoid Vyomitra (literally "space friend"). The design for Vyomitra's skull, fashioned by ISRO's Inertial Systems Unit in the Vikram Sarabhai Space Center in Thiruvananthapuram, Kerala, was finalised recently.

Humanoid skull

- **Development:** Designed at Thiruvananthapuram-based ISRO Inertial Systems Unit (IISU)
- **Dimensions:** A 800-gm, 200 mm x 220 mm skull made of a high-strength aluminium alloy to withstand pressure and vibrations.
- **Why humanoid:** Covered in a prosthetic material, which will act as its skin, it will house all the face actuation mechanisms to mimic an actual human face.
- **Significance:** The skull will be the nerve centre of Vyommitra, a half-humanoid that will fly on an uncrewed mission into space before actual astronauts are sent as part of ISRO's Gaganyaan Mission.
- **Vyommitra:** It will resemble the upper part of the human body - its torso, arms, face and neck movable in different directions and equipped with sensors and instruments to carry out human-like functions.
- **Function of Vyommitra:** It will simulate the anthropomorphic features of the upper torso of a human body and will demonstrate operations such as Crew Console related tasks.

Gaganyaan mission



15. Quasar - Indian Express

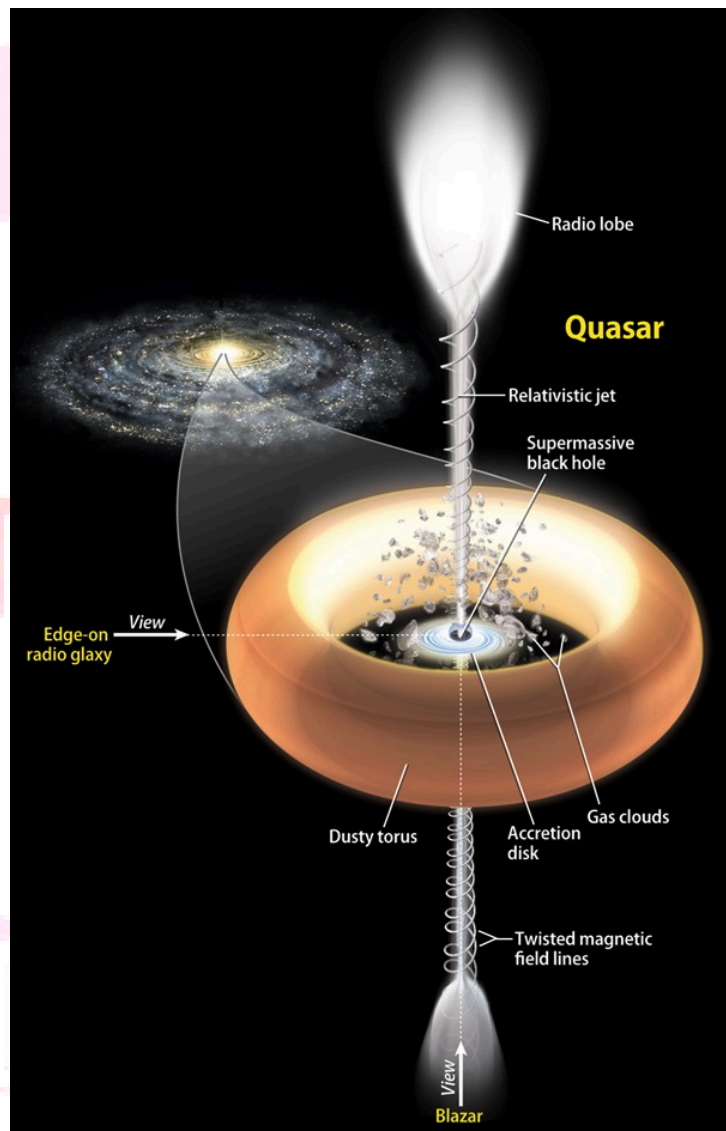
Relevance: Sci and Technology - Developments

Context

Using the European Southern Observatory's (ESO) Very Large Telescope (VLT), astronomers identified a quasar described as the "brightest of its kind" and the "most luminous object ever observed".

