

1. Shanghai Cooperation Organisation (SCO)

Shanghai Cooperation Organization Membership

- Member States
- Dialogue Partners
- Observer States
- Full Members
- Guest Partners
- Acceding Members



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Topic: International Relations

In News: As Iran joins the Shanghai Cooperation Organisation (SCO) as its ninth member, leaders of the SCO at a virtual summit chaired by Indian Prime Minister stressed that the formation of a “more representative” and multipolar world order is in the global interest.

More on the Topic

- The SCO was built on the ‘Shanghai Five’ grouping of **Russia, China, Kazakhstan, Kyrgyzstan and Tajikistan**, which had come together in the post-Soviet era in 1996, in order to work on **regional security, reduction of border troops, and terrorism**.



- In 2001, the Shanghai Five inducted **Uzbekistan into the group and named it the SCO**. The organisation has two permanent bodies — **the SCO Secretariat based in Beijing and the Executive Committee of the Regional Anti-Terrorist Structure in Tashkent**.

Key Highlights from the Summit:

- **Digital Technology:** The member states have acknowledged the **importance of digital technologies** and issued a Statement on Cooperation in Digital Transformation to unlock full potential of digitalization across all sectors of the economy.
- **Environment:** Members agreed to declare **2024 as the SCO Year of Environment**.
- **New Delhi Declaration:** The SCO member nations has adopted the New Delhi Declaration.
- The Indian government coined the New Delhi Declaration and proposed at the SCO Summit, **aiming to fight against terrorism**.
- The Declaration also proposes four other joint statements on **de-radicalisation, sustainable lifestyle to tackle climate change, production of millets and digital transformation**.

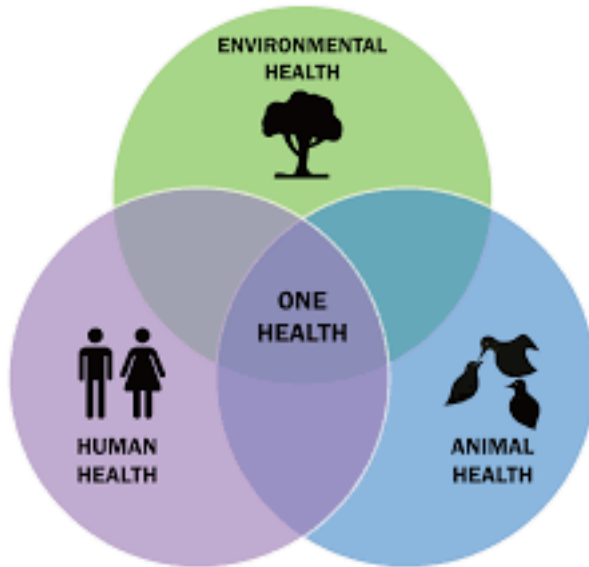
Significance of SCO:

- Shanghai cooperation organisation (SCO) is seen as an eastern counterbalance to NATO and India's membership will allow the country to push effective action in combating terrorism and security issues.
- With the presence of India and China, the world's most populous countries, SCO is now the organisation that has the **largest population coverage**. India's entry into the group is expected to increase the group's heft in **regional geopolitics and trade negotiations** while giving it a pan-Asian hue at the same.
- SCO is a potential platform to advance India's Central Asia policy. The SCO member states arc India's extended neighborhood where India has both economic and security imperatives.
- SCO can provide a platform to discuss **bilateral issues with Pakistan and China** even when the bilateral relations are that cordial.
- SCO can plays a pivotal role in **combating terrorism, extremism and radicalisation**. For example, New Delhi declaration, aims towards de radicalisation..

Source: Indian Express

1. One Health

Topic: Environment and Ecology



In News: FAO, UN Environment Programme (UNEP), WHO and World Organisation for Animal Health (WOAH) together has launched the One Health Priority Research Agenda on Antimicrobial Resistance through a webinar.

More on the Topic:

- It aims to guide a variety of stakeholders in generating new evidence to address antimicrobial resistance, with a focus on low- and middle-income countries.
- The agenda will serve as a **guide for countries, research institutes and funding bodies** to support One Health AMR research.
- It will also allow policymakers, researchers, and the multidisciplinary scientific community to **collaborate across sectors**.

About One Health Concept:

- It defined 'One Health' as an **integrated, unifying approach that aims to sustainably balance and optimise the health of people, animals and ecosystems**.
- The concept acknowledges the health of humans, domestic and wild animals, plants, and the larger environment, including ecosystems, are inextricably linked and interdependent.

Agenda presented a five pillar based one health approach to tackle growing threat of AMR:

- **Transmission:** This pillar focuses on the environment, plant, animal, and human sectors where AMR transmission, circulation and spread occur.
- This includes **what drives this transmission** across these areas, where these interactions occur, and the impact on different sectors.



