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— Disclaimer —

The current affairs articles are segregated from prelims and mains perspective, such separation is maintained in terms of structure of articles. Mains articles have more focus on analysis and prelims articles have more focus on facts.

However, this doesn't mean that Mains articles don't cover facts and PT articles can't have analysis. You are suggested to read all of them for all stages of examination.

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info@iasscore.in   /gsscoreofficial

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8448496262

SECTION: A
(MAINS)

CURRENT AFFAIRS

INDIAN MARTIAL ARTS

CONTEXT

An Indian man in Singapore has won the top prize in a government-initiated competition for migrant workers for choreographing and performing a sequence of Silambam - a traditional martial art form practised in India since the 4th century BC

⊙ BACKGROUND

- The competition is part of the Tamil variety series Chill Pannu Maappi!, commissioned by the Ministry of Communication and Information

- Migrant workers were invited to send in video submissions of their talents

- Ganeansan started practising martial arts at the age of 12 and won a silver medal for India at the first Silambam World Championship in 2010.

⊙ ANALYSIS

Ancient text on Martial Arts

- The **Dhanurveda**, an ancient treatise on the science of archery and the art of warfare, enumerates the rules of archery, rules of bow- and arrow-making, and describes the uses of weapons and the training of the army.

- The **Yajurveda** highlights the importance of the science of archery and praises those who are well versed in it.

- Sections of the **Mahābhārata** describe wrestlers and wrestling and boxing bouts

- **Mallapurāṇa**, which was probably composed in Gujarat, listed various types and techniques of wrestling

- **Mānasollāsa**, an encyclopaedic work in Sanskrit, gives detailed information about various types of wrestlers and their training methods.

Different Martial Arts in India

- **Kalaripayattu**

  ➤ One of the oldest forms of martial arts, Kalaripayattu finds its origins in Kerala.

  ➤ It can be performed with bare hands or using swords.

  ➤ Believed to have been introduced by Parasurama this art form includes strikes and kicks.

  ➤ Footwork is the most important aspect of Kalaripayattu, where Kalari means a training hall or school and 'payattu' translates to practice.

- **Gatka**

  ➤ Originating from Punjab this martial art is believed to have introduced by the Sikh warriors. Its earlier version, called Shastar Vidya, was banned by the British after the Anglo-Sikh wars.

  ➤ However, Gatka remains in the spirit and moves very much like the original art form, though its weapons have changed over time.

  ➤ Gatka is performed, using sticks, kirpan, swords and kataar.

- **Silambam**

  ➤ From Tamil Nadu, Silambam uses animal movements as a form of attack and defence. It is becoming an increasingly popular art form, especially with women who want to learn the different self-defence moves to protect themselves.

  ➤ A long stick or staff is used for mock fights or practice. Silambam is also one of the oldest martial art forms that use footwork and attack the body at different levels such as a snake, hawk, tiger, or monkey would. There is a use of force and smart strategies.

- **Mardaani Khel**

  ➤ Originating from Maharashtra, this is a weapon-based art form. Mardaani Khel saw its emergence and growth during the Maratha Empire.

  ➤ After the 1857 Revolt, the British banned martial art, and it was kept alive in the form of a folk game.

  ➤ However, today its moves and weapons are less dangerous and lethal. The weapons used included bamboo sticks, daggers, javelin, darts, and swords.

- **Thang-Ta and Sarit Sarak**

  ➤ This martial art form is from Manipur where 'thang' means a sword, and 'ta' means the spear.

  ➤ Sarit Sarak, on the other hand, is the unarmed art form. Thang-Ta is also called Huyen Lallong and is practised using other weapons, such as axes and shields.

  ➤ The sword, however, remains Thang Ta's most revered possession with numerous moves that teach the trainee various techniques and drills.

- **Thoda**
  - ➤ From Himachal Pradesh, this art form uses bows and arrows. Thoda means a wooden piece attached to the head of an arrow.
  - ➤ This martial art is also performed as a cultural and sporting activity.
  - ➤ Closely related to the legends of Mahabharata the Thoda game is played with two teams with 500 players in each. Not all are archers but are also dancers that help boost the morale of the team.

- **Lathi Khel**
  - ➤ Finding its roots in Punjab and Bengal, the Lathi Khel is a form of martial arts that uses the oldest weaponry, the 'lathi' or stick for combat.
  - ➤ The stick can be used and wielded in different ways to make the blow lethal or light. The Indian Police uses the Lathi to date as a potent weapon.

- **Pari-Khandaa**
  - ➤ This martial art form, from Bihar, was created by the Rajputs. Pari means the shield and khanda means sword.
  - ➤ The moves, technique, and steps, are also used in the famous Chhau dance of Bihar.

- **Musti Yuddha**
  - ➤ This unarmed martial art finds its origins in Varanasi. Punches, kicks and strikes are the arts fiercest weapons, and though this art form is not so popular today, it was at its peak during the Middle Ages.

- **Kuttu Varisai**
  - ➤ Again an unarmed art form, Kuttu Varisai concentrates on grappling and locking techniques.
  - ➤ Popular in South India this art form uses many steps from yoga and gymnastics.

- **Sqay**
  - ➤ Practised in Kashmir, Sqay uses armed as well as unarmed combat moves. The sword or Tora, is paired with the shield or Bargula.
  - ➤ Competitions require a blue uniform and a belt on the waist, along with standard approved size of swords.

- **Kushti**
  - ➤ Traditional wrestling or Kushti is perhaps the most popular and ubiquitous martial art form.
  - ➤ Popularized by movies, Kushti began during the Mughal Era where the local sport called, Malla Yuddha, was combined with the Persian equivalent Varzesh-e-Bastani.

⦿ CONCLUSION

India is the land of many martial art forms that need to be encouraged and learned by future generations. With karate, taekwondo, and Kung Fu courses available in schools and other training institutions, it is time that the Indian martial arts also find a rightful place. The first step is being aware of their existence. Several martial artists practice these Indian martial art forms. It is also time to give them recognition and learn from them before it is too late.

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MINISTRY OF COOPERATION

CONTEXT

In a historic move, a separate 'Ministry of Co-operation' has been created by the government for realizing the vision of 'Sahkar se Samriddhi'. This ministry will provide a separate administrative, legal and policy framework for strengthening the cooperative movement in the country.

◉ BACKGROUND

- The co-operative movement of India is the largest in the world. It has given birth to different kinds of co-operative societies in different spheres like producer's co-operatives, consumer's cooperatives, tribal co-operatives etc

- The Central Government has signalled its deep commitment to community based developmental partnership.

- Creation of a separate Ministry for Co-operation also fulfils the budget announcement made by the Finance Minister.

◉ ANALYSIS

What is Cooperative Society?

- It is an autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspiration through jointly owned and democratically controlled enterprises.

- Co-operative societies are service enterprises aiming at rendering service to its members. In one sentence the philosophy of cooperation can be summed up as "each for all and all for each".

