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- **Climate-Smart Agriculture**
- **India-Oman Partnership: Charting New Paths**
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Indian Economy Key Indicators

In this special section, we have come up with curated and comprehensive content on key economic indicators. Concise and relevant information related to these indicators presented herein will help you prepare better for the upcoming examinations.

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Set-I

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The questions and explanations have been prepared keeping in mind the nature and changing pattern of questions in the Civil Services Preliminary Examination.

Articles

West Asia Crisis
Implications for India & the World

The people of the Middle East are facing a real danger of a devastating full-scale conflict, warned UN Secretary-General Antonio Guterres in response to airstrikes on Iran's embassy complex. This incident is a glimpse into the broader West Asia or Middle East turmoil, rife with instability, proxy wars, and neo-colonial ambitions. The region's strategic complexity spawns numerous fault lines, encompassing geo-political, geo-economic, and geo-religious challenges. From Palestine, Libya, Syria, Iraq to Yemen, each hotspot holds global ramifications impacting India and the rest of the world. Thus the urgent need for de-escalation is evident, as the Middle East remains a volatile nexus with the potential to engulf the world in crisis.

■ **Alok Singh**

On 1st April, 2024, Israel conducted airstrikes on the Iranian embassy complex in Damascus, Syria, resulting in the destruction of the building housing its consular section. These airstrikes occurred amidst heightened tensions between Israel and Iran, coinciding with the ongoing Israel–Hamas war and the Israel–Hezbollah conflict. In response to this attack, Iran retaliated on 13 April 2024 with missile and drone strikes targeting military bases in Israel, citing them as the launch sites for the initial airstrikes on their embassy complex.

The current crisis appears to be largely bipolar; however, this bipolarity has deepened tentacles engraved in Middle East's history and has gradual ripple effects across the globe. Israel, aspiring to have its legitimate demands met in the Middle East, engaged in an armed conflict with Hamas-led Palestinian militant groups around the Gaza Strip since 7th October, 2023.

This power struggle extends to various arenas, including conflicts in Yemen, Syria, and Iraq, exacerbating tensions and contributing significantly to the ongoing instability in the Middle East.

Moreover, Iran's Revolutionary Guard's decisive strike on militant strongholds in Pakistan in January underscores Iran's assertiveness in addressing security threats along its borders, signaling a shift in regional dynamics and raising concerns about escalating tensions in the area.

The current incidences are just a prelude to decadal instabilities in the Middle East. The region has been embroiled in numerous crises and conflicts over the years. Thus it becomes imperative to have an in depth understanding of the historical developments, reasons for the conflict and possible implication of its ripple effects across India and the world.

Instability over the Decades

- **Israel-Palestine Conflict:** This longstanding conflict revolves around land disputes, security concerns, and the rights of Palestinians. It has led to multiple wars, ongoing tensions, and international diplomatic efforts for peace.

- **Iran Nuclear Deal:** The Joint Comprehensive Plan of Action (JCPOA), signed in 2015, aimed to curb Iran's nuclear program in exchange for sanctions relief. However, its withdrawal by the United States in 2018 and subsequent tensions have contributed to regional instability.

- **Syrian Civil War:** Starting in 2011, the Syrian conflict involves a complex web of internal factions, external interventions, and humanitarian crises. It has drawn in regional powers, including Russia, Iran, Turkey, and Israel.

- **Yemen Crisis:** The Yemeni Civil War, exacerbated by regional rivalries between Iran and Saudi Arabia, has resulted in a humanitarian catastrophe, including widespread famine and displacement.

- **Gulf Cooperation Council (GCC) Rift:** Tensions among Gulf States, notably Qatar's isolation by Saudi Arabia, Bahrain, the UAE, and Egypt since 2017, reflect broader regional rivalries and ideological differences.

- **Lebanon's Political Instability:** Lebanon faces challenges due to sectarian divisions, influence from regional powers like Iran and Saudi Arabia, and the aftermath of the 2006 Israel-Lebanon War.

- **ISIS and Terrorism:** The rise of ISIS and other extremist groups has had profound implications for regional security, leading to military interventions and counterterrorism efforts.

- **Refugee Crisis:** The conflicts in Syria, Iraq, and Yemen have contributed significantly to the refugee crisis, with millions displaced both within the region and seeking asylum abroad.

Climate-Smart Agriculture
Ensuring Sustainability and Food Security

In a world where climate change poses unprecedented challenges to agriculture and food security, climate-smart agriculture presents a holistic approach to addressing the challenges while ensuring sustainability and food security through more resilient, productive and sustainable agricultural systems.

■ **Ranjeet Shah**

According to the recently published Global Report on Food Crises (GRFC) 2024, nearly 282 million people faced high levels of acute food insecurity in 59 countries in 2023, with extreme weather being the second most significant factor driving food crisis.

Furthermore, with over 4.62 billion acres of farmland worldwide, the food system accounts for approximately 22% of global greenhouse gas emissions. In this context, climate-smart agriculture holds promise in building a robust agrifood system amidst the intensifying effects of climate change. However, there is a pressing need to bring about the much needed changes in the global food system in order to address the existing challenges.

Concept

- Climate-smart agriculture (CSA) is an approach that helps guide actions to transform agri-food systems towards green and climate resilient practices. CSA supports reaching internationally agreed goals such as the Sustainable Development Goals (SDGs) and the Paris Agreement.
- It aims to tackle three main objectives: sustainably increasing agricultural productivity and incomes; adapting and building resilience to climate change; and reducing and/or removing greenhouse gas emissions, where possible.
- CSA also supports the Food and Agriculture Organization (FAO) Strategic Framework 2022-2031 based on the Four Betters: better production, better nutrition, a better environment and a better life for all, leaving no one behind.

Need

- Climate change accelerates degradation processes in already-degraded environments and has negative impact on food production and food system. In India, the countrywide decline in major crop yields due to climate change effects between 2010 and 2039 could be as high as 9 per cent. This has heightened the need to embrace the notion of climate-smart agriculture in the face of climatic vagaries to reduce the negative impacts of climate change on agricultural systems.
- A transformation of the agricultural sector, including crop and livestock production, fisheries and forestry, is urgently needed to respond to climate change and sustainably increase agricultural productivity and incomes.
- Climate-smart agriculture is rooted in sustainable agriculture and rural development objectives which, if reached, would contribute to achieving the SDGs of reducing hunger and improved environmental management.

Benefits

Climate-smart agriculture addresses climate change challenges while ensuring sustainable agricultural productivity, resilience, and mitigation. The benefits of climate-smart agriculture include:

- **Resilience to Climate Change:** CSA practices enhance the resilience of agricultural systems to climate variability and extreme weather events such as droughts, floods, and storms.
- **Increased Agricultural Productivity:** By optimizing resource use, such as water, fertilizers, and energy, CSA practices can increase agricultural productivity. Improved crop varieties, precision farming techniques, and efficient irrigation systems contribute to higher yields and farm profitability.
- **Adaptation to Changing Conditions:** CSA encourages farmers to adapt their practices to changing climate conditions. This may involve diversifying crops, implementing water-saving techniques, adopting agroforestry practices, or using climate-resilient crop varieties.
- **Mitigation of Greenhouse Gas Emissions:** CSA contributes to the mitigation of greenhouse gas emissions through practices such as conservation tillage, cover cropping, agroforestry, and improved livestock management.
- **Preservation of Ecosystem Services:** CSA practices promote the conservation of natural resources and ecosystem services. By maintaining soil health, protecting biodiversity, and preserving water quality, CSA contributes to sustainable agricultural production and environmental conservation.
- **Enhanced Food Security:** Climate-smart agriculture helps ensure food security by increasing agricultural productivity, improving resilience to climate-related shocks, and diversifying food production systems.
- **Income Generation and Poverty Alleviation:** CSA can generate additional income for farmers through increased productivity, improved market access, and the adoption of climate-resilient technologies.

Indian Scenario

- Indian agriculture being a gamble of monsoons, crop yields continue to be climate-sensitive and the fluctua-

Formalizing the Informal Economy
Need for Comprehensive Reforms

To encourage formalization of the Indian economy, the government needs to simplify regulatory processes, reduce compliance burden, provide incentives, promote skill development programs and create an enabling business environment. Additionally, making stakeholders aware of the benefits of the formal economy and regulation of institutional factors to transform the economic activities are also important.

■ Dr. Amarjeet Bhargava

According to the 'India Employment Report 2024' released by the Institute of Human Development (IHD) and the International Labour Organization (ILO), about 81.1% of India's workforce belongs to the informal sectors of the economy. The report states that 'self-employment' (55.8%) remains the primary source of India's overall employment outlook in 2022; this is followed by 'contingent' (22.7%) and 'regular' employment (21.5%).

Small and dispersed units of production outside government control are the general characteristics of the informal sector. Further, wage rates, working hours and other rules/laws of employment are not standardized. The informality of economic activities and employment is a major feature of the Indian economy and has its inherent challenges.

