

SosinClasses

INSTITUTE FOR IAS EXAMINATION

(IAS, IFS, IPS, IRS, IRMS, IFoS & Other Civil Services)

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DAILY NEWS DIARY

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FOR PRELIMS AND MAINS

Warm Greetings.

- DnD aims to provide every day news analysis in sync with the UPSC pattern.
- It is targeted at UPSC – Prelims & Mains.
- Daily articles are provided in the form of Question and Answers
- To have a bank of mains questions.
- And interesting to read.
- Providing precise information that can be carried straight to the exam, rather than over dumping.

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GS 2

❖ POLITY & GOVERNANCE

Q) What is the debate over Front of Pack Labelling (FoPL) of Packaged Food?

Context:

The Food Safety and Standards Authority of India (FSSAI) is expected to issue a draft regulation for labels on front of food packets.

FoPL:

- In India, packaged food has had back-of-package (BOP) nutrient information in detail but no FoPL.
- Counter to this, FoPL can nudge people towards healthy consumption of packaged food.
- It can also influence purchasing habits.
- The study endorsed the HSR format, which speaks about the proportions of salt, sugar, and fat in food that is most suited for consumers.
- Countries such as the UK, Mexico, Chile, Peru, Hungary, and Australia have implemented FoPL systems.

What warranted such rating in India?

1. Visual bluff: A lot of Indian consumers do not read the information available at the back of the packaged food item.
2. Burden of NCDs: Also, India has a huge burden of non-communicable diseases that contributes to around 5.87 million (60%) of all deaths in a year.
3. Healthy dietary choices: HSR will encourage people to make healthy choices and could bring a transformational change in the society.
4. Supreme Court order: A PIL seeking direction to the government to frame guidelines on HSR and impact assessment for food items and beverages was filed in the Supreme Court in June 2021.

Which category of food item will have HSR?

- All packaged food items or processed food will have the HSR label.
- These will include chips, biscuits, namkeen, sweets and chocolates, meat nuggets, and cookies.
- However, milk and its products such as chenna and ghee are EXEMPTED as per the FSSAI draft notified in 2019.

Will there be pushback from food industry?

- Negative warning: Some experts opposed the use of the HSR model in India, suggesting that consumers might tend to take this as an affirmation of the health benefits rather than as a negative warning of ill effects.
- Lack of awareness: This is significant because there is lack of awareness on star ratings related to consumer products in India.
- Impact on Sale: Certain organisations fear it might affect the sale of certain food products.

When will the rating come into force?

- FSSAI's scientific panel recommends voluntary implementation of HSR format from 2023 and a transition period of four years for making it mandatory.
- It noted that the proposed thresholds are in alignment with the models implemented in other countries and 'WHO population nutrient intake goals recommendations'.
- FSSAI will analyse the nutritional information in 100 mg of packaged food.
- The food safety compliance system licensing application portal will have a module for generating certificates wherein a licensee can enter details of a product.

Source: The Hindu

GS 3**❖ SCIENCE & TECHNOLOGY**

Q) Explain the emergence of 'digital therapeutics' in enabling the children to adapt towards healthy lifestyle.

Context:

A Chennai start-up uses digital avatars to nudge children towards a healthy lifestyle. As part of the immersive virtual reality experience, the child's brain is 'tuned' to avoid foods that could later lead to lifestyle diseases such as diabetes and hypertension. Thanks to this 'neuro-cognitive training' the child avoids unhealthy food even in real life. In other words, the child has been given a 'digital vaccine'.

Digital Vaccine:

- It is part of an emerging science called 'digital therapeutics', which aims to deliver medical care through smartphones, tablets and similar devices.
- A Chennai-based entrepreneur and founder of the life sciences start-up FriendsLearn, Bhargav Sri Prakash has just been given a patent by the US Patent and Trademark Office, for the 'systems and methods for digital vaccine' that he developed as part of the US Carnegie Mellon University's 'digital vaccine project'.
- With a digital vaccine there was "no injection, no ingestion"; only the brain is induced through an immersive metaverse experience to develop certain physiological changes to help avoid diseases.
- Digital vaccines work on children by letting their digital avatars experience the positive and negative consequences of their actions, which serve as learnings for real life.
- Video games on mobile devices have great potential to influence a child's dietary and lifestyle behaviours.

Simulation Technology:

- Having experience in virtual reality and simulation, we found that we could actually simulate a set of scenarios involving foods and games and also deliberately send messages to the brain — so that we could link these areas with working memory, self-regulation, rewards.