- **Integrated surveillance:** This pillar aims to identify **cross-cutting priority research questions** in order to improve common technical understanding and information exchange among One Health stakeholders.
- The surveillance aims for **harmonisation, effectiveness, and implementation of integrated surveillance with a focus on LMICs.**
- **Interventions:** This pillar focuses on programmes, practises, tools, and activities aimed at preventing, containing, or reducing the incidence, prevalence, and spread of AMR.
- This also calls for the best use of existing vaccines, as well as other One Health-related measures to reduce AMR.
- **Behavioural insights and change:** The priority research areas under this pillar are concerned with comprehending behaviour across various groups and actors involved in **the development and spread of AMR at the One Health interface.**
- It focuses on research addressing human behaviour that affects AMR, including ways to combat it.
- **Economics and policy:** From a One Health standpoint, this pillar addressed **investment and action in AMR prevention and control.**
- This pillar also takes into account the cost-effectiveness of an AMR investment case, financial sustainability, and long-term financial impact.
- This research agenda aims **to direct future research in One Health AMR with a focus on low-resource settings.** The agenda also emphasises the importance of developing research capacity in LMICs, which will be critical for addressing research gaps and developing evidence.
- The agenda at the regional and national levels requires tailoring and the development of specific research questions.

Source: IE

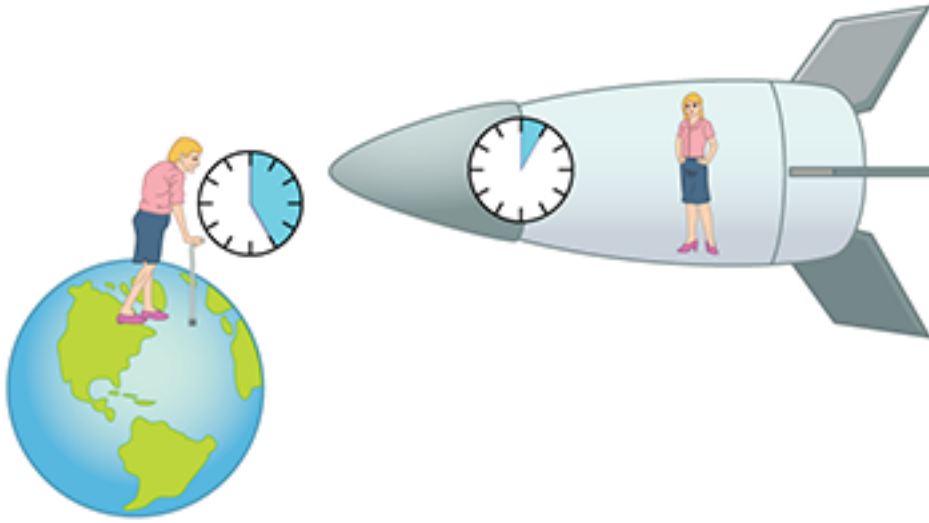
3.Time Dilation

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Go, change the world



Topic: Science and Technology

In News: Time has been observed passing more slowly in quasars in the early universe.

More on the Topic:

- Time dilation is a fascinating concept that tells us that time can behave differently depending on how fast we are moving relative to something else.
- Time dilation is a concept that arises from **Einstein's theory of relativity**, which revolutionized our understanding of space, time, and gravity. According to this theory, time is not absolute but is intertwined with space in what we call spacetime.
- Time dilation occurs **when the passage of time appears to be different for two observers who are moving relative to each other**. This means that **time can seem to move slower or faster depending on your relative motion**.
- It's important to note that time dilation becomes significant **only when objects are moving at speeds close to the speed of light** or in the presence of **extremely strong gravitational fields, like those near black holes**.

Evidences:

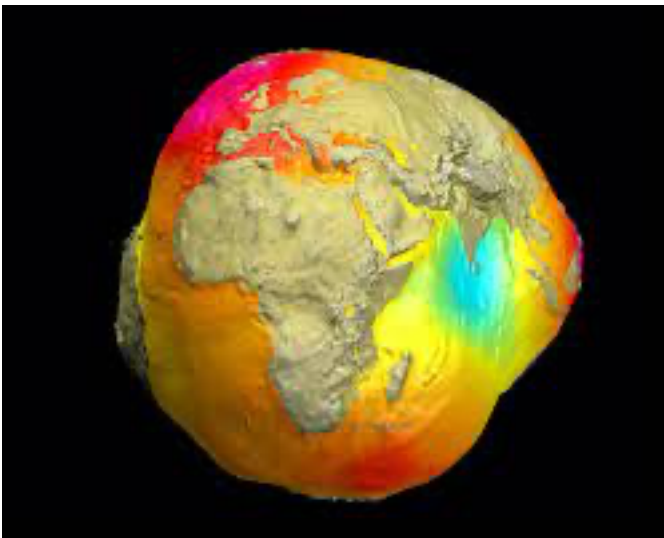
- Scientists have confirmed the existence of time dilation through various experiments and observations. For example, high-speed particles in **particle accelerators have been observed to have longer lifetimes than expected due to time dilation effects**.
- Researchers now used observations from several quasars dating to about 1.5 billion years after the Big Bang event.
- Brightness of these quasars was compared to that of quasars existing today, showing certain fluctuations about a fifth as quickly as it does today.

