Insights Daily Current Affairs + PIB: 28 February 2019

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Relevant articles from PIB:

Paper 2:

> Topics Covered:

1. Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources.

Atal Innovation Mission (AIM)

What to study?

- ***For Prelims: Features of Atal Innovation Mission, ATLs.***
- ***For Mains: Promotion of innovation at global level and efforts by India in this regard.***

Context: NITI Aayog's Atal Innovation Mission (AIM) and Adobe have signed a Statement of Intent (SOI) to collectively drive the charter of developing creative skills and spreading digital literacy across all Atal Tinkering Labs in India.

Key facts:

- As per MoU, Adobe shall be adopting 100 schools under Atal Tinkering Labs (ATL) initiative.
- Adobe shall be implementing its Digital Disha Program in ATLs, under which free licenses of Adobe Spark premium shall be offered to ATLs.
- ***Launched in 2018, the Adobe Digital Disha Programme is aimed at driving synergies in creative thinking and technology-based learning***.

What are ATLs?

With a vision to 'Cultivate one Million children in India as Neoteric Innovators', Atal Innovation Mission is establishing Atal Tinkering Laboratories (ATLs) in schools across India.

Objective: The objective of this scheme is to foster curiosity, creativity and imagination in young minds; and inculcate skills such as design mindset, computational thinking, adaptive learning, physical computing etc.

Financial Support: AIM will provide grant-in-aid that includes a one-time establishment cost of Rs. 10 lakh and operational expenses of Rs. 10 lakh for a maximum period of 5 years to each ATL.

Eligibility: Schools (minimum Grade VI – X) managed by Government, local body or private trusts/society can set up ATL.

Significance of ATLs:

- Atal Tinkering Labs have evolved as epicenters for imparting these 'skills of the future' through practical applications based onself-learning.
- Bridging a crucial social divide, Atal Tinkering Labs provide equal opportunity to all children across the spectrum by working at the grassroot level, introducing children to the world of innovation and tinkering.

Need for such labs:

As the world grapples with evolving technologies, a new set of skills have gained popular acceptance and have come to be in high demand. For India to contribute significantly during this age of raid technological advancement, there is an urgent need to empower our youth with these 'skills of the future'.

Equipped with modern technologies to help navigate and impart crucial skills in the age of the Fourth Industrial Revolution, the ATLs are at the vanguard of the promoting scientific temper and an entrepreneurial spirit in children today.

About AIM:

- The Atal Innovation Mission (AIM) is the Government of India's flagship initiative to promote a culture of innovation and entrepreneurship in the country.
- AIM is mandated to create an umbrella structure to oversee innovation ecosystem of the country and revolutionizing the innovation eco-system – touching upon the entire innovation life cycle through various programs.

The Atal Innovation Mission shall have two core functions:

1. Entrepreneurship promotion through **Self-Employment and Talent Utilization**, wherein innovators would be supported and mentored to become successful entrepreneurs.
2. **Innovation promotion:** to provide a platform where innovative ideas are generated.

Mains Question: The ASER report highlights that there is a need for innovation in education sector in India. Comment.

Paper 3:

1. Infrastructure- energy and conservation related issues.

Sustainable Alternative Towards Affordable Transportation (SATAT) Initiative

What to study?

For Prelims and Mains: SATAT initiative- key objectives, significance and brief overview on CNG and CBG.

Context: The government recently handed over the 100th Letter of Intent (LOI) to the Compressed Bio-Gas(CBG) Entrepreneur (producer) under the SATAT scheme.

About the initiative:

- The initiative is aimed at providing a Sustainable Alternative Towards Affordable Transportation (SATAT) as a developmental effort that would benefit both vehicle-users as well as farmers and entrepreneurs.
- Compressed Bio-Gas plants are proposed to be set up mainly through independent entrepreneurs. CBG produced at these plants will be transported through cascades of cylinders to the fuel station networks of OMCs for marketing as a green transport fuel alternative.
- The entrepreneurs would be able to separately market the other by-products from these plants, including bio-manure, carbon-dioxide, etc., to enhance returns on investment.
- It is planned to roll out 5,000 Compressed Bio-Gas plants across India in a phased manner.
- This initiative is expected to generate direct employment for 75,000 people and produce 50 million tonnes of bio-manure for crops.

