

Solution
Weekly Quiz
(29th October – 4th November)

Answer1 A

Research Innovation Initiative Gathering (RIIG) is associated with G20. India highlighted that materials for sustainable energy, scientific challenges & opportunities to achieving a sustainable blue economy, biodiversity, and economy would be the major themes and topics of the Research Innovation Initiative Gathering (RIIG) during India's presidency starting from 1st December 2022.

Context – Major themes of the Research Innovation Initiative Gathering (RIIG) during India's presidency highlighted at G-20 Research Ministers meeting

Answer2 A

Earth Surface Mineral Dust Source Investigation (EMIT)

- Recently scientists have identified more than 50 super-emitters of heat-trapping methane gas in central Asia, the west Asia and the south western United States.
- EMIT is a mission to map the mineral composition of arid dust source regions via imaging spectroscopy in the visible and short-wave infrared range.
- It is originally designed to examine how dust impacts climate and will advance the understanding of dust's effects throughout the Earth system.
- It was selected from the Earth Venture Instrument-4 solicitation under the Earth Science Division of NASA Science Mission Directorate.
- It was developed by NASA's Jet Propulsion Laboratory and launched through SpaceX Dragon resupply spacecraft from NASA's Kennedy Space Centre.
- The instrument observes Earth from outside the International Space Station.
- The maps of the source regions will be used to model the role of mineral dust in the radiative forcing (warming or cooling) of the atmosphere.
- It will observe places in which no one thought to look for greenhouse-gas emitters before.

Answer3 A

Genetically Modified (GM) Crops

- A genetically modified organism (GMO) is any living organism whose genetic material has been modified to include certain desirable techniques.

- In crops, genetic modification involves the manipulation of DNA instead of using controlled pollination.
- It is regulated by the Genetic Engineering Appraisal Committee (GEAC), under the Ministry of Environment, Forest and Climate Change (MoEF&CC).
- Soyabean, maize, cotton, and canola with herbicide tolerance and insect resistance are the most widely grown GM crops around the world.
- Other common genetically modified characteristics include virus resistance, drought resistance, and fruit and tuber quality.
- The performance of the GM crop is tested under strict laboratory and field conditions

GM crops in India

- Indian farmers started cultivating (*Bacillus thuringiensis*) Bt cotton, a pest-resistant, genetically modified version of cotton.
- *Bacillus thuringiensis* (Bt) is a species of bacteria that lives in soil.
- It makes proteins that are toxic to some insects when eaten, but not others.
- Bt cotton cultivation in India made India the fourth-largest cultivator of GM crops by acreage and the second largest producer of cotton.
- Acts and rules that regulate GM crops in India include:
 - Environment Protection Act, 1986 (EPA)
 - Biological Diversity Act, 2002
 - Plant Quarantine Order, 2003
 - GM policy under Foreign Trade Policy
 - Food Safety and Standards Act, 2006
 - Drugs and Cosmetics Rule (8th Amendment), 1988

Answer4 D

Right to Vote

- The right to vote is a constitutional right under Article 326 of the Constitution.
- Section 62(5) of the Representation of the People Act, 1951, mandates that “no person shall vote at any election, if confined in a prison.
- Section 62 of the Representation of the People Act, 1951 also ensures that each person who is within the electoral roll of that constituency is entitled to vote.

Answer5 C

Negotiable Warehouse Receipt (NWR)

- It is implemented by Warehousing Development and Regulatory Authority (WDRA).
- WDRA was set up under the Warehousing (Development and Regulation) Act, 2007.
- The main objective of the WDRA to implement (NWR) system in India is to encourage farmers not to sell their produce immediately after the harvest when prices tend to be the lowest in the year.

- Farmers can store their produce in WDRA-registered warehouses that have to issue NWR/e-NWR to them.
- The farmers can seek loans from banks against their NWR/e-NWR.
- So far the WDRA has notified 123 agricultural commodities and 26 horticultural commodities for which the warehouses can issue e-NWRs
- The e-NWRs are recorded and maintained in digital form by two repositories approved by the WDRA.

Answer6 C

HARIT Aaykar

The Income Tax Department has launched the initiative on the occasion of National Unity Day to increase greenery and create micro forests.

HARIT is the abbreviation of Hariyali Achievement Resolution by Income Tax.

Under this initiative, the Department resolves to increase the green cover by planting trees and creating micro-forests in and around Income Tax Department's buildings and other public areas.

Answer7 D

Senna Spectabilis

- Recently, the weed of this invasive species has a negative effect on local biodiversity, crowding out native species and limiting food availability for wildlife.
- Senna Spectabilis is an exotic species with bright yellow flowers used as firewood and native to South and Central America.
- In India this species has become highly invasive in the Sigur plateau in both the core and buffer zones of the Mudumalai Tiger Reserve (MTR).
- Sigur plateau is a plateau in the north and east of Nilgiri District Nilgiri Hills of Tamil Nadu.
- Tamil Nadu Newsprint and Papers Limited (TNPL) has planned to use wood from Senna spectabilis from the MTR for paper-making.
- Senna spectabilis, along with Lantana camara, are major invasive weeds that had taken over vast swathes of the Nilgiris.
- Lantana camara is a species of flowering plant within the verbena family, native to the American tropics.

Answer8 A

Mangarh Dham

- Recently PM called for preparing a roadmap to develop Mangarh Dham in Rajasthan's Banswara district as a tribal destination.
- Mangarh Dham is situated near the Rajasthan-Gujarat border, is known for massacre of tribals by the British Indian Army in 1913.
- About 1,500 Bhil tribals and forest dwellers were killed at a hill in this massacre.
- The Bhil tribes are an excellent archers with deep knowledge about their local geography.
- This massacre of tribals took place six years before Jallianwalla Bagh and is sometimes referred to as the Adivasi Jallianwala.

