



Daily Current Affairs Prelims Quiz 07-08-2024 (Online Prelims Test)

1) Consider the following statements with respect to enFnCas9

1. It is an enhanced genome-editing system that improves upon existing CRISPR-based technologies.
2. It was developed by the CSIR-Institute of Genomics and Integrative Biology (CSIR-IGIB).

Which of the above statement(s) is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Answer : c

enFnCas9

Scientists from the CSIR-IGIB have recently developed an enhanced genome-editing system called enFnCas9 that can modify DNA more precisely and more efficiently than existing CRISPR-based technologies.

- enFnCas9 is an improvement over existing CRISPR-Cas9 gene editing technologies.
- It offers higher precision and efficiency in genome editing.
- **It was developed by Indian scientists at Council of Scientific and Industrial Research-Institute of Genomics and Integrative Biology (CSIR-IGIB).**
- **Technical Advancements:**
 - Addresses off-target effects, a major concern in gene editing.
 - Improves editing efficiency without compromising specificity.
 - Enhances the ability to recognize single-nucleotide changes in DNA.
- **Applications:**
 - **Healthcare** - Potential for treating genetic disorders, including inherited blindness.
 - **Agriculture** - Possibilities for crop improvement and increasing yields.
 - **Diagnostics** - Enhanced capability to detect disease-causing genetic changes.
- **Economic Implications:**
 - Indigenous development reduces dependency on foreign technologies.
 - Potential for more affordable gene therapies in India and other developing countries.
 - Opportunity for India to become a leader in biotechnology and gene therapy.

2) Consider the following statements with respect to Shanghai Space-com Satellite Technology (SSST)

1. It is a miniaturized satellite that is designed to promote the construction of smart cities in China.
2. It is one of the largest domestic communication satellite systems in Asia-Pacific region placed in Geo-stationary orbit.

Which of the above statement(s) is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Answer : d

Shanghai Space-com Satellite Technology (SSST)

Recently the Chinese state-owned enterprise successfully placed 18 satellites into orbit, to create its own version of US firm SpaceX's Starlink network.

- Shanghai Space-com Satellite Technology (SSST) founded in 2018, aims to provide internet services based on **a low-orbit satellite** constellation.
- SSST is backed by the Shanghai municipal government.
- It aids to provide **internet communication** similar to the SpaceX's Starlink network.
- Shanghai Space-com Satellite Technology (SSST) raised 6.7 billion yuan (\$933 million) in a Series A funding round.
- This is a significant amount for a single funding round, indicating strong investor interest.
- The investment is aimed at constructing a low-orbit satellite constellation.
- This effort is part of China's race to compete with Elon Musk's Starlink in providing satellite-based internet services.
- The project is expected to be part of Shanghai government's "G60" satellite constellation plan.
- **Broader Industry Impact:**
- This investment is expected to boost demand for satellites and rocket launches in China's commercial space industry.

3) Consider the following statements with respect to QCI Surajya Recognition & Ranking Framework

1. It is an initiative designed to drive excellence among states to improve quality of life of citizens across India
2. This framework is categorized under four pillars with Prosperity being one of the pillars.
3. This initiative combines monthly and cumulative evaluations to ensure a thorough and balanced assessment.

How many of the statements given above are correct?

- a. Only one
- b. Only two
- c. All Three
- d. None of the above

Answer : c

QCI Surajya Recognition & Ranking Framework

The Quality Council of India (QCI) has recently unveiled the QCI Surajya Recognition & Ranking Framework, an initiative aimed at driving excellence and improving the quality of life across India.

- QCI Surajya Recognition & Ranking Framework is an initiative aimed at driving excellence and improving the quality of life across India.