There are multiple benefits from converting agricultural residue, cattle dung and municipal solid waste into CBG on a commercial scale:

- Responsible waste management, reduction in carbon emissions and pollution.
- Additional revenue source for farmers.
- Boost to entrepreneurship, rural economy and employment.
- Support to national commitments in achieving climate change goals.
- Reduction in import of natural gas and crude oil.
- Buffer against crude oil/gas price fluctuations.

Background:

Bio-gas is produced naturally through a process of anaerobic decomposition from waste / bio-mass sources like agriculture residue, cattle dung, sugarcane press mud, municipal solid waste, sewage treatment plant waste, etc. After purification, it is compressed and called CBG, which has pure methane content of over 95%.

What is CBG?

Compressed Bio-Gas is exactly similar to the commercially available natural gas in its composition and energy potential. With calorific value (~52,000 KJ/kg) and other properties similar to CNG, Compressed Bio-Gas can be used as an alternative, renewable automotive fuel. Given the abundance of biomass in the country, Compressed Bio-Gas has the potential to replace CNG in automotive, industrial and commercial uses in the coming years.

Compressed Bio-Gas can be produced from various bio-mass/waste sources, including agricultural residue, municipal solid waste, sugarcane press mud, distillery spent wash, cattle dung and sewage treatment plant waste. The other waste streams, i.e, rotten potatoes from cold storages, rotten vegetables, dairy plants, chicken/poultry litter, food waste, horticulture waste, forestry residues and treated organic waste from industrial effluent treatment plants (ETPs) can be used to generate biogas.

Way ahead:

The potential for Compressed Bio-Gas production from various sources in India is estimated at about 62 million tonnes per annum. Going forward, Compressed Bio-Gas networks can be integrated with city gas distribution (CGD) networks to boost supplies to domestic and retail users in existing and upcoming markets. Besides retailing from OMC fuel stations, Compressed Bio-Gas can at a later date be injected into CGD pipelines too for efficient distribution and optimised access of a cleaner and more affordable fuel.

Paper 2:

> Topics Covered:

1. Development processes and the development industry the role of NGOs, SHGs, various groups and associations, donors, charities, institutional and other stakeholders.

Scheme for Higher Education Youth in Apprenticeship and Skills (SHREYAS)

What to study?

- **For Prelims: Key features of the scheme.**
- **For Mains: Significance of the scheme and the need for skilling the youth.**

Context: The Ministry of Human Resources Development has launched the ***Scheme for Higher Education Youth in Apprenticeship and Skills (SHREYAS)*** for providing industry apprenticeship opportunities to the general graduates exiting in April 2019 through the National Apprenticeship Promotional Scheme (NAPS).

What is it?

- SHREYAS is a programme basket comprising the initiatives of three Central Ministries, namely the Ministry of Human Resource Development, Ministry of Skill Development & Entrepreneurship and the Ministry of Labour& Employment viz the National Apprenticeship Promotion Scheme (NAPS), the National Career Service (NCS)and introduction of BA/BSc/BCom (Professional) courses in the higher educational institutions.
- SHREYAS is a programme conceived for students in degree courses, primarily non-technical, with a view to introduce employable skills into their learning, promote apprenticeship as integral to education and also amalgamate employment facilitating efforts of the Government into the education system so that clear pathways towards employment opportunities are available to students during and after their graduation.

Aim: To enhance the employability of Indian youth by providing 'on the job work exposure' and earning of stipend.

Target: In all the tracks together, it is proposed to cover 50 lakh students by 2022.

Following are the objectives of SHREYAS:

- To improve employability of students by introducing employment relevance into the learning process of the higher education system.
- To forge a close functional link between education and industry/service sectors on a sustainable basis.
- To provide skills which are in demand, to the students in a dynamic manner.
- To establish an 'earn while you learn' system into higher education.
- To help business/industry in securing good quality manpower.
- To link student community with employment facilitating efforts of the Government.

