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Daily MCQs: 27-06-2024

1. Which of the following are potential challenges associated with Direct Seeding of Rice (DSR)?

1. Weed management
2. Uniform seed distribution
3. Higher water requirement compared to transplanting
4. Increases Greenhouse gas emissions

Select the correct answer using the codes given below

- A) 1 and 2 only
- B) 2 and 3 only
- C) 1, 2, and 4 only
- D) 1, 2, 3, and 4

2. The term 'common but differentiated responsibilities' is related to

- a) UNFCCC
- b) British Exit from EU
- c) BRICS
- d) ASEAN

3. Consider the following statements about the speaker of Lok Sabha

- 1) The Speaker is elected by the members of the Lok Sabha and holds office until the dissolution of the House.
- 2) The Speaker, like any other member of the House, can face disqualification.
- 3) The salary of the Speaker is drawn from the Consolidated Fund of India.

How many of the above statements are correct?

- A) Only one
- B) Only two
- C) All three
- D) None

4. Besides its culinary uses, capsaicin also has potential applications in which of the following?

- 1) Pain relief medications
- 2) Food preservatives

Select the correct answer using the codes given below

- A) 1 only
- B) 2 only
- C) Both 1 and 2
- D) Neither 1 nor 2

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5. The India-Myanmar border runs through which Indian states?

- A) Assam, Manipur, Mizoram, and Nagaland
- B) Assam, Meghalaya, Manipur, and Mizoram
- C) Assam, Mizoram, Nagaland, and Arunachal Pradesh
- D) Arunachal Pradesh, Manipur, Mizoram, and Nagaland

Solutions:

1. Answer: A

Explanation

- Direct seeding is a crop establishment system wherein **rice seeds are sown directly into the field**, as **opposed to the traditional method** of growing seedlings in a nursery, then transplanting into flooded fields.

Traditional Method

- In the traditional method **paddy farmers prepare nurseries** where seeds are first sown. **After 25-35 days**, the **young seedlings are uprooted and replanted, in the flooded main field.**
 - While this method is labor and water-intensive, it is known to maximize yields and maintain better crop health.
- **Types of DSR:**
 - **Dry Seeding:** Seeds are sown directly into dry soil, followed by irrigation or pre-monsoon rains.
 - **Wet Seeding:** Pre-germinated seeds are drilled into puddled (wet) soil.

Procedure of DSR

- Paddy seeds are **directly sown**, roughly 20-30 days prior to when they would have been transplanted.
- The **field is irrigated and laser leveled** (leveling ground or an object utilizing a laser beam) prior to the seeding process which is carried out using a seed drill.
- The seeds are then **treated by soaking in a fungicide solution** for eight hours, then dried for half a day before sowing. Treatment of seeds is crucial.
- The first round of irrigation is carried out 21 days after sowing, followed by 14-17 more rounds at 7-10 day intervals, depending on soil type and the quality of the monsoon. The final irrigation takes place 10 days before harvest.

Benefits of DSR

Direct seeded rice is seen to be one of the most efficient, sustainable, and economically-viable rice production systems. It offers the following benefits:

- **Reduces water consumption:**

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- The traditional method requires 3,600 to 4,125 litres of water to grow every kilogram of rice. It also requires 25-27 rounds of irrigation in all. DSR reduces the water consumption in cultivation by 15% to 20%. Hence **statement 3 is incorrect**.
- **Reduces labor** by eliminating seedling uprooting and transplanting
- **Reduces cultivation time, energy, and cost of cultivation.**
- **Lowers Greenhouse gas emissions. Hence statement 4 is incorrect.**
- Mechanized DSR provides **employment opportunities** for youth.
- **Increases total income of farmers** by reducing the cost of cultivation.

Factors for the successful implementation of DSR

Soil suitability is crucial for the successful implementation of DSR. There are two factors here.

- **Soil Texture:** DSR is **best suitable for heavy or medium-to-heavy-textured soils**. Farmers should **avoid DSR in light-textured soils**. Heavy-textured soils contain more clay and less sand, whereas light-textured soils have less clay and more sand. Light-textured soils do not retain water well.
- **Iron content of the soil:** Soil with severe iron deficiency, and weed problems must not be cultivated using this technique. **Lack of iron content can severely impact yields** and lead to major financial losses for farmers. Sometimes, farmers might even have to transplant the crop anyway, after a month or so, **leading to DSR losing its labour-saving benefits**.

Current constraints

- Higher seed rates. Hence **statement 2 is correct**.
- Seeds being exposed to birds and pests
- Weed management. Hence **statement 1 is correct**.
- Higher risk of lodging (plants that lean excessively or fall over)
- Risk of poor or non-uniform crop establishment

2. Answer: A

Explanation:

- Common but Differentiated Responsibilities and Respective Capabilities (CBDR-RC) is a principle within the **United Nations Framework Convention on Climate Change (UNFCCC)** that acknowledges the different capabilities and differing responsibilities of individual countries in addressing **climate change**.

About UNFCCC

- The UNFCCC was **signed in 1992** at the **United Nations Conference on Environment and Development** (also known as **Rio Earth Summit**)
- It constitutes the **foundational climate agreement** that has provided the platform for most subsequent international climate agreements.
- The agreement is to **stabilize greenhouse gas concentrations** at a level that would prevent dangerous anthropogenic (human-induced) interference with the climate system.
- The UNFCCC entered into force in 1994.
- The **198 countries (including India)** that have **ratified the Convention** are called **Parties to the Convention**.

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- **Conference of Parties** is the **main decision-making body of the UNFCCC**. It includes representatives of all the 'Parties', i.e. countries that have agreed to participate in and be bound by the UNFCCC.
- The **UNFCCC COP takes place every year**, and is an opportunity to negotiate new measures, and review Parties' progress against the overall goal of the UNFCCC to limit climate change.