- As the digital avatar goes through a game in metaverse, a lot of data about the child's behaviour is gathered; artificial intelligence processes this data to decipher which kinds of experiences the child should be exposed to, in order to facilitate "implicit learning".
- By repeatedly creating associations between certain actions and their consequences in the virtual world, such as falling ill or securing a reward, the child could be nudged towards a healthy lifestyle.

How effective is digital therapeutics?

1. In 2013, the researchers did the first human trials at Baylor College of Medicine, in Houston's Children's Nutrition Research Centre. Children were seen "to walk away from Coca-Cola" at the cafeteria.
2. Incidentally, the digital vaccine project of CMU has developed "a software platform for neuro-cognitive training and habit formation," called 'fooya!', to positively influence children's food choices.
3. The work of Bhargav Sri Prakash and his innovation team, along with researchers and scientists of the digital vaccine project aims to find solutions for global-scale societal health problems through new frontiers of neural networks and metaverse technology for disease prevention.
4. According to a report in MedAdNews magazine, the market for digital therapeutics is expected to grow from \$3.4 billion in 2021 to \$13.1 billion in 2026, at a CAGR of 31.4 per cent.
5. In the US, companies like Pear Therapeutics and Kaia Health have been making waves with products like reSET (Pear) for substance abuse disorder and MSK (Kaia) for musculoskeletal pain.
6. These products are delivered through smartphones, but are said to be different from wellness apps because they undertake rigorous randomised control tests before launching.

Source: Business line

Q) Discuss the functioning and the necessary innovations involved in the electrochemical method of carbon capture.

Context:

Berkeley lab is working on a potentially cheaper method of carbon sequestration. Prof Bryan McCloskey of Lawrence Berkeley National Laboratory, California, has come up with a potentially cheaper approach. His method uses electrochemistry to capture carbon dioxide.

Electrochemistry:

- Electrochemistry broadly involves atoms giving or receiving electrons; this science is the basis of all batteries and fuel cells.
- Prof McCloskey's process gets carbon dioxide to react with hydroxide ions to form bicarbonates.
- It then uses electrochemical methods to separate carbon dioxide and the hydroxide ions, so that the gas can be put away and the hydroxide reused.

- In the electrochemical cell, two reactions occur at each of its electrodes. At one electrode, bicarbonate is oxidised to form a pressurised stream of carbon dioxide, which can be sequestered. At the other electrode, hydrogen gas is generated, which consumes protons to regenerate the alkaline solution.
- The hydrogen production is certainly a bonus of our alkaline regeneration scheme. The process produces a stream of concentrated carbon dioxide and another stream of hydrogen.

Necessary innovations:

1. The first is the electrochemical cell's stability. The electrodes need to be robust. The cell should also be energy-efficient.
2. The second area of innovation is the membrane that separates the two electrodes from each other. Otherwise, the hydrogen and carbon dioxide would mix together; they're more valuable as pure streams.
3. The third innovation is around the development of a suitable catalyst for the bicarbonate-to-carbon dioxide reaction. The catalyst would enhance the reaction.

McCloskey reckons it would be possible to capture carbon dioxide for \$100 a tonne, compared with other methods that cost six times as much. "We have experts in all these different areas, such as membrane technology, molecular simulation and modelling, and electrocatalysis," notes McCloskey.

Source: Business Line

SNIPPETS

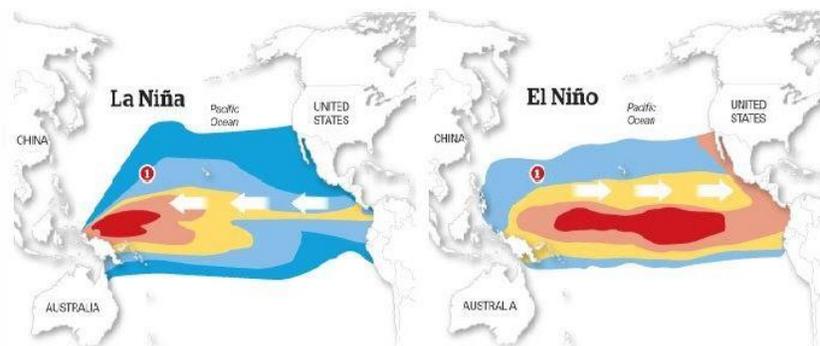
GS 3

❖ ENVIRONMENT

Q) Explain the impact of El-Nino and La-Nina on India.

Context:

This year the La Nina is being blamed for worsening the longest spell of heatwaves from March to April in north, west and Central India. In most years, meteorologists considered the La Nina to be a friend of India.



