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29-30 SEPTEMBER 2024

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

Art and Culture

1. Nanjangud rasabale - The Hindu

The famed Nanjangud rasabale banana variety, which had become scarce because of a fungal disease, has begun to thrive again.

Nanjangud Rasabale Banana »

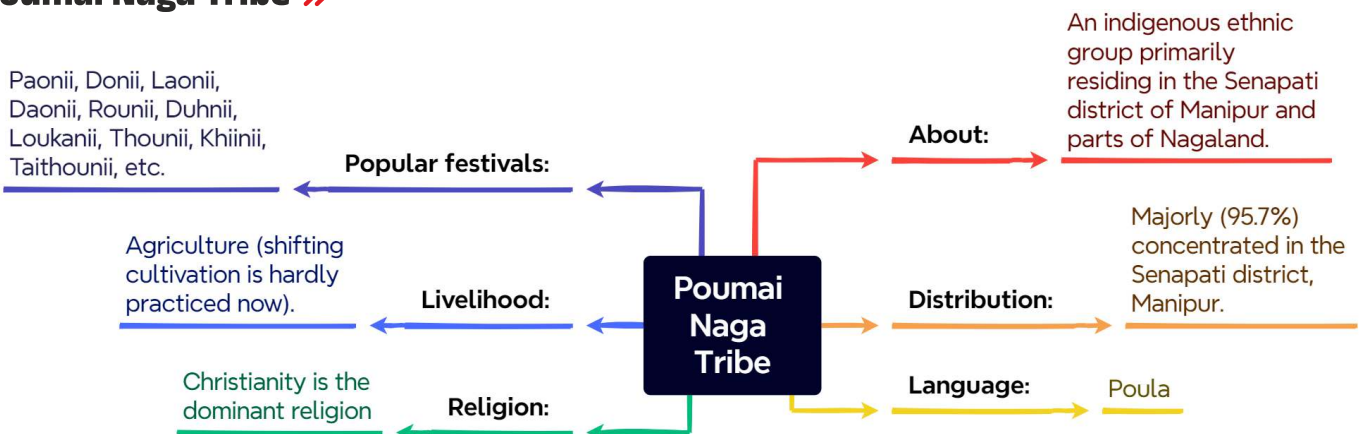
- **About:** A variety of banana grown in and around the Mysore district and Chamarajanagar district of Karnataka.
- **Designation:** Awarded the Geographical Indication (GI) tag in 2006 for its thick pulp and distinct taste and aroma.
- **Soil:** Black clay alluvial saline soil
- **Significance:** Possess medicinal properties & can cure neurological ailments.
- **Threat:** Panama Wilt disease, a fungal infection caused by the Fuserium Wilt pathogen.



2. Manipur's Poumai Naga tribe bans hunting for wildlife conservation - Indian Express

Significant step towards wildlife conservation by banning hunting, trapping, and killing of wild animals and birds within their territory.

Poumai Naga Tribe »



Society

3. Cadaver donations: need, rules and challenges - Indian Express

CPI (M) leader Sitaram Yechury, who died recently, donated his body to the All India Institute of Medical Sciences (AIIMS). This is not a decision that a lot of people in India make. But perhaps they should. Here is why.

Cadavers »

There is no national organisation to track whole-body donations (unlike organ donation).

Usually, the anatomy departments of medical college hospitals are directly in charge.

Thus, one has to go to the specified department where one wants to donate one's body and sign requisite forms.

After death, the donor's next of kin has to contact the department to process the donation.

Anyone over the age of 18 years can legally consent to become a cadaver donor.

In case they are not registered as one at the time of death, their guardian or next of kin can still donate their body.

Although those who have died of chronic illnesses are eligible donors, bodies of those with infectious diseases such as tuberculosis, sepsis, or HIV are unlikely to be accepted.

The same is the case with bodies of organ donors.

Lastly, medical colleges may also refuse to accept bodies of persons who have died due to unnatural reasons and are subject of a medico-legal case.

Mechanism of donation:

Cadaver donation:

It sees a person donate their entire body (rather than individual organs) to science after death.

Used to train doctors by helping them better understand human anatomy and practice surgery as they provide the most realistic experience of performing surgery on a human being.

Usage:

They can also be used for developing new medical devices and studying the physiological impact of various diseases.