Historical Developments for Cooperatives

- **Cooperative Credit Societies Act, 1904:** As its name suggests, the Cooperative Credit Societies Act was restricted to credit cooperatives. By 1911, there were 5,300 societies in existence with a membership of over 3 lakhs

- **Cooperative Societies Act, 1912:** The Act also provided for Federations of cooperatives.

- **Maclagen Committee on Cooperation (1914):** It recommended building up a strong three-tier structure in every province to provide short-term and medium-term finance.

- **Government of India Act, 1919:** Cooperation as a subject was transferred to the provinces. Societies were organized, but most faced difficulties in operation as a result of opposition by private marketing agencies

- **Multi-Unit Cooperative Societies Act, 1942:** delegated the power of the Central Registrar of Cooperatives to the State Registrars for all practical purposes.

- **Model Cooperatives Act, 1990**: The Eighth Five Year Plan (1992-1997) laid emphasis on building up the cooperative movement as a self-managed, self-regulated and self-reliant institutional set-up, by giving it more autonomy and democratizing the movement.

- **Multi-State Cooperative Societies Act, 2002**: The Multi-State Cooperative Societies (MSCS)Act, enacted in 1984, was modified in 2002, in keeping with the spirit of the Model Cooperatives Act, 1990

- **National Cooperative Policy, 2002**:
  - ➤ The objective of the Policy is to facilitate an all round development of cooperatives in the country.
  - ➤ The policy promises to provide cooperatives with the necessary support, encouragement and assistance, to ensure their functioning as autonomous, self-reliant and democratically managed institutions and accountable to their members.

Challenges Faced By the Cooperative Sector

- **Membership**
  - ➤ Ensuring 'Active' member participation and enabling speedy exit of non-user members has remained a daunting task for cooperatives

- **Governance**
  - ➤ governance issues are primarily focused on the structure of the Board and its relationship with members, managers and the State

- **Lack of Recognition of Cooperatives as Economic Institutions**
  - ➤ The lack of recognition of cooperatives as economic institutions meant to serve the needs of its members.
  - ➤ The general perception has been that cooperatives are instruments of government meant for public good and therefore need to be supported by the government.

- **Board and Management Interface and Accountability**
  - ➤ cooperative Boards suffer from lack of long-term perspective, market and business

orientation, understanding of the cooperative way of business and how it differs from other enterprises, awareness about the environment

➤ In a large number of cooperatives, Board and executive functions are not clearly demarcated, often leading to identity conflicts

◉ **Operations**

➤ Professionalization and Accountability

➤ Capital

➤ Linkages and Competitiveness

◉ **Other challenges**

➤ Accessibility to Finance/Credit Services by Members

➤ Accessibility to Finance/Credit Services by Members

➤ Politicization of Cooperatives and Control/ Interference by Government

Importance of Cooperatives

◉ **Voluntary organization**

➤ The membership of a cooperative society is open to all. Any person with common interest can become a member.

➤ The membership fee is kept low so that everyone would be able to join and benefit from cooperative societies.

◉ **Ease of formation**

➤ Cooperatives can be formed much easily when compared to a company.

◉ **Democracy**

➤ A co-operative society is run on the principle of 'one man one vote'. It implies that all members have equal rights in managing the affairs of the enterprise.

◉ **Each for all and all for each**

➤ Co-operative societies are formed on the basis of self help and mutual help. Therefore members contribute their efforts to promote their common welfare.

◉ **Government support**

➤ The government with a view to promote the growth of cooperative societies extends all

support to them. It provides loans at cheap interest rates, provides subsidies etc.

◉ **Elimination of middlemen**

➤ Cooperatives societies can deal directly with the producers and with the ultimate consumers. Therefore they are not dependent on middlemen and can save the profits.

◉ **Rural credit**

➤ Co-operative societies have contributed significantly in freeing villagers from money lenders. Earlier, money lenders used to charge high rates of interest and the earnings of the villagers were spent on payment on interest alone.

◉ **Role in agricultural progress**

➤ They serve as a link between the government and agriculturists. High yielding seeds, fertilizers, etc. are distributed by the government through the cooperatives.

◉ **Encourages thrift**

➤ Cooperative societies encourage the habit of savings and thrift among their members. They provide loans only for productive purposes and not for wasteful expenditure.

◉ **Fair price and good quality**

➤ Co-operative societies buy and sell in bulk quantities directly from the producers or to the consumers. Products are processed and graded before they are sold. Bulk purchases and sales ensure fair prices and good quality.

◉ **Social benefit**

➤ Co-operative societies have played an important role in changing social customs and curbing unnecessary expenditure. The profits earned by the co-operatives have been used for providing basic amenities to the society.

◉ CONCLUSION

In our country, a Co-operative based economic development model is very relevant where each member works with a spirit of responsibility. The formation of new ministry will give a massive boost to co-operative movement and create a true people's momentum for development

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SECTION 66A OF IT ACT: SHREYA SINGHAL CASE

CONTEXT

The Supreme Court recently issued a notice to the Centre on the use of Section 66A of the IT Act that was scrapped several years ago and said that it is shocking that the judgment striking down the law has not been implemented even now.

◉ **BACKGROUND**

- The notice came during the hearing of a plea filed by PUCL that pointed out that even after 7 years of the law being struck down, as of March 2021, a total of 745 cases are still pending and active before the district courts in 11 states, wherein the accused persons are being prosecuted for offences under Section 66A of the IT Act.

- The plea is based on data collated by the Internet Freedom Foundation, which has been tracking cases under the "Zombie provisions" which have been declared invalid but are still being used by police to prosecute people.

- It shows that even after March 2015, after the Shreya Singhal Judgment which struck down Section 66A, 1,307 cases were registered under the law.

◉ **ANALYSIS**

What is section 66A of IT Act, 2000 ?

Punishment for sending offensive messages through communication service, etc.–Any person who sends, by means of a computer resource or a communication device,–

- any information that is grossly offensive or has menacing character; or

- any information which he knows to be false, but for the purpose of causing annoyance, inconvenience, danger, obstruction, insult, injury, criminal intimidation, enmity, hatred or ill will, persistently by making use of such computer resource or a communication device;

- any electronic mail or electronic mail message for the purpose of causing annoyance or inconvenience or to deceive or to mislead the addressee or recipient about the origin of such messages, shall be punishable with imprisonment for a term which may extend to three years and with fine

Reasons to struck down Section 66A

- rights under Articles 14 and 21 are breached inasmuch there is no intelligible differentia between those who use the internet and those who by words spoken or written use other mediums of communication

- Section 66A infringes the fundamental right to free speech and expression and is not saved by any of the eight subjects covered in Article 19(2), the causing of annoyance, inconvenience, danger, obstruction, insult, injury, criminal intimidation, enmity, hatred or ill-will are all outside the purview of Article 19(2)

- None of the aforesaid terms are even attempted to be defined and cannot be defined, the result being that innocent persons are roped in as well as those who are not.

- Right of viewers is infringed as such chilling effect would not give them the benefit of many shades of grey in terms of various points of view that could be viewed over the internet.

