Prelim Bits 26-11-2018

ACROSS Scheme

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- Atmosphere & Climate Research-Modelling Observing Systems & Services (ACROSS) scheme was recently approved by the Cabinet Committee.
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- It is an umbrella scheme with 9 sub schemes.
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- It will be implemented by the Ministry of Earth Sciences (MoES) through its institutes.
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- Its objective is to provide a reliable weather and climate forecast for betterment of society.
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- It pertains to the atmospheric science programs of the MoES and addresses different aspects of weather and climate services, which includes warnings for cyclone, storm surges, heat waves, thunderstorms etc.
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- Each of the above aspects is incorporated as 9 sub-schemes under the umbrella scheme "ACROSS".
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- The schemes will be implemented in an integrated manner by 4 institutes –
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1. India Meteorological Department (IMD),
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2. Indian Institute of Tropical Meteorology (IITM),
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3. National Centre for Medium Range Weather Forecasting (NCMRWF), and
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4. Indian National Centre for Ocean Information Service (INCOIS)
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Survey on Biodiversity in Andaman & Nicobar

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- Zoological Survey of India has recently published a report on faunal diversity of islands of India.
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- It is the first time in India that database of all faunal species found in Andaman & Nicobar (A&N) island has been documented.
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- It proves that the A&N island, comprising only 0.25% of India's geographical area, are home to more than 10% of the country's fauna species.
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- There are 1,067 endemic faunal species found only on the Andaman and Nicobar Islands and nowhere else.
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- Some of the endemic species in the island are Narcondam hornbill, Nicobar megapode, the Nicobar treeshrew,the Long-tailed Nicobar macaque, and the Andaman day gecko.
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- The authors of the publication have highlighted that a long period of isolation from the mainland made the islands hotspots for speciation resulting in hundreds of endemic species and subspecies.
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World's First Genetically Edited Babies

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- A scientist in China claims to have created the world's first genetically-edited babies using CRISPR technique.
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- The twin girls born with their DNA altered to prevent them from contracting HIV.
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- This kind of gene-editing is banned in most countries as the technology is still experimental and DNA changes can pass to future generations, potentially with unforeseen side-effects.
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CRISPR

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- CRISPR stands for Clustered Regularly Interspaced Short Palindromic Repeats.
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- CRISPR - Cas9 is the most prominent genome editing technique .
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- It allows researchers to permanently modify genes in living cells and organisms.
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- This can be used to correct mutations at precise locations in the human genome to treat genetic causes of diseases.
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- Correcting the mutation in an embryo ensures that the child is born healthy and the defective gene is not passed on to future generations.
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- The gene editing tool has two components -
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1. A single-guide RNA (sgRNA) that contains a sequence that can bind to DNA.
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2. The Cas9 enzyme which acts as a molecular scissor that can cleave DNA.
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Data City Programme

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- The programme was launched by the State government of Karnataka in Bengaluru.
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- The programme aims at solving burning issues of the city using innovative solutions developed by startups from a pool of applications.
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- It is a 7 month long programme where the corporates, startups, government agencies and citizens will work closely to find solutions of

city’s growing issues.
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- It is the first Data City programme launched in Asia.
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- The State government has entered into a partnership with NUMA, an international innovation and learning hub, and SUEZ, a France based utility company for this project.
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Goat Plague

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- A smart vaccine has recently been developed for Goat Plague disease by the researchers from UK and India.
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- The vaccine has the potential to help eradicate goat plague, which causes losses of billions of dollars a year.
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- Goat plague is a highly contagious viral disease that afflicts goats and sheep in many parts of the country.
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- It is caused by a morbillivirus in the family of paramyxoviruses, that is related to rinderpest, measles and canine distemper.
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- It kills small ruminants in large numbers unless they are vaccinated.
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- Apart from India, goat plague is prevalent in many African countries, West Asia, China and Mongolia.
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- It is listed in the OIE (World organization for Animal Health) Terrestrial Animal Health Code, and countries are obligated to report the disease to the OIE.
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Source: PIB, The Hindu, Economic Times, BusinessLine

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