Significance:

Cadavers

Eligibility for donation:

Polity

4. Why has the SC clarified POCSO provisions? – The Hindu

In a far-reaching verdict that clarifies the penal consequences of dealing with online sexual material involving children, the Supreme Court has underscored that viewing, downloading, and storing of such content are all offences under the Protection of Sexual Offences Against Children (POCSO) Act, and that criminal liability not be limited to creating, uploading and transmitting the material. The Supreme Court has invoked the concept of 'constructive possession' to explain the severity of the offence after the word "possession" was included in addition to "storage" in the 2019 amendment to the section on child abuse material.

Doctrine of Constructive Possession >>

A legal concept where possession is attributed to a person without physical control if they have the ability and intent to control the item.

Doctrine of Constructive Possession

About:

In criminal law, it applies when an individual can exercise control over an item either alone or with others.

Application:

Unlike actual possession, constructive possession involves responsibility for items the person can control, even if not in their physical custody.

Components:

Intent and capability to control the item.

Key factors:

Knowledge: The individual must know the item exists.

Successful prosecution requires:

Control: They must have the power and intention to control the item.

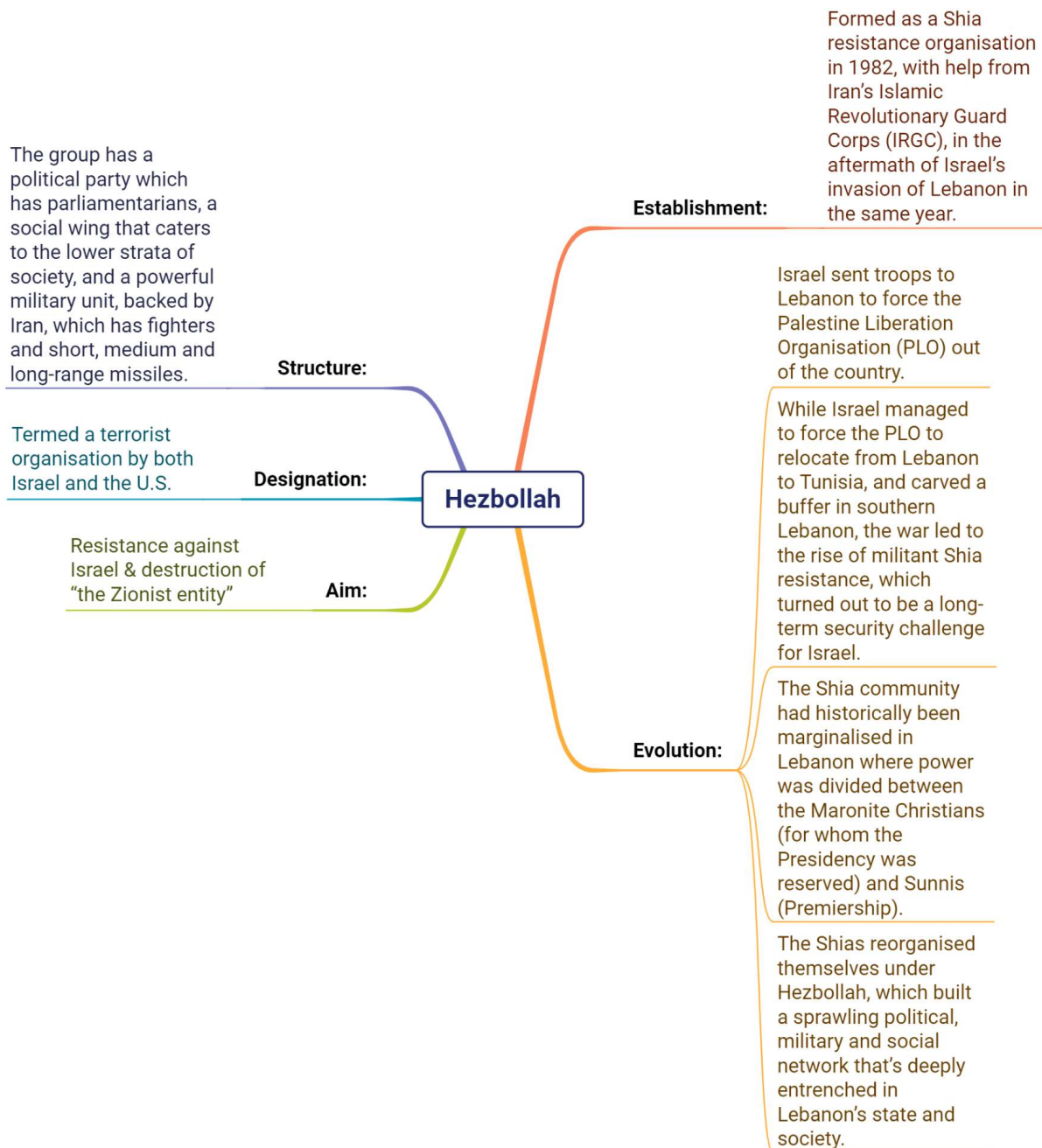
Intent: There must be intent to possess the item, inferred from circumstances.