Shreya Singhal Judgement's Order

- Section 66A of the Information Technology Act, 2000 is struck down in its entirety being violative of Article 19(1)(a) and not saved under Article 19(2).

- Section 69A and the Information Technology (Procedure & Safeguards for Blocking for Access of Information by Public) Rules 2009 are constitutionally valid.

- Section 118(d) of the Kerala Police Act is struck down being violative of Article 19(1)(a) and not saved by Article 19(2).

Why we need a regulatory mechanism for online media?

- S.66A has proved to be a useful remedy, particularly in situations of sensitive nature concerning religious and communal sentiment; for instance the episode of the exodus of north-east students from Bangalore where the Police Authorities were forced to take recourse to S.66A to avoid spreading of rumours circulated to incite violence against persons of the north eastern community.

- S.66A provided an opportunity to genuine victims of cyber harassment to obtain immediate relief against content that may be insulting or injurious in nature, abrogation of which has now made Police authorities toothless in dealing with the growing menace of cyber bullying.

- A multi-racial, multi-cultural country like India, where free speech is susceptible to misuse on sensitive grounds of communal, political and

religious bias, is not prepared for such an absolute and unrestrained right.

Creating a balance between granting a right and preventing its misuse

◉ It would be have been more desirable to establish elaborate thresholds for the Court to be able to determine the parameters within which to review the liberty to exercise one's right to free speech; for instance, its intent and context, severity or range of its impact, its probability of creating public unrest, insult, etc.

◉ The Judiciary being an independent body, free of political or commercial influences can ideally prescribe an extensive mechanism that effectively balances the right to free speech while also safeguarding the right to protect one's privacy and reputation by appropriately countering harmful content online.

◉ The intent and object behind the S.66A and the constant need for monitoring the harmful effects of unrestricted free speech should have been borne in mind by the Bench while also ensuring that exaggerated and frivolous allegations with vested interests are restrained.

◉ Considering the promptness and range with which information goes viral in today's times, the Court should have taken this case as an opportunity to answer the question as to which categories and forms of freedom of expression should be reasonably restricted.

◉ CONCLUSION

Every law is vulnerable to exploitation. Mere prospect of abuse should not have been the ground for removing an essential provision in totality because almost every other legal provision will then be liable to be removed by the same logic. Seeing as the right to free speech in consonance with right to protect one's dignity and reputation is a basic right, this case might have been an appropriate opportunity for the Court to propose a workable distinction between protecting rights and restricting them.

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NEW APP FOR FISHERIES SECTOR

CONTEXT

Union Minister for Fisheries, Animal Husbandry and Dairying, launched a new exclusive app — the Matsya Setu app — which promises to be of great help to all those wanting to become aqua farmers. This has brought to our focus a deeper analysis of Indian Fisheries' industry.

⊙ BACKGROUND

- India has a coastline of 7 516 km, an Exclusive Economic Zone (EEZ) of 2.02 million km², and more than 1 billion people (nearly 20 percent) live in the coastal areas.

- Fisheries and aquaculture play an important role in its economy and livelihood.

- According to the last estimates for 2017, the sector provided about 13 million jobs (4.1 million in aquaculture, 6.3 millions in inland capture, 1.9 million in marine capture and 0.5 million for others including subsistence)

- Women representing about 32 percent of the people employed in the sector.

⊙ ANALYSIS

About the app

- The app was developed by the ICAR-Central Institute of Freshwater Aquaculture (ICAR-CIFA), Bhubaneswar, with the funding support of the National Fisheries Development Board (NFDB), Hyderabad.

- The online course app aims to disseminate the latest freshwater aquaculture technologies to the aqua farmers of the country.

- Matsya Setu app has species-wise/ subject-wise self-learning online course modules, where renowned aquaculture experts explain the basic concepts and practical demonstrations on breeding, seed production and grow-out culture of commercially important fishes like carp, catfish, scampi, murrel, ornamental fish, pearl farming etc

Schemes for Fisheries sector

- Pradhan Mantri Matsya Sampada Yojana

  ➤ A scheme to bring about Blue Revolution through sustainable and responsible development of fisheries sector in India at an estimated investment of Rs. 20050 crores for holistic development of fisheries sector including welfare of fishers. PMMSY is being implemented in all the States and Union Territories for a period of 5 years from FY 2020-21 to FY 2024-25.

  ➤ PMMSY is designed to address critical gaps in the fisheries value chain from fish production, productivity and quality to technology, post-harvest infrastructure and marketing. It aims to modernize and strengthen the value chain, enhance traceability and establish a robust fisheries management framework while simultaneously ensuring the socio-economic welfare of fishers and fish farmers.

- Blue Revolution

  ➤ The Ministry of Agriculture and Farmers Welfare, Department of Animal Husbandry, Dairying & Fisheries has restructured the scheme by merging all the ongoing schemes under an umbrella of Blue Revolution.

  ➤ The restructured scheme provides focused development and management of fisheries, covering inland fisheries, aquaculture, marine fisheries including deep sea fishing, mariculture and all activities undertaken by the National Fisheries Development Board (NFDB).

  ➤ Components covered: (a) National Fisheries Development Board (NFDB) and its activities, (b) Development of Inland Fisheries and Aquaculture, (c) Development of Marine Fisheries, Infrastructure and Post-Harvest Operations, (d) Strengthening of Database & Geographical Information System of the Fisheries Sector, (e) Institutional Arrangement for Fisheries Sector and (f) Monitoring, Control and Surveillance (MCS) and other need-based Interventions. (g) National Scheme of Welfare of Fishers

- Fisheries and Aquaculture Infrastructure Development Fund

  ➤ Creation and modernization of capture & culture fisheries infrastructure

  ➤ Creation of Marine Aquaculture Infrastructure

  ➤ Creation and modernization of Inland Fisheries Infrastructure

  ➤ Reduce post-harvest losses and improve domestic marketing facilities through infrastructure support.

  ➤ To bridge the resource gap and facilitate completion of ongoing infrastructure projects.

Fisheries problems and challenges

- Due to the poverty of fishermen they not able to use latest technology still now days also they follow traditional fishing

- Poor infrastructure and lack of cold storage facility in their boats they not able to give fresh fish so the quality of fish comes down and the rate also down.

- In deep sea fishing private owners are play sufficient role with mechanized boats with latest technology

- Due to the lack of training, the quality of fish feed is getting poor in now a days

- Without latest equipment like GPRS they don't know about miles or kilometres into the sea and enter hostile sea areas

Remedial Measures

- Regulating usage of plastic bags, avoid dropping of industrial and sewage waste in and around seashore areas.

- To encourage the research and development to support small scale fisheries sector.

- Generate awareness about the new technology, healthy fish feed and provide efficient financial support from government to brought new equipments.

- Joint patrolling and provide GPRS support around the maritime boundaries should reduce the arrest and killing incident of border crossing.

- Provide adequate incentives to encourage the growth of export.