Operation of the Scheme:

- The primary scheme will be operated in conjunction with National Apprenticeship Promotion Scheme (NAPS) which provides for placing of apprentices upto 10% of the total work force in every business/industry.
- The scheme will be implemented by the Sector Skill Councils (SSCs),

initially the Banking Finance Insurance Services (BFSI), Retail, Health care, Telecom, Logistics, Media, Management services, ITeS and Apparel. More sectors would be added over time with emerging apprenticeship demand and curriculum adjustments.

Significance of the scheme:

Education with skills is the need of the hour and the SHREYAS will be a major effort in this direction to make degree students more skilled, capable, employable and aligned to the needs of our economy so that they contribute to country's progress and also obtain gainful employment.

Paper 2:

> Topics Covered:

1. Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

"Yuva Sahakar-Cooperative Enterprise Support and Innovation Scheme"

What to study?

- ***For Prelims: Key features of the scheme, NCDC.***
- ***For Mains: Significance of the scheme of the role of youth in cooperatives, hurdles and measures needed.***

Context: To cater to the needs and aspirations of the youth, the ***National Cooperative Development Corporation (NCDC) has launched a youth-friendly scheme 'Yuva Sahakar-Cooperative Enterprise Support and Innovation Scheme"*** for attracting them to cooperative business ventures.

Key features of the scheme:

- The scheme would encourage cooperatives to venture into new and innovative areas.
- NCDC has created a dedicated fund with liberal features enabling youth to avail the scheme. The scheme will be linked to Rs 1000 crore ***'Cooperative Start-up and Innovation Fund (CSIF)'*** created by the NCDC. It would have more incentives for cooperatives of North Eastern region, Aspirational Districts and cooperatives with women or SC or ST or PwD members.
- The funding for the project will be up to 80% of the project cost for these special categories as against 70% for others. The scheme envisages 2% less than the applicable rate of interest on term loan for the project cost up to Rs 3 crore including 2 years moratorium on payment of principal. All types of cooperatives in operation for at least one year are eligible.

About NCDC:

National Cooperative Development Corporation (NCDC) was established by an Act of Parliament in 1963 as **a statutory Corporation under Ministry of Agriculture & Farmers Welfare**. It has many regional centres to provide the financial assistance to Cooperatives/Societies/Federations.

Relevant articles from various News Papers:

Paper 2 and 3:

> Topics Covered:

1. Important International institutions, agencies and fora, their structure, mandate.
2. Awareness in the fields of IT, Space, Computers.

Inclusive Internet Index 2019

What to study?

For Prelims: About the Index, categories and performance of various countries.

Context: Inclusive Internet Index 2019 has been released.

About the Inclusive Internet Index:

The **Inclusive Internet Index, commissioned by Facebook and conducted by The Economist Intelligence Unit**, seeks to measure the extent to which the Internet is not only accessible and affordable, but also relevant to all, allowing usage that enables positive social and economic outcomes at individual and group level.

The aim of the Inclusive Internet Index is to provide researchers and policymakers with the information they need to enable the beneficial use of the Internet, irrespective of age, gender, location or background.

The index assesses the performance of 100 countries in four categories of inclusion: Accessibility, Affordability, Relevance and Readiness. Each category incorporates key indicators of internet inclusion, including quantitative measures such as network coverage and pricing, and qualitative measures such as the presence of e-inclusion policies and the availability of local-language content.

Key findings:

1. The digital divide appears to be widening at the bottom of the income pyramid, risking a reversal of past progress.
2. Gender gaps in Internet access continue to narrow globally, led by low and lower middle-income countries.
3. Concerns about online privacy remain high, and trust in information

from governments on the Internet has retreated in the West.
4. Men have more Internet access than women globally but low and lower middle income countries narrowed the gender gap in 2018.
5. Inclusion for women and those with disabilities have improved, with low income and lower-middle-income countries driving the progress.

Performance of various countries:

1. Sweden has topped the rankings followed by Singapore and the US.
2. India has been ranked 47th.
3. The UK, Namibia, Ireland, Austria, Chile and South Africa are the top performers of the year in terms of gender equality. All these countries had female digital skills training plans.

Sources: toi.

Paper 3:

Topics Covered:

1. Science and Technology- developments and their applications and effects in everyday life Achievements of Indians in science & technology.

