

UPSC CURRENT AFFAIRS NOTES 08-03-2024

Article 131 of the Indian Constitution

West Bengal Government had filed an original suit against the Centre under Article 131 of the Constitution.

Article 131 of the Indian Constitution

Article 131 grants the Supreme Court exclusive and original jurisdiction in disputes involving law between states or between states and the Union.

It ensures the protection of fundamental rights, allowing violations to be brought to the High Court of the particular state under Article 226 or to the Supreme Court under Article 32.



Nature and Scope

The Supreme Court, as the Federal Court of India, upholds the constitutional separation of powers between the centre and state governments.

It has primary jurisdiction over disputes between the Union and states or between states, ensuring legal rights are upheld and disputes resolved effectively.



Dispute Resolution

Disputes under Article 131 must involve a question of law or fact that affects legal rights, excluding political conflicts.

The Supreme Court's exclusive jurisdiction ensures disputes are resolved directly, without multiple judicial hierarchies.

Challenging Central Laws

States can challenge central laws under Article 131 if they believe their legal rights are infringed.

The Supreme Court's interpretation of such disputes must be acceptable and uphold the Constitution.

Landmark Judgments

State of West Bengal v. Union of India (1963): First case invoking Article 131, where the Supreme Court upheld the validity of the Acquisition and Development Act, 1957.

State of Karnataka v. Union of India (1977): Established that the Supreme Court has jurisdiction to consider disputes under Article 131 involving state legislatures.

State of Madhya Pradesh v. Union of India (2011): Highlighted the role of Article 131 in disputes between states and the center, emphasizing the need for legal rights to be protected.

Article 131 plays a crucial role in maintaining the federal structure of India, ensuring cooperative federalism between the center and states.

The Supreme Court's exclusive jurisdiction under Article 131 is essential for upholding legal rights and resolving disputes effectively, contributing to the smooth functioning of Indian democracy.

Uttar Poorva Transformative Industrialization Scheme (UNNATI)

The Union Cabinet chaired by Prime Minister of India approved the proposal of the Ministry of Commerce and Industry, Department for Promotion of Industry and Internal Trade for Uttar Poorva Transformative Industrialization Scheme, 2024 (UNNATI – 2024).



About Uttar Poorva Transformative Industrialization Scheme (UNNATI)

The scheme, aimed at developing industries and generating employment in the North East Region, seeks to create productive economic activity in manufacturing and services.

The main objective of the UNNATI scheme is to generate gainful employment, leading to the overall socio-economic development of the region.

It is set to be effective from the date of notification and will run until March 31, 2034, inclusive of eight years of committed liabilities.

Expenditure involved:

The financial outlay of the proposed scheme is Rs.10,037 crore for the scheme period from the date of notification for 10 years. (Additional 8 years for committed liabilities).

This will be a Central Sector Scheme.

The scheme is proposed to be divided into two parts. Part, A caters to the incentives to the eligible units (Rs. 9737 crores), and Part B, is for implementation and institutional arrangements for the scheme. (Rs. 300 Crore).

Salient features of the scheme

Scheme period: The scheme will be effective from the date of Notification and up to 31.03.2034 along with 8 years of committed liabilities.

Application period for registration: Industrial unit will be allowed to apply for registration from the date of notification up to 31.03.2026

Commencement of Production or operation: All eligible Industrial Units to commence their production or operation within 4 years from the grant of registration.

Districts are categorized in two zones: Zone A (Industrially Advanced Districts) & Zone B (Industrially Backward Districts)

Earmarking of funds: 60% of the outlay of Part A has been earmarked to 8 NE states and 40% on First-In-First-Out (FIFO) basis.

All new Industrial units and Expanding units would be eligible for the respective incentives.

Implementation of the scheme will be overseen by the Department for Promotion of Industry and Internal Trade (DPIIT) in cooperation with the states.



Committees at the national and state levels, including the Steering Committee and State Level Committee, will monitor implementation, ensure transparency, and recommend registration and incentives claims.

Haiper

Recently, former members of Google's DeepMind team, have introduced Haiper, a cutting-edge AI-powered video generation tool.

About Haiper

It is an all-in-one visual foundation model that allows everyone, with or without technical training, to generate high-quality video content with ease.