In this context, it is necessary to understand the nature and characteristics of India's informal sector and the challenges associated with its formalization.

Current Status of India's Informal Sector

Activities Covered

- Street vending, artisan producers, household businesses, local transport workers, shop workers, domestic servants, workers engaged in community services such as cleaning and garbage collection, etc.

Issues with Employment

- Informal employment lacks facilities like written contract, regular payment, fixed leaves, etc. Most of the workers in this sector are forced to work for minimum wages, inadequate payments and in harsh conditions.

Informal Jobs

According to the Organisation for Economic Co-operation and Development (OECD), employees are considered to have informal jobs if their employment relationship is, in law or in practice, not subject to national labour legislation, income taxation, social protection or entitlement to certain employment benefits i.e. advance notice of dismissal, severance pay, paid annual or sick leave, etc.

Size of the Informal Sector

- According to the 'India Employment Report', the informal sector contributes almost half to the total size of the country's GDP.

- Also, more than 90% of the country's total workforce is engaged in informal activities.

- The number of informal workers in India is higher in rural areas than in urban areas. Most of the people in rural areas are engaged in agriculture and other related activities.

- Similarly, according to the annual Periodic Labour Force Survey Report (PLFS) 2022-23, 74% of non-farm workers are in proprietorships and partnerships, officially classified as informal sector enterprises.

Rise in Worker Population Ratio (WPR)

- According to PLFS, the Worker Population Ratio (WPR) for all ages (rural+urban) rose significantly from 34.7% to 41.1% between 2017-18 and 2022-23.

- This rise, combined with the rise in India's population over the same period implies a substantial increase in the number of informal enterprises. Thus, in size terms, the informal sector has not declined.

Rise in the Share of Self-Employment

- According to PLFS data, self-employment has seen an increase from 52.2% (2017-18) to 57.3% (2022-23). Similarly, the income earned by self-employed people is increasing at the rate of 6.5% per year.

Income and Wages

- More than 94% of informal sector workers enrolled on the e-Shram portal earn less than Rs 10,000 per month.

- About 52.11% of the workers enrolled on this portal are employed in the agriculture sector. This is followed by domestic workers and construction workers.

Why Formalization is Necessary?

- **Expansion of Tax Base:** Formalization of the economy will bring more businesses and individuals into the tax net; this will help in expanding the tax base. Further, this will increase the tax revenue of the government, and additional income will be used for public welfare and development programs.

- **Improved Regulation:** The process of formalization will help in bringing most of the economic activities within the ambit of government's rules/laws. This will curb illegal

Current Affairs

inFocus

Right against Climate Change : A Fundamental Right

On 5th April, 2024, the Supreme Court (SC) of India, in a case, for the first time, recognised the right against the adverse impacts of climate change, saying it is intertwined with the right to life and equality that are embedded in the Indian Constitution.

Brief Description of the Case

- The judgment delivered by a three-judge Bench of Chief Justice of India was hearing a plea to protect the Great Indian Bustard (GIB) from losing its habitat due to power transmission lines.
- On April 19, 2021, a Supreme Court bench had ordered restrictions on the setting-up of overhead transmission lines in an area covering about 99,000 square kilometres and mooted conversion of overhead low and high voltage lines into underground power lines.
- The Ministry of Environment, Forests, and Climate Change, Ministry of Power, and Ministry of New and Renewable Energy later approached the SC, seeking modification of its directions. They pointed out that India has given international commitments on transition to non-fossil fuels and reduction of emissions; and the area contains a large share of the country's solar and wind energy potential.
- It was also contended that putting high voltage power lines underground was technically not feasible.

What Supreme Court Said?

Climate Change and Human Rights are interlinked

- The SC ruled that people have a "right to be free from the adverse effects of climate change", which should be recognised by Articles 14 and 21 of the Constitution.
- Linking the right against climate change to Articles 21 and Article 14, Chief Justice of India said the rights to life and equality could not be fully realised without a clean, stable environment.
- The right to health (which is a part of the right to life under Article 21) is impacted due to factors such as air pollution, shifts in vector-borne diseases, rising temperatures,

droughts, shortages in food supplies due to crop failure, storms, and flooding.

- The inability of underserved communities to adapt to climate change or cope with its effects violates the right to life as well as the right to equality.
- If climate change and environmental degradation lead to acute food and water shortages in a particular area, poorer communities will suffer more than richer ones.
- The court also highlighted the interconnection between climate change and various human rights, including the right to health, indigenous rights, gender equality, and the right to development.

SC Reversed its Order

- The bench reversed a 2021 order, which had introduced a blanket ban against overhead power-lines over an area of 99,000 square kilometres covering parts of Gujarat and Rajasthan to protect the birds.
- The court said that only allowing underground power transmission cables in such a large area, which also has an incredible potential for clean energy such as wind and solar, will severely impact the country's clean energy shift that is necessary to attain its climate goals.
- By doing so, it will impede global efforts against climate change, thereby threatening fundamental rights of Indians, such as the right to life, equality, access to energy, among others.

Incorporating International Law Principles

- The Supreme Court's judgment draws heavily from international law principles, particularly the concept of the "right to a healthy environment" recognized by various international treaties and declarations.
- The Court relied on the Stockholm Declaration (1972), the Rio Declaration (1992), and the Paris Agreement (2015) to establish the global consensus on the human right to a healthy environment.
- By incorporating these international frameworks, the judgment strengthens the legal foundation for the recognition of this right in the Indian context.

INDIA WATCH

Polity & Governance

Provision of Chargesheet under CrPC

On 1st May, 2024, the Supreme Court, in a judgment, observed that the chargesheet must contain clear and complete entries of all columns to enable the court to understand which crime has been committed by which accused and the material evidence available on the file.

What is a Chargesheet?
- A chargesheet is a final report that is filed by the investigating officer or police officials under Section 173 Code of Criminal Procedure (CrPC) after the completion of the investigation in a cognizable or non-cognizable case.
- A chargesheet has been defined as "a final report of the police officer under Section 173(2) of the CrPC" in one of the famous cases of K. Veeraswami vs. Union of India & Others (1991).

Filing of Chargesheet
- It can be filed only after the completion of an investigation by the concerned police officials, since the contents of the chargesheet cannot be filled out without investigating the case.
- It has to be filed only after the investigation is complete, not while the same is ongoing.

Benefits of a Chargesheet
- It contains the statements of the accused and all other witnesses.
- Marks the beginning of a criminal trial.
- Charges on which courts have to proceed against the accused are mentioned.
- It is useful for the accused in obtaining bail as the offences are mentioned clearly.

Important Facts

Difference between Chargesheet & First Information Report (FIR)

BASIS FOR COMPARISON	FIR	CHARGESHEET
Meaning	An FIR is a report that gets to the police first, either orally or in writing.	A chargesheet is a key document that indicates the crime has been committed.
Type of Report	Preliminary Report	Final Report
Defined in	Section 173 of the CrPC	Section 154 of the CrPC
Filed by	Victim of the crime	Investigation Officer
Filed in	Police Station	Court
Purpose	Investigation	Trial
Withdrawal	Allowed in case of petty offences	Not allowed

'Eggshell Skull' Rule

On 23rd April, 2024, the Supreme Court, in a Judgment delivered in a medical negligence case, explained the applicability of 'Eggshell Skull Rule'.
- The Court was dealing with an appeal preferred by a woman (claimant) against the hospital seeking enhancement of compensation.
- The eggshell skull rule is a common law principle applied in civil litigation.
- Essentially, when the offender would be liable for all injuries that might be intensified due to the peculiar conditions of the injured person that the offender might not have known.
- Simply put, the defendant would be held responsible for injuries caused to a person when he hit him on the head, even if the victim had a particularly delicate skull or an 'eggshell' for a skull.
- The rule is applied for claiming an enhanced compensation — for damage that is more than what could have been ordinarily anticipated to be caused by the defendant.
- The origins of the eggshell skull rule are most often traced back to an 1891 Vosburg vs. Putney case in Wisconsin, US.

Public Policy

MoHFW Directives to Eliminate Commercial Dealing in Organs

On 10th April, 2024, the Ministry of Health and Family Welfare (MoHFW) issued directives to eliminate commercial dealing in organs, especially those involving foreign citizens.

Rationale

- The directives come after two successive organ transplant cases involving foreign nationals came to the fore in which regulations were violated. In Rajasthan, fake NoCs were allegedly issued to Bangladeshi nationals, and in Delhi, Myanmar nationals were allegedly paid to donate kidneys.

What are the Directives?

Appropriate Authority of the State

- Appropriate Authority of the State, appointed as per Transplantation of Human Organs & Tissues Act (THOTA) 1994, should investigate transplants in respect of foreign Nationals in the state apart from any complaint of breach of any provision of the Act or any of the rules, whenever such violations are noted.