El Nino and La Nina:

1. While El Niño (Spanish for 'little boy'), the more common expression, is the abnormal surface warming observed along the eastern and central regions of the Pacific Ocean (the region between Peru and Papua New Guinea).
2. The La Niña (Spanish for 'little girl') is an abnormal cooling of these surface waters.
3. Together, the El Niño (Warm Phase) and La Niña (Cool Phase) phenomena are termed as El Niño Southern Oscillation (ENSO).
4. These are large-scale ocean phenomena which influence the global weather — winds, temperature and rainfall. They have the ability to trigger extreme weather events like droughts, floods, hot and cold conditions, globally.
5. Each cycle can last anywhere between 9 to 12 months, at times extendable to 18 months — and re-occur after every three to five years.
6. Meteorologists record the sea surface temperatures for four different regions, known as Niño regions, along this equatorial belt.
7. Depending on the temperatures, they forecast either as an El Niño, an ENSO neutral phase, or a La Niña.

Impact on India:

- El Nino during winter causes warm conditions over the Indian subcontinent and during summer, it leads to dry conditions and deficient monsoon.
- Whereas La Nina results in better than normal monsoon in India.
- It has been established that Indian summer monsoon is a fully coupled land-atmosphere-ocean system and that it is linked to ocean temperature variability.
- In an agricultural country like India, the extreme departure from normal seasonal rainfall seriously affects the agricultural output and thus the economy of the country.

Source: The Hindu

GS 1**❖ HISTORY****Q) What are the major findings of the Rakhigarhi skeletons?****Context:**

DNA samples collected from two human skeletons unearthed at a necropolis of a Harappan-era city site in Rakhigarhi, Haryana have been sent for scientific examination. DNA analysis might tell about the ancestry and food habits of people who lived in the Rakhigarhi region thousands of years ago.

About Rakhi Garhi:

- The ancient site of Rakhi-Khas and Rakhi-Shahpur are collectively known as Rakhigarhi, located on the right bank of the now dried up Palaeo-channel of Drishadvati.
- It is located in the Ghaggar-Hakra river plain in the Hissar district of Haryana.

- Seven mounds are located here.
- The site has yielded various stages of Harappan culture and is by far one of the largest Harappan sites in India.
- The site shows the sequential development of the Indus culture in the now dried up Saraswati basin.

Major findings at Rakhi Garhi:

1. Findings confirm both early and mature Harappan phases and include 4,600-year-old human skeletons, fortification and bricks.
2. Digging so far reveals a well-planned city with 1.92 m wide roads, a bit wider than in Kalibangan.
3. The pottery is similar to Kalibangan and Banawali.
4. Pits surrounded by walls have been found, which are thought to be for sacrificial or some religious ceremonies.
5. There are brick-lined drains to handle sewage from the houses.
6. Terracotta statues, weights, bronze artefacts, comb, copper fish hooks, needles and terracotta seals have also been found.
7. A bronze vessel has been found which is decorated with gold and silver.
8. A granary belonging to the mature Harappan phase has been found here.
9. Fire altars structures were revealed in Rakhigarhi.



Source: The Hindu

Q) Which one of the following served as the highest court of appeal before the Supreme Court was established by the Constitution of India?

- a. Privy Council
- b. Allahabad High Court
- c. Federal Court
- d. None of the above

 **Hey from Yesterday –**

Q) In relation to the history of ancient India, 'Ratnasagara', 'Ratnodadhi' & 'Ratnaranjaka' are associated with which of the following?

- a) Literary works of King Harshvardhana
- b) Court poets of the Gupta king, Chandragupta Vikramaditya
- c) Libraries of the University of Nalanda
- d) Great scholars in the court of Satavahana king, Gautamiputra Satakarni

Answer: c

Explanation:

Nalanda university

- Founded during 5th - 7th century AD.
- It was originally founded as a Buddhist sangha rama.
- Kumara Gupta II (Gupta king) was considered to be the founder and chief patron of Nalanda University.
- Later it was developed & maintained by successive rulers.
- Nalanda university consisted of 3 great libraries, Ratnasagara, Ratnodadhi & Ratnaranjaka.

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- POLITY + GEOGRAPHY MODULE FROM 2nd May to 9th May 2022
- SCIENCE & TECHNOLOGY MODULE FROM 10th May to 12th May 2022
- HISTORY MODULE FROM 10th May to 20th May 2022
- CURRENT AFFAIRS MODULE FROM 13th May to 19th May 2022

GS WRAP - UP PRELIMS TEST SERIES 2022

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- ANTHROENHANCE TEST SERIES FROM 2nd JULY 2022 (OFFLINE/ONLINE)