National Science Day 2018

What to study?

- ***For Prelims: National science day, Raman effect.***
- ***For Mains: Achievements of Indians in the field of science and technology.***

Context: National Science Day is ***celebrated on 28th of February every year in order to commemorate the invention of the Raman Effect*** in India by the Indian physicist, Sir Chandrasekhara Venkata Raman on the same day in the year 1928.

For his great success in the field of science in India, Chandrasekhara Venkata Raman was awarded and honored with the ***Nobel Prize in the Physics in the year 1930***.

Theme: "Science for the People and the People for Science."
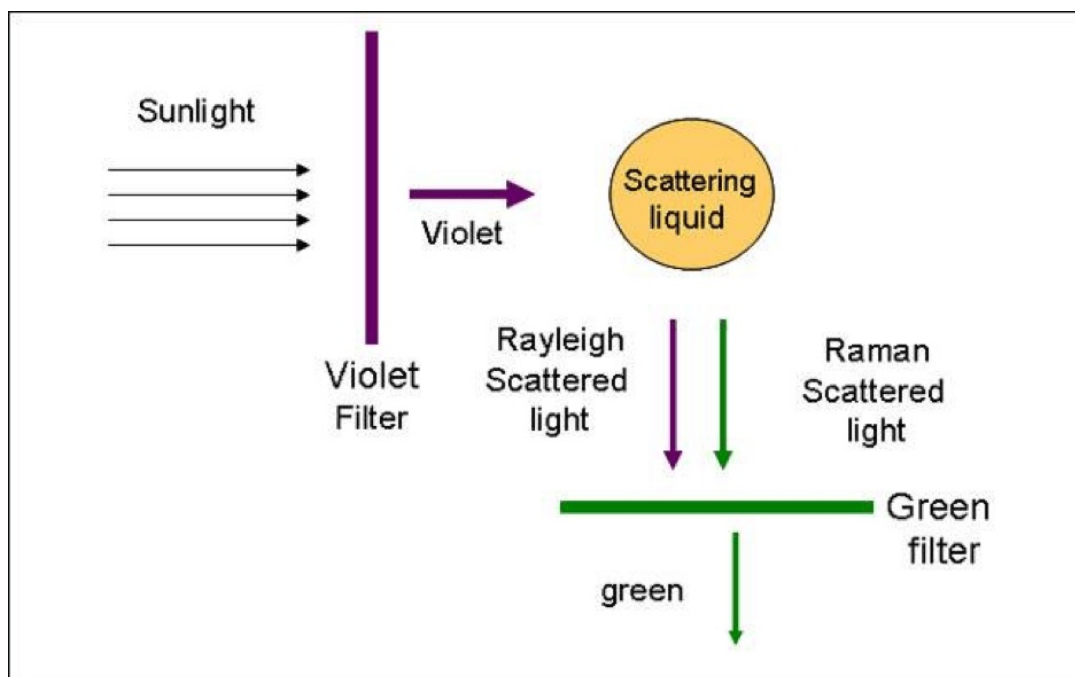
What is Raman effect?

The Raman Effect is a change in the wavelength of light that occurs when a light beam is deflected by molecules. When a beam of light traverses a dust-free, transparent sample of a chemical compound, a small fraction of the light emerges in directions other than that of the incident (incoming) beam.

Most of this scattered light is of unchanged wavelength. A small part, however, has wavelengths different from that of the incident light; its presence is a result of the Raman effect.

Raman's experiment:

The violet light of the solar spectrum is isolated with a violet filter and passed through the liquid sample. Most of the light emerging from the liquid sample is the same color as the incident violet beam: the so-called Rayleigh scattered light (the scattering of light by particles in a medium, without change in wavelength. It accounts, for example, for the blue colour of the sky, since blue light is scattered slightly more efficiently than red).

However, Raman, along with K S Krishnan was able to show that ***some of the scattered light was a different color, which they could isolate by using a green filter placed between the observer and the sample***.

Sources: the hindu.

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Paper 2 and 4:

> Topics Covered:

1. Development processes and the development industry the role of NGOs, SHGs, various groups and associations, donors, charities, institutional and other stakeholders.