Unique NOTTO-ID for Donor and Recipient

- It should be ensured, that a unique NOTTO-ID for both donor and recipient, is generated by the hospital from National Organ & Tissue Transplant Organisation (NOTTO) website, in all cases of organ transplant, whether from a living donor or deceased donor.
- Besides NOTTO-ID being mandatory for considering allocation of organ in case of deceased donor transplant, this ID in case of a living donor transplant, shall also be generated at the earliest, maximum within 48 hours after the transplant surgery is done.

Regular Inspection

- Devise a system of regular inspection of the registered transplant/retrieval hospitals by the State Appropriate Authority, so as to have an onsite monitoring of their activities, quality of transplantation, post-operative follow-up of donor and recipient and outcomes of transplantation.

Appropriate Action

- Investigate any violation of the THOTA 1994 and rules thereunder and take appropriate action including suspension of registration, for performing organ transplant, of the hospitals involved in illegal activities.

Expected Impact

- The directives issued by the MoHFW will help curb the commercial trading of organs, thereby paving the path for transparent and efficient organ transplantation across the country.

Analysis

Issues & Challenges involved in Organ Transplant in India

- Huge shortage of organs available for carrying out transplants
- Poor availability of donors (demand vs. supply gap)
- Lack of awareness of concept of Brain Stem Death
- Less number of Brain Stem Death certification by hospitals
- Non availability of adequate infrastructure especially in Government sector institutions
- Lack of awareness and attitude towards organ donation
- Potential organ trading
- Reluctance of many States to adopt THO Amendment Act, 2011
- Transportation of donated organs (especially inter State)
- Gaps in data reporting especially online entry by hospitals/ States in National Registry
- High cost (especially for uninsured and poor)

Legal Framework

- Organ donation and transplantation is a Government regulated activity in India as per the provisions of the Transplantation of Human Organs and Tissues Act 1994 (as amended in 2011).
- Main purpose of the Act is to regulate the removal, storage and transplantation of human organs for therapeutic purposes and for the prevention of commercial dealings in human organs.
- Brain Stem Death is recognized as a legal death in India under the Transplantation of Human Organs and Tissues Act since 1994 like many other countries, which has revolutionized the concept of organ donation after death.
- In pursuance to the Amendment Act, the Transplantation of Human Organs and Tissues Rules were notified on 27th March, 2014.
- The amended Act and revised Rules have many provisions for promotion of organ donations from cadavers.

Supreme Court's Views on Implementation of RPwD Act, 2016

On 22nd April, 2024, the Supreme Court (SC) expressed disappointment at the inadequate implementation of the Rights of Persons with Disabilities (RPwD) Act, 2016 across states & UTs.

Reports & Indices

Synchronizing Energy Transitions toward Possible Net Zero for India

Recently, a report titled "Synchronizing energy transitions toward possible Net-Zero for India: Affordable and clean energy for All" was released by the Office of the Principal Scientific Adviser to the Government of India.

Key Highlights

- There is no silver bullet to achieve net zero. The transition needs multiple pathways to be adopted with the co-existence of myriad technologies in our energy basket.
- Coal is projected to continue until the next two decades as the backbone of the Indian energy system.
- Net zero is not possible without substantial nuclear power and Renewable Energy (RE) generation by 2070.
- The mathematic modeling calculated that the emissions in 2070 fell to 0.55 billion tonnes of carbon dioxide ('net zero' scenario). This translated to nuclear power rising five-fold from today's levels to 30 GW (gigawatt) by 2030 and 265 GW by 2050.
- To put in perspective, it means nuclear power will contribute 4% of India's total energy by 2030 and sharply rise to 30% by 2050. In the same scenario, the share of solar power falls from 42% in 2030 to 30% in 2050.
- India's emissions would range between 0.56 btCO2 and 1.0 btCO2 in 2070. It is expected that the remaining gap in emissions will be offset through sequestration in forestry and tree cover as envisaged in our Nationally Determined Contributions.
- Additionally, the coal phase-down will require active policies on critical minerals and carbon dioxide removal technologies.
- Clean, affordable electricity at lowest evelized cost of electricity (for consumers) can be achieved in net-zero pathways, especially with a focus on nuclear power and renewable power.
- Widespread electrification of end-use sectors i.e up to 47–52% electricity share in Total Final Electricity Consumption (TFEC) compared to 18% at present.
- Between 2020 and 2070, India would require approximately Rs 150–200 lakh crore to fund these transitions.

Financing for Sustainable Development Report 2024

Recently, United Nations Department of Economic and Social Affairs launched the 'Financing for Sustainable Development Report 2024.'

Major Findings

Sustainable Development Crisis
- The world grapples with a sustainable development crisis, compounded by geopolitical tensions, climate disasters, and a global cost of living crisis.
- These challenges impede progress on crucial development targets, jeopardizing the well-being of billions.

Finance Divide
- Developing countries bear the brunt of exorbitant debt burdens and soaring borrowing costs, hindering their ability to respond to multifaceted crises effectively.
- The report reveals that developing countries pay around twice as much on average in interest on their total sovereign debt stock as developed countries.

Financing Gap
- It highlights a staggering financing gap, estimated at USD 4.2 trillion annually, underscoring the magnitude of the challenge at hand.
- This represents a more than 50% increase over pre pandemic estimates, emphasizing the urgent need for concerted action.

Weak Enabling Environments
- Existing policy and regulatory frameworks often fail to incentivize sustainable investment, leading to misaligned public budgets and insufficient private sector engagement.
- Average global growth has declined, while policy and regulatory frameworks still do not set appropriate incentives for sustainable development.

Closing Window
- The window to rescue the SDGs and prevent a climate catastrophe is still open but closing rapidly.
- Over the last several years, the world has contended with persistent pandemic-related uncertainties, ramped

SOCIETY WATCH

Indian Society

Supreme Court's Observations on Hindu Marriage

On 19th April, 2024, in a significant ruling, the Supreme Court of India made observations regarding validity of the Hindu marriage under the Hindu Marriage Act of 1955.

What are the Observations?

- **Traditional Rites:** A Hindu marriage must be performed with traditional rites and ceremonies, such as 'saptapadi' (seven steps around the sacred fire commonly known as 'saath phera') for it to be valid.
- **Not a Commercial Transaction:** A marriage is not a commercial transaction; it is a solemn foundational event celebrated so as to establish a relationship between a man and a woman who acquire the status of a husband and wife for an evolving family in future which is a basic unit of Indian society.
- **Hindu Marriage Act, 1955**: The Hindu Marriage Act (HMA), 1955 solemnly acknowledges both the material and spiritual aspects of this event in the married couple's lives.
- **Section 7 of HMA:** The sincere conduct of and participation in the customary rites and ceremonies under Section 7 of the Hindu Marriage Act, 1955 ought to be ensured by all married couples and priests who preside over the ceremony.
- **Marriage Registration doesn't Legitimize Wedding:** The top court highlighted that the advantage of marriage registration is that it facilitates proof of factum of a wedding in a disputed case but if there has been no marriage in accordance with Section 7 of Hindu Marriage Act, "the registration would not confer legitimacy to the marriage".
- **State Rules not to be Evidence of Marriage:** The Court said any registration of a marriage as per the rules made by the state government would not be evidence of a Hindu marriage.

Hindu Marriage Act, 1955

- It was enacted as a part of the Hindu Code Bills to govern the institution of marriage among Hindus in India.
- It included the Hindu Succession Act (1956), the Hindu Minority and Guardianship Act (1956), and the Hindu Adoptions and Maintenance Act (1956).
- It applies to individuals who are Hindu by birth or through conversion. It also includes Buddhists, Jains, and Sikhs.
- The Act prohibits bigamy, polygamy, or polyandry. Section 5 declares having two living spouses simultaneously illegal and punishable under Sections 494 and 495 of the Indian Penal Code.

Social Issues

Low Representation of Women in STEM Faculty

Recently, according to a study conducted by BiasWatchIndia revealed low representation of women in STEM (Science, Technology, Engineering, and Mathematics) faculty in India.

Key Points

- Only 13.5% of faculty members across 98 universities and institutes are women. This underrepresentation is not unique to India, but the disparity is more prominent here compared to countries like the US and UK.
- Not only are women underrepresented in STEM faculties, but the percentage of women further decreases in top-ranked institutes like the Indian Institutes of Technology (IITs), Indian Institute of Science (IISc) and Tata Institute of Fundamental Research (TIFR).
- At 9.2 per cent, women's representation was lowest in the engineering faculties the authors surveyed.
- The highest representation was in the biology faculties (25.5 per cent). According to the researchers, biology is considered a 'soft science' as compared to engineering, mathematics, physics, computer science, and chemistry.

Welfare Schemes

Longevity India Initiative

On 18th April, 2024, the Indian Institute of Science (IISc) unveiled the 'Longevity India Initiative' to address ageing-related issues and extend human 'healthspan.'

What is the Rationale behind the Initiative?