The founders claim that Haiper brings forward cutting-edge machine learning with the belief that creativity should be “fun, surprising, and shareable”.

According to Haiper, its model is a powerful perceptual foundation model-driven AI that has been designed for a “new path towards AGI” (artificial general intelligence, an AI software with human-like intelligence and the ability to self-learn).

It offers tools such as text-to-video, animated static images, video repainting tools, etc.

Users can go on to the website, log in with their email addresses, and start generating videos for free by typing in text prompts.

At present, users can only generate HD video spanning 2 seconds, and a slightly lower-quality video could go up to four seconds.

What is Artificial Intelligence?

Artificial intelligence (AI) is a discipline of computer science that focuses on developing intelligent agents—systems that can reason, learn, and make decisions on their own.

AI research has given excellent solutions to a wide range of issues, from gaming to medical diagnostics.

Augmented reality (AR) is the integration of digital information with the user's environment in Real Time. Unlike virtual reality, which creates a totally artificial environment, AR users experience a real-world environment with generated perceptual information overlaid on top of it.



School Soil Health Programme

Recently, the Union Minister for Agriculture & Farmers' Welfare and Union Minister for Rural Development inaugurated School Soil Health Programme, New Delhi.

About School Soil Health Programme

The Department of Agriculture and Farmers welfare in collaboration with the Department of School Education and Literacy has undertaken a pilot project on school soil health programme.

Features

Under the project, 20 soil labs were set up in 20 schools of Kendriya and Navodaya Vidyalaya of rural areas.

Study modules were developed and training was given to students and teachers.

Mobile application was customized for the school programme and portal is having a separate segment for the programme where in all the activities of students has been documented.

Now, this programme has been scaled up in 1000 schools.

Under this programme Kendriya Vidyalaya, Navodaya Vidyalaya and Eklavya Model Schools have been taken under this programme. Schools are being onboarded on the portal and online batches are being created.

Department of Agriculture and Farmers welfare (DA&FW) through National Bank for Agriculture and Rural Development (NABARD) will setup soil labs in these schools.

School students will collect soil samples, test in the labs set up in schools and generate Soil health Card.

After generating Soil Health Card, they will go to the farmers and educate them about recommendation of Soil health Card.

Significance of School Soil Health Programme

The programme will provide students with the chance to conduct experiments, analyze soil samples, and explore the fascinating biodiversity within the soil.

By engaging in practical activities, students will develop critical thinking skills, problem-solving abilities, and a holistic understanding of the interconnectedness of ecosystems.

ZERO FOOD CHILDREN



India has the world's third-highest proportion of zero-food children (not eaten anything in the last 24 hours).

Details

Recently a study report published in the journal JAMA Network Open studied 276,379 babies aged six to 23 months in 92 low and middle-income countries (LMIC).

The study utilized data from the National Family Health Survey for 2019-2021, it found that nearly 19.3% of children in India experience zero-food days, meaning they have not eaten anything in the last 24-hour period.

The study found that India ranked third highest globally, following Guinea (21.8%) and Mali (20.5%). The situation highlights the urgent need for interventions to address this issue.

How India's prevalence of zero-food children (ZFC) compares with that in some other poor countries

Country	Year	ZFC prevalence	ZFC in thousands
Guinea	2018	21.8%	144
Mali	2018	20.5%	243
India	2019-21	19.3%	6,732
Benin	2017-18	18.8%	113
Liberia	2019-20	18.6%	42
Pakistan	2017-18	9.2%	848
Bangladesh	2019	5.6%	251
DR Congo	2017-18	7.4%	362
Nigeria	2021	8.8%	961
Ethiopia	2019	14.8%	771

Possible Reasons

Lack of food may not be the primary reason. Experts claim that these children may not be receiving adequate nutrition care due to a variety of factors:

Limited time for mothers

Working mothers in low-income houses may not have enough time to prepare and feed their infants regularly. They frequently balance employment and domestic responsibilities, leaving them with little time for childcare.

According to a study conducted by India's Centre for Economic Policy Research, **many mothers in rural areas work long hours, which limits their time for childcare and meal preparation.**

Inadequate Support Systems

Maternity leave or childcare decisions may be placing the entire load on women. According to a World Bank analysis, India's maternity leave policy only provides for 26 weeks of paid leave, which may be insufficient for many mothers to establish good feeding practices and secure childcare before returning to work. This can be challenging for single mothers and those who lack family support networks.