World Affairs

5. How will Nasrallah's killing impact West Asia? – The Hindu

Over the past week, Israel has carried out massive bombardments in Lebanon targeting Hezbollah, killing at least 700 people and displacing more than 1,00,000. Among the dead was Hassan Nasrallah, Secretary-General of Hezbollah.

Hezbollah »



6. BRICS countries recognize group's importance for multipolarity: Jaishankar - The Hindu

External Affairs Minister S. Jaishankar met with his BRICS counterparts to affirm its role in a multipolar world. The meeting took place on the sidelines of the 79th session of the United Nations General Assembly (UNGA).

'BRICS' (Brazil, Russia, India, China, and South Africa) Grouping >>



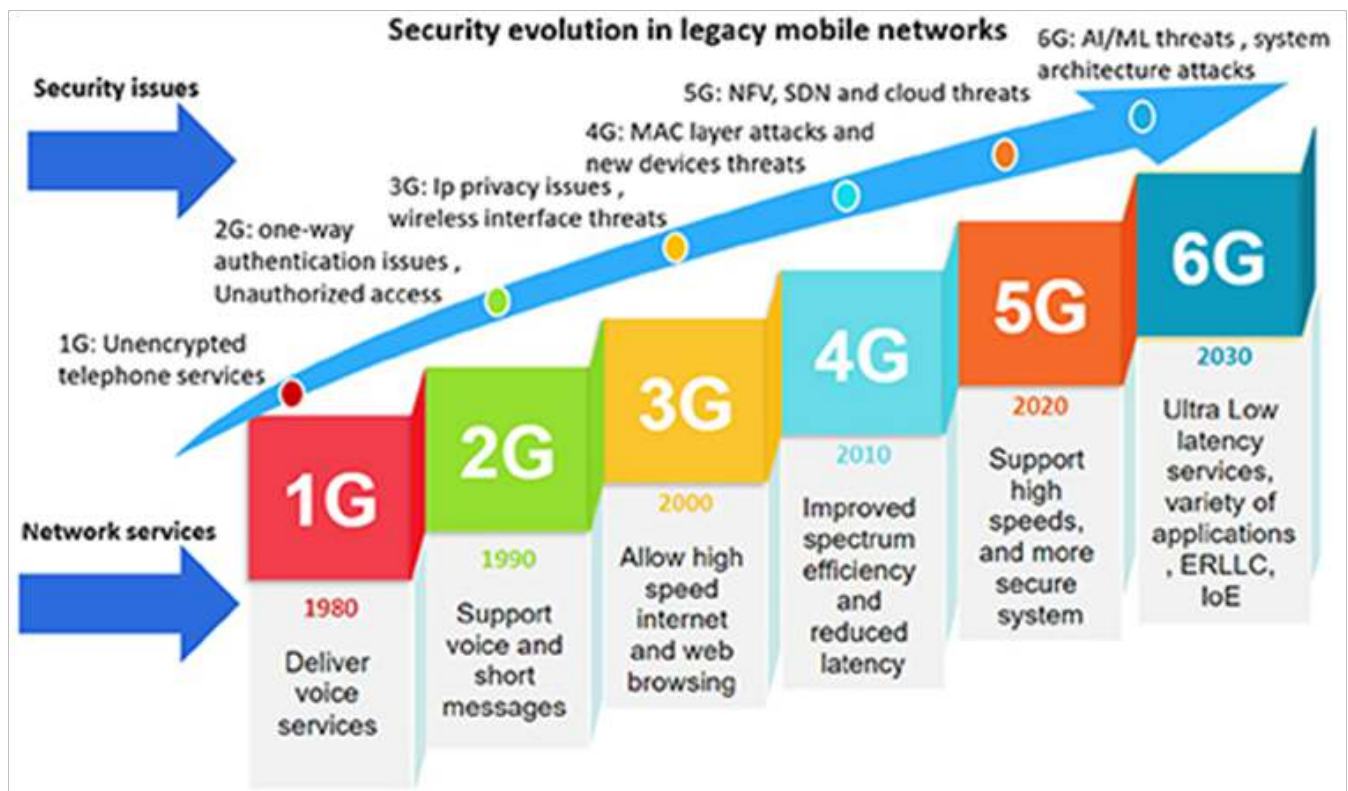
- **About:** A bloc of countries that formed a partnership following the creation of the term in 2001 by Goldman Sachs economist Jim O'Neill (but it didn't include South Africa at the time). South Africa joined in 2010.
- **Aim:** To bring together the world's most important developing countries to challenge the political and economic power of the wealthier nations of North America and Western Europe.
- **Latest entrants:** Saudi Arabia, Iran, Ethiopia, the United Arab Emirates, and Egypt (2024).
- **Significance:**
 - The expanded group has a combined population of about 3.5 billion, or 45% of the world's inhabitants.
 - Combined, members' economies are worth more than \$28.5tn – about 28% of the global economy.
 - With Iran, Saudi Arabia and UAE as members, Brics countries produce about 44% of the world's crude oil.