Parents Responsibility and Norms for Accountability and Monitoring (PRANAM) Bill

What to study?

- ***For Prelims: Key features of the Bill, PRANAM commission.***

- **For Mains: Significance, need and potential of the proposed legislation.**

Context: Assam has launched the **PRANAM Commission**, a panel set up to look after the issues concerning a Bill brought in for protection of parents of state government employees.

The **Parents Responsibility and Norms for Accountability and Monitoring (PRANAM) Bill**, stated to be the first-of its-kind Bill in the country, is an effort to protect elderly parents of government employees in their times of need.

Objective of the bill: To ensure that no state government employee ignores their elderly parents and unmarried differently-abled siblings.

Key Features:

- The PRANAM Bill makes it **mandatory for the state government employees to look after their parents and unmarried differently-abled siblings who do not have their own sources of income**.
- Under the bill's provisions, **if the PRANAM Commission gets a complaint that parents of a state government employee are being ignored, then 10 or 15 per cent of the employee's salary will be deducted by the government and paid to the parents or differently-abled siblings**.
- The **employees of private companies and the central government working in the state would also be covered by the bill at a later stage**.

Sources: toi.

Paper 3 and 4:

> Topics Covered:

1. Issues related to biotechnology.

China drafts new rules to supervise biotechnology research

What to study?

- **For Prelims: Draft rules, gene- editing technology- overview.**
- **For Mains: Significance and the need for these rules, concerns associated with latest developments in gene- editing.**

Context: China has drafted new rules to supervise biotechnology research.

Highlights of the draft:

1. It proposes fines and bans against rogue scientists.
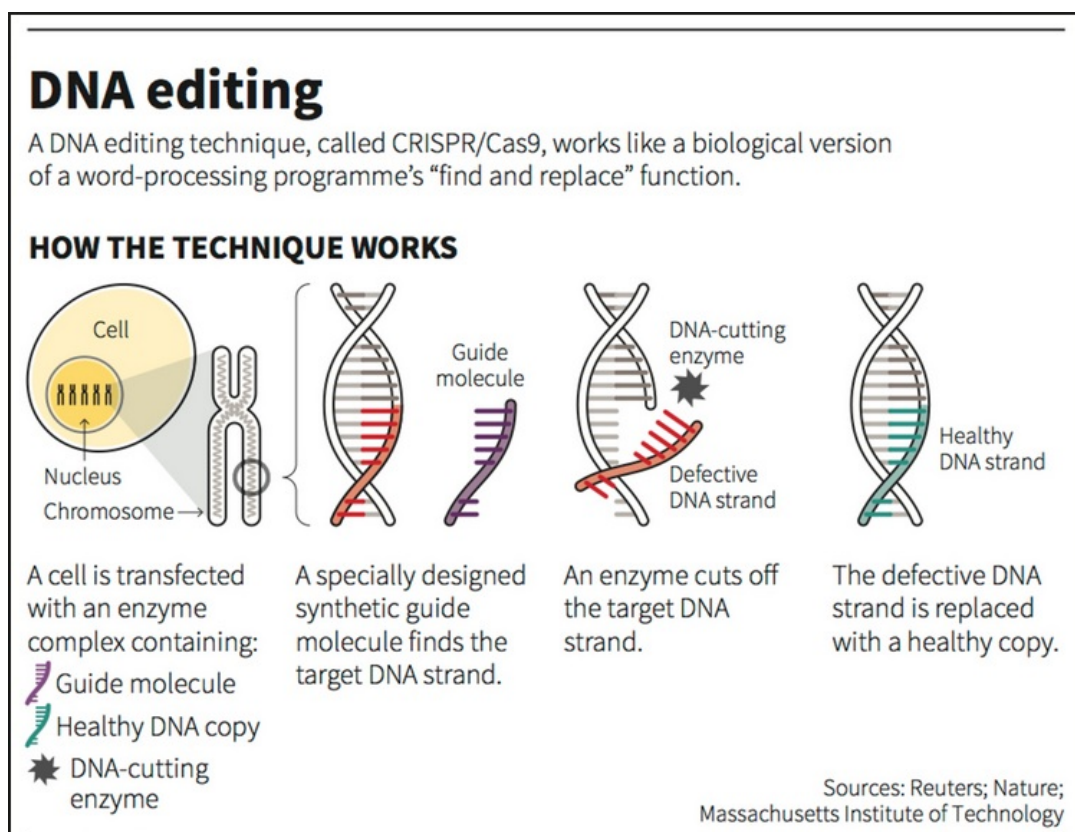2. It proposes to classify technology used for extracting genetic

materials, gene editing, gene transfer and stem cell research as "high risk".