According to the World Health Organization (WHO), India's ageing population is expected to reach 347 million by 2050. Thus it is necessary to use technology to support the country's elderly population, and make geriatric healthcare more accessible to our ageing population through such initiative.

Key Points

- **Aim:** It seeks to enhance the understanding of ageing through both fundamental and applied research, and to develop solutions that can improve quality of life.
- **Multidisciplinary Collaboration:** The initiative involves researchers, clinicians, industry, and civil society to tackle ageing challenges comprehensively.
- **Comprehensive Clinical Study:** A large-scale clinical study, with involvement from various IISc departments, aims to explore ageing-related issues in-depth.
- **Focus:** The initiative's research focus includes identifying early disease indicators, investigating ageing biomarkers, and developing new therapeutics and technologies to aid in healthy ageing.
- IISc's extensive experience in biological and interdisciplinary sciences will facilitate the development, testing and implementation of these innovations.
- **Collaboration with Industry:** Industry collaboration is crucial, with leading companies offering technologies and support to advance aging-related research.

Significance

- The initiative challenges the notion of ageing as an inevitable fate and will help to promote healthy ageing through research-based interventions.

Important Facts

Indian Institute of Science (IISc)

- It is a premier institution for higher education and research in science, engineering, design, and management.
- It is located in Bangalore, Karnataka.
- The institute was established in 1909 with active support from Jamsetji Tata and thus is also locally known as the "Tata Institute".

- In 2018, IISc was selected as an Institution of Eminence (IoE) by the Government of India, and it consistently figures among the top Indian institutions in world university rankings.

National Curriculum for Early Childhood Care and Education 2024

Recently, the Ministry of Women and Child Development (MWCD) released the National Curriculum for Early Childhood Care and Education 2024, titled 'Aadharshila'.

What is 'Aadharshila'?

- It is a comprehensive guide for caregivers and Anganwadi workers to promote optimal development in children during the crucial early years.
- The framework aims to empower caregivers and Anganwadi workers through 'responsive caregiving' and 'providing opportunities' for early learning for children from birth up to the age of three.
- Prepared by the National Institute for Public Cooperation and Child Development (NIPCCD), it incorporates feedback from Anganwadi workers to ensure flexibility and effectiveness.

Key Features

Age Group
- It is a detailed 48-week curriculum meant for learning in the age group of three to six-year-olds in anganwadis.

Activities
- In-centre and at-home activities
- Indoor and outdoor activities
- Child-led and educator-led activities
- Robust assessment tools to track child development

Comprehensive Childcare Support
- The ministry aims to enhance India's early childhood care and education framework, considering that 85 percent of brain development occurs before age six.

Impact

- **Holistic Development:** It will help in developing listening skill, vocabulary building, boosting imagination, narration, following instructions, creativity, social development, developing self-expression and self-esteem, which will help a child to easily transition into Grade 1. ■■

Heritage
Art & Culture

Art & Culture

- Ajrakh Craft

Art & Culture

Ajrakh Craft

On 26th April, 2024, the Office of the Controller General of Patents, Designs and Trademarks (CG-PDTM) officially handed over the GI certificate to the traditional artisans of 'Kutch Ajrakh,' the torchbearers of traditional craft from Gujarat's Kutch region.

- GI tag is a geographical identification tag that helps identify a product/service/ art as originating from a certain geographical region.

What is Ajrakh?

- Ajrakh is an elaborate block printing technique that involves layering of prints to create unique effects.
- It uses natural dyes and intricate patterns to create beautiful textiles, which are then used to make sarees, dupattas, stoles, and other garments.
- The unique feature of Ajrakh is its use of geometric patterns and rich earthy colours like indigo, madder, and mustard.
- Cotton cloth is first dyed in a single color, and then various hand-carved blocks are used to create intricate and beautiful designs on it.
- Matani Pachedi is another form of Ajrakh printing, alongside Saudagiri prints from Ahmedabad and Batik prints from Bhuj, which are also classified under the Ajrakh umbrella.
- Ajrakhpur, as the name suggests, is the original center for Ajrakh work in Gujarat. The Sind Muslims introduced this traditional work to the village 400 years ago.

Method

- Ajrakh is an elaborate block printing technique that takes up to 23 steps for an unbleached cloth to become a final Ajrakh product.

- A minimum of 14 to 16 steps are required for Ajrakh.
- For block printing, the technique uses wooden Ajrakh blocks that have been carved by hand, along with vegetable dyes, and Indigo is a key part of the printing process.
- Indigo and red form the dominant colors in an Ajrakh print.
- One of the most important motifs found in Ajrakh print is called the trefoil. It consists of three joint sun discs representing the cohesive unity of the sun gods, water, and the earth.

Gangaur Festival

Recently, Gangaur was celebrated throughout Rajasthan, commemorating the union of Lord Shiva (Gan) and Goddess Parvati (Gauri). It is also called Gauri Tritiya.

- Gangaur is observed in Chaitra (March-April), the first month of the Hindu calendar, which marks the transition from winter to spring.
- The term "Gan" refers to Lord Shiva, while "Gauri" or "Gaur" represents Goddess Parvati, Shiva's heavenly consort. Gangaur symbolizes the happiness and auspiciousness of marriage, making it a significant celebration for the people of Rajasthan.
- Women play a crucial role in the festival, worshiping clay idols of Gan and Gauri in their homes.
- Unmarried girls seek blessings for finding a good husband, while married women pray for their husband's well-being and longevity.
- The Gangaur festival is a vibrant and intricate celebration that reflects the rich cultural heritage of Rajasthan. It is a testament to the reverence for the divine union of Lord Shiva and Goddess Parvati, as well as the importance of marital harmony and female empowerment in the state.

ECONOMY WATCH

Banking & Finance

RBI's Guidelines for Voluntary Transition of SFBs to Universal Banks

On 26th April, 2024, the Reserve Bank of India (RBI) published guidelines for the voluntary conversion of Small Finance Banks (SFBs) into universal banks.

What are the Guidelines for Transition?

- **Track Record:** A minimum of five years of satisfactory performance.
- **Net Worth:** A minimum of Rs. 1,000 crore at the end of the previous quarter (audited).
- **Stock Exchange Listing:** The SFB's shares must be listed on a recognized stock exchange.
- **Capital Adequacy:** Meeting the prescribed Capital to Risk-weighted Assets Ratio (CRAR).
- **Profitability:** Net profit recorded in the last two financial years.
- **Asset Quality:** Gross Non-Performing Assets (GNPA) and Net Non-Performing Assets (NNPA) must be less than or equal to 3% and 1%, respectively, over the last two financial years.

Additionally, there are specific conditions regarding shareholding patterns and promoters during the transition. These include**:**

- ✓ **Promoter Structure:** Existing promoters will remain, with no changes allowed during the transition.
- ✓ **Shareholding:** No new mandatory lock-in requirement for existing promoters.
- ✓ **Loan Portfolio:** SFBs with a diversified loan portfolio are preferred for transition.

Impact

- **Enhancing Capabilities:** The new guidelines introduced by RBI would open avenues for SFBs to enhance their operational capabilities and financial standing by transitioning into universal banks.
- **Growth and Stability:** It will help in improving their competitiveness, expand their customer base, and enable access to a wider range of banking services, ultimately contributing to the growth and stability of India's banking sector.

Private Credit

Recently, the International Monetary Fund (IMF) in its Global Financial Stability Report, 2024, raised concerns about the rapidly expanding private credit market.

What is Private Credit (PC)?

- Also known as the private debt, these are debt-like, non-publicly traded instruments provided by non-bank entities, such as private credit funds or business development companies (BDCs), to fund private businesses.
- It typically involves the bilateral negotiation of terms and conditions to meet the specific needs and objectives of the individual borrower and lender, without the need to comply with traditional regulatory requirements.
- It is tailored to the borrower's specific needs and is often illiquid.
- **Exclusion:** It excludes bank loans and funding from publicly traded assets like corporate bonds.

How Private Credit could threaten Financial Stability?

Borrowers' Vulnerabilities

- Private credit is typically floating rate and caters to relatively small borrowers with high leverage.
- Such borrowers could face rising financing costs and perform poorly in a downturn, particularly in a stagflation scenario, which could generate a surge in defaults and a corresponding spike in financing costs.

Significant Capital Loss

- Some insurance and pension companies have significantly expanded their investments in private credit and other illiquid investments.

SCIENCE & TECHNOLOGY

Space Science
- Sweden Joins Artemis Accords

- First-Ever Neutron Star-Mystery Object Merger
- US Directs NASA to Create Lunar Time Standard
- Blue Origin Unveils Crew for NS-25 Mission

Defence Technology
- Bambi Bucket
- Field Trials of Indigenous MPATGM Weapon System
- Successful Test Flight of Agni-Prime Ballistic Missile

New Technology & Innovations
- High-Energy Hybrid Sodium-Ion Battery
- Sustainable Hydrogel for Microplastic Removal

Space Science

Sweden Joins Artemis Accords

On 16th April, 2024, NASA celebrated Sweden's accession to the Artemis Accords, marking the 38th country to sign onto the non-binding agreements outlining norms for outer space activities.