Quasar (quasi-stellar radio source)

- **About:** An extremely active and luminous type of Active Galactic Nucleus (AGN), which is a supermassive active black hole at the center of a galaxy.
- **Discovery:** Discovered in 1963 as objects that looked like stars but emitted radio waves.
- **Formation:**
 - Formed where the large-scale density of matter is much higher than average.
 - The infall of matter into the black hole is so great that all the material can't enter the black hole at the same time, so it forms a queue as a spiralling accretion disk.
 - The matter in the form of huge clouds falls into the disk, with the inner parts of the cloud closer to the black hole orbiting faster than the outer parts.
 - This creates a shear force that twists the clouds, causing them to bump into their neighbours as they move around the black hole at velocities ranging from 10% of the speed of light up to over 80%.
 - This friction from fast-moving gas clouds generates heat, and the disk becomes so hot—millions of degrees—that it shines brightly.
 - The hot accretion disk and the jet combine to make the nucleus of the active galaxy shine so brightly that it can be seen far across the universe.



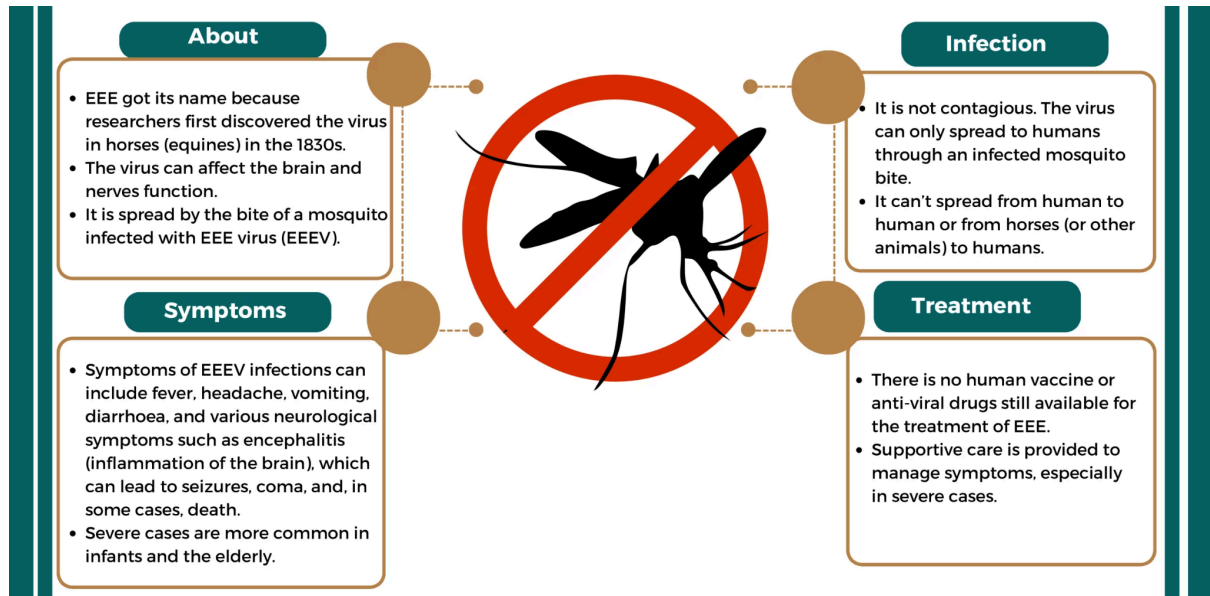
16. Eastern Equine Encephalitis (EEE) - The Hindu

Relevance: Sci and Technology - Developments

Context

A person in Hampstead, New Hampshire, has died after contracting the rare mosquito-borne Eastern Equine Encephalitis (EEE) virus. The patient, an adult, was hospitalised with severe central nervous system disease and later died.

Eastern Equine Encephalitis (EEE)



Defence

17. India signs repeat order for 73,000 SIG 716 rifles; deliveries by 2025-end - The Hindu

Relevance: Indigenization of Technology and Developing New Technology

Context

The Ministry of Defence has signed a repeat order for 73,000 SIG716 rifles from Sig Sauer of the U.S. and deliveries are expected to be completed by end-2025. The Army has for long been looking to replace the indigenous INSAS (Indian National Small Arms System) rifles in use with a modern rifle.

