UPSC Daily Current Affairs | Prelim Bits 17-09-2024

Subhadra scheme

The government of Odisha is set to launch flagship initiative Subhadra scheme.

- **Aim-** It is a financial assistance scheme to transfer ***Rs 10,000 per year to eligible women beneficiaries*** in the state between the ages of 21 and 60.
- The scheme is named after Goddess Subhadra, the younger sibling of Lord Jagannath, the presiding deity of Odisha.
- **Duration -** Over five years until 2028-29.
- **Funding -** The Odisha government will transfer Rs 10,000 a year to eligible women beneficiaries.
- The transfers will be made in 2 instalments of Rs 5,000 each, on
    - Rakhi Purnima (Raksha Bandhan, which typically falls in August), and
    - International Women's Day (March 8) every year.
- The government has made ***e-KYC mandatory*** for the scheme.
- The money will be deposited directly into the beneficiary's Aadhaar-enabled single-holder bank account.
- **Eligibility-** Women aged ***21-60*** in Odisha, except those from affluent families, government employees, taxpayers, or already getting ₹1,500+ monthly from other government schemes.
- More than 50 lakh women have already registered for the scheme.
- **SUBHADRA Card-** It is an ***ATM-cum-debit*** card provided to all beneficiaries to create a sense of identity and facilitate financial transactions.
- An incentive of Rs 500 will be provided to 100 beneficiaries in each gram panchayat and urban local body area with the highest number of digital transactions.
- **Opt out option-** The beneficiaries can opt out of the scheme through the SUBHADRA Portal if they become ineligible or wish to transfer benefits to others.

References

1. Indian express | Subhadra scheme
2. Subhadra | FAQs

Emmy Awards

The 76th Primetime Emmy Awards, 2024 took place recently at the Peacock Theater in downtown Los Angeles, California.

- The Emmy Awards are the most renowned accolades given to ***television and emerging media performances.***
- Unlike Oscars and Golden Globe awards, they aren't given for films.
- **Established in -** The Emmy Awards were conceived in 1948 and the first ceremony took place on January 25, 1949.
- A total of 6 awards were presented, such as the Most Outstanding Television Personality and Most Popular Television Program.
- **Categories**
  - **Primetime Emmy Awards** – It honours television shows produced only in America and aired during primetime, International Emmy Awards are for international shows.
  - **Daytime Emmy Awards** – It is given to American shows aired during late-morning and afternoon.
  - **Regional Emmy Awards** – It is for regional television markets, including state-to-state programming, local news and locally produced shows.
- Apart from those mentioned above the Emmys are also given in the following categories - daytime, sports, news and documentary, technology and engineering.
- **Given by**
  - Television Academy, administers the Primetime Emmy Awards.
  - National Academy of Television Arts & Sciences, oversees daytime, sports, news and documentary categories.
  - International Academy of Television Arts & Sciences, responsible for International Emmys.
- Each organisation maintains its own membership of television professionals who vote and decide who will get the award.