⊙ CONCLUSION

The implementation of the Code of Conduct for Responsible Fisheries could facilitate sustainable utilization of fishery resources and hence to overcome constraints in facing the above-mentioned challenges. In the long term, however, there is the need to develop national and regional fishery governance to ensure rational and effective fisheries management in the region.

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ETHICS IN COSMETIC SURGERY

CONTEXT

Cosmetic doctors and plastic surgeons around the world have reported surges in bookings for surgical and non-surgical treatments following lockdown. This also brings to focus broad ethical issues involving surgeon, patient and society as major stakeholders.

⊙ BACKGROUND

- Aesthetic plastic surgery has become extremely popular. It could be due to an increase in demand by consumers.

- Some view aesthetic plastic surgery as a solution for issues in their lives.

- Active and aggressive media, which were almost absent 50 years ago, have made our society ambitious and globalized the perception of what is attractive and desirable.

- The abuse of ethical principles in plastic surgery has become more noticeable, especially where the mental and emotional state of the patient is a concern.

⊙ ANALYSIS

Cosmetic and Reconstructive Surgery

- Cosmetic surgery is a surgical expertise that aims at correcting or improving body imperfections.

- These may be congenital, acquired, due to illness, or due to traumatic or para-physiological events such as aging.

- Cosmetic surgery also includes surgical procedures requested by patients to improve their appearance.

- In this regard, cosmetic surgery differs from reconstructive surgery, which deals with the treatment of morphological alterations that can be related to pathological conditions

- If, on one hand, the aesthetic dimension cannot be ignored in reconstructive surgery, then on the other hand, reconstructive surgery is strictly required in any cosmetic surgery.

Cosmetic Surgery being unethical

- If ethical principle of 'first do no harm' is followed then cosmetic surgery or any surgical specialty would be unethical.

- The patient develops suffering through several stages: the perception of the image, the processing of distress, finding imperfections, and attempting to search for possible solutions by appealing to the doctor.

- Cosmetic surgery is not available to all, based on personal finances, and therefore does not meet this ethical requirement of justice- being fair and equitable.

- It exposes patients to unneeded and unjustified risk, for example, risk of infection, risk of anaesthesia side effects, and even risk of death.

- It is wasteful of resources that could be used for better purposes, for example, curing illness, improving education, or reducing poverty.

- In the long run, it does not change other people's opinions of you. The people who matter, if they liked you before surgery, then they will still like you after surgery.

- The key role of the body, which is fragmented and manipulated, implies the risk of objectification, both by the physician and by the patient.

- Distorts the traditional relationship between doctors and diseased patients into one between doctor and a healthy individual who deliberately chooses to undergo clinically unwarranted surgery.

Arguments in favour

- Due to the affirmation of a wider notion of health, which also includes the psychological well-being of individuals, and therefore lead to the recognition of a therapeutic function for cosmetic surgery.

- The request for an intervention that aims at improving the physical and psychological well-being of the person, therefore, cannot be labelled as a heteronomous evaluation, but needs to be considered as an expression of the full and conscious self-determination of the person

- It is also called "the surgery of the soul." It should be noted that the effects of plastic surgery are not simply the result of the search for external perfection, implemented through the correction of a physical defect, but have consequences on individuals in their entirety, that is, body and spirit.

- Since patients are responsible for the cost of their own care, then cosmetic surgery does not affect the overall availability of health care resources.

What needs to be done?

⊚ A full understanding of the desires of the patient, who is aware and fully accepting of the risks related to the surgical procedure

⊚ An understanding that every surgical procedure itself, although it may be modified, cannot be reversed, and in fact results in permanent physical alteration with enduring marks (scars that cannot be completely eliminated).

⊙ CONCLUSION

In order to address this ethical dilemma, the contemplated cosmetic procedure needs to undergo a risk-benefit analysis collaboratively by the patient and surgeon otherwise cosmetic surgery will be recognized as 'crazy surgery'.

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SECTION: B
(PRELIMS)

CURRENT AFFAIRS

WATER WARS OF ANDHRA PRADESH AND TELANGANA

⊙ **CONTEXT:**   An ongoing jalajagadam (fight over water resources), once again drew the police forces of Andhra Pradesh and Telangana into a tense standoff at the common reservoirs of the two states.

About the water dispute between Andhra Pradesh and Telangana

- There are disagreements over the sharing of the Krishna river water between the two states.

- **Andhra Pradesh concern:** Andhra Pradesh alleges that Telangana has been drawing Krishna water from four projects — Jurala, Srisailam, NagarjunaSagar, and Pulichintala — for hydropower generation without approvals from the **Krishna River Management Board (KRMB).**

- KRMB is an autonomous body that was set up after the bifurcation of the state, to manage and regulate the waters in the Krishna basin.

- It is also accused that the water is used for power generation is being wasted by releasing it into the Bay of Bengal.

- **Telangana's concern:** It has opposed the irrigation projects of the Andhra Pradesh government, especially the **Rayalaseema Lift Irrigation Project (RLIP)**, which it claims is illegal.

Distribution of water between the two states

- The two states agreed to split the water share **66:34** on **an ad hoc basis** until the **Krishna Water Disputes Tribunal-2** decided the final allocation.
- Telangana has called for a **50:50** allocation of water from the Krishna River.

How the river water disputes are resolved?

- In the case of Telangana, the 3 member dispute resolution committee could not arrive at any decision.
- Telangana wants the Krishna Water Disputes Tribunal-2 to permanently settle the water dispute; in the meantime.
-
- The Interstate River Water Disputes Act, 1956 (IRWD Act) is an act under Article 262 of the Constitution.
- Under the Act, a state government may request the central government to refer an inter-state river dispute to a Tribunal for adjudication.
- The Tribunal will consist of a Chairperson, Vice-Chairperson, three judicial members, and three expert members. They will be appointed by the central government on the recommendation of a Selection Committee.
- The Tribunal must give its decision within three years, which may be extended by two years.
- Under the Act, if the matter is again referred to the Tribunal by a state for further consideration, the Tribunal must submit its report to the central government within one year.
- This decision has the same force as that of an order of the Supreme Court.

KRISHNA WATER DISPUTES TRIBUNAL-II

- In 2004, the Central Government has constituted Krishna Water Disputes Tribunal (KWDT) for adjudicating a dispute between the States of Maharashtra, Karnataka, and erstwhile Andhra Pradesh under Section 4 of the Inter-State River Water Dispute (ISRWD) Act, 1956.
- The Tribunal has given its report and decision in 2010.
- Tribunal is currently hearing the disputes on matters related to the newly created State of Telangana and Andhra Pradesh.

OPEN NETWORK FOR DIGITAL COMMERCE (ONDC)

⊙ **CONTEXT:** **The Department for Promotion of Industry and Internal Trade (DPIIT) issued orders appointing an advisory committee for its Open Network for Digital Commerce (ONDC).**

What is Open Network for Digital Commerce (ONDC)?

