

scientific research and management under Wild Life (Protection) Act, 1972 including their parts and products).

- **Beef of cows, oxen and calves.**
- Beef in the form of offal of cows, oxen and calf
- Meat of buffalo (both male and female) fresh and chilled and frozen
- **Peacock Tail Feathers & its Handicrafts** and articles
- Shavings & Manufactured Articles of shavings of Shed Antlers of Chital and Sambar
- **Sea shells**
- **Wood and wood products**
- Fuel wood
- **Wood charcoal**
- Sandalwood in any form, (but excluding finished handicraft products of sandalwood, machine finished sandalwood products, sandalwood oil)
- Red Sanders wood, Value added products of Red Sanders
- Mechanical, chemical and semi chemical wood pulp

Source : Environment Book by Shankar IAS, CHAPTER - 15 PROTECTED AREA NETWORK

Q.84) Ans: D

Exp:

Sustainable Sugarcane Initiative (SSI)

- Sustainable Sugarcane Initiative (SSI) is an **innovative set of agronomic practices that involves using less seeds, raising seeds in a nursery, and following new planting methods**, with wider seed spacing, and better water and nutrient management to increase the cane yields significantly.
- SSI methods can **increase sugarcane yields by at least 20% with 30% less water** and a 25% reduction in chemical inputs.
- The SSI method of sugarcane cultivation evolved from the **principles of 'More with Less'** followed in SRI (System of Rice Intensification) and was introduced in India by the WWF-ICRISAT collaborative project in 2009.

Source : Environment book, Shankar IAS CHAPTER - 24 AGRICULTURE

Q.85) Ans: A

Exp:

About Messenger RNA (mRNA) vaccines

- **Messenger RNA (mRNA) vaccines** teach our cells how to make a protein that will **trigger an immune response inside our bodies**. It triggers an immune response inside our bodies. That immune response, which **produces antibodies, is what protects us from getting infected if the real virus enters our bodies**. The **Pfizer-BioNTech** and **Moderna** COVID-19 vaccines are **messenger RNA vaccines** – also called mRNA vaccines.
- The mRNA will enter the muscle cells and **instruct the cells' machinery to produce a harmless piece of what is called the spike protein**. The spike protein is found on the surface of the virus. After the protein piece is made, *our cells break down the mRNA and remove it*.
- Our immune system recognizes that the protein doesn't belong there. This **triggers our immune system to produce antibodies and activate other immune cells to fight off what it thinks is an infection**.
- Ultimately, our bodies have learned how to protect against future infection from the virus.
- **mRNA vaccines are synthetically made and do not need cell cultures, bacteria, or other hosts for growing it.**

Extra Edge by Only IAS

- **mRNA never enters the nucleus of the cell** where our DNA (genetic material) is located, so it cannot change or influence our genes.
- **mRNA vaccine technology** may allow for one vaccine to provide protection against multiple diseases, thus decreasing the number of shots needed for protection against common vaccine-preventable diseases.
- Beyond vaccines, **cancer research has used mRNA to trigger the immune system to target specific cancer cells**.

Other types of vaccines :

Inactivated vaccine :

- Where Disease-carrying virus or bacteria **inactivate or kill it using chemicals, heat or radiation**.
- This is the way the **flu and polio vaccines are made** – and vaccines can be manufactured on a reasonable scale.. It requires special laboratory facilities to grow the virus or bacterium safely, and can have a relatively long production time.