3. Scientists can be fined 10 to 20 times the amount of "illegal income" earned from unauthorised research and be banned from their field of work for six months to one year.
4. If the circumstances are serious, their medical practice licence shall be revoked and the individual shall not engage in clinical research for life.

What necessitated this?

Recently a Chinese researcher caused a global outcry by claiming that he gene-edited babies.

- He announced in November that the world's first gene-edited babies — twin girls — were born that same month after he altered their DNA to prevent them from contracting HIV by deleting a certain gene under a technique known as CRISPR.
- The claim shocked scientists worldwide, raising questions about bioethics and putting a spotlight on China's lax oversight of scientific research.

DNA editing

A DNA editing technique, called CRISPR/Cas9, works like a biological version of a word-processing programme's "find and replace" function.

HOW THE TECHNIQUE WORKS

A cell is transfected with an enzyme complex containing:
- Guide molecule
- Healthy DNA copy
- DNA-cutting enzyme

A specially designed synthetic guide molecule finds the target DNA strand.

An enzyme cuts off the target DNA strand.

The defective DNA strand is replaced with a healthy copy.

Sources: Reuters; Nature; Massachusetts Institute of Technology

Sources: the hindu.

Main Question: Discuss about the CRISPR gene editing technology and the concerns raised by it.

Facts for Prelims:

2nd Edition of ISL Dictionary:

Context: '2nd Edition of ISL Dictionary' for Hearing Impaired Persons has been launched. The Dictionary Includes 6000 Words Under Categories of Academic, Legal, Medical, Technical & Everyday Terms.

Key facts:

- The dictionary has been developed by **Indian Sign Language Research & Training Centre (ISLR&TC)** under Department of Empowerment of Persons with Disabilities (DEPwD), M/o Social Justice & Empowerment.
- Its aim is to give Deaf people the constitutional right to speech and opportunity of freedom of expression and also bringing them into the main stream of the society.

"South Coast Railway (SCoR)"- a new Zone of Indian Railways:

Context: Creation of a new zone with headquarter at Visakhapatnam.

Key facts:

- The new zone named "South Coast Railway (SCoR)", will comprise of existing Guntakal, Guntur and Vijayawada divisions.
- South Central Railway will comprise of Hyderabad, Secunderabad and Nanded divisions.

Technology Support and Outreach (TECH-SOP):

What is it? TECH – SOP is an initiative of the MSME Ministry to bridge the gap between research and development institutions and MSMEs so that they can use latest technologies and become a part of global value chain.

Defence Acquisition Council (DAC):

What is it? To counter corruption and speed up decision- making in military procurement, the government of India in 2001 decided to set up an integrated DAC. It is headed by the Defence Minister.

Objective: The objective of the DAC is to ensure expeditious procurement of the approved requirements of the Armed Forces, in terms of capabilities sought, and time frame prescribed, by optimally utilizing the allocated budgetary resources.

Functions: The DAC is responsible to give policy guidelines to acquisitions, based on long-term procurement plans. It also clears all acquisitions, which includes both imported and those produced indigenously or under a foreign license.

India's first indigenous semiconductor chips for 4G/LTE and 5G NR modems:

Context: India's first Indigenous Semiconductor Chips by Bengaluru based semiconductor company "SIGNALCHIP" for 4G/LTE and 5G NR MODEMs was recently unveiled.

Significance: With this, India has entered into the elite club of the world and this will have huge implications for India's data security and data sovereignty, besides the positive economic implications. At present only 8 companies and a few countries can design and build semiconductor chips.

Aarohan Social Innovation Awards:

Context: The *Infosys Foundation has constituted Aarohan Social Innovation Awards* to reward individuals, teams or NGOs developing solutions for the social sector.