Economy

7. Telecom minister Scindia meets Bharat 6G Alliance's working groups - Indian Express

The Telecom Minister recently initiated a meeting with the seven working groups of the Bharat 6G Alliance.

Bharat 6G Alliance >>



- **About:** A collaborative platform to achieve universal and affordable connectivity, promote indigenous technology, and establish India as a global leader in the telecom sector.
- **Goal:** To facilitate market access for Indian telecom technology products and services, enabling the country to emerge as a global leader in 6G technology.
- **Components:** Public and private companies, academia, research institutions, and standards development organizations.
- **Significance:**
 - It will forge coalitions and synergies with other 6G Global Alliances, fostering international collaboration and knowledge exchange.
 - It will enable India to become a leading global supplier of IP, products and solutions of affordable 5G and 6G and other future telecom solutions,

Environment

8. Glaciologist digs deep into permafrost to gauge future climate change disasters - The Hindu

Glaciologist S.N. Remya from Kerala, who is part of this year's India's Arctic Expedition, currently based at the Himadri research station in Norway, says that her work is aimed at identifying the probability of disasters due to permafrost collapse and help provide early warnings to local communities.

Arctic Region »

- **Location:** Located at the northernmost part of Earth, centered around the North Pole which includes the Arctic Ocean and parts of several countries, including Canada, Russia, the United States, Norway, and Greenland.
- **Climate:** Covered by ice, including sea ice and ice caps, which play a crucial role in regulating the Earth's climate by reflecting sunlight.
- **Fauna:** Polar bears, seals, whales, and various species of birds.



9. Sea robins - The Hindu

Sea robins are ocean fish particularly suited to their bottom-dwelling lifestyle — six leg-like appendages make them so adept at scurrying, digging, and finding prey that other fish tend to hang out with them and pilfer their spoils.

Sea Robins »

- **About:** Belong to a family of ray-finned fish called Triglids, which inhabit diverse habitats ranging from shallow salt marshes to warm and temperate seas of the world.
- **Benthic specialists:** Spend much of their time on the ocean bottom, where they hunt in the sand for fish, crustaceans, and other invertebrates.
- **Appearance:** Usually brightly coloured, and some have ornately patterned pectoral fins.

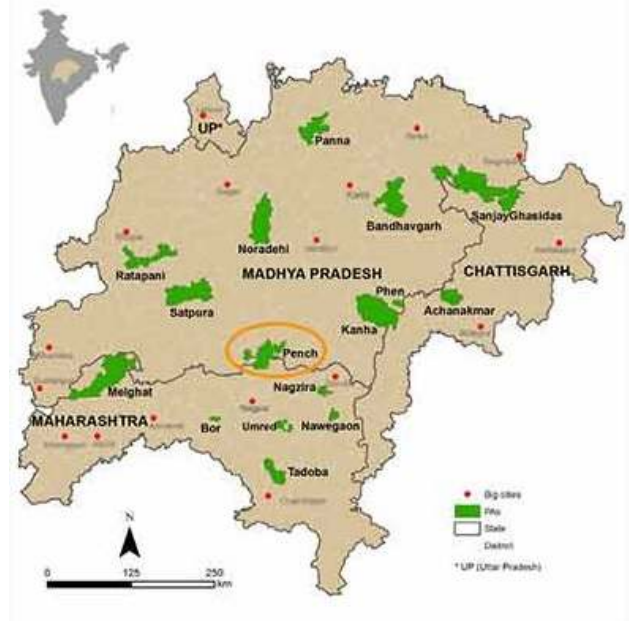


10. Ratapani Sanctuary - The Hindu

The Ratapani Sanctuary is stretching its arms to get the status of a tiger reserve and the government is serious in this regard.

