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MINISTRY OF SCIENCE AND TECHNOLOGY

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INDIAN EXPRESS

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MODEL CODE OF CONDUCT

(Syllabus: GS Paper 2 - Polity & Governance)

EC move to regulate poll promises unwarranted, say Left parties

EXPRESS NEWS SERVICE
NEW DELHI, OCTOBER 5

THE LEFT parties on Wednesday said the Election Commission's proposal to amend the Model Code of Conduct to guide political parties to disclose how they plan to finance promises made in their election manifestos and how this would impact the financial situation of the state governments concerned or the Central government was a "totally unwarranted move".

While the CPM said it was strongly opposed to any effort to circumscribe or regulate the right of political parties to address people's concerns and offer policy measures to ameliorate their problem, the CPI said the EC has no authority to take steps to regulate the policies of the political parties.

Context: The Left parties said the Election Commission's proposal to amend the Model Code of Conduct to guide political parties to disclose how they plan to finance promises made in their election manifestos.

Model Code of conduct

- The MCC is a set of guidelines issued by the EC with the intention of regulating political parties and candidates prior to the elections.
- This is done in order to ensure that the elections are conducted in a free and fair manner.
- Article 324 of the Constitution gives EC the power to supervise elections to the Parliament and the state legislatures, MCC is in keeping with that.
- The MCC is effective as soon as the poll dates are announced.
- It remains effective until the election results are formally declared and notified.
- There are eight provisions dealing with the general conduct of a political party or a candidate, meetings, processions, instructions for polling days and polling booths, observers appointed by the EC to deal with complaints of the candidates, restrictions to be followed by the party in power and guidelines pertaining to the election manifestos.
- The EC issues a notice to the political party or a politician for alleged breach of the code, on the basis of a complaint by another party or an individual.
- The party or the person then has to reply to the EC in writing, either accepting that the MCC was violated, or rebutting the charge.
- The MCC is not enforceable by law.
- Certain provisions of the MCC can be enforced by invoking corresponding provisions in other statues, such as Indian Penal Code (IPC), Representation of the People Act, etc.

INDIAN EXPRESS

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CENTRAL DRUGS STANDARD CONTROL ORGANISATION (CDSCO)

(Syllabus: GS Paper 2 - Polity & Governance)

66 children deaths in Gambia, WHO flags 4 syrups made by Haryana-based firm as unsafe

ANONNA DUTT
NEW DELHI, OCTOBER 5

FOLLOWING THE death of 66 children in Gambia, the World Health Organization (WHO) has raised an alert over four fever, cold and cough syrups made by an Indian company, urging people to not use them. All the four syrups -- Promethazine Oral Solution, Kofexmalin Baby Cough Syrup, Makoff Baby Cough Syrup and Magrip N Cold Syrup – are made by Haryana-based Maiden Pharmaceuticals.

"Laboratory analysis of samples of each of the four products confirms that they contain unacceptable amounts of diethylene glycol and ethylene glycol as contaminants. To date, these four products have been identified in Gambia, but may have been distributed, through informal markets, to other countries or regions," the WHO said in the alert.

All batches of the products "should be considered unsafe" till they are analysed by the respective national regulatory authorities, it said.

According to sources, India's apex drug regulatory authority – the Central Drugs Standard Control Organisation (CDSCO) – has already launched an investigation into the matter after it was informed about the issue on September 29.



WHO DG Dr Tedros Adhanom Ghebreyesus

The state regulatory authority of Haryana confirmed that the company did manufacture and export the syrups to Gambia. The firm has so far sold the product only to Gambia.

Sources said four of the 23 samples tested by the WHO were found to be contaminated with diethylene glycol or ethylene glycol. However, the intra-government agency has not provided details to India on causal relation with the death – or documents to show that the syrups led to the deaths.

Diethylene glycol and ethylene glycol can cause toxic effects, including abdominal pain, vomiting, diarrhoea, inability to pass urine, headache, altered mental state, and acute kidney injury that may lead to death. "The substandard products referenced in this alert are unsafe and their use, especially in children, may result in serious injury or death," the WHO alert said. It said countries should increase surveillance of the supply chains to remove the products.

It also called for the surveillance of informal or unregulated markets. "If you have these substandard products, please do not use them. If you, or someone you know, have used these products or suffered any adverse reaction/event after use, you are advised to seek immediate medical advice from a qualified healthcare professional and report the incident to the National Regulatory Authority or National Pharmacovigilance Centre."