Cultural Beliefs or inadequate Knowledge

Certain cultural practices or a lack of information about the ideal newborn feeding could hamper proper nutrition. For example, certain cultures may prioritize breastfeeding for an extended period of time and postpone the introduction of complementary foods, even after six months, when breast milk alone is no longer sufficient to supply a child's nutritional requirements.

A study published in the Maternal & Child Health Journal found **that some mothers rely solely on commercially prepared baby food, which can be expensive and deficient in important nutrients**, due to a lack of understanding about how to produce homemade alternatives.

Consequence

Skipping meals or getting inadequate nutrition at the early developmental stage might have a serious effect on a child's health.

Malnutrition, or a lack of essential nutrients, can weaken a child's immune system, making them more vulnerable to infections and illnesses. Another potential result in stunted growth, which occurs when a child's height or weight falls below the normal range for their age. This can have long-term



consequences for a child's physical development, including affecting their future working capacity and overall well-being.

Inadequate nutrition can also have a negative impact on brain development, reducing a child's intellectual capacity, learning potential and future academic success.

Way Forward

Strengthen Social Support Systems

Providing mothers in need with extended maternity leave, affordable childcare options, or financial assistance can make a significant impact.

Extended maternity leave provides mothers with extra time to develop breastfeeding routines and introduce supplementary foods.

Affordable childcare facilities can ease the pressure on mothers who work outside the home by ensuring their children are properly fed throughout the day.

Financial aid can help families facing food insecurity to acquire healthy foods for their children.

Promoting Nutritional Education

Educating mothers on useful newborn and childhood diets is important. This can be achieved through community health initiatives, public awareness campaigns, or even educational materials supplied at healthcare facilities.

Educational programs may educate women on the benefits of breastfeeding and the proper introduction of complementary foods, as well as provide advice on how to prepare healthy and age-appropriate meals for their children.

Upgrading Healthcare Systems

Training healthcare workers to counsel women on infant feeding practices during pregnancy and following delivery might help them recognize potential difficulties and offer appropriate recommendations.

Implementing programs to monitor children's growth and development and identify cases of malnutrition early on can ensure timely intervention and avoid serious health

RAD51



Context: Researchers discovered an anti-failure system that uses the RAD51 protein to avoid DNA over-replication and maintain genetic continuity during cell division.

Details

Every cell division requires exact duplication of DNA to ensure that daughter cells inherit the correct genetic information. This accurate copying process, which is essential to life, is carried out by specialized cellular machinery.

Mistakes in DNA replication can cause errors or mutations in the genetic code. These mutations may disrupt normal gene function and potentially cause diseases like cancer. Cells have evolved complex systems to ensure correct and accurate DNA duplication to prevent such errors.

Discovery of RAD51's Role in Preventing Re-replication

- **Researchers at the Spanish National Cancer Research Centre (CNIO) discovered a new anti-error system involving the RAD51 protein.** It serves as a key checkpoint during DNA replication, ensuring that each DNA segment is only duplicated once.
- Uncontrolled re-replication of DNA segments can result in branch breakage and chromosome instability. This could also result in the activation of cancer-causing genes (oncogenes). **By limiting re-replication, RAD51 protects DNA and minimizes the chance of oncogene amplification, acting as a tumour suppressor.**

Mechanism of RAD51

- **RAD51 serves as an additional precaution in cases where re-replication is accidentally launched.** In such cases, RAD51 binds to newly produced DNA, forming a physical barrier that stops the copying



mechanism and prevents further replication of the specific DNA segment. This ensures that each segment is only replicated once during the cell division cycle, maintaining the genome's stability.

Significance of the Discovery

- The recent research provides an additional layer of defence against potentially dangerous DNA re-replication. The role of RAD51 may be especially important in pre-cancerous cells, which are more likely to over-proliferate. Understanding these systems can help scientists to develop cancer prevention and treatment techniques.

Conclusion

- Understanding the complex nature of RAD51's function and potential malfunctions may allow researchers to discover and target vulnerabilities in cancer cells that depend on uncontrolled DNA replication for survival. It could lead to the development of new treatment approaches that block cancer cell development and spread.