



## Daily Current Affairs Prelims Quiz 12-12-2024 (Online Prelims Test)

1) Consider the following statements with respect to Haemophilia

1. Haemophilia is a rare, inherited blood disorder that affects the blood's ability to clot.
2. 'Haemophilia A' is the more common version of the condition, is caused by the absence of a blood-clotting factor called Factor VIII.
3. Centre for Stem Cell Research (CSCR) has developed the first human gene therapy for 'Haemophilia A' in India recently.

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

### Haemophilia



- Haemophilia is a rare, *inherited blood disorder* that affects the blood's ability to clot.
- Haemophilia can be classified as minor or severe depending on the percentage of clotting factor present in those afflicted.
- '**Haemophilia A**' is the more common version of the condition, is caused by the absence of a blood-clotting factor called Factor VIII.

*Even though haemophilia is a rare disorder, India has the world's second largest patient pool, with an estimated 40,000 to 100,000 patients.*

- **Symptoms** - It can be mild to severe, depending on the level of clotting.
- People with haemophilia may have:
  - Nosebleeds that take a long time to stop,
  - Bleeding from wounds that lasts a long time,
  - Bleeding gums,
  - Skin that bruises easily and
  - Pain and stiffness around joints, such as elbows, because of bleeding inside the body (internal bleeding).
- **Treatment** - It requires injections at frequent intervals, with infusions of a 'clotting factor' to prevent bleeding.
- **Gene therapy treatments**, promise to be a **one-time solution**.
- A gene introduced into the body teaches it to create enough of the clotting factor that can prevent such haemorrhage.

- **Challenges** – Current treatments require frequent Factor VIII replacement therapy, which faces challenges such as high costs, intravenous (IV) access in children, and low patient acceptance.
- **Roctavian** – Is the only one gene therapy which was approved by the U.S. Food and Drug Administration for commercial use in 2023.
- Roctavian works by *transporting the therapeutic gene into the body by using an adenovirus* as a carrier or vector and involves the liver in producing Factor VIII.
- **Gene therapy by Centre for Stem Cell Research (CSCR)** – The gene therapy approach developed by CSCR involves the use of a lentiviral vector to introduce a normal copy of the Factor VIII gene into **autologous haematopoietic stem cells (HSCs)**.

*Autologous hematopoietic stem cells (HSCs) refers to a patient's own blood stem cells, which are harvested from their bone marrow or peripheral blood and then re-infused back into them after undergoing a high-dose chemotherapy treatment.*

- In the CMC trial, stem cells from the patients were fused with the clotting factor gene using another kind of vector, called a **lentivirus**.
- **Lentiviral vectors** are a type of viral vector that can be used to transfer genetic material into cells for gene therapy.
- These modified HSCs generate blood cells capable of producing functional Factor VIII over extended periods, thus obviating the need for repeated infusions.
- **Centre for Stem Cell Research (CSCR)** – Is a unit of the Institute of Stem Cell Research and Regenerative Medicine (inStem), Bengaluru.
- It has been established as a collaboration between inStem, the Department of Biotechnology, Ministry of Science and Technology, Government of India and the Christian Medical College, Vellore.
- CSCR is supported by the Department of Biotechnology of the Ministry of Science & Technology.
- Has a head appointed by the Director, Christian Medical College that is responsible for the overall management of the Centre.
- CSCR is advised by a Core Committee, which is appointed by the Principal, CMC of Vellore.

2) Consider the following statements with respect to the Prime Minister's WiFi Access Network Interface (PM-WANI)

1. It aims to enhance the proliferation of public WiFi hotspots to create robust digital communications infrastructure in the country, especially in rural areas.
2. Public Data Office (PDO), one of the component under the PM-WANI ecosystem provides authorisation and accounting services to PDOs.
3. It was launched by the Ministry of Electronics and Information Technology.

How many of the statements given above are correct?

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

Answer : a

### **Prime Minister's WiFi Access Network Interface (PM-WANI)**

- Prime Minister's WiFi Access Network Interface (PM-WANI) aims to *enhance the proliferation of public WiFi hotspots* to create robust digital communications infrastructure in the country, especially in rural areas.