Ratapani Wildlife Sanctuary »

- **Location:** Raisen and Sehore districts of Madhya Pradesh
- **Area:** Over 825.90 sq km.
- **Rivers:** It runs parallel on the northern side of the Narmada River. The Kolar River forms the western boundary of the Sanctuary.
- **Significance:**
 - Has Bhimbetka rock shelters and rock paintings, a " World Heritage Site " declared by UNESCO.
 - Has Ginnourgarh Fort, POW camp, Keri Mahadeo, Ratapani dam, Jholiyapur dam, etc.
- **Landscape:** Hills, valleys, plateaus, and plains.
- **Vegetation:** Dry deciduous and moist deciduous forests
- **Fauna:** Regal striped cat, Chinkara, Panther, Hyena, Jackal, Indian Fox, Wild Dog, Jungle Cat, Small Indian Civet, Blue Bull, Chinkara, Black Buck, Chausingha, Spotted Deer, Barking Deer, etc.



11. Deadline ends, Parivesh 2.0 portal to register exotic species

Common iguana, ball pythons, an African grey parrot, and scarlet macaws — 32 applications to register such exotic species have been received on the Parivesh 2.0 portal of the Ministry of Environment, Forest and Climate Change (MoEFCC) by August 31.

Parivesh (Pro-Active and Responsive facilitation by Interactive, Virtuous, and Environmental Single Window Hub) 2.0 portal »

- **About:** A web-based workflow application for online submission and monitoring of proposals related to environmental, forest, wildlife, and coastal regulation zone clearances.
- **Development:** Ministry of Environment, Forest and Climate Change (MoEFCC).
- **Working:** Offers a single-window solution for managing all green clearances and monitors compliance across India.
- **Significance:** It emphasises process transformation, technology integration, and domain expertise.

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Exotic Species

- **About:** Animals or plants that are moved from their natural habitat to a new location, often due to human activities.
- **Criteria:** As per Living Animal Species (Reporting and Registration) Rules, 2024, any individual possessing species listed under Schedule IV of the Wild Life (Protection) Act, 1972, must report and register them.
- **Concerns:**
 - Lack of Regulation: Many exotic species are imported and bred in India without proper registration, increasing the risk of zoonotic diseases.
 - Pandemic Risk: The COVID-19 pandemic, a zoonotic disease, underscores the dangers of unregulated exotic animal trade.
 - Smuggling: Activists warn of rising smuggling of endangered exotic animals, particularly from Southeast Asia, with significant seizures in Assam and Mizoram, involving species like Kangaroos, Koalas, and Lemurs.

Sci and Tech

12. Can Kerala's policy to limit antibiotics misuse reduce AMR? - The Hindu

With the successful launch of Operation Amrith (Antimicrobial Resistance Intervention for Total Health) to completely stop the over-the-counter sale of antibiotics without prescriptions by the end of 2024, Kerala has seen a sharp decline in the irrational use of antibiotics in people.

Why Kerala has to revisit its **antibiotics policy**

Sale of antibiotics through hospitals and medical stores across Kerala reduced by ₹1,000 crore in the last one year

1 Kerala has enforced the Indian government's H1 rule of 2011 to prohibit OTC sale of all classes of antibiotics without a prescription

2 In 2013, India tweaked the rule to allow first-line antibiotics to be sold over-the-counter without a prescription

3 The 2011 rule was modified as it would have restricted the access to even the first-line medicines in remote places too

4 About 60% broiler chicken, eggs and vegetables consumed in Kerala come from neighbouring States, which do not have AMR policy for humans, animals and agriculture

5 Imported food products often carry antibiotic residues and drug-resistant bacteria leading to continuous cycle of AMR spread

6 By enforcing the modified H1 rule of 2013, Kerala can get the neighbouring States too on board

7 A stepwise, adaptable model will ensure that Kerala's efforts to combat AMR does not go in vain

In January this year, Kerala banned OTC sale of antibiotics without a prescription

WHAT IS LEPTOSPIROSIS

➤ Leptospirosis is a bacterial disease that affects both humans and animals

➤ It is caused by bacteria of the genus leptospira

➤ In humans, it can cause a wide range of symptoms, some of which may be mistaken for other diseases

