



Down To Earth September (Part-I)

Question 1:

Consider the following statements:

1. The anticyclones rotate counterclockwise in the Northern Hemisphere.
2. The air pressure does not change rapidly in anticyclones.
3. The Anticyclones produce periods of settled and calm weather.

Which of the statements given above is/are correct?

1. 1 only
2. 2 and 3 only
3. 1 and 3 only
4. 1, 2 and 3

Correct Answer : 2

Explanation

- An anticyclone is the opposite of a cyclone i.e. it has an outward-spiralling air circulation around a high pressure centre.
 - An **anticyclone's winds rotate clockwise in the Northern Hemisphere** around a center of high pressure. **Hence, statement 1 is not correct.**
 - Anticyclones typically result in stable, fine weather, with clear skies whilst cyclones are associated with cloudier, wetter, windier conditions.
- Anticyclones are high pressure systems that **have small pressure gradients (ie the air pressure doesn't change rapidly). Hence, statement 2 is correct.**
 - This means that the winds are gentle; as the air sinks, it warms up, leading to warm and dry weather. This warm and dry weather can be extreme sometimes.
 - In August,2021, an **anticyclone named Lucifer** raised temperatures over the Italian

peninsula.

- Lucifer moved up to Italy from the African region and caused the island of Sicily to record a temperature of 48.8°C—the highest Europe has ever seen.
 - Anticyclones **are much larger than cyclones** and produce periods of **settled and calm weather** lasting many days or weeks. **Hence, statement 3 is correct.**
 - Anticyclones often block the path of cyclones, either slowing down the bad weather, or forcing it round the outside of the high pressure system.
-

Question 2:

Consider the following statements:

1. The Garhwal Himalayas are drained by Alaknanda river.
2. Alaknanda is a tributary of Bhagirathi river.
3. Alaknanda meets Ganga river at Devprayag.

Which of the statements given above is/are correct?

1. 1 and 2 only
2. 2 only
3. 1 and 3 only
4. 1, 2 and 3

Correct Answer : 3

Explanation

- **Alaknanda** river flowing in Uttarakhand is one of the two headstreams of Ganga river.
 - The source of Alaknanda is the confluence of Satopanth Glacier and Bhagirathi Kharak glacier.
 - It is considered as the source stream of Ganga.
 - The valleys in the **Garhwal Himalayas are drained by the Alaknanda** and Bhagirathi river systems. **Hence, statement 1 is correct.**
- The **important tributaries of Alaknanda** include Dhauliganga, Nandakini, Pindar, Mandakini and **Bhagirathi**. **Hence, statement 2 is not correct.**
 - Alaknanda flows southwest through Chamoli where it meets the Mandakini river.
 - After subsuming Mandakini, the Alaknanda carries on past Srinagar and then **joins Ganga at Devprayag** where Alaknanda disappears and Ganga carries on its journey. **Hence, statement 3 is correct.**

Question 3:

Consider the following statements with reference to 'Marburg Virus':

1. It belongs to the same family as Nipah virus.
2. It is an extremely contagious virus with a high fatality rate.
3. The major outbreaks have occurred in southern and eastern Africa.

Which of the statements given above is/are not correct?

1. 1 only
2. 2 only
3. 3 only
4. 1 and 2 only

Correct Answer : 1

Explanation

- As per **World Health Organization (WHO)**, the **Marburg virus** is a highly virulent virus that **belongs to the same family as Ebola virus (Filoviridae)**. Hence, **statement 1 is not correct**.
 - The Nipah virus belongs to the Paramyxoviridae family of viruses.
 - It causes hemorrhagic fever and is **extremely contagious and deadly with a 24-88% fatality rate**. Hence, **statement 2 is correct**.
 - There is no approved therapy or drug for the disease.
 - Human infection with Marburg virus disease initially results from prolonged exposure to mines or caves inhabited by Rousettus bat colonies (referred to as dog-faced fruit bats, or flying foxes).
 - Marburg can spread through human-to-human transmission via direct contact (through broken skin or mucous membranes) with the blood, secretions, organs or other bodily fluids of infected people, and with surfaces and materials (e.g. bedding, clothing) contaminated with these fluids.
 - So far, there have been **12 major Marburg outbreaks since 1967, mostly in southern and eastern Africa**. Hence, **statement 3 is correct**.
 - The latest case, reported from Guinea in August, 2021, is the first one to be reported from western Africa.
 - Although Marburg is physiologically different from SARS CoV-2, its prevention measures are similar.
-

Question 4:

Consider the following statements:

1. The Delta Plus variant is a sub-lineage of the Delta variant.
2. The high infectivity of the Delta variant is a consequence of the amino acid mutation.