- The project is aimed at curbing "digital monopolies".
- This is a step in the direction of making e-commerce processes open-source, thus creating a platform that can be utilized by all online retailers.
- ONDC aims at **promoting open networks** developed on **open-sourced methodology**, using open specifications and open network protocols, independent of any specific platform.

What is open-source?

- Making a software or a process open-source means that the code or the steps of that process is made available freely for others to use, redistribute and modify.

- An open-source project means that anybody is free to use, study, modify and distribute the project for any purpose.

- These permissions are enforced through an open-source licence easing adoption and facilitating collaboration.

- For example, while the operating system of Apple's iPhones — iOS — is closed source, meaning it cannot be legally modified or reverse engineered.

- Google's Android operating system is open-source, and therefore it is possible for smartphone OEMs such as Samsung, Xiaomi, OnePlus, etc to modify it for their hardware.

What are the benefits of ONDC?

- ONDC is expected to digitize the entire value chain, standardize operations, promote inclusion of suppliers, derive efficiency in logistics and enhance value for consumers.

What will be the Impact of ONDC on business?

- **On smaller companies:**
  - If the ONDC gets implemented and mandated, it would mean that all e-commerce companies will have to operate using the same processes.
  - This could give a huge booster shot to smaller online retailers and new entrants.

- **On big companies:**
  - If mandated, this could be problematic for larger e-commerce companies, which have proprietary processes and technology deployed for these segments of operations.

NIPUN BHARAT MISSION LAUNCHED

⊙ **CONTEXT:** **The Department of School Education and Literacy, Ministry of Education has launched National Initiative for Proficiency in Reading with Understanding and Numeracy (NIPUN Bharat).**

About the NIPUN Bharat Mission

- It is among the series of measures taken for implementation of the National Education Policy 2020.

- The vision of NIPUN Bharat Mission is to create an enabling environment to ensure the universal acquisition of foundational literacy and numeracy, so that every child achieves the desired learning competencies in reading, writing, and numeracy by the end of Grade 3, by 2026-27.

- NIPUN Bharat will be implemented by the Department of School Education and Literacy.

- It is basically a goal oriented set of targets or lakshyas for foundational literacy and numeracy.

- The Laskhyas are based on the learning outcomes developed by the NCERT and international research and ORF studies.

- There will be a special emphasis on capacity building of teachers. A special package for foundational literacy and Numeracy under NISHTHA is being developed by NCERT

and around 25 lakh teachers teaching at pre-primary to primary grade will be trained this year on FLN.

- A five-tier implementation mechanism will be set up at the National- State- District- Block- School level in all States and UTs, under the aegis of the centrally sponsored scheme of SamagraShiksha.

Expected Outcomes under the Mission

Following outcomes have been envisaged from implementation of the goals and objectives of NIPUN Bharat Mission:

- Foundational skills enable to keep children in class thereby reducing the dropouts and improve transition rate from primary to upper primary and secondary stages.

- Activity based learning and conducive learning environment will improve quality of education.

- Innovative pedagogies such as toy-based and experiential learning will be used in classroom transaction thereby making learning a joyful and engaging activity.

- Intensive capacity building of teachers will make them empowered and provide greater autonomy for choosing the pedagogy.

- Holistic development of the child by focusing on different domains of development like physical and motor development, socio-emotional development, literacy and numeracy development, cognitive development, life skills etc. which are interrelated and interdependent, which will be reflected in a Holistic Progress Card.

- Children to achieve steeper learning trajectory which may have positive impacts on later life outcomes and employment.

- Since almost every child attends early grades, therefore, focus at that stage will also benefit the socio-economic disadvantageous group thus ensuring access to equitable and inclusive quality education.

Samagra Shiksha Scheme

- It is a centrally sponsored scheme.
- **Implenting agency:** Department of School Education and Literacy
- It is a sector-wide development program to help to harmonize the implementation mechanisms and transaction costs at all levels, particularly in using state, district, and sub-district level systems.
- The Integrated Scheme envisages the 'school' as a continuum from pre-school, primary, upper primary, secondary to senior secondary levels.
- The vision of the Scheme is to ensure inclusive and equitable quality education from pre-school to senior secondary stage following the **Sustainable Development Goal (SDG) for Education.**

INDIA JOINS OECD/G20 INCLUSIVE FRAMEWORK TAX DEAL

⊙ **CONTEXT:**   **India with some other members of OECD/G20 Inclusive Framework on Base Erosion and Profit Shifting (BEPS) adopted a high-level statement containing an outline of a consensus solution to address the tax challenges arising from the digitalization of the economy.**

About the Base erosion and profit shifting (BEPS)

- **Base erosion and profit shifting (BEPS)** refers to tax planning strategies used by multinational enterprises that exploit gaps and mismatches in tax rules to avoid paying tax.

- This undermines the fairness and integrity of tax systems because businesses that operate across borders can use BEPS to gain a competitive advantage over enterprises that operate at a domestic level.

- Developing countries' higher reliance on corporate income tax means they suffer from BEPS disproportionately.

- BEPS practices cost countries USD 100-240 billion in lost revenue annually.

The OECD/G20 Inclusive Framework on BEPS

- Working together within **OECD/G20 Inclusive Framework on BEPS**, 139 countries and jurisdictions are collaborating on the implementation of 15 measures to tackle tax avoidance, improve the coherence of international tax rules and ensure a more transparent tax environment.

- **The tax deal:** The deal consists of two components
    - **Pillar One**, which is about reallocation of an additional share of profit to the market jurisdictions
    - **Pillar Two**, consisting of minimum tax and subject to tax rules

- Some significant issues including share of profit allocation and scope of subject to tax rules, remain open and need to be addressed.

Impact on India

- The principles underlying the solution vindicates India's stand for a greater share of profits for the markets, consideration of demand-side factors in profit allocation, the need to seriously address the issue of cross-border profit shifting, and the need for subject to tax rule to stop treaty shopping.

Steps to be taken by India

- India is in favor of a consensus solution that is simple to implement and simple to comply with.

- The solution should result in the allocation of meaningful and sustainable revenue to market jurisdictions, particularly for developing and emerging economies.

- India will continue to be constructively engaged in reaching a consensus-based ready to implement the solution with **Pillar one** and **Pillar two** as a package and contribute positively to the advancement of the **international tax agenda.**

BLACK CARBON LINKED TO PREMATURE MORTALITY

⊙ **CONTEXT:** **According to a study that tracked mortality rates, Black Carbon was most associated with premature mortality.**

- The study was funded by the **Department of Science and Technology (DST).**

About the Key findings of the study

- It has serious health impacts in terms of mortality due to BC aerosol exposure that have never been evaluated in India.

- The Indo-Gangetic plain has a high burden of black carbon with serious implications for regional climate and human health.

- Several cities in this belt routinely find themselves at the top of the list of the most polluted cities in India as well as the world.

- A 10-point increase in air pollution from black carbon led to an average 5% increase in mortality whereas a similar rise in PM 2.5 led to an average 1% increase in mortality.