3. Answer: C

Explanation

- The Speaker is the **presiding officer of the Lok Sabha** and is responsible for maintaining order and decorum during the proceedings of the House.
- The Speaker has a **key role in parliamentary democracy**.
- There are **no specific qualifications** for becoming Speaker, which means any member is entitled to be considered.
- **Statement 3 is correct:** The **salary** of the Speaker is drawn from the **Consolidated Fund of India**.

How is the speaker elected?

- **Statement 1 is correct:** The Speaker is elected by the members of the Lok Sabha and holds office until the dissolution of the House. The Speaker is **elected by a simple majority in the House**.
- The Constitution of India provides for the offices of the Speaker and Deputy Speaker.
- After a new house is constituted electing the Speaker is one of the first acts that is done.
- After a pro tem or temporary Speaker administers the oath to new members, the Speaker is chosen to be the Presiding Officer of the House.
- **Article 93(1)** of the Indian Constitution states that the **House of the People**, also known as the Lok Sabha, **shall elect a Speaker and a Deputy Speaker from among its members**.

Term

- The **term of the speaker ends with the dissolution of the House**, unless the Speaker resigns or is removed from office before that.
- The Speaker can be removed from office by a resolution passed by an absolute majority of the members of the House.
- A **motion of no-confidence** can be moved **against the Speaker** with notice of 14 days as per **Article 94** of the Constitution.
- **Statement 2 is correct:** The Speaker, like any other member of the House, **can face disqualification**.

Powers of the Speaker

- **Conducting the House:**
 - The Speaker decides how the house has to be conducted.
 - The **conduct of government business is decided by the Speaker in consultation with the Leader of the House**.
 - Prior permission of the Speaker is required for members to ask a question, or to discuss any matter
 - There are Rules and Procedure for the functioning of the House, but the Speaker has **vast powers in ensuring these Rules are followed**, and in choosing procedures.

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- This makes the **impartiality of the Speaker** a **crucial check and balance** for the Opposition to have its say in the House.
- **Interpretation of the Constitution:**
 - The speaker is the final interpreter of the provisions of the Constitution and the Rules of Procedure and Conduct of Business in the Lok Sabha
- **Questions and Records:**
 - The Speaker **decides the admissibility of a question raised by a member**, as well as how the proceedings of the House are published.
 - The Speaker has the power to expunge (remove completely) in full or in part, remarks that he/she may consider to be unparliamentary.
- **Casting Vote:**
 - According to Article 100 of the Constitution, which talks about voting in the Houses, the Chairman of Rajya Sabha or Speaker of Lok Sabha, or any person acting as such, **shall not vote in the first instance**, but shall have an **exercise a casting vote in the case of any equality of votes**.
- **Money Bill:**
 - The Speaker **decides whether a bill is a Money Bill or not** and the Speaker's decision is final on this question.
- **Disqualification of members**
 - The **Tenth Schedule** or the anti-defection law, introduced to the Constitution through the Fifty-Second (Amendment) Act, 1985, **gives the Speaker of the House the power to disqualify legislators who 'defect' from a party**.
 - In the landmark case Kihoto Hollohan versus Zachillhu in 1992, the Supreme Court upheld the power vested in the Speaker and said that only the final order of the Speaker will be subject to judicial review.
 - In 2020, the Supreme Court had ruled that Speakers of Assemblies and Lok Sabha must decide disqualification pleas within three months except in extraordinary circumstances.

4. Answer: C

Explanation

- Capsaicin is the **chemical which makes chilli peppers spicy**.
- Capsaicin is most **abundantly found in the placenta** (white membrane to which seeds are attached) of some **chilli peppers**.
 - *Chilli peppers are the fruits of plants of the genus Capsicum which were introduced to the rest of the world from South and Central America by Christopher Columbus.*

What happens when humans consume Capsaicin?

- The chemical **binds to TRPV1 receptors** in humans' **nose, mouth, skin, and insides**.
 - *These receptors help in detecting heat (and pain), and are most commonly activated by a rise in temperature.*
- But **capsaicin tricks the TRPV1 receptors into reacting, even though there is no actual temperature rise**.

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- The **brain believes that the body is on fire** and **causes the painful and burning sensation** associated with **consuming chilis**.
- The **body then tries to cool down by:**
 - **Sweating**
 - **Red face:** It is caused because capillaries just below the skin dilate, as blood rushes to the surface of the body, where it can radiate heat away more easily.
 - The **runny nose or teary eyes** (if capsaicin happens to come in contact), **gut cramps and diarrhoea** are also the **body's attempt at expelling** the heat-causing element.

Uses of Capsaicin

Both the statements are correct.

- Capsaicin has been widely used as a **flavouring and preservative agent** in food formulations
- **Medical Field:**
 - **Topically applied capsaicin** is useful in **alleviating pain (analgesic)** associated with diabetic neuropathy and chronic musculoskeletal pain.
 - It is used to increase the bladder capacity and **reduce incontinence in patients with bladder hyperactivity**.
- It exhibits good **antioxidant** activity in the food matrix and **antimicrobial activity** against foodborne pathogens and viruses.

Harmful effects

- **High concentrations** of capsaicin are harmful to humans. It can cause
 - **Heartburn, gastrointestinal pain, and diarrhoea**.
- **Long-term ingestion** of high levels of capsaicin may lead to several **chronic gastrointestinal disorders**.

Why in News?

- Food safety authorities in Denmark have recalled three types of South Korean spicy instant noodles over **possible risks of acute poisoning** as the **capsaicin content** in the noodles is so high that it can pose a **health hazard especially to children**.

5. Answer: D

Explanation