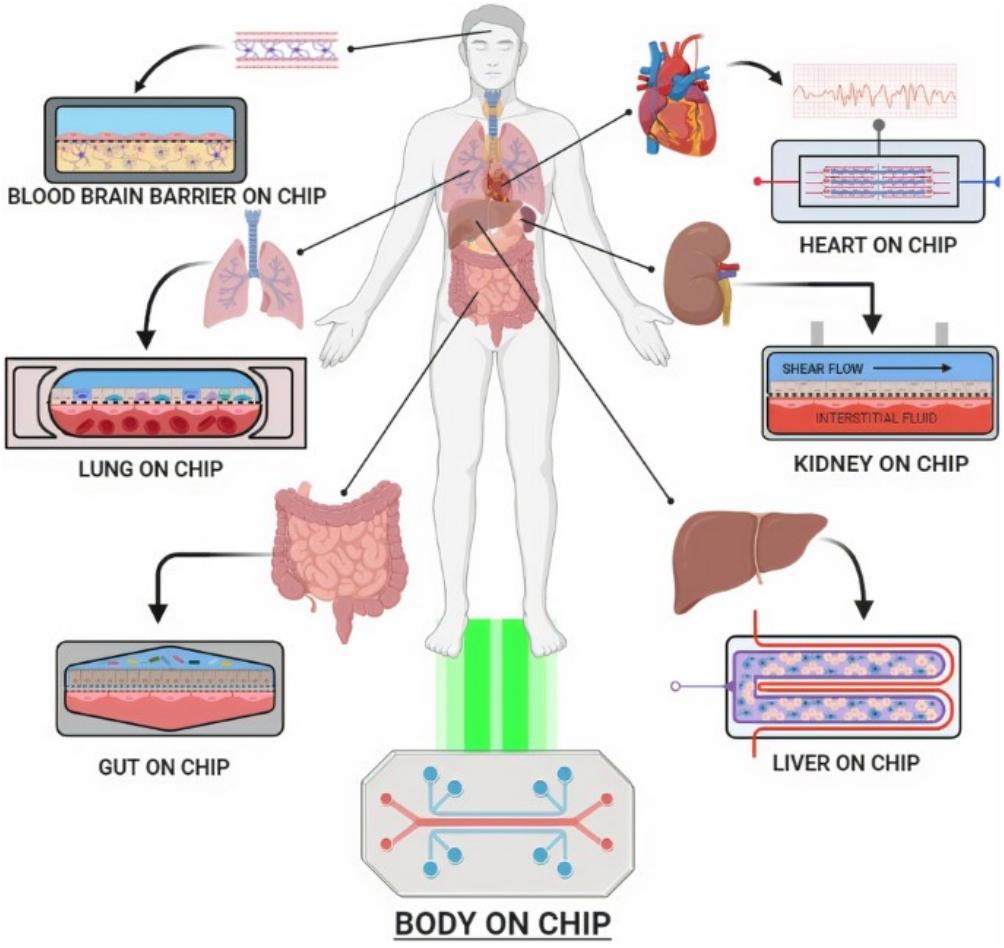
Reference

The Indian Express | Emmy Awards

Organ-on-Chip Technology

Recent advancements in human-relevant 3D culture models have shown promising results in the field of precision therapeutics include organ-on-chips could boost BioE3 goal to personalise medicine.

- **Organ-on-chip-** It is a technology designed to ***mimic the dynamic functions of human organs*** in a controlled environment, offering a more accurate platform for drug testing.
- It works by integrating cells derived from a human body with a well-defined in vitro biological environment (i.e. in the lab) that mimics the body's conditions.
- This technology offers a more reliable method for testing drugs, providing better insights into a drug's efficacy and toxicity in human-relevant models.



- It provides a solution to the limitations of animal testing in drug development.
- It offers potential for personalized medicine by enabling precise testing of drugs on human-derived cells.
- **Technology enabled countries - United States -** The U.S. FDA Modernisation Act 2.0 allows the use of organ-on-chips as alternatives in preclinical drug testing.

- **European Union -** The EU is working on phasing out animal testing for cosmetics and developing regulations for NAMs, including organ-on-chips.
- **India -** India amends the New Drugs and Clinical Trials Rules, 2019 to permit the use of human organs-on-chips and other NAMs prior to and in conjunction with animal testing when evaluating new drugs.

India's BioE3 Policy

- It focuses on driving ***innovation in biotechnology***, with a key area being precision therapeutics.
- **Aim -** The policy aims for fostering High Performance Biomanufacturing.
- **High performance biomanufacturing –** It is the ability to
  - Produce products from medicine to materials,
  - Address farming and food challenges, and
  - Promote manufacturing of bio-based products through integration of advanced biotechnological processes.
- **Ministry -** Ministry of Science & Technology.
- The policy supports innovation-driven support to R&D and entrepreneurship across thematic sectors.
- This will accelerate technology development and commercialization by establishing Biomanufacturing & Bio-AI hubs and Biofoundry.

Reference

The Hindu | Organ-on-Chip Technology

World Ozone Day, 2024

In India, the Ministry of environment, forest and climate change celebrated the 30th world ozone day in New Delhi recently.

- International Day for the Preservation of the Ozone Layer is celebrated ***annually*** on September 16 designed by the ***United Nations General Assembly.***
- In response, the Montreal Protocol was signed on 1987 aimed at eliminating production of the Ozone Depleting Substances.
- The protocol has been ratified by all the member states thus placing it among the most successful environmental conventions in history.
- India has been celebrating this day since 1995.
- **Theme, 2024 -** “Montreal Protocol: Advancing Climate Actions”.
- **Ozone (O3) -** Ozone layer protects the planet Earth from the ***harmful***

ultraviolet radiations from the Sun.