- **Quasars are tremendously active supermassive black holes** millions to billions of times more massive than our sun, usually residing at centers of galaxies.

Source: Hindu

4. Indian Ocean Geoid Low (IOGL)

Topic: Geography



In News: Researchers at the Indian Institute of Science (IISc) Bangalore have identified the cause of an over three million square kilometres-wide 'gravity hole' in the Indian Ocean.

More on the Topic:

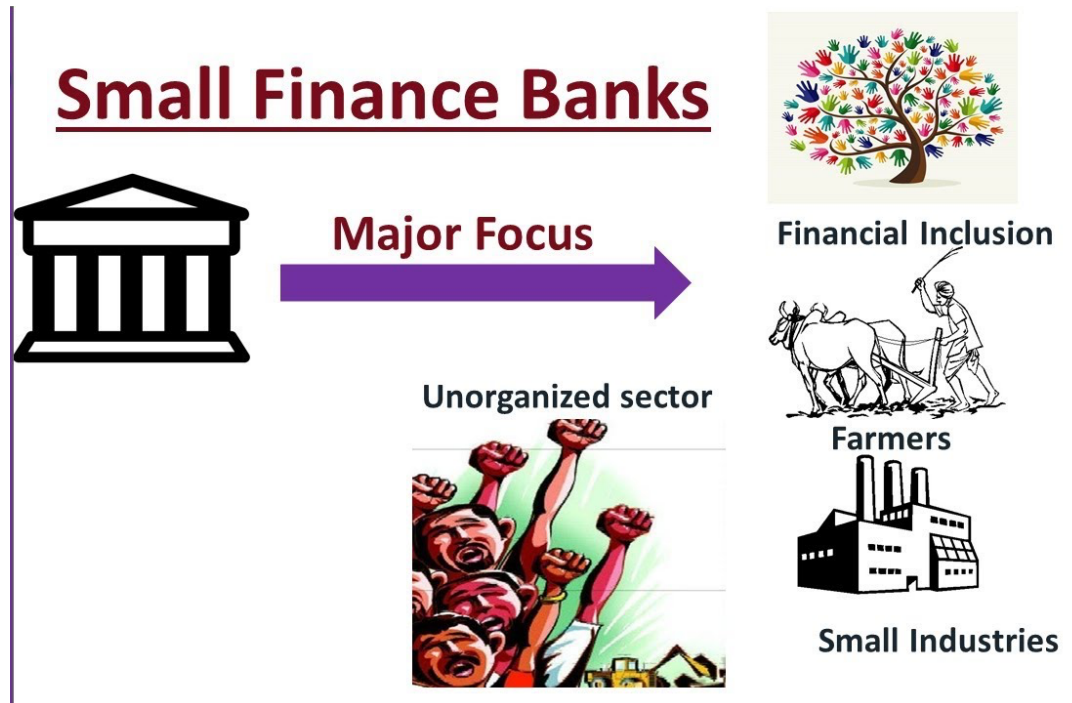
- Located just south of Sri Lanka, it is at this location **the Earth's gravitational pull is weakest & sea level is over 100 metre lower than global average.**
- The researchers noted that in the absence of tides and currents on the oceans, all the **water would settle onto a smoothly undulating shape called a geoid**, rising wherever there is high gravity, and sinking where gravity is low.
- The resulting unevenness in the ocean surface, known as “geoid anomalies”, are generated by **uneven mass distribution within the deep Earth.**
- One such anomaly is found just south of Sri Lanka, spanning a vast extent known as Indian Ocean Geoid Low.

Reasons for Indian Ocean Geoid Low:

- Researchers found that IOGL was caused by **plumes of molten rock rising along the edges of Tethys Ocean bed.**
- Hot material from **African superplume — a large section of Earth's mantle that carries heat from near the core up to the crust — was being deflected eastwards.** This material then ended under IOGL.
- Lighter elements in upper to mid-mantle under IOGL, were cause of low gravity in this area

Source: Indian Express

5. Small Finance Banks



Topic: Economy

In News: RBI has rejected three applications for small finance bank licenses.