Which of the statements given above is/are correct?

1. 1 only
2. 2 only
3. Both 1 and 2
4. Neither 1 nor 2

Correct Answer : 3

Explanation

- The **Delta variant** first detected in India (Feb, 2021) is a highly contagious variant, more than twice as contagious as previous variants.
 - It eventually became a huge problem for the whole world.
 - It has birthed several **sub-lineages called 'Delta plus' variants** that bear most of its characteristic mutations but are different in other ways. **Hence, statement 1 is correct.**
 - A key **amino acid mutation** may be behind the **high infectivity** of the Delta variant. **Hence, statement 2 is correct.**
 - The change is called P681R and transforms a proline residue into an arginine.
 - Arginine is a chemical building block called an amino acid.
 - Proline disrupts protein secondary structure by inhibiting the backbone to conform to an alpha-helix or beta-sheet conformation.
-

Question 5:

Which of the following are declared as Ramsar sites in India?

1. Thol Lake Wildlife Sanctuary
2. Asan Conservation Reserve

3. Wadhwana Wetland
4. Bhindawas Wildlife Sanctuary

Select the correct answer using the code given below:

1. 1 and 3 only
2. 1, 2 and 4
3. 2, 3 and 4
4. 1, 2, 3 and 4

Correct Answer : 4

Explanation

- Wetlands are ecosystems saturated with water, either seasonally or permanently. **Wetlands of international importance are known as Ramsar Sites.**
 - Recently, the **Ramsar Convention** (international treaty for the conservation and wise use of wetlands) has **designated four new wetlands in India, as wetlands of global importance:**
 - **Bhindawas Wildlife Sanctuary**, the largest wetland in Haryana is a human-made freshwater wetland.
 - **Sultanpur National Park** from Haryana supports more than 220 species of resident, winter migratory and local migratory waterbirds at critical stages of their life cycles.
 - **Thol Lake Wildlife Sanctuary** in Gujarat lies on the Central Asian Flyway and more than 320 bird species can be found here.
 - **Wadhwana Wetland** from Gujarat is internationally important for its birdlife as it provides wintering ground to migratory waterbirds, including over 80 species that migrate on the Central Asian Flyway.
 - In 2020, Kabartal Wetland (Bihar) and **Asan Conservation Reserve (Uttarakhand)** were also designated as **Ramsar sites.**
 - **Hence, option D is correct.**
-

Question 6:

Which of the following cities has been declared as India's first 'water plus city'?

1. Pune
2. Indore

3. Chandigarh

4. Surat

Correct Answer : 2

Explanation

- **Indore**, which has been ranked number one in cleanliness four times in the country, has been **declared as the country's first 'water plus city'** in the results of Swachh Survekshan, 2021.
 - The Swachh Survekshan is an annual survey of cleanliness and sanitation conducted as part of the 'Swachh Bharat Mission'.
 - Under the Swachh Bharat Mission (Urban), the cities of the country are tested on the basis of various cleanliness parameters; ODF+, ODF++ and Water+.
 - The main objective of Water+ is to clean the water bodies, rivers and ponds in the cities, so that only clean and rainwater flows in the rivers and streams and sewerage water can be reused.
 - The Water Plus certificate is awarded to cities that have met all the ODF Double Plus standards.
 - **Hence, option B is correct.**
-

Question 7:

Consider the following statements regarding Plastic Waste Management Amendment Rules, 2021.

1. It prohibits the manufacture, import, sale and use of single-use as well as compostable plastic.
2. The Central Pollution Control Board (CPCB) is the implementing agency for these rules.
3. It increases the permitted thickness of plastic bags from 50 microns to 75 microns.

Which of the statements given above is/are not correct?

1. 1 only
2. 1 and 2 only
3. 2 only
4. 2 and 3 only

Correct Answer : 1

Explanation

- Recently, the Ministry Of Environment Forest And Climate Change has notified the **Plastic Waste Management Amendment Rules, 2021**.
 - The rules amend the Plastic Waste Management Rules, 2016.
 - These rules prohibit the manufacture, import, stocking, distribution, sale and use of the identified single-use plastic from 1st July, 2022.
 - The **ban will not apply to commodities made of compostable plastic. Hence, statement 1 is not correct.**
 - The permitted thickness of the plastic bags, **currently 50 microns, will be increased to 75 microns** from 30th September, 2021, and to 120 microns from the 31st December, 2022. **Hence, statement 3 is correct.**
 - Plastic bags with higher thickness are more easily handled as waste and have higher recyclability.
 - **Implementing Agency: The Central Pollution Control Board**, along with state pollution bodies, will monitor the ban, identify violations, and impose penalties already prescribed under the Environmental Protection Act, 1986. **Hence, statement 2 is correct.**
-

Question 8:

Which of the following statements is correct regarding Pulses?