Expanding the Global Coalition
- NASA Administrator expressed enthusiasm for Sweden's inclusion, emphasizing shared principles of open, transparent, responsible, and peaceful exploration.
- As a new space race unfolds, characterized by diverse participants, the Artemis Accords serve as a framework for collaboration and adherence to international norms.
- While the US maintains its leadership in space exploration, other nations like China, India, and Japan are emerging as significant players.
- Russia faces challenges in replicating past successes, evident in recent mission failures.

Emerging Contenders
- India and Japan's successful lunar missions position them as contenders in the evolving space landscape.
- Currently, the United States, India, and Japan are among the leading spacefaring nations committed to the Artemis Accords.

Important Facts

Artemis Accords
- Initially announced in 2020, the Artemis Accords now boast 38 signatories, including nations like India and Japan.
- The accords reinforce obligations from the 1967 Outer Space Treaty and advocate for responsible behaviour and data sharing.
- The accords aim to establish common principles for the civil exploration and use of outer space, including the moon, Mars, comets, and asteroids, for peaceful purposes.

Four Solar Flares Erupt Simultaneously

On 23rd April, 2024, four solar flares, termed as "sympathetic solar flares," were observed simultaneously, indicating complex magnetic interactions.

Origin and Scope of the Eruption
- The eruption, originating from three sunspots and a large magnetic filament, covered approximately one-third of the solar surface facing Earth.
- Sympathetic flares occur due to multiple eruptions across the Sun's magnetic field, linked by massive magnetic field loops above the solar surface.

Significance of Solar Activity
- Such events suggest the Sun is reaching the peak of its 11-year solar cycle, marked by increased solar events like flares and coronal mass ejections (CMEs).
- Scientists monitoring the event aim to gain insights into the Sun's complex life cycle and its impact on space weather.
- The simultaneous eruption of four flares, termed "super-sympathetic," is a rare occurrence compared to typical sympathetic flares involving two linked events.
- If directed towards Earth, these flares could disrupt power grids, telecommunication networks, and satellites, while exposing astronauts to radiation. Additionally, minor geomagnetic storms could lead to auroras at lower latitudes.

SOLAR CYCLE
- The Sun is a massive sphere of hot, electrically-charged gas.
- Movement of this charged gas generates a strong magnetic field around the Sun.
- This magnetic field undergoes a cyclic process known as the solar cycle.
- Approximately every 11 years, the Sun's magnetic field experiences a complete reversal, wherein the north and south poles switch places.
- It then takes another 11 years for the Sun's poles to revert to their original positions.

China's Tiantong Project

Recently, Chinese engineers and scientists have developed the world's first satellite enabling smartphones to place calls directly through it, bypassing mobile towers, particularly crucial in emergencies where traditional mobile connectivity may be compromised.

Origin and Purpose

- The concept emerged after the 2008 Sichuan earthquake highlighted communication breakdowns, hampering rescue efforts and leading to significant loss of life.
- The Chinese government initiated the Tiantong Project, aimed at establishing a satellite communication system to ensure universal access to communication services, regardless of socio-economic status.

Tiantong Project Advancements

- Over 16 years, the Tiantong Project has witnessed significant technological advancements, coinciding with developments in mobile phone connectivity.
- The deployment of the Tiantong-1 series involves launching three satellites orbiting synchronously at 36,000 kilometers altitude, potentially revolutionizing communication across the Asia-Pacific region.

Overcoming Technical Challenges

- Direct satellite connectivity for mobile phones posed technical challenges, notably passive intermodulation (PIM) interference.
- Chinese scientists developed innovative suppression techniques and advanced detection technology to address this issue.

Implications and Competition

- The success of the Tiantong Project underscores China's leadership in satellite communication technology and its commitment to aerospace advancement.
- China's robust patent portfolio in satellite communication technology ensures domestic companies' access to revolutionary advancements, safeguarding against potential barriers or sanctions.

- In contrast, SpaceX's Starlink constellation operates in low-Earth orbit, targeting older 4G phones, showcasing divergent approaches to satellite communication technology.
- The competition between China's Tiantong Project and SpaceX's Starlink promises to shape the future of satellite communication, with profound implications for global connectivity.

S.A.R.A.H.: WHO's Digital Health Promoter

On 2nd April, 2024, World Health Organization (WHO) ahead of World Health Day, focusing on 'My Health, My Right', launched a digital health promoter prototype S.A.R.A.H. (Smart AI Resource Assistant for Health).

- This AI-powered assistant utilizes new language models and cutting-edge technology to engage users 24/7 in 8 languages across various health topics, accessible on any device.

Features and Capabilities

- S.A.R.A.H. is designed to provide information on major health topics, including healthy habits and mental health, aiming to empower users to optimize their health and well-being journey.
- With enhanced empathetic response powered by generative Artificial Intelligence (AI), S.A.R.A.H. can support users in understanding risk factors for leading causes of death such as cancer, heart disease, lung disease, and diabetes.
- Users can access up-to-date information on quitting tobacco, staying active, maintaining a healthy diet, and managing stress, among other topics.

Previous Use and Future Development

- Previous iterations of S.A.R.A.H., known as Florence, were utilized during the COVID-19 pandemic to disseminate critical public health messages on various topics, including the virus, vaccines, tobacco use, healthy eating, and physical activity.
- The S.A.R.A.H. project aims for continuous learning and development to inspire reliable, responsible, and accessible health information dissemination.

WHO's Vision and Call for Research

- The AI technology behind S.A.R.A.H. is powered by generative AI, providing more accurate real-time responses and enabling dynamic personalized conversations at scale.
- WHO calls for continued research to explore the potential benefits of AI in public health, while also addressing ethical concerns such as equitable access, privacy, safety, accuracy, data protection, and bias. ■■

ECOLOGY & ENVIRONMENT

- ASEAN Urged to Act on Plastic Pollution

Climate Change
- Global Coral Bleaching Event Confirmed
- Expansion of Glacial Lakes in the Indian Himalayas

Biodiversity
- Fish in Laccadive Sea Use Tools for Prey: Study
- Rare Wild Cousin of Garden Balsam Discovered
- The Threat of Invasive Species

Disaster Management
- Global Workers Face Rising Heat Exposure

Sustainable Development
- G7 Energy Ministers Set Timeline to Phase Out Coal

Sustainable Development

G7 Energy Ministers Set Timeline to Phase Out Coal

On 30th April, 2024, energy ministers from the G7 nations agreed to phase out coal in power generation by the first half of the next decade, aligning with COP28 climate summit goals, but with exceptions for Germany and Japan.

Key Points

- **Historic Decision:** The decision marks the first time a clear path and target have been set regarding coal.
- **Climate Summit Alignment:** The move echoes COP28's call to reduce fossil fuel usage, especially coal, to curb emissions.
- **Flexibility for Germany and Japan:** Exceptions were made for Germany and Japan, acknowledging their reliance on coal for energy and economic stability.
- **Temperature Limit:** Agreement also includes a commitment to keep temperature rise below 1.5°C, consistent with net-zero pathways.
- **Economic Considerations:** Economic concerns and fuel security, especially post-Russia-Ukraine conflict, contribute to flexibility in the agreement.
- **Russian Energy Reduction:** G7 pledges to decrease reliance on Russian energy imports, aiming for zero Russian gas imports in the future.
- **Energy Storage and Grid Investments:** Commitment to increasing energy storage capacity and investing in grid infrastructure to support renewable energy growth.
- **Nuclear Energy Stance:** G7 reaffirms commitment to reducing reliance on Russian nuclear-related goods and promotes small modular reactors and nuclear fusion energy.

ASEAN Urged to Act on Plastic Pollution

On 18th April, 2024, the Global Alliance for Incinerator Alternatives (GAIA) Asia Pacific, along with other environmental organizations, appealed to the Association of Southeast Asian Nations (ASEAN) to take decisive measures in response to plastic pollution.

- Over 100 civil society organizations (CSOs) from Asia and around the world have signed a letter urging ASEAN to play a leadership role in the Intergovernmental Negotiating Committee (INC-4) for developing a global instrument to address plastic pollution.
- The **INC-4 negotiations, scheduled from April 23-30, 2024**, in Ottawa, Canada, focus on creating an international, legally binding agreement to combat plastic pollution, including in marine environments.
- It highlights the **disproportionate burden of plastic pollution faced by Southeast Asian communities**, including overflowing landfills, polluted waterways, and damage to marine ecosystems.
- CSOs advocate for a **comprehensive international treaty with legally binding obligations** to reduce plastic production and consumption.
- They stress the need for addressing the entire plastic lifecycle, including production, design, waste management, and recycling, in any effective agreement.

The appeal underscores the critical role of ASEAN in promoting sustainable solutions to plastic pollution and protecting the environment for future generations.