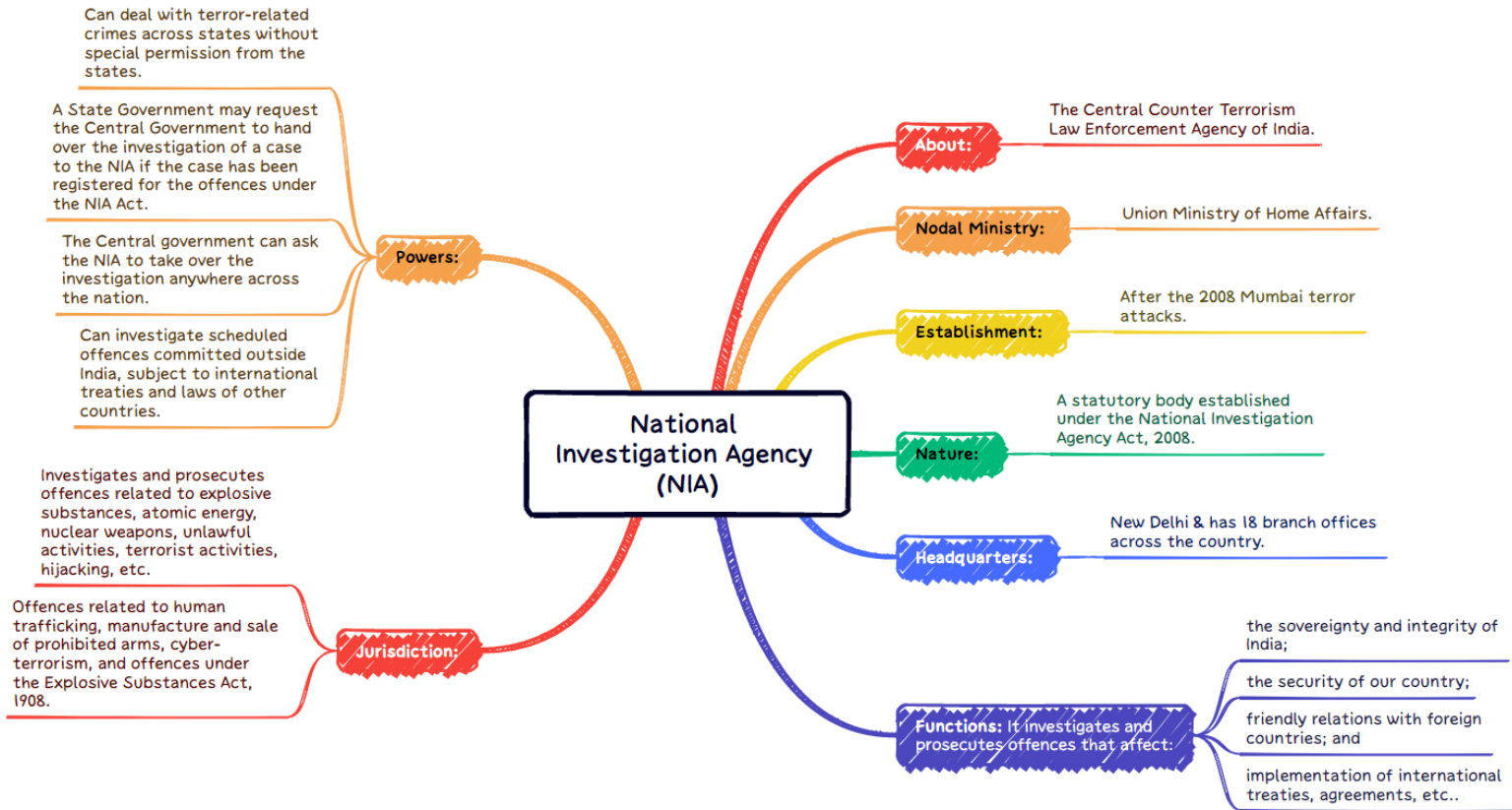
SIG-716



- **About:** An improved version of a rifle in the ArmaLite Rifle (AR) platform chambered 7.62 NATO.
- **Weight:** 3.82 kgs
- **Effective range:** 600m and is more capable and reliable than the INSAS in use.
- **Caliber:** 7.62 mm ammunition compared to the 5.56mm of the INSAS.
- **Features:** A 16-inch barrel, an M-LOK handguard, and a 6-position telescoping stock.
- **Capabilities:** Has a higher recoil and higher calibre, meant to shoot-to-kill targets at 600 metres.

Miscellaneous

18. National Investigation Agency (NIA) - The Hindu



19. Bhatti appointed new CISF DG; Chaudhary named BSF chief - Indian Express

- Senior IPS officers Rajwinder Singh Bhatti and Daljit Singh Chaudhary were recently appointed as the chiefs of the Central Industrial Security Force and the Border Security Force.
- Bhatti is a 1990 batch Indian Police Service (IPS) officer of the Bihar cadre. He has been appointed as the DG of the CISF from the date of assumption of charge of the post, for a tenure up to the date of his superannuation on September 30, 2025.