More on the Topic:

- Small finance banks **provide basic bank facilities to the economical sections which are not supported by the other banks.**
- It helps to provide **financial aid to the small business units, small or marginal farmers, micro or small industries. It includes small scale businesses, the unorganized sector, low-income households, farmers, etc.**
- Small finance banks are registered as a public limited company under companies act in 2013. It is licensed under section 22 of the banking regulation act 1949.
- It is governed by the **provisions of the banking regulation act 1949 and the Reserve Bank of India act 1934.**

Source: Business Standard

6. Zo People

Topic: Art and Culture



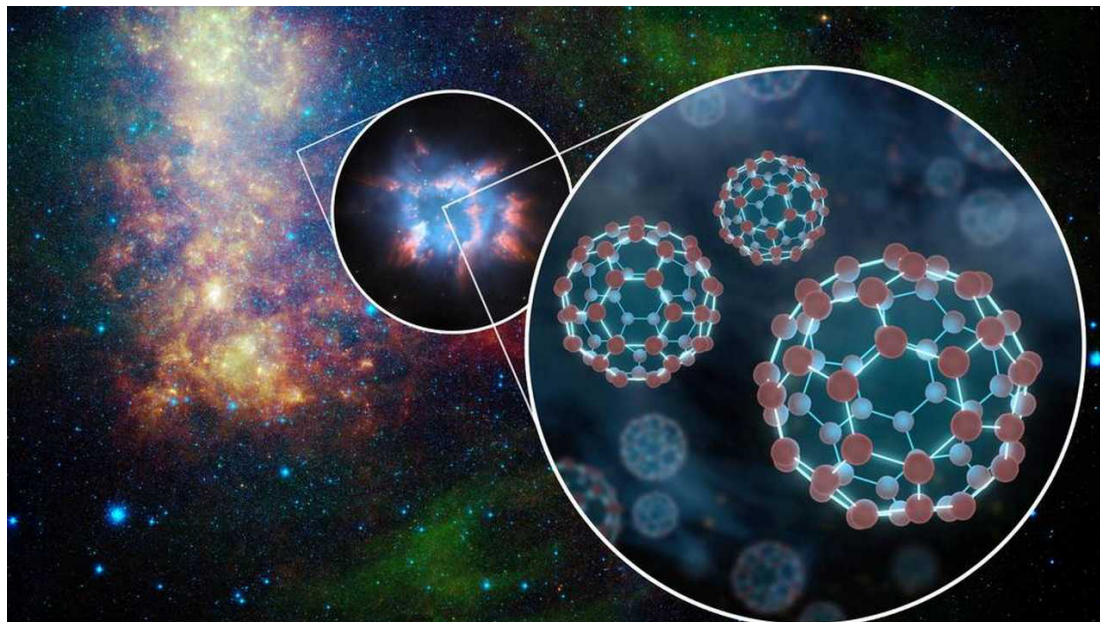
In News: Zo people called for a reunification of Zo people in view of the continuing ethnic violence between the dominant Meiteis and the Kuki-Zomi tribes in the neighbouring state.

More on the Topic:

- The Zo peoples include all tribes of **the Chin-Kuki-Mizo ethnic group** spread across Myanmar, India, and Bangladesh, along with many sub-tribes and clans such as **the Chin, Kuki, Mizo, Lushei, Zomi, Paitei, Hmar, Ralte, Pawi, Lai, Mara, Gangte, Thadou, etc.**
- The tribes are believed to have **migrated from China through Tibet** to settle in Myanmar, and speak a group of Tibeto-Burman languages.
- Constant feuds among the tribal clans and their kings (chieftains) drove many of the clans westward to modern-day Mizoram and parts of Manipur in the 17th century.
- They settled in new villages, but even so, remained socially and emotionally enmeshed with the Chin tribes of Myanmar.
- They speak a group of **Tibeto-Burman languages.**

Source: Business Standard

7. Carbon Molecules in Space



Topic: Science and Technology

In News: Scientists have claimed that the James Webb Space Telescope telescope detected a carbon molecule in the Orion Nebula.

More on the Topic:

- The CH_3^+ molecule, which is also known as **methyl cation**, has been detected in space for the first time by the James Webb Space Telescope (JWST).
- Organic molecules are carbon based. **They contain carbon atoms bonded to hydrogen atoms but can also bond to other elements, such as oxygen, nitrogen or phosphorus.**
- Everything that makes us and all life on Earth is carbon based.
- CH_3^+ is a very simple organic molecule, just one carbon atom and 3 hydrogen atoms. But it reacts with other molecules to form more complex ones. Its presence in space tells us that basic building blocks for life are out there.

Source: Business Standard
