Prelim Bits 17-11-2021 | UPSC Daily Current Affairs

Pochampally - Best Tourism Village

Pochampally Village in Telangana State has been selected as one of the best Tourism Villages by the UN World Tourism Organisation (UNWTO).

- Pochampally in Telangana is often referred to as the **Silk City of India** for the exquisite sarees that are woven through a unique style called Ikat.
    - This style, Pochampally Ikat, received a Geographical Indicator (GI Status) in 2004.
- Pochampally is also known as **Bhoodan Pochampally** to commemorate the Bhoodan Movement that was launched by Acharya Vinobha Bhave from this village on April 18th, 1951.
- Pochampally saree has traditional, geometric patterns in the characteristic blurry design.

Ikat

- Ikat (meaning "Tie and Dye") is a **yarn-resist dyeing process** that involves the process of wrapping (or tying) and dyeing sections of bundled yarn to a predetermined colour pattern before they are woven.
- The dye penetrates into exposed sections while the wrapped section remains undyed.
- This pattern formed by the yarn in this process is woven into fabric.

UNWTO's Best Tourism Villages

- This Pilot initiative aims to award those villages which are outstanding examples of rural destinations and showcase good practices in line with its specified 9 evaluation areas.
- It is a global initiative to highlight those villages where tourism preserves cultures and traditions, celebrates diversity, provides opportunities and safeguards biodiversity.
- **Benefits**
    1. Reduce regional inequalities in income and development.
    2. Fight rural depopulation.
    3. Progress gender equality and women's and youth empowerment.
    4. Enhance education and skills development.

Rural Tourism Policy

- Ministry of Tourism has drafted a Rural Tourism Policy which will,
    1. Promote tourism within our villages,
    2. Revitalise local arts and crafts and
    3. Promote rural economy.
- It will help redevelop and rebuild our villages and rural life and the residents of the villages will also get an opportunity to engage and interact with people from outside.

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National Generic Document Registration System

The National Generic Document Registration System (NGDRS) portal and Dashboard was launched recently.

- National Generic Document Registration System is a 'One Nation One Software' for registration of documents & properties.
- It is an in-house advanced software application developed by NIC.
- This software is scalable, flexible, configurable and compatible with the state-specific needs in the country.
- So far, it has already been implemented in 12 States and pilot tested in 3 States covering more than 10 crore population.
- More emphasis is given on the integration of the Registry Office with other offices where some information are required for the completion of registration deeds.
- **Benefits** - Ensures transparency, accountability of officials executing the documents and reduction in cost, time and number of visits and procedures required for the execution of the registration documents.
- Reduction in land disputes, check on fraudulent transactions, SMS and email enabled alerts related to transactions on property, external system integrations can be provided as required.

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The Taproot

Bitcoin went through a major upgrade called the Taproot, which is the most major change to the bitcoin protocol since the SegWit block capacity change (2017)

> SegWit (Segregated Witness) increased the amount of transactions that could fit into a block by pulling data on signatures from bitcoin transactions.

- The Taproot upgrade was first proposed by Greg Maxwell in 2018.
- It enables the blockchain of the bitcoin network to execute more complex transactions, potentially widening the use cases of virtual currency.
- Taproot introduces a new digital signature scheme called "Schnorr" that will help bitcoin transactions become more efficient and more private.
- Schnorr signatures bundle many signatures required for multi-signature and complex transactions into a single unique key on-chain.
- Schnorr can also be leveraged to let bitcoin users execute more complex smart contracts on the bitcoin protocol.
    - Smart contracts are self-executing transactions whose results depend on pre-programmed inputs.
- Taproot impacts the bitcoin network's ability to **process more smart contracts**, making it a little more competitive with Ethereum.
- Taproot **increases privacy** by obscuring what type of transaction is being executed.

- Taproot improves the Bitcoin network's efficiency by drastically reducing the volume of data required to be stored on-chain to complete complex transactions.
- More flexible transaction types and lower costs may support more development of Decentralized Finance (DeFi) and Non-fungible Tokens (NFTs) on bitcoin.

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Insulin signaling & Tissue Health

A new study has uncovered how insulin amounts shape the flow of information through the signalling network.

- **Insulin** is a hormone secreted by the b cells of the pancreas.
- It is commonly associated with an ability to regulate glucose metabolism.
- It plays a larger role and helps in growth and maintenance of tissues.
- **Insulin signalling** is a series of biochemical reactions that convey information about availability of insulin and the necessity to regulate the glucose in the blood.
- There are 2 main pathways for insulin signaling (AKT and ERK), which together balance metabolism and growth.
- These specifically control storage of glucose in the liver and also stimulate glucose transport in skeletal muscle and fat.
- Abnormalities in insulin signalling thus impact health and survival itself of organisms and the study addresses an important piece of the puzzle.
- **Study** - The study mimicked both normal levels of insulin, as in a healthy individual, and abnormal levels of insulin as in pathophysiology.
- The study found that the inputs from the fasted insulin levels created a memory that improved the fed insulin inputs.
- It also elucidates the detrimental impact of constant high insulin as in the case of uncontrolled feeding habits, without a fasting phase, and its effects on signaling molecules that govern tissue maintenance & growth.
- It identifies potential novel regulatory components & parameters whose modulation could lead to better therapeutic interventions in the future to reduce tissue damage, beyond the usual impact on blood glucose.

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S-400 Missile System

The US has expressed its "concern" over the delivery of S-400 Triumf missile defence systems from Russia to India.

- The S-400 is known as Russia's most advanced long-range surface-to-air missile defence system.
- This fully mobile missile system is a successor to the S-300 system.
- Each system has a 3D phased array acquisition radar that can track around 300 targets up to 600 km.
- It has command and control centre, automatic tracking and targeting systems, launchers and support vehicles.
- Each system has 4 types to missiles for up to 40 km, 120 km, 250 km and maximum range of 400 km and up to 30 km altitude. The different ranges and varying altitudes create a layered air defence net.
- S-400 battalion has 8 missile launchers, typically with 4 missiles each.
- **Uses** - S-400 can simultaneously track and neutralize many incoming objects spanning aircraft, missiles and Unmanned Aerial Vehicles (UAV) over very long ranges.
- It can provide air interception against early warning aircraft, airborne missile strategic carriers, tactical and theatre ballistic missiles, medium-range ballistic missiles in a dense radio countermeasure scenario.

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