WHO Twitter handle in a post quoted its Director General Dr Tedros Adhanom Ghebreyesus as saying, "The four medicines are cough and cold syrups produced by Maiden Pharmaceuticals Limited, in India. WHO is conducting further investigations with the company and regulatory authorities in India."

Context: The World Health Organization (WHO) has raised an alert over four fever, cold and cough syrups made by an Indian company, urging people to not use them.

Central Drugs Standard Control Organisation (CDSCO)

- The Central Drugs Standard Control Organisation (CDSCO) is India's national regulatory body for cosmetics , pharmaceuticals and medical devices.
- It serves a similar function to the European Medicines Agency of the European Union, the PMDA of Japan, the Food and Drug Administration (FDA) of the United States, and the Medicines and Healthcare products Regulatory Agency of the United Kingdom, and the National Medical Products Administration (NMPA) of China.
- The Indian government has announced its plan to bring all medical devices, including implants and contraceptives under a review of the Central Drugs and Standard Control Organisation (CDSCO).
- **Functions**:
  - Regulatory control over the import of drugs, approval of new drugs and clinical trials.
  - Approval of certain licences as Central Licence Approving Authority
- Within the CDSCO, the Drug Controller General of India (DCGI) regulates pharmaceutical and medical devices and is positioning within the Ministry of Health and Family Welfare.
- DCGI is responsible for approval of licences of specified categories of drugs such as blood and blood products, IV fluids, vaccines and sera in India.

LIVEMINT Page 8

UNIFIED PAYMENTS INTERFACE

(Syllabus: GS Paper 3 - Economy)

No charge for RuPay credit card use on low-value UPI payment

There will be no charge for RuPay credit card use on Unified Payments Interface (UPI) for transactions up to ₹2,000 in line with the RBI direction, a recent National Payments Corporation of India (NPCI) circular said.

RuPay credit card has been operational for the last four years, and all major banks are enabled and are issuing incremental cards for both commercial and retail segments.

"During credit card on-boarding on the apps, the device binding and UPI PIN setting process shall include and be construed as customer consent for credit card enablement for all types of transactions," the circular dated 4 October said.

For international transaction enablement, the existing process from the app will apply to credit cards too, the NPCI said in the circular.

Nil Merchant Discount Rate (MDR) would apply for this category up to the transaction amount less than and equal to ₹2,000, it noted. PTI



RuPay credit card has been operational for the last four years. REUTERS

BASIS OF COMPARISON	NEFT	RTGS	IMPS
Minimum transfer value	Re. 1	Rs. 2 lakh	Re. 1
Payment options	Online and offline	Online and offline	Online
Maximum transfer value	No limit	No limit	Rs.2 lakh
Settlement type	Half hourly basis	Real time	Real time
Inward transaction charges	No charges	No charges	Decided by the individual member banks and PPIs

Context: The National Payments Corporation of India (NPCI) has said there will be no charge for RuPay credit card use on Unified Payments Interface (UPI) for transactions up to ₹2,000.

Unified Payments Interface

- UPI is a system that powers multiple bank accounts into a single mobile application, merging several banking features, seamless fund routing & merchant payments into one hood.
- It also caters to the "Peer to Peer" collect request which can be scheduled and paid as per requirement and convenience.
- The interface is developed by the National Payments Corporation of India (NPCI) and regulated by the Reserve Bank of India (RBI).
- It is an advanced version of Immediate Payment Service (IMPS)- round–the-clock funds transfer service to make cashless payments faster, easier and smoother.

National Payments Corporation of India

- NPCI, an umbrella organisation for operating retail payments and settlement systems in India, is an initiative of Reserve Bank of India (RBI) and Indian Banks' Association (IBA) under the provisions of the Payment and Settlement Systems Act, 2007.
- It is a "Not for Profit" Company under the provisions of Section 25 of Companies Act 1956 (now Section 8 of Companies Act 2013), with an intention to provide infrastructure to the entire Banking system in India for physical as well as electronic payment and settlement systems.

LIVEMINT Page 8

SUGAR PRODUCTION IN INDIA

(Syllabus: GS Paper 3 - Economy)

India is now largest producer of sugar

With a bumper sugar production of 35.9 million tonne during the October-September season, India has left behind Brazil to become the top producer of the sweetener.