Answer9 B

VIP securities in India

- In the case of the Centre, the decision is taken by the Ministry of Home Affairs (MHA).
- The level of security protection for an individual needs in the case of states, it is the state government.
- The assessment by the MHA or states as the case may be is made on the basis of inputs received from intelligence agencies.
- These agencies include the Intelligence Bureau and Research and Analysis Wing (RAW) at the level of the Centre, and the state intelligence department at the level of the state.
- The Protection is generally given to someone who holds a position of consequence either in the government or in civil society hence the informal description VIP security.

Types of VIP Security

- There are mainly six categories of security cover: X, Y, Y+, Z, Z+, and SPG (Special Protection Group).
- SPG is meant only for the Prime Minister and his immediate family.
- X category security usually entails one gunman protecting the individual.
- Y has one gunman for mobile security and one (plus four on rotation) for static security.
- Z has six gunmen for mobile security, and two (plus eight) for residence security.
- Y+ has two policemen (plus four on rotation) for mobile security, and one (plus four on rotation) for residence security.
- Z+ has 10 security personnel for mobile security and two (plus eight) for residence security.

Answer10 A

Coronal Hole

- Recently, the NASA shared an image of the sun with dark patches on its surface resembling eyes and a smile.
- Coronal Holes are regions on the sun's surface from where fast solar wind gushes out into space.

- As they contain little solar material, they have lower temperatures and thus appear much darker than their surroundings.
- These 'coronal holes' are important to understanding the space environment around the earth through which our technology and astronauts travel
- NASA explained that the patches are called coronal holes, which can be seen in ultraviolet light but are typically invisible to our eyes.
- The holes are not a unique phenomenon, appearing throughout the sun's approximately 11-year solar cycle.
- It can last much longer during solar minimum.
- **Solar minimum** – A period of time when activity on the Sun is substantially diminished.

Answer11 C

Ranipur Tiger Reserve

- The Ranipur Tiger Reserve is located in Uttar Pradesh and has become the 53rd tiger reserve of India.
- It is the fourth tiger reserve in Uttar Pradesh as the state already has three tiger reserves—Dudhwa, Pilibhit and Amangarh.
- Ranipur tiger reserve is covered by northern tropical dry deciduous forests.
- It is home to mammals like mega fauna tiger, leopard, bear, spotted deer, sambhar, chinkara among others.
- The establishment of this tiger reserve will lead to opening up of eco-tourism and the creation of immense employment opportunities.

Answer12 A

Pesticide Action Network (PAN)

- Pesticide Action Network (PAN) India is founded as an independent national non-profit organisation in India in 2013.
- It is expertise to eliminate the human and environmental hazards caused by pesticides.
- The organization is focusing to bring changes in the way chemical pesticides are used harming life and environment.
- It aims to help farmers to reduce dependence on toxic chemicals.
- Its larger focus is to support farm and farmer participated research for sustaining agriculture and to build local economy.
- It will provide training and capacity building for safe, ecologically sound to replace toxic substances in our society.
- It will increase the use of sustainable alternatives to chemical pest control based on scientific knowledge.
- PAN India is working towards sustainable and diverse agro ecosystems.

- It will support farmers in conserving traditional knowledge, farming systems and agro biodiversity.

Answer13 C

The National Commission for Scheduled Tribes (NCST)

- The National Commission for Scheduled Tribes (NCST) was established by amending Article 338.
- A new Article 338A inserted in the Constitution through the Constitution (89th Amendment) Act, 2003.
- It will investigate matters relating to Safeguards provided for STs under the Constitution and to evaluate the working of such Safeguards.
- It consist of a Chairperson, Vice Chairperson and three other members.
- The Chairperson, the Vice-Chairperson and the other Members shall hold office for a term of three years.
- The Chairperson has been given the rank of Union Cabinet Minister, and the Vice-Chairperson that of a Minister of State and other Members have the ranks of a Secretary to the Government of India.
- The Chairperson shall be appointed from amongst eminent socio-political workers belonging to the Scheduled Tribes.
- The Vice-Chairperson and other Members out of whom at least two shall be appointed from amongst persons belonging to the Scheduled Tribes.
- At least one other Member shall be appointed from amongst women.

Answer14 C

Dhara Mustard Hybrid-11 (DMH-11)

- Recently, the Genetic Engineering Appraisal Committee (GEAC) recommended the environmental release of transgenic hybrid mustard DMH-11 (Dhara Mustard Hybrid-11) for seed production.
- Dhara Mustard Hybrid-11 is a genetically modified hybrid variety of the mustard species developed without transgenic technology.
- The scientists have deployed the barnase-barstar genetically modified technology to develop DMH-11.
- Mustard oil production from this variety of crop will save a lot on foreign exchange exchequer.
- There is a concern over GM mustard threatening or undermining the population of honey bees.

Answer15 A

The World Network of Biosphere Reserves (WNBR)

- The World Network of Biosphere Reserves (WNBR) is the integration of people and nature for sustainable development, knowledge sharing, poverty reduction and human well-being improvements.
- It was formed in 1971, as a backbone for biodiversity conservation, ecosystem restoration, and living in harmony with nature.
- There are now 738 properties in 134 countries, including 12 in India, four in Sri Lanka, and three in the Maldives.
- It is a unique tool for sharing knowledge, exchanging experiences, building capacity and promoting best practices.
- In India, the first biosphere reserve was designated by UNESCO in 2000, namely, the blue mountains of the Nilgiris stretching over Tamil Nadu, Karnataka and Kerala.