- It was launched by the **Department of Telecommunication** in December 2020. (**Statement 3 is incorrect**)
- Through better access to public hotspots, the government aims to *increase employment for small and micro-entrepreneurs* and provide *low-cost internet to the underserved urban poor and rural households*.
- The scheme *encourages local shops and establishments to provide Wi-Fi for last-mile internet delivery* which does not require a licence or charge a registration fee.
- **Accessibility** - To access public hotspots under PM-WANI scheme one needs to download a relevant App which shows the available networks.
- The user can then choose from a list of available connections and make a payment to use the network.
- The user can access the network till his/her balance is exhausted.
- **PM-WANI ecosystem** - It consists of four parts, which are:
  1. Public Data Office (PDO)
  2. Public Data Office Aggregator (PDOA)
  3. App Provider
  4. Central Registry
- PDO establishes the Wi-Fi Hotspots and provides internet access to users.
- **PDOA provides authorisation and accounting services to PDOs.** (**Statement 2 is incorrect**)
- The app provider displays the available hotspots in the phone's proximity.
- The central registry overseen by the Centre for Development of Telematics maintains details of App Providers, PDOs and PDOAs.
- According to the PM-WANI central registry, there are 136 PDO aggregators, 83 app providers, and 132,529 public Wi-Fi hotspots, as of November 2022.
- **Benefits** - WANI Wi-Fi architecture can lead to enhanced internet penetration which could lead to an increase in gross domestic product.
- It can scale up internet access in rural areas, thereby narrowing the digital divide.
- Can generate jobs in small- and medium-scale sectors.
- Could provide affordable internet access to the mass underserved section of society and help boost digital India.

3) Consider the following statements with respect to National Panchayat Awards

1. All the Panchayats will be ranked based on their performance under 9 Sustainable Development Goals (LSDGs) themes.
2. Deen Dayal Upadhyay Panchayat Satat Vikas Puraskar and Carbon Neutral Vishesh Panchayat Puraskar are few of the categories under the award.

Which of the statements given above is/are correct?

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

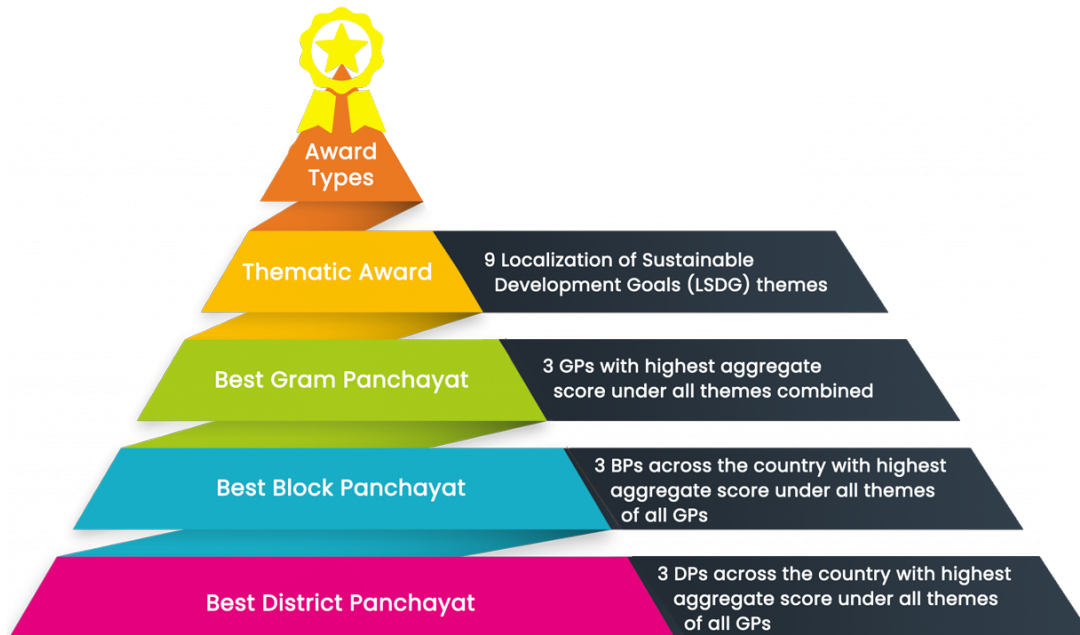
Answer : c

### National Panchayat Awards

- **Primary objectives** - To assess the performance of Panchayats in attainment of Sustainable Development Goals (SDGs).
- To promote competitive spirit among them and catalyse the process of LSDGs through Panchayati Raj Institutions for attaining LSDGs by 2030.
- National Panchayat Awards have been revamped and launched during the year 2022 aligning

them with 9 Localization of Sustainable Development Goals (LSDGs) themes aggregating 17 SDGs.