Brazil produced about 32 million tonne of sugar in 2021-22. India also produced a record 5,000 lakh tonne (LT) of sugarcane during the October-September season, emerging as the world's largest producer of the sweetener, said ministry of consumer affairs, food and public distribution on Wednesday.

Sugar exports also rose to 109.8 LT. In sugar seasons 2017-18, 2018-19 & 2019-20, only about 6.2 LT, 38 LT & 59.60 LT of sugar was exported. "Supportive international prices and Indian government policies led to this feat. These exports earned foreign currency of about ₹40,000 crore," the statement added.

Context: With a bumper sugar production of 35.9 million ton during the October-September season, India has left behind Brazil to become the top producer of the sweetener.

Key facts

- India is the largest producer of both sugarcane and cane sugar and contributes about 8 percent of the total sugar production in the world.
- The Prices of Sugarcane are Determined by the Central Government (Federal Government) and the State Governments.
  - The Central Government announces Fair and Remunerative Prices which are determined on the recommendation of the Commission for Agricultural Costs and Prices (CACP) and announced by the Cabinet Committee on Economic Affairs (CCEA).
    - CCEA is chaired by the Prime Minister of India.
    - The FRP is based on the Rangarajan Committee report on reorganising the sugarcane industry.
  - The State Advised Prices (SAP) is announced by the Governments of key sugarcane producing states.
    - SAP is generally higher than FRP.
- The sugar industry is the second most important agro-based industry in the country.
- India is the Second Largest exporter of Sugar after Brazil.
- This industry provides employment for more than 4 lakh persons directly and a large number of farmers indirectly.
- Sugar industry is a seasonal industry because of the seasonality of raw materials.
- Sugarcane is a weight-losing crop. The ratio of sugar to sugarcane varies between 9 to 12 percent depending on its variety.
- Sugar factories hence, are located within the cane producing regions.
- The sugar factories are concentrated in two belts – the Ganga-Yamuna doab and the tarai region.
- Top Sugarcane Producing States: Maharashtra>Uttar Pradesh > Karnataka
- The other States which produce sugar are Bihar, Punjab, Haryana, Madhya Pradesh and Gujarat.

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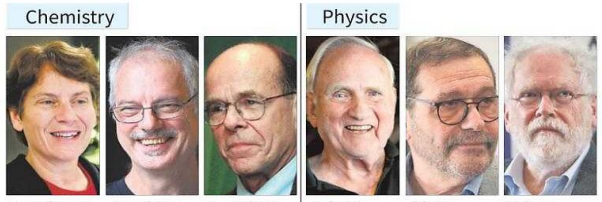
NOBLE AWARDS 2022

(Syllabus: GS Paper 3 - Sci & Tech)

Nobel for work on 'click chemistry' and quantum mechanics

And the winners are...

A look at the pair of scientist trios who won the Nobel prizes in Chemistry and Physics



Reuters
STOCKHOLM

Scientists Carolyn R. Bertozzi, Morten Meldal and K. Barry Sharpless won the 2022 Nobel Prize in Chemistry on Wednesday for discovering reactions that let molecules snap together to create desired compounds and that offer insight into cell biology.

It came a day after Alain Aspect, John F. Clauser and Anton Zeilinger won the prize in physics for their advances in quantum mechanics on the behaviour of subatomic particles, opening the door to work on super computers and encrypted communication.

Americans Ms. Bertozzi and Mr. Sharpless, together with Denmark's Mr. Meldal, were honoured "for the development of click chemistry and bioorthogonal chemistry".

CONTINUED ON » PAGE 14

Context: The Royal Swedish Academy of Sciences announced the winner of the 2022 Nobel Prize for Chemistry for the development of click chemistry and bio-orthogonal chemistry.

Key points

- **Click chemistry** – a branch of science that explores the assembly of molecules.
- **Bioorthogonal chemistry** allows organic synthesis ordinarily performed in a laboratory to be performed in living organisms and cells.
- **Copper-catalysed azide-alkyne cycloaddition (CuAAC)** - a reaction that is now widely used in fields like medicinal chemistry.
    - The CuAAC reaction is an improved form of the azide-alkyne Huisgen cycloaddition, which was once called the "cream of the crop" among click reactions.
- **For Physics:** Scientists have been awarded for "experiments with entangled photons, establishing the violation of Bell inequalities and pioneering quantum information science.
    - Quantum entanglement explains how two subatomic particles can be intimately linked to each other even if separated by billions of light-years of space.
    - Albert Einstein dismissed this idea as a 'spooky action'.