Important Facts

Global Alliance for Incinerator Alternatives (GAIA)
- GAIA consists of over 1,000 grassroots groups, NGOs, and individuals from 90+ countries.
- Their goal is to transition from the current linear, extractive economy to a circular model.
- They advocate for a safe environment and envision an equitable, zero-waste society.
- GAIA emphasizes respecting ecological boundaries and community rights.
- The organization promotes sustainable resource conservation over incineration or disposal.
- GAIA focuses on four core areas: opposing incineration, promoting zero waste, addressing plastic pollution, and tackling climate change.

WORLD WATCH

International Relations

India and Japan Discuss Disarmament and Non-Proliferation

On 24th April, 2024, India and Japan conducted the 10th Round of Consultations on Disarmament, Non-Proliferation, and Export Control, focusing on various security domains.

Key Highlights

- **Scope of Discussions:** The discussions encompassed nuclear, chemical and biological disarmament and non-proliferation, along with outer space security and conventional weapons.
- **Exchange of Views:** Both sides exchanged perspectives on emerging developments and challenges in disarmament and non-proliferation efforts globally.
- **Comprehensive Engagement:** The consultations aimed to deepen cooperation between India and Japan in promoting disarmament, preventing proliferation, and strengthening export control measures.
- Through collaborative efforts, India and Japan seek to contribute to global efforts towards achieving a safer and more secure world.

Indian Nationals Granted Long-Term Multi-Entry Schengen Visas

On 18th April, 2024, the European Union (EU) announced that Indian nationals will now have easier access to long-term multi-entry Schengen visas, valid for two years, following specific conditions.

New Visa 'Cascade' Regime Implemented

- Indian nationals can now obtain long-term multi-entry Schengen visas after having lawfully used two visas within the previous three years.
- The new visa regime aims to provide easier access to visas with multi-year validity for travellers with an established travel history.

Enhanced Cooperation on Migration Policy

- The EU-India Common Agenda on Migration and Mobility seeks comprehensive cooperation on migration policy between the EU and India.
- Facilitation of people-to-people contacts is a key aspect of this agenda, recognizing India's importance as a partner for the EU.

Schengen Visa

- Schengen visas allow visitors to travel freely within the Schengen area for short stays of up to 90 days within any 180-day period.
- These visas do not grant the right to work within the Schengen area.

ROMANIA AND BULGARIA PARTIALLY JOIN SCHENGEN ZONE

- Recently, Romania and Bulgaria also partially joined the Schengen area, allowing free travel by air or sea but retaining land border checks.
- Land border checks remain due to opposition, primarily from Austria, over concerns about illegal migration.
- With Romania and Bulgaria joining, now the Schengen Zone consists of 29 members; it includes 25 out of 27 member countries of the European Union and 4 other countries - Switzerland, Norway, Iceland and Liechtenstein.

India Restricts Exports to Maldives amid Tensions

In response to escalating tensions with Malé, on 15th April, 2024, India decided to impose restrictions on exports to the Maldives, with the Directorate General of Foreign Trade (DGFT) implementing port restrictions for the shipment of essential commodities to the island nation during the fiscal year 2024-25.

- The DGFT has issued a notification under the **Foreign Trade (Development & Regulation) Act, 1992**, incorporating specific conditions for exporting essential commodities under the prohibited/restricted category to the Maldives.

Indian Economy Key Indicators

Health & Nutrition

Nutritional Status of Children

The nutritional status of children refers to their overall health and well-being based on factors like diet, growth, body composition, and nutrient levels, impacting growth, development, and long-term health.

Findings of National Family Health Survey-5

- **NFHS-1** in 1992-1993 found that more than half of children under four were underweight and stunted, with one in six being wasted.
- **NFHS-5** data shows a 30% zero-food prevalence for infants aged 6-11 months, 13% for 12-17 months old, and 8% for 18-23 months old.
- According to the fifth round of NFHS (2019-2021) data from 22 states, only nine showed a decline in the number of stunted children, 10 in wasted children, and six in underweight children. 35% of children are stunted and 57% of women and 25% of men are anaemic.

Global Hunger Index

As per Global Hunger Index (2023), India's child wasting rate (low weight for height), at 19.3%, is worse than the levels recorded in 2014 (15.1%) and even 2000 (17.15%). It is the highest for any country in the world.

Government Initiatives

- **National Nutrition Mission (POSHAN ABHIYAAN):** It aims to reduce stunting, underweight, anemia, and low birth weight among children (0-6 years) through involvement of village organizations.
- **Anaemia Mukt Bharat (AMB):** This strategy launched in 2018 targets anaemia prevalence among children, adolescents, and women.
- **Poshan Vatikas:** These are developed at Anganwadi centers to bridge dietary diversity gaps, and food fortification initiatives promote adding essential nutrients to staple foods like oils, flour, and salt for improved nutrition in places like Karnataka.
- **Integrated Child Development Services (ICDS) Scheme:** It was launched in 1975 and the program aims to provide food, preschool education, primary healthcare, immunization, health checkups, and referral services to children under 6 years old and their mothers.
- **PM-POSHAN Scheme:** Mid-day Meal (MDM) Scheme (renamed as PM-POSHAN) aims to improve nutrition levels among school children in addition to increasing enrolment, retention, and attendance.

Health & Nutrition of Women

Health and nutrition of women refers to the physical and dietary well-being of females, encompassing factors like reproductive health, nutrient intake, and overall lifestyle choices that impact their health outcomes.

Findings of National Family Health Survey-5

- **Child Marriage:** 23% of women between the age of 20 and 24 were married before 18 years of age. This figure has reduced significantly over the years from 47% in NFHS-3 (2005-06) to 27% in NFHS-4 (2015-16), and to 23% in NFHS-5. West Bengal and Bihar have the highest prevalence of child marriage at around 41% each.
- **Anaemia:** In 2019-21, 57% of women aged 15-49 were anaemic, compared to 53% in 2015-16. Assam, Mizoram, Chhattisgarh, and Odisha saw the most significant worsening in child anaemia rates.
- **Obesity:** Obesity among both men and women has risen. While 41.3% of women are now overweight or obese, this figure is 38% for men.
- **Sex Ratio:** Sex ratio at birth for children born in the last five years is below 950 for seven (of the 17) states. In three states, the ratio is below 900 (Goa: 838, Himachal Pradesh: 875, and Telangana: 894).
- **Female Child Mortality:** Female child mortality (neonatal, infant, under-5) is lower than male child.
- **Contraceptive Prevalence Rate (CPR):** It has increased substantially from 54% to 67% at all-India level and in almost all Phase-II States/UTs with an exception of Punjab.
- **Total Fertility Rates (TFR):** It declined since NFHS-4 in almost all the Phase-1 States and UTs.
- **Institutional Births:** These have increased substantially from 79% to 89% at all-India Level.

UPSC CSE Prelims 2024
GS Mock Test
Set-I

1. **Recently in news, Article 155 of the Constitution states that –**
   (a) The Governor shall hold office during the pleasure of the President.
   (b) There shall be a Governor for each State.
   (c) The Governor of a State shall be appointed by the President
   (d) The Governor has the power to grant pardons, reprieves, etc.

2. **With reference to the Office of Governor, consider the following statements:**
   1. No criminal proceedings shall be instituted against the Governor of a State in any court during his term of office.
   2. The emoluments and allowances of the Governor of a State shall not be diminished during his term of office.
   3. The Chief Secretary is 'chosen' by the Chief Minister and not by the Governor.
   How many of the above statements is/are incorrect?
   (a) Only one   (b) Only two
   (c) All three   (d) None

3. **With reference to role of Rajya Sabha or Upper House of Indian Parliament, consider the following statements:**
   1. Rajya Sabha acts as a revisionary house to keep a check on the hasty legislation.
   2. Rajya Sabha has exclusive power to create additional All-India Services (AIS).
   3. In case of a constitutional amendment bill, the Rajya Sabha has equal powers with Lok Sabha in amending the Constitution.
   How many of the above statements is/are correct?
   (a) Only one   (b) Only two
   (c) All three   (d) None

4. **Consider the following statements:**
   Statement I: A bill pending in the Rajya Sabha, which has not been passed by the Lok Sabha, does not lapse on dissolution of the Lok Sabha.
   Statement II: Rajya Sabha is a permanent body of the Parliament which is not subject to dissolution.
   Which of the statements given above is/are correct?
   (a) Both Statement I and Statement II are correct and Statement II is the correct explanation for Statement I
   (b) Both Statement I and Statement II are correct and Statement II is not the correct explanation for Statement I
   (c) Statement I is correct but Statement II is incorrect
   (d) Statement I is incorrect but Statement II is correct

5. **Which among the following grouping was the first to propose *'Digital Rights'*?**
   (a) G20
   (b) G7
   (c) European Union
   (d) BRICS

6. **As per the Constitution of India, which amongst the following is not an exemption with respect to 'right to protest'?**
   (a) Sovereignty and integrity of India
   (b) Friendly relations with foreign States
   (c) VIP Movement
   (d) Defamation

7. **Consider the following statements:**
   1. The last National Census in which caste data was recorded and published happened in 1951.
   2. Presently, the Census only records caste information for Scheduled Castes and Scheduled Tribes categories.
   3. The Census of India is conducted by the Registrar General and Census Commissioner of India under the Ministry of Home Affairs.
   How many of the above statements is/are incorrect?
   (a) Only one   (b) Only two
   (c) All three   (d) None

8. **Consider the following statements:**
   1. Pardon removes both the sentence and the conviction and completely absolves the convict from all sentences, punishments and disqualifications.
   2. Commutation denotes awarding a lesser sentence in place of one originally awarded due to some special fact
   3. Remission implies reducing the period of sentence without changing its character.
   How many of the above statements is/are correct?
   (a) Only one   (b) Only two
   (c) All three   (d) None

UPSC CSE Prelims 2024
GS Mock Test
Set-II

1. **Consider the following statements:**
   1. As a result of the establishment of British rule, various types of taxes were imposed on farmers and tribes.
   2. Kols rebelled against the British government and outsiders in 1831-32.
   3. Santhal rebellion was the largest tribal rebellion against the colonial government.

