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Emergency Use Authorisation

- The Drugs Controller General of India (DCGI) has given 'Emergency Use Authorisation (EUA)' to three anti-Covid vaccines - Covishield, Covaxin and Russian Sputnik V.
- The DGCI has been issuing EUAs based on clinical trial data. These issues helped in rolling out the world's largest vaccination drive.
- **Working** - During a declared emergency, it may not be possible to have all the evidence that a drug regulator would normally require for approving a drug, vaccine, device or a test.
- So, a drug regulator can issue a EUA to a medical product that isn't fully tested to make it widely available for use, if the regulator is satisfied that the product meets reasonable thresholds for safety and effectiveness.
- But, EUA doesn't mean that a vaccine has skipped essential safety trials.
- Drug regulators must follow a basic thumb rule to approve a medical product - The known potential benefits should outweigh the known potential risks.

Phases in Vaccine Trial

- Normally, developing vaccines or drugs takes several years. A good part of this goes in carrying out trials to establish their safety and efficacy.
- **Phase 1 trials** - A vaccine is given to a limited sample set of healthy people to assess its safety at higher doses.
- **Phase 2 trials** A vaccine is undertaken on hundreds of people with different health conditions and from different population strata.
- This helps assess both the effectiveness and the side-effects.
- **Phase 3 trials** - It involves much larger sample, representative of the actual population, to assess both safety and efficacy.

B Cells and T Cells

- The principle of immunisation or vaccination is based on the property of 'memory' of the immune system.
- In vaccination, a preparation of antigenic proteins of pathogen or inactivated/weakened pathogen (vaccine) is introduced into the body.
- The antibodies produced in the body against these antigens would neutralise the pathogenic agents during actual infection.

- The vaccines also generate memory – B and T-cells or lymphocytes that **recognise the pathogen quickly on subsequent exposure** and overwhelm the invaders with a massive production of antibodies.

Similarities between B and T cells

- B cells and T cells are the White Blood Cells of the immune system that are responsible for adaptive immune response in an organism.
- Both B and T cells are structurally similar and originate in bone marrow.
- Both the cells are non-phagocytic and are a part of lymphatic system.

Differences	B-Cells	T-Cells
Production	Bone marrow	Bone marrow
Maturity	Bone marrow	Thymus
Location	Outside lymph node	Inside lymph node
Attacks by	Connecting to the surface of invading bacteria and virus	Connecting only to the outside of the virus antigen
Life Span	Short	Long
Secretion	Antibodies	Lymphokines
Types	Only one active type	Helper and Killer Cell types

e-Property Cards

- Prime Minister will launch the distribution of e-property cards under the SWAMITVA scheme on National Panchayati Raj Day (24th April 2021).
- Property card for every property in the village is prepared by states using accurate measurements delivered by drone-mapping and other modern technical tools of mapping and surveying.
- These cards will be given to property owners and will be recognized by the land revenue records department.

SVAMITVA Scheme

- Survey of Villages and Mapping with Improvised Technology in Village Areas (SVAMITVA) is a Central Sector Scheme for **mapping rural inhabited lands** that was launched in 2020.
- It is a joint effort of the Ministry of Panchayati Raj, State Panchayati Raj Departments, State Revenue Departments and Survey of India.
- It paves the way for using the property as a financial asset by villagers for availing loans and other financial benefits.
- It will promote a socio-economically empowered and self-reliant rural India. It will cover 6.62 Lakh villages of the country during 2021-2025.
- Pilot phase (during 2020-2021) - Maharashtra, Karnataka, Haryana, Uttar

Pradesh, Uttarakhand, Madhya Pradesh and select villages of Punjab and Rajasthan.