Nobel Prizes

- The first Nobel Prizes were awarded in Stockholm, Sweden in 1901 on the fifth anniversary of the death of Alfred Nobel. Swedish inventor Alfred Nobel invented dynamite and other high explosives.
- Originally, the prize was awarded in the fields of Physics, Chemistry, Physiology or Medicine, Literature, and Peace.
- Later in 1968, a sixth prize was added in the field of economic sciences, but it is not officially called Nobel Prize (Sveriges Riksbank Prize in Economic Sciences).
- Prizes may be given only to individuals, except the Peace Prize, which may also be conferred upon an institution. However, 3 individuals at max, can share a prize.
- A Nobel Prize cannot be awarded posthumously.

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UNHRC MEMBERSHIP

(Syllabus: GS Paper 2 - International Organisations)

Sri Lanka is anticipating a 'significantly lesser' number of favourable votes at UNHRC

Voting pattern 'is not a fair reflection' of how all members think about the country, 'heavy lobbying' by powerful countries preceded the vote at the Council, says Foreign Minister Ali Sabry

Meera Srinivasan
COLOMBO

Sri Lanka will get a "significantly lesser" number of favourable votes at the UN Human Rights Council, Foreign Minister Ali Sabry on Wednesday said, apparently resigned to reduced international support at the Geneva forum whose 51st session is underway.

"The number of votes will be significantly lesser. We have to be realistic," Mr. Sabry, currently in Geneva, told a media conference held virtually. Observing that the voting pattern " is not a fair reflection" of how all members think about Sri Lanka, he said "heavy lobbying" by powerful countries preceded the vote at the Council, which was "all geopolitics".



Reparation call: A resolution on Sri Lanka related to war crimes from the civil war era will be put to vote likely on Thursday. AFP

Shift in tone

The Minister's position signalled a shift in Colombo's tone from a month ago, when Mr. Sabry said Sri Lanka was "not interested in confrontation, we want to work towards consensus with all partners".

A resolution on Sri Lanka will be put to vote likely on Thursday, highlighting the long-pending demands for truth and justice for alleged war crimes from the civil war era and the years after it ended in 2009, apart from other rights violations since.

The proposed resolution this year also underscores the importance of addressing "underlying governance factors and root causes" that have "contributed to" Sri Lanka's unprecedented economic crisis. It identifies "deepening militarisation, lack of accountability in governance and impunity for serious human rights violations and abuses", as a central obstacle to the rule of law, reconciliation and sustainable peace and development in Sri Lanka. Further, it "recognises that the promotion and protection of human rights and the prevention of and fight against corruption are mutually reinforcing."

In March 2021, Sri Lanka faced a UN resolution that was put to vote in Geneva. While 22 countries voted in its favour, 11 countries voted against it – endorsing Sri Lanka's position – and 14 countries, including India, abstained. While it is widely expected that India may abstain yet again, more countries among the Council's 47 members are likely to proactively back the resolution.

Contending that the Council was "polarised", Minister Sabry said the international community, mainly the West that includes key economic powers, were "using Sri Lanka to test their agenda". "Sri Lanka has repeatedly said we need time and space to address pending issues, but the Core Group is not willing to listen," he said, referring to the group of countries led by the United Kingdom that are the main sponsors of the Sri Lanka resolution this year. The Group includes the United States, Germany, and Canada among others. Some 30 other countries are said to have joined the Core Group, backing the resolution.

Anti-terrorism law

Outlining the government's efforts to repeal the country's much criticised anti-terrorism law, and introduce a new one; bring about constitutional amendments to strengthen parliamentary mechanisms and redistribute "94%" of military-held lands in the north and east, Mr. Sabry said "none of it is credited" by the international community, even as he argued that some recommendations of the resolution sought to interfere with Sri Lanka's Constitution.

Asked why the Sri Lankan government, which is willingly working with international actors including the International Monetary Fund – that makes its support conditional on several governance aspects – for economic recovery resisted foreign mechanisms on the rights front, Mr. Sabry said: "That is because Sri Lanka is a member of the IMF, we opted for IMF assistance, and we are part of the negotiations ...it is not imposed on us," although Sri Lanka has been a Member State of the U.N. since 1955, engaging with its mechanisms and agencies.