- This new framework focuses on 4 pillars:
 1. Shiksha (Education)
 2. Swasthya (Health)
 3. **Samriddhi (Prosperity)**
 4. Sushasan (Governance)
- The Surajya Recognition will celebrate exceptional performance and dedication to quality within these crucial sectors.
- The framework's August 2024 rankings highlight achievements in Shiksha, Swasthya, and Samriddhi, with Sushasan set to be featured in future editions.
- In the Shiksha category, Uttar Pradesh tops the list with the highest number of accreditations, assessments, and ratings, followed closely by Delhi, which also performs strongly.
- For Swasthya, Chhattisgarh, Karnataka, Kerala, Rajasthan, Mizoram, and Manipur have achieved full certification under the Ayushman Arogya Yojana (NABH).
- Tamil Nadu and Maharashtra lead in the Medical Entry Level Testing Labs (MELT) rankings (NABL), while Chandigarh and Jammu & Kashmir show notable performance in Ayushman Arogya Yojana certification.
- Delhi excels in MELT rankings, followed by Jammu & Kashmir.
- In the Samriddhi category, Gujarat, Karnataka, and Rajasthan stand out with the highest number of ZED certifications, particularly in the Micro category.
- Jammu & Kashmir and Delhi also achieve significant ZED certifications.
- Maharashtra and Bihar lead in the MSME Competitive LEAN Scheme.
- ***This initiative combines monthly and cumulative evaluations to ensure a thorough and balanced assessment.***
- By recognizing and rewarding states and organizations for their quality and innovation, the framework supports India's journey towards becoming a developed and quality-driven nation.
- **Quality Council of India (QCI)** - It was established as a National body for Accreditation in 1996.
- It was set up through a PPP model as an independent autonomous organization with the support of Government of India and the Indian Industry represented by 3 premier industry associations such as:
 1. Associated Chambers of Commerce and Industry of India (ASSOCHAM)
 2. Confederation of Indian Industry (CII)
 3. Federation of Indian Chambers of Commerce and Industry (FICCI)
- It is a non-profit organization registered under the Societies Registration Act XXI of 1860.
- The **Department of Industrial Policy and Promotion, Ministry of Commerce and Industry** was designated as the nodal point for all matters connected with quality and QCI.

4) Consider the following statements with respect to Kasturi Cotton Bharat programme

1. It aims to improve traceability, certification and branding of Indian cotton with the objective of creating premium value for cotton grown in India.
2. It's a joint initiative between the Government of India, trade bodies and industry.
3. In India, most of the cotton is produced from the irrigated lands.

How many of the statements given above are correct?

- a. Only one
- b. Only two
- c. All Three
- d. None of the above

Answer : b

Kasturi Cotton Bharat Programme

The Ministry of Textiles has recently launched the Kasturi Cotton Bharat Programme to improve traceability, certification and branding of Indian cotton.

- Cotton is the world's most versatile fibre.
- **India has the largest area under cotton cultivation** and is also the **largest producer** and **second largest consumer** of cotton.
- Kasturi Cotton Bharat Programme aims to improve traceability, certification, and branding of Indian cotton.
- It's a **joint effort between the Government of India, trade bodies, and industry**.
- A Memorandum of Understanding (MoU) was signed in 2022 between the Cotton Corporation of India and The Cotton Textiles Export Promotion Council.
- QR-based certification technology is used at each processing stage.
- A block chain-based software platform provides end-to-end traceability and transaction certificates.
- A microsite with QR code verification and block-chain technology has been developed.
- The block-chain technology implementation involves stakeholders across the entire Indian cotton value chain, including Andhra Pradesh.
- The program operates at the national level and promotion is done on both national and international platforms.
- *Funding is not allocated at the state level.*
- All ginners in India, including those in Andhra Pradesh, can produce Kasturi Cotton Bharat brand according to the stipulated protocol.
- 343 modernized ginning and pressing units have registered for the initiative.
- Approximately 67% of Indian's cotton is produced on rain-fed areas and 33% on irrigated lands.
- **In India, most of the cotton is produced from the rain-fed areas.**

5) Consider the following statements with respect to Artificial Light at Night (ALAN)

1. It enhances leaf toughness and reduces herbivory.
2. It has species-specific effects on leaf nutrients, size and defence substances.
3. More than 80 percent of the world's population lives under light-polluted skies.

How many of the statements given above are **incorrect**?

- a. Only one
- b. Only two
- c. All Three
- d. None of the above

Answer : d

Artificial Light at Night (ALAN)

According to a recent study, High levels of artificial light at night (ALAN) are making tree leaves tougher and harder for insects to eat, posing a threat to urban food chains.

- ALAN enhances leaf toughness and reduces herbivory (insect feeding on leaves).
- It has species-specific effects on leaf nutrients, size and defence substances.
- This threatens urban food chains by altering insect feeding patterns.
- Plants in high-light areas focus more on defence than growth.
- **Leaf characteristics affected** - Increased leaf carbon content and toughness.
- Decreased leaf nitrogen content and changes in specific leaf area (SLA).
- **Ecological implications** - Reduced energy flow from plants to higher trophic levels.

- Potential threat to urban biodiversity, including arthropods and birds.
- Slower leaf decomposition, affecting nutrient cycling.
- **Light pollution** – *More than 80% of the world's population lives under light-polluted skies.*
- The night sky is rapidly getting brighter globally.
- **Conservation efforts** – Growing movement to establish "dark-sky places".
- **Pench Tiger Reserve in Maharashtra became India's first International Dark Sky Park in January 2024.**