1. India is the largest producer, consumer and exporter of pulses.
2. The Essential Commodities (Amendment) Act, 2020 removed pulses from the list of essential commodities.
3. Food Corporation of India (FCI) is the nodal procurement agency for pulses.
4. There is no procurement limit for the pulses in India.

Correct Answer : 2

Explanation

- India is the **largest importer of pulses, despite being the largest producer and consumer** for the same. While the domestic production of pulses has risen by 122% between 1981 and 2020 (from 11.5 million tonnes to 25.57 million tonnes), the imports have risen by 1,622% (from 0.13 million tonnes to 2.2 million tonnes).
 - According to FAO, **Canada is a leading country in world pulses export** followed by

Australia, Myanmar, USA and China. **Hence, option A is not correct.**

- Though the imports have declined in the past decade, India still does not produce enough to meet domestic demand, causing shortages and occasional surge in prices.
 - The production of kharif pulses (tur, urad and moong), which account for about 40% of India's total pulses, has been worse than that of rabi pulses (chana and masoor).
 - In September, 2020, the Government of India cleared the **Essential Commodities (Amendment) Bill, 2020**.
 - The **Essential Commodities (Amendment) Act, 2020 removed commodities like pulses, oilseeds, edible oils, onion and potatoes from the list of essential commodities. Hence, option B is correct.**
 - This benefits private players because as long as these items are essential commodities, it is the government's responsibility to ensure their supply.
 - The **National Agricultural Cooperative Marketing Federation of India (NAFED) is the nodal procurement agency for pulses** (like Food Corporation of India (FCI) is for rice and wheat). **Hence, option C is not correct.**
 - NAFED currently procures five major pulses—gram (chana), green gram (moong), black gram (urad), lentils (masoor), pigeon pea (tur or arhar) on behalf of the Union government from farmers at Minimum Support Price (MSP).
 - The **procurement of pulses is capped at 25% of the actual production for that year/ season**. There is no limit on the procurement of wheat and rice. **Hence, option D is not correct.**
-

Question 9:

Consider the following statements regarding GOBAR-DHAN Scheme:

1. It is jointly launched by the Ministry of Rural Development and the Ministry of Agriculture & Farmers Welfare.
2. The scheme is being implemented as part of the Swachh Bharat Mission (Gramin).

Which of the statements given above is/are not correct?

1. 1 only
2. 2 only
3. Both 1 and 2
4. Neither 1 nor 2

Correct Answer : 1

Explanation

▪ **GOBAR-DHAN Scheme:**

- The **Ministry of Jal Shakti** has launched the GOBAR (Galvanizing Organic Bio-Agro Resources) - DHAN scheme. **Hence, statement 1 is not correct.**
 - The scheme is being implemented as part of the **Swachh Bharat Mission (Gramin)**. **Hence, statement 2 is correct.**
 - Aim:
 - Keeping villages clean, increasing the income of rural households, and generation of energy from cattle waste.
 - The scheme also aims at creating new rural livelihood opportunities and enhancing income for farmers and other rural people.
-

Question 10:

Consider the following statements:

1. Pollen is a major outdoor airborne allergen responsible for causing asthma and seasonal rhinitis in humans.
2. Pollen calendars provide readily accessible visual details with concentrations closely related to locally distributed flora.
3. Chandigarh became India's first city to get its pollen calendar.

Which of the statements given above are correct?

1. 1 and 2 only
2. 2 and 3 only
3. 1 and 3 only
4. 1, 2 and 3

Correct Answer : 4

Explanation

- **Pollen grains** are male biological structures with the primary role of fertilisation, but when inhaled by humans, they may strain the respiratory system and cause allergies.
 - About 20-30% of the population suffers from allergic rhinitis/hay fever in India, and approximately 15% develop asthma.
 - Pollen is considered a **major outdoor airborne allergen responsible for allergic rhinitis, asthma**, and atopic dermatitis in humans. **Hence, statement 1 is correct.**

- **Pollen Calendars (PCs) represent the time dynamics of airborne pollen** present in a particular geographical area.
 - They **yield readily accessible visual details** about various airborne pollen present throughout the year in a single picture.
 - **PCs are location-specific**, with concentrations closely related to locally distributed flora. **Hence, statement 2 is correct.**
 - Recently, the researchers from the Post Graduate Institute of Medical Education and Research (PGIMER) and Panjab University have **created a pollen calendar for Chandigarh**, arguably the **first for any city in India. Hence, statement 3 is correct.**
-

PDF Refernece URL: <https://www.drishtias.com/print-quiz/1606>