- Ozone (O3) is a reactive gas, consisting of three oxygen atoms which can be natural or man-made and found in the Earth's high atmosphere (stratosphere).
- The word ***'ozone hole'*** refers to areas or regions harmed by damaging UV radiations.
- The ozone present in the stratosphere, at a height of around 15 to 30 km is produced naturally by the interaction of solar ultraviolet light with molecular oxygen (O2).



- On the other hand the tropospheric or ground-level ozone is principally

produced by photochemical processes that involve volatile organic compounds (VOC) and nitrogen oxides.

- It is an explosive, pale blue gas with a distinct odour.
- **Dobson Unit (DU)** – It is the unit of measurement for measuring the amount of ozone in a column of air above the Earth's surface.
- It is continuously created in the high atmosphere by the interaction of solar UV radiation with atmospheric oxygen.
- The average total ozone concentration is usually around 300 DU (low at poles and higher at the equator).
- The ozone hole reached its biggest historical extent of 28.4 million square kilometres in September 2000.
- **The recent condition of O3**- The ozone layer is depleted in both hemispheres of the Earth, specifically Antarctica in the Southern Hemisphere and the Arctic in the Northern Hemisphere.
- However, the phenomenon is more recognised in Antarctica than in the Arctic.
- The mechanism of the ozone hole is intimately related to the temperature of the stratosphere.
- If the temperature goes ***below -78 degrees Celsius***, stratospheric clouds form, worsening the status of the ozone hole.
- **Action plan of India -** To phase out CFC, the Indian government has brought the Indian Cooling Action Plan (ICAP) document to phase out demand for refrigerants by 2037-38.
- It is a major gas which is contributing to rapid depletion of the Ozone layer and warming climate.

CFCs are nearly 2,000 times more potent than carbon dioxide (Co2) in terms of their global warming potential.

- Because of this, the world has come together to phase out the CFC by 2040 at their 28th Meeting of the Parties on 15 October 2016 in Kigali, Rwanda under the Montreal Protocol.

Kunming-Montreal Global Biodiversity Framework

• **Theme-** Ecological Civilization: Building a Shared Future for All Life on Earth.
• **Adopted-** At UN Convention on Biodiversity Diversity (COP-15)
• **Aim-** To halt and reverse biodiversity loss by 2030 while respecting the rights of indigenous and local communities.
• **Paris agreement for nature-** It is being referred as the “Paris moment” for biodiversity, as 196 countries (excluding, significantly, the US) signed this historic deal.
• **Goals-** GBF contains 4 global goals ("Kunming-Montreal Global Goals for 2050").
• **Targets-** The framework contains 23 targets ("Kunming-Montreal 2030 Global Targets").
• **'30 by 30' target-** 30% of the Earth’s land and oceans protected status by 2030.
• **Reduce harmful subsidies** - Reduce environmentally harmful subsidies by at least 500 billion dollar a year.
• **Restore ecosystem** - Restore at least 30% area of degraded ecosystems.
• **Increase protected areas**- It sets target to increase terrestrial, inland water, and coastal and marine areas, especially those of particular importance for biodiversity and ecosystem functions and services,” to at least 30% of the world’s terrestrial area.
• Currently, protected areas cover approximately 16% of the world’s terrestrial area .

References

1. Down to Earth | World Ozone Day, 2024
2. Times of India | World Ozone Day, 2024

Asteroid 2024 PT5

The Earth is about to have a temporary Asteroid or mini-moon named 2024 PT5.

> *Mini moons are temporary satellites that are difficult to detect due to their small size and speed, often being mistaken for space debris. However, astronomers are confident that 2024 PT5 is a natural object.*

- It is a small asteroid, about ***33 feet*** in size, due to this size it is only be

visible through special telescopes.

- **Discovery and Observation-** The asteroid was discovered by the ***Asteroid Terrestrial-impact Last Alert System (ATLAS)*** in August 2024.
- Asteroid PT5 will be captured temporarily by ***Earth's gravity*** but will not complete a full revolution around Earth.
- It will make a half-revolution in a ***horseshoe-shaped orbit*** around Earth.
- The asteroid will stay in Earth's orbit for about 56 days, from September 29 to November 25, before continuing its journey.

An asteroid is a small rocky body that orbits the Sun, primarily found in the asteroid belt between Mars and Jupiter.

- It is rare for an asteroid to be temporarily captured by Earth's gravitational pull without burning up or missing Earth.

Reference

Indian Express | Asteroid 2024 PT5