   How many of the above statement(s) is/are correct?
   (a) Only one   (b) Only two
   (c) All three   (d) None

2. **Consider the following statements about Champaran Satyagraha:**
   1. In Champaran district of Bihar, farmers had to grow Indigo on at least 3/20th of their land.
   2. Peasants were forced to sell Indigo at fixed prices.
   3. In the year 1917, Mahatma Gandhi reached Champaran and made a detailed investigation of the condition of the farmers.
   4. The government appointed an inquiry committee (Gandhiji was also its member) in June 1917.

   Which of the above statement(s) is/are correct?
   (a) 1, 2 and 3 only   (b) 2 and 3 only
   (c) Only 4   (d) All of the above

3. **Consider the following statements regarding Bardoli Satyagraha:**
   1. It was started against the British government's decision to increase the land revenue in Bardoli district of Gujarat.
   2. Under the leadership of Vallabhbhai Patel, the farmers of Bardoli decided not to pay revenue.
   3. The women of Bardoli gave the title of 'Sardar' to Vallabhbhai Patel.

   How many of the above statement(s) is/are correct?
   (a) Only one   (b) Only two
   (c) All three   (d) None

4. **Consider the following statements regarding the Sangam Age:**
   1. According to the Sangam period text Purananuru, there were three classes in the society.
   2. In Sangam poems, five main types of land are found namely Mullai (pastoral), Marudam (agriculture), Palai (desert), Neydal (coastal) and Kurinji (hilly).
   3. During the Sangam Age, women had a good status and were allowed intellectual pursuits.

   How many of the above statement(s) is/are correct?
   (a) Only one   (b) Only two
   (c) All three   (d) None

5. **Consider the following statements:**
   1. In British India, three systems of land revenue named Zamindari, Ryotwari and Mahalwari were implemented in the country.
   2. Zamindari system was introduced by Lord Cornwallis in Bengal and Bihar in 1793.
   3. In the Ryotwari system, revenue was collected from the 'Rayots' through middlemen.

   Which of the above statement(s) is/are incorrect?
   (a) 1 and 2 only   (b) 2 and 3 only
   (c) Only 3   (d) 1, 2 and 3

6. **Consider the following pairs:**

Martial Art		State
1. Huyen Langlon	:	Manipur
2. Silambam	:	Tamil Nadu
3. Musti Yuddha	:	Uttar Pradesh
4. Kathi Samu	:	Odisha

   How many pairs given above are correctly matched?
   (a) Only one   (b) Only two
   (c) Only three   (d) None

7. **Consider the following statements about the Indian National Congress:**
   1. It was formed at Gokuldas Tejpal Sanskrit School, Bombay.
   2. A.O. Hume played an important role in the formation of INC.

   Which of the statement(s) given above is/are correct?
   (a) Only 1   (b) Only 2
   (c) Both 1 and 2   (d) Neither 1 nor 2

8. **Consider the following statements regarding the National Movement:**
   1. The first or initial phase of the national movement is called 'Moderate' phase (1885-1905).
   2. The moderate leaders had full faith in the British government and adopted the PPP route i.e. protest, prayer and petition.
   3. Due to disillusionment with the moderate methods of work, the influence of the extremist group started increasing in the Congress after 1892.

   How many of the above statements are correct?
   (a) Only one   (b) Only two
   (c) All three   (d) None

STATE WATCH

In this section, we have briefly presented the schemes and programs started by various states, meetings and conferences organized at the state level, latest reports released by the state governments and other major developments from which questions are often asked in state-specific competitive examinations.

Tamil Nadu

Tamil Nadu Heritage Commission Act

- Recently, the Madras High Court succeeded in making the Tamil Nadu government bring into force the Tami Nadu Heritage Commission Act of 2012 (as amended in 2017), 12 years since it was enacted by the legislature.
- The court has now directed the government to constitute the commission to preserve the heritage structures in the State.
- The State authorities shall now take steps for implementing the said Act and also constitute the Heritage Commission as contemplated under the Act.

Uttar Pradesh

Chitrakoot's Stunning Glass Skywalk Bridge

- Recently, in a remarkable feat of engineering and tourism development, the state of Uttar Pradesh has unveiled its first-ever glass skywalk bridge, located at the enchanting Tulsi (Shabari) Waterfall in Chitrakoot.
- This innovative and visually stunning structure, shaped like Lord Ram's bow and arrow, is poised to become a premier eco-tourism destination for visitors to the region.
- The glass skywalk bridge, constructed at a cost of Rs 3.70 crore, seamlessly blends into the natural surroundings of the Kodand forest area, where the cascading Tulsi Waterfalls are situated.
- The bridge's unique form not only pays homage to the region's cultural heritage but also serves as a captivating architectural marvel that will inspire visitors.
- The completion of the glass skywalk bridge marks a significant milestone in Uttar Pradesh's efforts to promote sustainable and immersive eco-tourism experiences.

Himachal Pradesh

Dharamshala to get India's First 'Hybrid Pitch'

- The Himachal Pradesh Cricket Association (HPCA) stadium in Dharamshala has become the first BCCI-accredited venue to install a state-of-the-art 'hybrid pitch'.
- This new technology is set to transform the game, as future international and IPL matches will be played on this innovative track.
- The Netherlands-based 'SISGrass', a part of the SIS Pitches group of companies, has been brought in to install the first-ever hybrid pitch in India.
- This cutting-edge technology combines natural turf with a small percentage of polymer fibre, creating a more durable and consistent playing surface.

Madhya Pradesh

MoU to Boost Cruise Tourism

- The Madhya Pradesh Tourism Board has inked a Memorandum of Understanding (MoU) with the Inland Waterways Authority of India (IWAI) and the Government of Gujarat in a bid to elevate cruise tourism in the state.
- Under this collaboration, two floating jetties, known as pontoons, have been dispatched from Kolkata to Kukshi in the state.
- The proposed cruise route is set to embark from Ekatma Dham (Statue of Oneness) in Omkareshwar, Madhya Pradesh, and voyage to the Statue of Unity in Kevadiya, Gujarat.
- According to the terms outlined in the MoU, IWAI is committed to providing two floating jetties to both Madhya Pradesh and Gujarat.

Assam

3D Printed Dummy Ballot Unit

- Recently, in a groundbreaking effort to promote voter awareness and participation, the Systematic Voters' Education and Electoral Participation Cell (SVEEP) of Kamrup Election District in Assam, has partnered with Indian Institute of Technology Guwahati to develop an inventive 3D printed dummy ballot unit.
- The primary objective of the 3D printed dummy ballot unit is to acquaint citizens, particularly first-time voters and senior citizens, with the voting process, addressing any apprehensions or uncertainties they may have.
- The dummy ballot unit, created using advanced 3D printing technology and polylactic acid(PLA), a biodegradable material derived from corn starch, was designed and produced by IIT Guwahati researchers within a mere 48 hours. It features interactive elements such as sound and light output indicators to assist users during the voting process.

News Snippets

Here we have presented those contemporary developments which do not require detailed study; rather it is sufficient to read them in brief while preparing for the examination. Instead of including such developments in the initial regular columns of the magazine, we have presented them separately in this section.

India in Brief

National Consumer Disputes Redressal Commission (NCDRC)

- Recently, the Supreme Court (SC) issued notice to two members of the NCDRC seeking explanation from them for issuing non-bailable warrants against the directors of a company, ignoring a previous interim order of the SC.
- NCDRC is a quasi-judicial commission set up in 1988 under the Consumer Protection Act, 1986.
- Its head office is in New Delhi.
- The Commission is headed by a sitting or a retired Judge of the Hon'ble Supreme Court of India or a sitting or a retired Chief Justice of an Hon'ble High Court, in terms of Rule 3(12)(a) of the Tribunal (Conditions of Service) Rules, 2021.