HOW DO HUMANS GET INFECTED

➤ The infection spreads first from animals through their urine



➤ Humans get infected through direct contact with urine of infected animals or with a urine-contaminated environment

➤ This infected urine gets mixed with water in puddles, waterlogged streets or flooded areas



➤ Humans who wade through such water may get infected

➤ The bacteria enters body through cuts or abrasions on skin, or through mucous membranes – nose and eyes



➤ Person-to-person transmission is rare

ANIMAL SPECIES THAT CAN TRANSMIT THE DISEASE TO HUMANS

A wide variety of animal species, primarily mammals, may serve as sources of human infection



The following are considered to be the most important in this context:

1 Small mammal species, notably feral and peridomestic rodents (rats, mice, voles, etc.) and insectivores (shrews and hedgehogs)

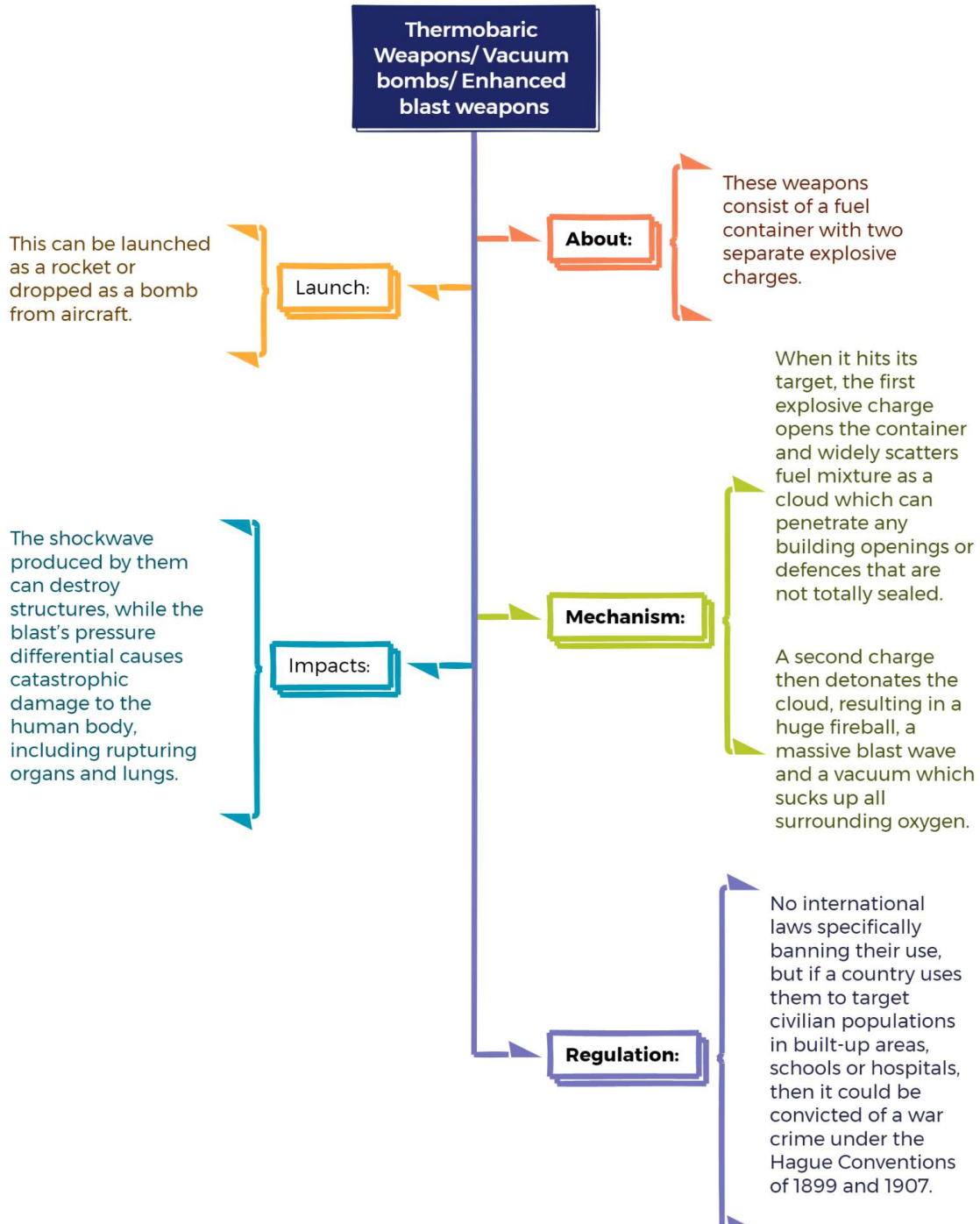
2 Domestic animals (cattle, pigs, dogs, more rarely sheep, goats, horses and buffaloes)