Armed Forces Medical Services

- Armed Forces Medical Services (AFMS) will import oxygen generation plants and containers from Germany, amid shortage of oxygen in the hospitals during the Covid-19 across the country.
- These easily portable plants will have a capacity to produce 40 litres of oxygen per minute.
- In another decision, Ministry of Defence (MoD) is giving extension to Short Service Commissioned Doctors in AFMS till December 31, 2021 to tide over the current surge in medical services.
- Armed Forces Medical Services (AFMS) is the first tri-service (Army, Navy and Air Force) organization and one of the largest organized medical services in the country. AFMS provides,
    1. Medical support to the Armed Forces during war and
    2. Comprehensive health care to all service personnel, ex-servicemen and their dependents during peace.
- Army Medical Corps provides medical aid during natural calamities both at national and international levels.
- The officer on commissioning shall be employed as per service requirement in India or abroad in Army, Navy or Air Force.

Area under Summer Crops

- For the second successive year, as a result of efforts of the States and the Central government, along with the hard work of the farmers, the area under summer crops has shown an increasing trend in the country.
- [Summer crops - Pulses, coarse cereals, Nutri-cereals and oilseeds.]
- The total summer crop area has increased to 73.76 lakh hectares from 60.67 lakh hectares a year ago during the corresponding period.
    1. **Pulses** area has increased nearly a 100%. It has been reported mainly in Tamil Nadu, Madhya Pradesh, West Bengal, UP, Gujarat, Bihar, Chhattisgarh, Maharashtra, Karnataka, etc.
    2. **Oilseeds** area increased around 16% in West Bengal, Karnataka, Gujarat, Maharashtra, Uttar Pradesh, Tamil Nadu, Andhra Pradesh, Chhattisgarh etc.
    3. **Rice** has increased around 16%. Summer rice has been reported from West Bengal, Telangana, Karnataka, Assam, Andhra Pradesh, Odisha, Chhattisgarh, Tamil Nadu, Bihar, etc.
- The Ministry of Agriculture and Farmers Welfare has taken new initiatives for the scientific cultivation of summer crops.

- Scientific practices include seed drill/zero till after treating the seeds, high yielding varieties, post-harvest value addition technologies for higher productivity and economic gains.
- For technical support, close coordination between State Agricluture Universities (SAUs) and Krishi Vigyan Kendras (KVKs) was ensured.

Summer Crops

- The Zaid or summer season is a short season between the rabi and kharif seasons. It takes some months of summer and some of rainy season.
- The crops grown during this season is known as zaid crops or summer crops. They grow in period mainly from March to June.
- They require warm dry weather as major growth period and longer day length for flowering. These crops also mature early.
- **Crops** - Watermelon, muskmelon, cucumber, vegetables and fodder crops. It also includes pulses, coarse cereals, Nutri-cereals and oilseeds.
- **Benefits** - Summer crops provide extra income, create employment opportunities, improve soil health (particularly through the pulses crop).

New Climate Goal of US

- At a White House climate summit for world leaders, the United States President announced that America would aim to cut its greenhouse gas emissions 50% to 52% below 2005 levels by 2030.
- [The US has decided to measure its reductions from 2005 - Roughly when the nation's fossil fuel emissions reached a peak.]
- Also, Japan announced it would strengthen its climate targets, aiming for what translates to a 44% cut below 2005 levels by 2030.
- Canada updated its climate goals, committing to a 40% to 45% cut below 2005 levels by 2030.
- However, there's one climate metric that matters most: How quickly the world can get to zero emissions and halt the warming of the planet. On that score, the world is still falling far short.
- While the US and the European Union are both now vowing to get roughly halfway to zero by 2030, they account for only one-quarter of global greenhouse gas emissions.
- Many lower-income countries still expect their emissions to either plateau or keep rising over the next decade.
    1. China, the world's largest emitter of greenhouse gases, has pledged that its emissions will peak by around 2030.
    2. India has not yet set a date for when its emissions will peak, though it has announced goals for increasing the use of cleaner energy sources and slowing its growth in fossil-fuel consumption.

Source: PIB, The Indian Express, Business Line