- Nitrogen dioxide (NO2) and Sulphur Dioxide (SO2) were both associated with a 2.3% and 1.3% increase in mortality.

- The detrimental effect of pollutants was higher for males, age group 5-44 years and, in winter.

- The adverse effect of air pollutants was not limited to the current day of exposure but could extend to as late as five days after exposure.
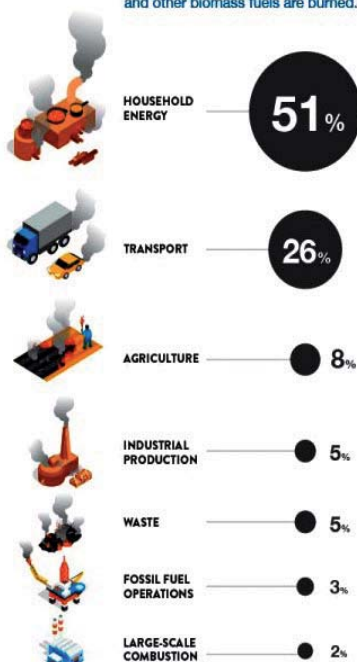

What is Black Carbon?

- **Black carbon**(**BC**) is a component of fine particulate matter (PM ≤ 2.5 μm).

- Black carbon consists of pure carbon in several linked forms. It is formed through the incomplete combustion of fossil fuels, biofuel, and biomass.

- It is one of the main types of particle in both anthropogenic and naturally occurring soot.

- Black carbon results from the incomplete burning of fossil fuel.

- It's a relatively short-lived pollutant in the atmosphere but influences cloud formation and atmospheric heat absorption processes.
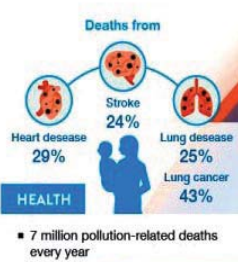

BLACK CARBON (BC)

Black carbon, or soot, is part of fine particulate air pollution (PM₂.₅) and contributes to climate climate.

SOURCES

Black carbon is one of many particles and gases that are emitted when diesel, coal, and other biomass fuels are burned.

Source	%
HOUSEHOLD ENERGY	**51**%
TRANSPORT	**26**%
AGRICULTURE	8%
INDUSTRIAL PRODUCTION	5%
WASTE	5%
FOSSIL FUEL OPERATIONS	3%
LARGE-SCALE COMBUSTION	2%

IMPACTS

CLIMATE
Absorbs sunlight and converts it to heat

Deaths from
- Heart desease 29%
- Stroke 24%
- Lung desease 25%
- Lung cancer 43%

HEALTH
- 7 million pollution-related deaths every year

LIFETIME IN ATMOSPHERE:
UP TO 2 WEEKS

Since black carbon does not last long in the atmosphere, efforts to reduce it will bring immediate benefits for the climate and human health.

SNOW & ICE
Accelerates the melting of snow and ice

WEATHER
- Prevents clouds from being formed
- Alters regional weather patterns and rainfall

AGRICULTURE & ECOSYSTEMS
- Reduces sunlight
- Affects plant health and productivity
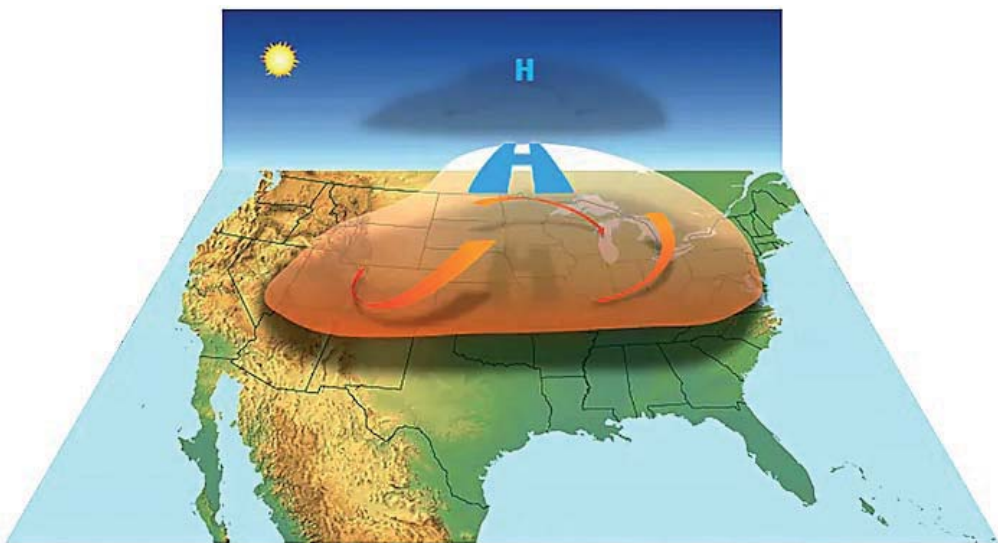
HEAT DOME IN CANADA AND NORTH AMERICA

⊙ **CONTEXT:**   **A higher degree of temperatures, more than 46-47 degrees Celsius, was recently registered from different parts of Canada and North America. Earlier these highest temperatures were registered in August 1981 and July 1965.**

- These high ranges of temperature are **part of a "historic" heatwave**, a result of a phenomenon referred to as a "**heat dome".**

About the heat dome

- A heat dome occurs when the atmosphere traps hot ocean air like a lid or cap.

- This happens when strong, high-pressure atmospheric conditions combine with influences from La Niña, creating vast areas of sweltering heat that get trapped under the high-pressure "dome."

- The main cause was a strong change (or gradient) in ocean temperatures from west to east in the tropical Pacific Ocean during the preceding winter.

What causes a heat dome?

- The National Oceanic and Atmospheric Administration (NOAA) says that to understand what causes a heat dome, one should liken the Pacific ocean to a large swimming pool in which the heater is turned on.

- Once the heater is on, the portions of the pool close to the heating jets will warm up faster and therefore, the temperature in that area will be higher.

- In the same way, the western Pacific ocean's temperatures have increased in the past few decades and are relatively more than the temperature in the eastern Pacific.

- This strong change in ocean temperature from the west to the east is the reason for the heat dome, which is when the atmosphere traps heat at the surface, which encourages the formation of a heatwave.

Are heat-waves dangerous for humans?

- As long as the body is producing sweat, which is then able to evaporate quickly, the body will be able to remain cool even under high temperatures.

- But, there is a limit to this, a limit called the **wet-bulb temperature**–that considers heat and humidity–beyond which humans cannot tolerate high temperatures.

- Some heat-related illnesses include heat stroke, heat exhaustion, sunburn and heat rashes.

- Sometimes, heat-related illnesses can prove fatal.

Is this heat wave a result of climate change?

- A study has found that the heat-wave in Pacific Northwest would have been "virtually impossible" without climate change.

- Scientists said climate change had made such a heat wave in the region 150 times more likely.

- The extraordinary temperatures were a one-in-a-thousand-year event, but if current greenhouse gas emissions continue, an event so extreme could start occurring every five to 10 years by the 2040s.