(Source: World Health Organization, Centre for Disease Control)

14. Thermobaric Weapons - Indian Express

Russia's use of thermobaric weapons in Ukraine has drawn significant attention due to their devastating effects, but the development and deployment of these powerful bombs are not limited to Russia.

Thermobaric Weapons/ Vacuum bombs/ Enhanced blast weapons »



15. New drug for schizophrenia has experts excited - The Hindu

Experts expressed enthusiasm recently after United States health regulators approved the first new form of treatment for schizophrenia in decades.

Schizophrenia»

WHAT IS SCHIZOPHRENIA?

Schizophrenia is a very common brain disorder which causes people to abnormally interpret their sense of reality.

1 Symptoms

Social isolation, compulsive behavior, self-harm, amnesia, belief that thoughts aren't their own, memory loss, anxiety, detachment, hallucination, rapid speaking, and fatigue, among many others.

2 Causes

There is no exact cause of schizophrenia. A family history of mental disorders and environmental factors such as drug use are identified as risk factors.

3 Early signs

Early symptoms in teenagers include withdrawal from friends and family, lack of motivation, trouble sleeping, depressed mood, worsening academic performance, and irritability, among others.

4 Treatment

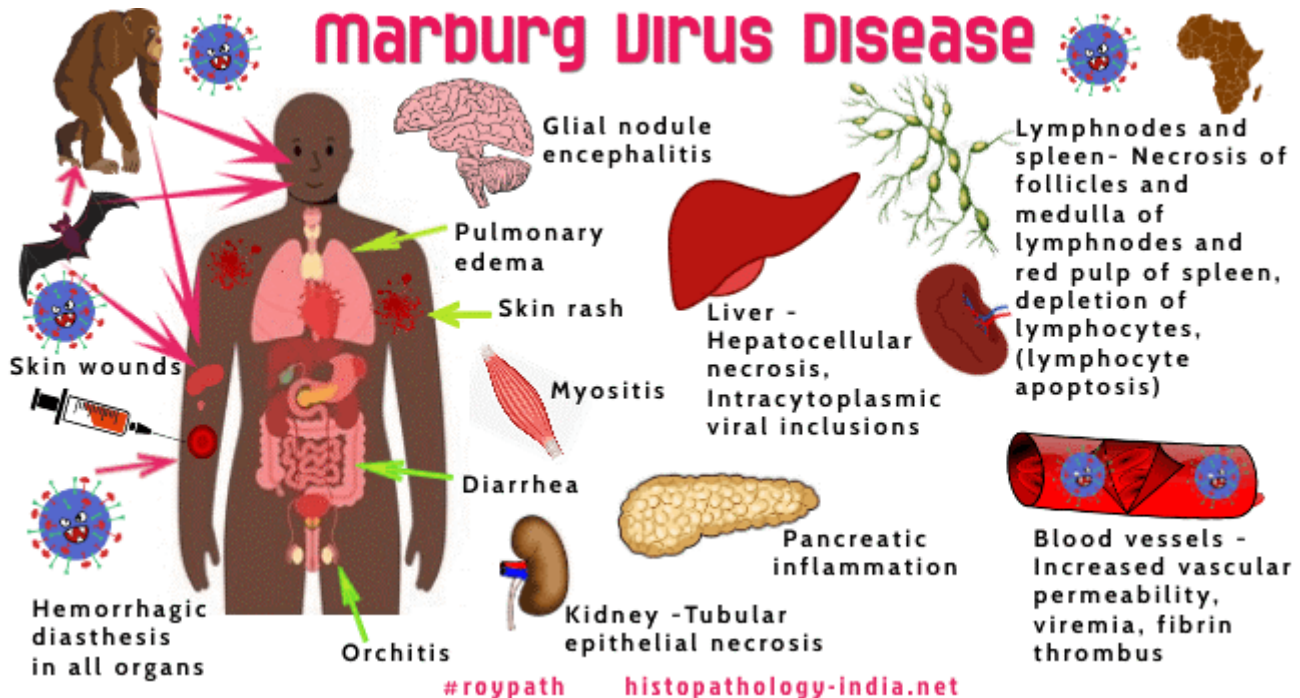
Treatment is symptom-based. Depending on the unique case, a combination of antipsychotic drugs and other means of therapy might be used in conjunction.