- **Features** - Awards competition structure is now *multi-level pyramidal* at Block, District, State/UT and National Level.



- All the Panchayats will be ranked based on their performance under each of the following **9 LSGD themes**:
  1. Poverty free and enhanced livelihoods Panchayat
  2. Healthy Panchayat
  3. Child Friendly Panchayat
  4. Water Sufficient Panchayat
  5. Clean and Green Panchayat
  6. Self-sufficient infrastructure in Panchayat
  7. Socially Just and Socially secured Panchayat
  8. Panchayat with Good Governance
  9. Women-Friendly Panchayat
- All the Gram Panchayats have to mandatorily fill the Questionnaires under all 9 award themes.
- **Categories of Awards** - Awards at National Level will be given to Gram, Block and District Panchayats under following categories namely:
  - **Deen Dayal Upadhyay Panchayat Satat Vikas Puraskar** - Top 3 GPs under each of 9 award themes.
  - **Nanaji Deshmukh Sarvottam Panchayat Satat Vikas Puraskar** - For top 3 best GPs, BPs and DPs with highest average score under all themes combined.
  - **Gram Urja Swaraj Vishesh Panchayat Puraskar** - For 3 GPs for their performance regarding adoption and usage of renewable sources of energy.
  - **Carbon Neutral Vishesh Panchayat Puraskar** - For 3 GPs towards achieving Net-Zero carbon emissions.
  - **Panchayat Kshamta Nirmaan Sarvottam Sansthan Puraskar** - For 3 Institutions who has provided institutional support to GPs in achieving LSDGs.
  - **Nanaji Deshmukh Sarvottam Panchayat Satat Vikas Puraskar** - One GP which qualifies and gets shortlisted for National Panchayat Awards during the subsequent years.
  - **Best Participant (State/District)** - State/UT with highest percentage of participation from GPs (>90%).

4) Consider the following statements with respect to the Group Accidental Insurance Scheme (GAIS)-Pradhan Mantri Matsya Sampada Yojana (PMMSY)

1. The entire insurance premium amount is borne by the central and state Government, with no

contribution from the beneficiary.

2. Under this scheme the men or women fishers in the age group of 18 to 70 years shall be eligible for insurance coverage.

Which of the statements given above is/are correct?

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

Answer : c

### **Group Accidental Insurance Scheme (GAIS)-Pradhan Mantri Matsya Sampada Yojana (PMMSY)**

- Group Accidental Insurance Scheme (GAIS) provide insurance to people involved in fisheries activities.
- GAIS is implemented by the Department of Fisheries under the Pradhan Mantri Matsya Sampada Yojana (PMMSY).
- Fishers include fish workers, fish farmers and any other category of persons directly involved in fishing and fisheries related allied activities.
- **Features** - The entire insurance premium amount is borne by the central and state Government, with *no contribution from the beneficiary*.
- **Eligibility** - Under this scheme the *men or women fishers in the age group of 18 to 70 years* shall be eligible for insurance coverage as below:
  - Rs. 5.00 lakh against death or permanent total disability.
  - Rs. 2.50 lakh against permanent partial disability.
  - Rs. 25,000 against accidental hospitalization.

5) Which of the following best defines the term 'Coronagraph'?

- a. An instrument designed to block the sun's bright rays and allow astronomers to view and study its nearby features or objects.
- b. An instrument that allows scientists to take X-ray images of the universe to understand its structure and evolution.
- c. An instrument that captures light and focuses it to see further into the distance.
- d. An instrument to detect dust particles to measure properties such as mass, species, speed and direction of them.

Answer : a

### **Coronagraph**

*Aditya L1 and Proba-3 are expected to conduct joint solar observations in 2025 using coronagraph.*

- Coronagraph is being share in common for both the Aditya L1 and Proba-3 Mission.
- *Coronagraph is an instrument designed to block the sun's bright rays and allow astronomers to view and study its periphery, nearby features or objects.*
- Aditya is the Visible Emission Line Coronagraph (VELC) and the Association of Spacecraft for Polari-metric and Imaging Investigation of the Corona of the Sun (ASPIICS) is on Proba-3.
- ASPIICS offers a field of view between the Sun's outer and inner corona, a circular belt that is normally observable during solar eclipse events.
- It has a 1.4-metre diameter occulting disk mounted on it. Effectively, this means that ASPIICS will facilitate a close-up view of this belt from an earlier 3 solar radii to 1.08 solar radii.