Context: Sri Lanka will get a "significantly lesser" number of favourable votes at the UN Human Rights Council.

UNHRC

- The Human Rights Council is an inter-governmental body within the United Nations system, which is responsible for strengthening the promotion and protection of human rights around the world.
- It also addresses and makes recommendations on situations of human rights violations, and can discuss all thematic human rights issues and situations.
- The Council, which meets at the UN Office in Geneva, Switzerland, is made up of 47 UN Member States who are elected by majority vote through a direct and secret ballot at the UNGA.
- The membership of the Council is based on equitable geographical distribution.
- African and Asia-Pacific states have 13 seats each, Latin American and Caribbean states have 8 seats, Western European and other states 7 seats, and Eastern European states 6 seats.
- The members serve for three years and are not eligible for immediate re-election after serving two consecutive terms.
- The Human Rights Council holds no fewer than three regular sessions a year, for a total of at least 10 weeks.
- If a third of the Member states requests, the Council can decide at any time to hold a special session to address human rights violations and emergencies.
- India was just re-elected to the United Nations Human Rights Council for a sixth term.

TIMES OF INDIA

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MANUAL SCAVENGING

(Syllabus: GS Paper 2 - Social Justice)

4 Dead In Sewer Tank Tragedy At Fbd Hosp

2 Hospital Staffers In ICU After Inhaling Toxic Gas

Sagrika.Kissu@timesgroup.com



Two men died trying to rescue the other two trapped inside

Faridabad: Two sanitation workers who had stepped in to clean a sewer tank at a Faridabad hospital died on Wednesday after inhaling toxic fumes, and two others met a similar fate as they too went inside to rescue their colleagues. Neither of them had any safety gear.

Soon after, two hospital officials — maintenance supervisor Narender and another employee Shahid — ran to save the others, but ended up inhaling the poisonous gases emanating from the 12-foot-deep sewer. Both of them are currently admitted to the ICU, hospital authorities said.

Police said the daily wage earners had been hired by private agency Santushi Allied Services. They had gone to the QRG Hospital in Sector 16 around 12.30pm on Wednesday.

All four victims — Rohit Kumar (23), his brother Ravi Kumar (24), Vishal (24) and Ravi Goldar (25) — belonged to Dakshinpuri in Delhi, police said.

It is not clear which of the two workers went inside first.

Police said an FIR has been filed by one of the worker's brothers against the hospital and the cleaning agency under IPC Section 304 (culpable homicide), Prohibition of Employment as Manual Scavengers Act, and the Scheduled Castes and the Scheduled Tribes (Prevention of Atrocities) Act.

The incident is yet another stark reminder of the perils of sanitation work in India, where workers – who often belong to disadvantaged communities – are left to their own devices to clean up sewage tanks and drains without any regard for safety or scientific processes.

On Wednesday evening, members of the Valmiki community protested in Faridabad over the workers' deaths, alleging that they were subjected to inhuman conditions.

Baba Ram Kewal, one of the protesters, said: "It is the negligence of the hospital and the agency that the workers died. Such incidents have happened in the past as well. We have demanded compensation and jobs for the victims' families."

When asked, both the hospital and agency shifted blame to the other.

Officials of the Delhi-based Santushi Allied Services said that the agency's contract with the hospital included cleaning of small drains, and not a sewer tank.

"We have a one-year contract with the hospital and we keep sending workers for cleaning purposes five times in a month. Our contract does not mention cleaning the sewer. It only includes small drains, chambers and ilk. That is the reason that the workers didn't have equipment because we don't deal with such work," Satish Kumar, supervisor of the agency, said, adding the men were daily-wagers and were given Rs 700 each to clean the hospital.

The hospital rejected the claim and said that the contract included maintenance of the sewer pit.

Context: Two sanitation workers who had stepped in to clean a sewer tank at a Faridabad hospital died after inhaling toxic fumes.

Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013

- Manual scavenging is the practice of physically removing human excreta by hand from sewers or septic tanks.
- According to the PEMSR 2013 Act, the definition of manual scavengers was broadened to include people employed to clean septic tanks, ditches or railway tracks.
- Under the Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013, Manual Scavenging practice is banned in India.
- The Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013 prohibits the employment of manual scavengers, the manual cleaning of sewers and septic tanks without protective equipment.
- It also bans the construction of insanitary latrines.
- **Other features of the act**
    - **Rehabilitation**: It seeks to rehabilitate manual scavengers and provide for their alternative employment.
    - **Monitoring and Construction of Sanitary latrines**: Each local authority, cantonment board and railway authority is responsible for surveying insanitary latrines within its jurisdiction.
    - They shall also construct a number of sanitary community latrines.
    - **Responsibility of the People**: Each occupier of insanitary latrines shall be responsible for converting or demolishing the latrine at his own cost.
    - If he fails to do so, the local authority shall convert the latrine and recover the cost from him.
    - **Implementing Authorities**: The District Magistrate and the local authority shall be the implementing authorities.
    - **Punishment for Violation:** Offences under the Act shall be cognizable and non-bailable, and maybe tried summarily.

DTE

Oct 6

ECOLOGICALLY SENSITIVE ZONE (ESZ)

(Syllabus: GS Paper 3 - Env & Eco)

ENVIRONMENT

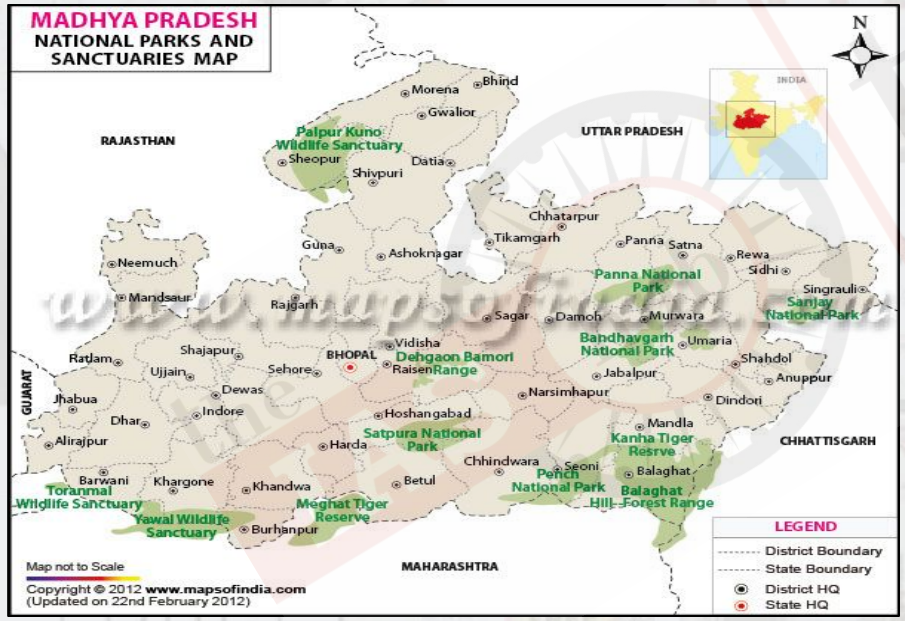
NGT stops mining in ecologically sensitive Madhav National Park in Madhya Pradesh

Tribunal-appointed panel found advertisements published for leasing out mining sites; recommends geological study to find reasons behind excess iron in groundwater

NEXT NEWS >

By Shuchita Jha
Published: Tuesday 04 October 2022





Context: The National Green Tribunal (NGT) has called for halting mining in the ecologically sensitive zone (ESZ) of Madhav National Park in Shivpuri, Madhya Pradesh.

Ecologically sensitive zone (ESZ)

- Within 10 kilometers of protected areas, national parks, and wildlife sanctuaries are places known as eco-sensitive zones or ecologically fragile areas.
- According to the Environment Protection Act of 1986, ESZs are declared by the MoEFCC (Ministry of Environment, Forest and Climate Change), Government of India.
- Even areas wider than 10 km can be included in the eco-sensitive zone in cases when there are sensitive corridors, connectedness, and biologically significant patches that are essential for landscape linkage.
- The primary goal is to limit the detrimental effects of certain activities on the delicate ecosystem surrounding National Parks and Wildlife Sanctuaries.
- **Activities in ESZs**
- **Prohibited activities**: Commercial mining, sawmills, industries causing pollution (air, water, soil, noise, etc), the establishment of major hydroelectric projects (HEP), commercial use of wood, Tourism activities like hot-air balloons over the National Park, discharge of effluents or any solid waste or production of hazardous substances.
- **Regulated activities**: Felling of trees, the establishment of hotels and resorts, commercial use of natural water, erection of electrical cables, drastic change of agriculture system, e.g. adoption of heavy technology, pesticides, etc, widening of roads.
- **Permitted activities**: Ongoing agricultural or horticultural practices, rainwater harvesting, organic farming, use of renewable energy sources, and adoption of green technology for all activities.