About Aarohan Social Innovation Awards:

Aim: To nurture the culture of innovation in the social sector to scale positive change across the country and thereby provide a platform to help the solutions scale.

The awards would be given away in six categories spanning healthcare, destitute care, rural development, women's safety and empowerment, education and sport and sustainability.

Summaries of Important Editorials:

Geneva Convention: How will it help India bring back captured IAF Pilot?

Context: An Indian pilot was captured by Pakistan after a major aerial confrontation and chase between Pakistan Air Force planes, which dropped bombs in four locations of Jammu and Kashmir, and Indian Air Force jets that countered them over the Line of Control (LoC).

New Delhi has conveyed to Islamabad that "no harm" should come to the pilot. India has also cited the *Geneva Conventions* while demanding the release of Wing Commander in Pak custody.

What is the Geneva Convention?

The 1949 Geneva Conventions are *a set of international treaties that ensure that warring parties conduct themselves in a humane way with non-combatants* such as civilians and medical personnel, as well as with combatants no longer actively engaged in fighting, such as prisoners of war, and wounded or sick soldiers. All countries are signatories to the Geneva Conventions. *There are four conventions, with three protocols added on since 1949*.

Does the captured pilot count as a prisoner of war?

The provisions of the conventions **apply in peacetime situations, in declared wars, and in conflicts that are not recognised as war by one or more of the parties**.

India has said its **airstrikes were a "non-military" intelligence-led operation** and therefore both sides are bound by the Geneva Conventions. **This means the IAF officer is a prisoner of war**, and his treatment has to be in accordance with the provisions for PoWs under the Geneva Conventions.

What are the provisions for PoWs?

The **treatment of prisoners of war is dealt with by the Third Convention or treaty**. The **Third Convention is unambiguous about how prisoners must be treated:** "humanely". And the responsibility for this lies with the detaining power, not just the individuals who captured the PoW.

1. Any unlawful act or omission by the Detaining Power causing death or seriously endangering the health of a prisoner of war in its custody is prohibited, and will be regarded as a serious breach of the present Convention.
2. In particular, **no prisoner of war may be subjected to physical mutilation or to medical or scientific experiments of any kind which are not justified by the medical, dental or hospital treatment of the prisoner concerned and carried out in his interest**.
3. Likewise, **prisoners of war must at all times be protected**, particularly against acts of violence or intimidation and against insults and public curiosity. Measures of reprisal against prisoners of war are prohibited," says Article 13 of the Convention.

What rights is a PoW entitled to?

Article 14 of the Convention lays down that PoWs are "entitled to in all circumstances to respect for their persons and their honour".

1. In captivity, a PoW must not be forced to provide information of any kind under "physical or mental torture, nor any other form of coercion".
2. Refusal to answer questions should not invite punishment.
3. A PoW must be protected from exposure to fighting.
4. Use of PoWs as hostages or human shields is prohibited, and a PoW has to be given the same access to safety and evacuation facilities as those affiliated to the detaining power.
5. Access to health facilities, prayer, recreation and exercise are also written into the Convention.
6. The detaining power has to facilitate correspondence between the PoW and his family, and must ensure that this is done without delays.
7. A PoW is also entitled to receive books or care packages from the outside world.

What do the provisions say about the release of prisoners?

Parties to the conflict "are bound to send back" or repatriate PoWs, regardless of rank, who are seriously wounded or sick, after having cared for them until they are fit to travel".

The conflicting parties are expected to write into any agreement they may reach to end hostilities the expeditious return of PoWs.

Previous such instances:

At the end of the 1971 war, India had more than 80,000 Pakistani troops who had surrendered to the Indian Army after the liberation of Dhaka. India agreed to release them under the Shimla Agreement of 1972. Pakistan can decide to send Wing Commander Abhinandan unilaterally, or negotiate his release with India.

In such situations, who monitors whether the Geneva Conventions are being followed?

The Geneva Conventions have a system of "Protecting Powers" who ensure that the provisions of the conventions are being followed by the parties in a conflict. In theory, ***each side must designate states that are not party to the conflict as their "Protecting Powers"***. In practice, the International Committee of the Red Cross usually plays this role.