16. Marburg Viral Disease - The Hindu

Six people have died in Rwanda following an outbreak of the Marburg virus.

Marburg Virus Disease >>



- **About:** A rare but severe hemorrhagic fever that affects both people and non-human primates.
- **Cause:** Caused by the Marburg virus, a genetically unique zoonotic (animal-borne) RNA virus (member of the Filoviridae family (filovirus)).
- **Reservoir host of the Marburg virus:** African fruit bat, *Rousettus aegyptiacus*.
- **Transmission:** Transmitted from bats to primates, including humans, and then spread through direct contact with blood or other body fluids from infected individuals.
- **Symptoms:** Fever, Chills, Headache, Muscle aches, Rash with both flat and raised bumps, often on the torso, Chest pain, Sore throat, Nausea, vomiting, and diarrhea. Advanced symptoms may include liver failure, delirium, shock, bleeding (hemorrhaging), and multi-organ dysfunction.
- **Fatality:** Around 50%
- **Treatment:** No treatment or vaccine; supportive therapy, such as intravenous fluids, electrolyte replacement, supplemental oxygen, as well as blood and blood products replacement, improves survival.

17. ABHED Bulletproof Jacket - The Hindu

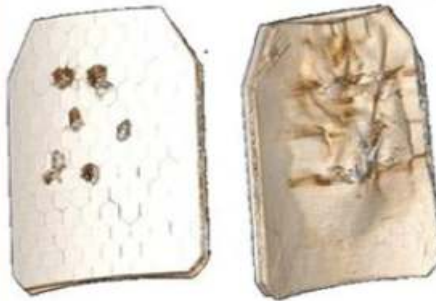
India's defence technology landscape is witnessing a significant transformation with the introduction of the ABHED (Advanced Ballistics for High Energy Defeat) lightweight bulletproof jacket.

ABHED Bulletproof Jacket >>

Indigenous Light Weight Bulletproof Jacket – ABHED (Advanced Ballistic for High Energy Defeat) are designed and developed at the DRDO Industry Academia Center of Excellence (DIA-COE) at IIT Delhi.

The ABHED: BIS Level 5 complies with Indian Army GSQR 1438 and the ABHED: BIS Level 6 complies with Indian Army GSQR 1707. Equivalent to NIJ0101.06 Level 3+ & Level 4

NIJ 0101.06 Level IV /(BIS 17051:2018 Level-6) ABHED test panel



Defeated 6 shots of 7.62×54R API after Thermo-Mechanical Conditioning at TBRL Chandigarh with less than 25mm BFS



ABHED: BIS Level 5
(8.2 Kg)



ABHED: BIS Level 6
(9.5 Kg)

Salient Features:

- Modular configurations and 360° protection
- Ergonomic design for Indian soldiers and security forces
- Total protection area ~3400 cm²
- Consists of rigid Hard Armour Panels (HAP), flexible Soft Armour
- Panels (SAPs) and carrier to accommodate HAPs and SAPs.
- Expression of Interest (Eoi) received from Indian industries.

- **Development:** By DRDO and IIT Delhi from polymers and indigenous boron carbide ceramic
- **Features:**
 - Have a minimum possible weight of 8 kg and 9.3 kg for different BIS levels, these jackets, featuring front and rear armour, provide 360-degree protection.
 - The jackets have been classified as BIS level 5 and BIS level 6, by the Bureau of Indian Standards (BIS), which issues standards for bullet-resistant jackets and ballistic shields for the Indian Army.
 - The design ensures 360-degree protection through modular armour plates that can be adapted for different mission requirements, providing soldiers with flexibility in various combat scenarios.

18. SASTRA Ramanujan Prize - Indian Express

Alexander Dunn has been awarded the prestigious 2024 SASTRA Ramanujan Prize.

About the prize »

- **Institution:** 2005 & is awarded every year by the SASTRA University on its campus near Kumbakonam in Tamil Nadu, on Ramanujan's birth anniversary, December 22.
- **About:** Conferred annually to mathematicians from across the world who is less than 32 years of age, working in an area influenced by the Srinivasa Ramanujan.
- **Age limit:** 32 years
- **Cash prize:** \$10,000.