Madhav National Park

- Part of the upper Vindhyan hills.
- It got the status of a National Park in 1959.
- home to tigers, leopards, Nilgai, and Chinkara (Gazella bennettii) and Chousingha (Tetracerus quadricornis) and Deers (Chital, Sambar and Barking Deer) among others.
- The Park falls within one of the 32 major Tiger Corridors of the country, which are operationalised through the Tiger Conservation Plan.
- Part of the Ranthambhore-Kuno-Madhav (Madhya Pradesh and Rajasthan) Tiger Corridor of Central India & Eastern Ghats landscape.
- Currently facing displacement and rehabilitation issues as it is home to Particularly Vulnerable Tribal Groups (PVTG)s like Saharia.

PIB

Oct 6

QUALITY COUNCIL OF INDIA (QCI)

(Syllabus: GS Paper 2 - Government Policies & Interventions)

Quality Council of India (QCI) to celebrate its Silver Jubilee; Shri Piyush Goyal to be the Chief Guest at the celebration

QCI launches a marquee campaign–'Gunvatta Se Atmanirbharta' to celebrate India's commitment to quality

Key points

- Quality Council of India was set up in 1997, jointly by the Government of India and the Indian Industry represented by the three premier industry associations i.e. Associated Chambers of Commerce and Industry of India (ASSOCHAM), Confederation of Indian Industry (CII) and Federation of Indian Chambers of Commerce and Industry (FICCI).
- It is a national body established for raising the quality and standards related to every aspect of life for the overall development of the nation.
- The Chairman of QCI is appointed by the Prime Minister on recommendation of the industry to the government.
- Its mandate is to establish and operate the National Accreditation Structure (NAS) for conformity assessment bodies and providing accreditation in the field of health, education and quality promotion .
- National Accreditation Board for Certification Bodies (NABCB) and National Accreditation Board for Testing and Calibration Laboratories (NABL) are the two accreditation boards of the QCI.
- These two bodies work closely to support the Government and regulators to ensure that the data provided by accredited conformity assessment bodies is robust, reliable, trustworthy in terms of decision making, compliance testing and standards setting.

DST

Oct 6

TREATMENT OF CANCER

(Syllabus: GS Paper 3 - Sci & Tech)

A drug delivery solution can improve cancer management and treatment

A novel site-specific drug delivery method using gold nanoparticles can improve management and treatment of cancer.

Key points

- Researchers at Amity University Rajasthan, Jaipur have developed therapeutic agents with the help of nano-biotechnological approaches using a unique solution of 'gold nanoparticles' that helps in improving the site-specific drug delivery for cancer disease management and its effective treatment.
- They have formulated 'gold nanoparticles' solution with a distinctive functional surface containing biomolecules and antibiotics for improved anticancer activity through selective generation of reactive oxygen species (ROS).
- The results have revealed that the appropriate surface corona on the gold nanoparticles was essential for effective cancer treatment in a selective manner.

Recent developments in Cancer Therapy

- **PD1 therapy:** In a medical trial in the USA, 12 patients were completely cured of rectal cancer without requiring any surgery or chemotherapy.
    - PD 1 is a protein that regulates immune function and can sometimes keep T cells from killing cancer cells.

Treatment of Cancer

- Commonly, three types of treatment are available for cancer.
- Surgery – Surgically removing localized cancerous mass (Effective for benign tumours)
- Radiation therapy – In this therapy, radiation is used to kill the cancer cells.
- Chemotherapy – Chemotherapeutic drugs are used to kill cancer cells.
- Many chemical drugs have side effects in cancer patients like hair loss. So, interferons are injected into cancer patients to develop immunity against these side effects.
- Palliative care, which focuses on improving the quality of life of patients and their families, is an essential component of cancer care.

THANK YOU!

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