THREATS TO MUGGER CROCODILE IN SATKOSIA GORGE SANCTUARY

⊙ **CONTEXT:**
The recent death of Mugger crocodile (Crocodyluspalustris) in Odisha has raised concerns regarding the threats to the species in Satkosia Gorge Sanctury.

About the Mugger Crocodile

- It is a **medium-sized broad-snouted crocodile** native to freshwater habitats.

- The species feeds on insects, fish, reptiles, birds, and mammals.

- Mugger crocodiles are covered under **Schedule I** of the **Indian Wildlife (Protection) Act, 1972.**

- Since 1982, the species has been marked **'vulnerable'** in the **International Union for Conservation of Nature Red List of Threatened Species.**

- India is home to three primary species of crocodile:

    ⊙ **Mugger or Marsh Crocodile (*Crocodyluspalustris*)** is found in lakes and rivers throughout the country.

    ⊙ **Saltwater crocodile (*porosus*)** is found along the eastern coast of the country and the Nicobar and Andaman Islands.

    ⊙ **Gharial (*Gavialisgangeticus*)** is found in river areas.

Satkosia Gorge Sanctuary

- Satkosia Gorge Sanctuary is spread over 795.52 square kilometers across four districts: Angul, Budh, Cuttack, and Nayagarh in Odisha.

- Satkosia Gorge Sanctuary owes its name to the narrow stretch of **River Mahanadi.**

- Mahanadi has cut across the **Eastern Ghats** and is known for **Gharials, Mugger crocodile and rare fresh water turtles like Chitraindica and Trionyx.**

- The water bodies of Satkosia are home to around 108 muggers, according to the **2021 census.**

Plausible Threats to crocodiles

- Choking by fishing nets

- **Blast fishing**

- Illegal trade

- construction of dams, barrages, irrigation canals, siltation, changes in the river course, artificial embankments and sand-mining

Blast fishing

- Blast fishing, also known as **dynamite fishing**, is a highly destructive, illegal method of catching fish.

- It uses dynamite or other types of explosives to send shockwaves through the water, stunning or killing fish which are then collected and sold.

- It is one of the most destructive forms of fishing and indiscriminately kills any animal in the blast area from small fish to crocodiles and dolphins.

SWALLOWING UP OF NEUTRON START BY BLACK HOLES

⊙ **CONTEXT:**

A team of international scientists, including those from India, confirms detecting collisions between black holes and neutron stars by analyzing gravitational waves created in January 2020.

- The gravitational waves were detected by the **Laser Interferometer Gravitational-Wave Observatory (LIGO)** in the United States and by the Virgo detector in Italy.

- The research also involved scientists from the **LIGO-India Scientific Collaboration (LISC)** and the collaboration of other Indian institutions.

Laser Interferometer Gravitational-wave Observatory (LIGO)

- It is the world's largest gravitational wave observatory and a marvel of precision engineering. Comprising two enormous laser interferometers located 3000 kilometers apart, LIGO exploits the physical properties of light and of space itself to detect and understand the origins of gravitational waves (GW).

- LIGO is blind: Unlike optical or radio telescopes, LIGO does not see electromagnetic radiation (e.g., visible light, radio waves, microwaves). It doesn't have to because gravitational waves are not part of the electromagnetic spectrum.

- A single LIGO detector could not initially confirm gravitational waves on its own.

About the key findings

- Scientists detected the gravitational waves, earlier in 2020, as a result of the two mergers of celestial bodies.

- Now, it is found that these waves were generated by the process of swallowing neutron stars by the black hole.

- The first merger involved a black hole about nine times the mass of our sun and a neutron star about 1.9 times the mass of our sun.

Black Hole

- A black hole is a region of space-time, where gravity is extremely strong that no object can escape from it.

- **Types:** There are two types of black holes which become three with the discovery:

  ➤ **Stellar-mass black holes:** These are the black holes with a mass of fewer than 100 times that of the Sun.

> ➤ **Supermassive black holes (SMBH):** These are the ones with a mass greater than 100,000 times that of the Sun.
> ➤ **Intermediate-mass black holes (IMBHs):** These are a class of black holes with a mass approximately 100 to 100,000 times that of the Sun.
> • Both stellar black holes and SMBHs are commonly found.
>
> **Neutron Stars**
>
> • Neutron stars are formed when a massive star runs out of fuel and collapses.
> • The very central region of the star, the core, collapses, crushing together every proton and electron into a neutron.
> • If the core of the collapsing star is between about 1 and 3 solar masses, these newly-created neutrons can stop the collapse, leaving behind a neutron star.
> • Stars with higher masses will continue to collapse into stellar-mass black holes.
> • Many neutron stars are likely undetectable because they simply do not emit enough radiation.

- The location of the first merger in space remains uncertain, with the researchers estimating that it happened somewhere in an area that is 34,000 times the size of a full moon.
- The second merger involved a 6-solar-mass black hole and a 1.5-solar-mass neutron star.
- The second event, designated **GW200115**, originated from the merger of a black hole with a 1.5-solar mass neutron star that took place roughly 1 billion light-years from Earth.
- It is a new set of binary that merged that was missing.
- Earlier, it was thought that only the two similar types of bodies could merge such as a black hole and black hole or neutron star with a neutron star.

Significance of the discovery

- It will be helpful to answer some of the significant questions such as how many of these systems exist, how often they merge, and why we have not yet seen examples in the **Milky Way.**

> **Gravitational waves**
>
> • Gravitational waves are ripples in the space-time fabric.
> • These are created by extreme events, such as the collision of two blackholes or two neutron stars.
> • They were first discovered in 2015 and since then observed in the collision between similar cosmic bodies.

PROJECT BOLD TO BOOST TRIBALS' INCOME AND REDUCE DESERTIFICATION

⊙ **CONTEXT:**   **A unique scientific exercise serving the combined national objectives of reducing desertification and providing livelihood and multi-disciplinary rural industry support has been initiated by Khadi and Village Industries Commission (KVIC).**

- The project is named **"Bamboo Oasis on Lands in Drought" (BOLD).**

About the project BOLD

- The project is the first of its kind exercise in India, launched from the tribal village NichlaMandwa in Udaipur, Rajasthan.
  - Under the project, special bamboo species such as Bambusa Tulda and Bambusa Polymorpha (specially brought from Assam) have been planted over the vacant arid **Gram Panchayat land.**
  - KVIC has created a world record of planting the highest number of bamboo saplings on a single day at one location.
- Project BOLD seeks to create bamboo-based green patches in arid and semi-arid land zones.
- It is aligned with the efforts for reducing land degradation and preventing desertification in the country.
- The initiative has been launched as part of KVIC's **"Khadi Bamboo Festival"** to celebrate 75 years of independence **"AzadikaAmritMahotsav".**
- KVIC is set to replicate the Project at Village Dholera in Ahmedabad district in Gujarat and Leh-Ladakh region by August this year.

Why Bamboo has chosen?

- Bamboos grow very fast and in about three years, they could be harvested.
- Bamboos are also known for conserving water and reducing evaporation of water from the land surface, which is an important feature in arid and drought-prone regions.

Significance of the project

- It will help in reducing the land degradation percentage of the country.
- It will support sustainable development and food security.
- The project would support self-employment in the region.
  - The projects will benefit a large number of women and unemployed youths in the region by connecting them to skill development programs.

Indian Government steps to reduce desertification

- Pradhan Mantri Fasal Bima Yojana (PMFBY)
- Soil Health Card Scheme
- Soil Health Management Scheme
- Pradhan Mantri Krishi Sinchayee Yojna (PKSY)
- Per Drop More Crop
- Forest Landscape Restoration (FLR)
- Bonn Challenge in India
- United Nations Convention to Combat Desertification (UNCCD) signing

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ZYCOV-D VACCINE, THE WORLD'S FIRST DNA VACCINE

⊙ **CONTEXT:** Ahmedabad-based ZydusCadila has applied to Central Drugs Standard Control Organisation (CDSCO), the national drugs regulator, seeking emergency use authorisation (EUA) for ZyCov-D, its Covid-19 vaccine.

- If approved by the regulator, ZyCov-D will be the **world's first DNA vaccine** against infection with SARS-CoV-2.

About the ZyCov-D vaccine or DNA vaccine

- ZyCov-D is a **"plasmid DNA". These DNA are engineered to show the desired results.**
- The plasmids used in the vaccine are coded with the instructions to make the **spike protein of SARS-CoV-2.**

> **Plasmid**
>
> - A **plasmid** is a small, circular, double-stranded DNA molecule that is distinct from a cell's chromosomal DNA.
> - **Plasmids** naturally exist in bacterial cells, and they also occur in some eukaryotes.
> - Often, the genes carried in **plasmids** provide bacteria with genetic advantages, such as antibiotic resistance.

- Vaccination gives the code to cells in the recipient's body, so they can begin making the spiky outer layer of the virus.
- The immune system is expected to recognize this as a threat and develop antibodies in response.
- ZyCov-D will be given in three doses, with an interval of 28 days between the first and second and second and third shots.
- No needle is used to deliver the vaccine, instead, a spring-powered device delivers the shot.
- ZyCov-D has been developed with the support of the central government's **Department of Biotechnology** and the **Indian Council of Medical Research (ICMR).**

Safety concerns

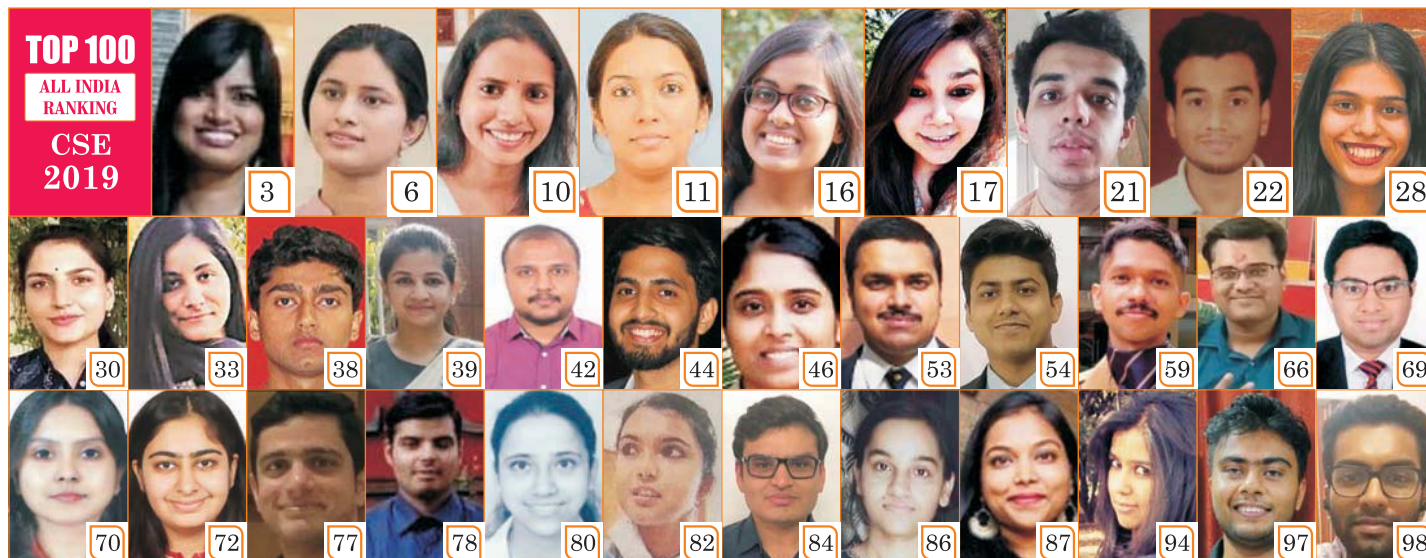- Safety concerns to integrate into cellular DNA or cause auto-immune diseases.

> **Emergency Use Authorization**
>
> - In the current pandemic situation, it may not be possible to have all the evidence that a drug regulator would normally require for approving a drug, vaccine, device or test.
> - When there is a declared emergency, the regulator, in India's case the DCGI, can take a call whether it is worth releasing a drug or vaccine that is not fully tested for efficacy and safety.
> - If there is evidence to suggest it may benefit patients, then the regulator is well within its rights to issue an emergency use authorisation to a medical product to make it widely available for use.
>
> **Vaccines approved under the EUA**
>
> - The process for using the EUA is less clearly spelt out in India, but the DGCI has also been issuing EUAs based on clinical trial data.
> - In January, the DCGI approved the first two vaccines
>   - Covishield, produced by Pune-based Serum Institute of India under licensing agreement from AstraZeneca
>   - Covaxin, manufactured by Bharat Biotech

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CSE RESULTS

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3	6	10	11	16	17	21	22	28
30	33	38	39	42	44	46	53	54	59	66	69
70	72	77	78	80	82	84	86	87	94	97	98

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| 2 | 3 | 5 | 7 | 27 | 36 | 37 | 40 | 44 | 49 |
| 51 | 52 | 56 | 58 | 62 | 74 | 81 | 89 | 92 | 94 | 98 | 100 |

TOP 100 ALL INDIA RANKING CSE 2017

| 3 | 10 | 19 | 31 | 33 | 35 | 40 | 41 | 44 | 45 | 48 |
| 97 | 100 | 54 | 57 | 63 | 64 | 68 | 71 | 75 | 77 | 80 | 83 | 93 |

TOP 100 ALL INDIA RANKING CSE 2016

| 5 | 6 | 9 | 15 | 26 | 29 | 43 | 48 | 53 | 59 | 67 |

TOP 100 ALL INDIA RANKING CSE 2015

| 9 | 13 | 26 | 34 | 39 | 75 | 77 | 78 | 89 | 91 |