Indelible Ink

- The indelible ink, a quintessential symbol of polls in India, is visible everywhere during the ongoing Lok Sabha and State assembly elections.
- Indelible ink contains silver nitrate. It is a colourless compound which becomes visible when exposed to ultraviolet light, including sunlight.
- It remains resistant to soap, liquids, home-cleansing, detergents, etc. for up to 72 hours after application.
- This water-based ink also contains a solvent like alcohol to allow its faster drying.
- Mysore Paints & Varnish Ltd., a Karnataka Government Undertaking, has been licensed to manufacture the ink and has been in the business since 1962.
- It is exported to more than 25 countries. Section 61 of the Representation of the People Act (RoPA), 1951 mentions the ink.

National Service Scheme

- Trained National Service Scheme (NSS) volunteers from 153 NSS units offered their services to differently abled people and senior citizens in Kozhikode district on the day of polls.
- National Service Scheme was launched during 1969, the birth centenary year of Mahatma Gandhi.
- It provides an opportunity to the student youth of the 11th & 12th Class of schools at +2 Board level and student youth of Technical Institution, Graduate & Post Graduate at colleges and University level of India to take part in various Government led community service activities & programmes.
- The motto of National Service Scheme is NOT ME BUT YOU.
- Nodal Ministry: Ministry of Youth Affairs & Sports.

Rashtriya Arogya Nidhi (RAN) Scheme

- Recently, the Delhi High Court raised concerns about the Rashtriya Arogya Nidhi (RAN) scheme's qualifying criteria and limits, specifically the low-income barrier and the availability of treatment assistance for chronic conditions like kidney transplants.
- RAN scheme was established in 1997 as a central sector scheme aimed at providing financial assistance to economically disadvantaged patients suffering from life-threatening diseases such as heart, kidney, liver ailments, cancer, and specified rare diseases.
- The scheme operates under an umbrella structure with three distinct components, each focused on providing financial aid for specific medical conditions at designated government healthcare institutions.
- The scheme primarily targets economically disadvantaged patients living below the State/UT wise poverty line.

National Workshop on World Intellectual Property Day

- Recently, the Council of Scientific & Industrial Research-National Institute of Science Communication and Policy Research (CSIR-NIScPR) organized a national workshop and celebrated World Intellectual Property Day.
- The theme of the workshop was "IP and SDGs: Innovating for a Shared Future."
- The highlight of the workshop was the inspiring stories shared by young innovators and entrepreneurs.
- The CSIR-National Institute of Science Communication and Policy Research (NIScPR) is a constituent laboratory under the Council of Scientific & Industrial Research, Ministry of Science and Technology, Government of India.

News Notes

In general competitive examinations, a large number of questions are asked from appointments, awards, military exercises, summits & conferences, important days, etc. for which coverage of current events in a concise form is sufficient. Keeping this in mind, we have presented these contemporary developments in a brief form in this section.

Persons in News

Person	Why in News
Russ Cook	• British extreme marathon runner Russ Cook known as 'Hardest Geezer' recently completed ran through the entire length of Africa (Over 16000km - from Africa's most southerly point, the South African village of L'Agulhas to Ras Angela, the most northern point of the African continent, in Tunis, Tunisia) covering 16 countries in 352 days.
Kaushik Rajashekara	• He has been honored with International Fellowship by the Engineering Academy of Japan.
Gita Sabharwal	• The United Nations Secretary-General, António Guterres, has appointed Gita Sabharwal of India as the new UN Resident Coordinator in Indonesia.

Appointments

Person	Brief Description
Narsingh Yadav	• Former Commonwealth Games gold-medallist Narsingh Pancham Yadav has been elected chairman of Wrestling Federation of India's Athletes' Commission.
Nalin Prabhat	• He has been appointed as the Director-General of the National Security Guard (NSG).
Admiral Dinesh Kumar Tripathi	• He replaced Admiral R. Hari Kumar and became the 26th Chief of the Naval Staff.
Anurag Kumar	• He has been appointed as the Joint Director of the Central Bureau of Investigation (CBI).
Jagjit Pavadia	• He has been re-elected to International Narcotics Control Board for a third term.
Sachidananda Mohanty	• He has been appointed as a Member of the University Grants Commission (UGC) for a period of three years.
Tarun Bajaj	• The US-India Strategic and Partnership Forum (USISPF) has appointed former Revenue Secretary and ex-Secretary of Economic Affairs Tarun Bajaj as the head of the US-India Tax Forum.
Harendra Singh	• Former Indian hockey player and Dronacharya awardee Harendra Singh has been selected by Hockey India as the coach of the senior national women's hockey team.
Manoj Panda	• He has been appointed as a full-time member of the Sixteenth Finance Commission. This appointment completes the panel, enabling it to begin its crucial tasks.
Rakesh Mohan	• The World Bank Group has appointed former Reserve Bank of India (RBI) deputy governor Rakesh Mohan as a member of its Economic Advisory Panel.
Dr. Meenesh Shah	• He has been elected as the Chairman of the National Cooperative Dairy Federation of India Ltd. (NCDFI). NCDFI is a national-level apex dairy cooperative governed under the provisions of the Multi State Cooperative Societies (Amendment) Act, 2023.

Obituary

Person	Brief Description
Subrahmanya Dhareshwar	• Yakshagana thespian Subrahmanya Dhareshwar who had earned the fame of 'Bhagavata Shrestha' for his scintillating voice has passed away.

Exam Pointers

Based on April 2024 issues of Yojana, Kurukshetra and Science Reporter

In this section, we are presenting a compilation of exam-oriented study material sourced from various magazines published by the Government of India in March 2024. It has been prepared keeping in mind the exam-specific needs of the candidates

Our Ecosystem

Geological Ecosystem

- India is the **7th largest country** in the world and has rich geographical and geological diversity.
- **The Himalayas** are the highest mountain range in the world, separates the Indian landmass from the Tibetan Plateau.
- It consists of four parallel mountain ranges namely, the **Shivalik Hills, the Lower Himalayan Range or Himachal, the Great Himalayan Range or Himadri, and the Tibetan Himalayas** from south to north.
- **The Great Himalayas** are home to some of the highest peaks in the world such as **Mount Everest, Kanchenjunga, Nanga Parba**t, etc.
- **The Northern Plains** also referred to as 'Great Plains of India is one of the most extensive alluvial tracts in the world.
- As the **rivers** originating from the Himalayas descend the hills, they **dump much of their denser and coarser sediment** fraction along the foothills in a narrow, porous, thin strip called **Bhabar.**
- **The Terai belt** is located south of the Bhabar belt where streams go underground in the Bhabar belt resurfaces.
- **Bhangar,** which is an older alluvium that forms a terrace above the floodplain. It is frequently covered in calcareous stone-like pebbles known as **'Kankar'**.
- The **Peninsular Plateau** is the largest physiographic entity of the Indian landmass. The plateau stretches from the **Aravalli Range** in the west to the **Chota Nagpur Plateau** in the east.
- It comprises important mountain ranges of Central India such as **Vindhyans, Satpuras, Mahadeo, Maikal and Sarguja ranges** as well as the **Western and Eastern Ghats**.
- **The Thar Desert,** also known as the 'Great Indian Desert; is a vast arid region, located primarily in the northwestern part of the Indian subcontinent.
- It consists of **sand dunes,** rocky terrain, salt flats, and sparse vegetation. The sand dunes, known as **'bhakhar'**, can reach heights of up to 150 m and constantly shift with the wind.
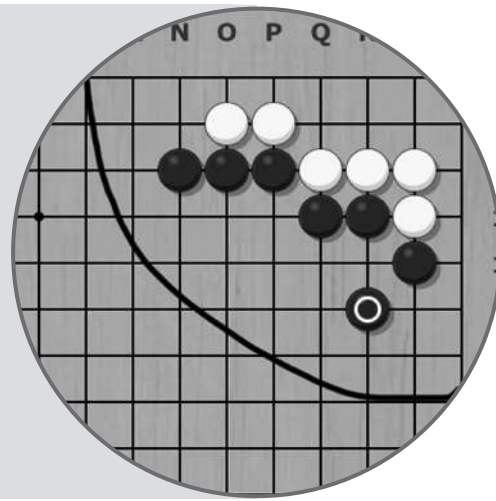- The desert also features dry riverbeds called **'nullahs**; which occasionally fill with water during the monsoon season.
- The Thar Desert also has one of the largest salt marshes in the world called the **'Great Rann of Kutch'** Kutch is one of the major salt-producing districts in India.
- **The Andaman and Nicobar Islands** form an archipelago, consisting of around 572 islands, out of which only about 37 are inhabited.
- These are mainly **volcanic in origin**, formed by the eruption of lava due to plate movements. **Barren Island** in the Andaman Sea is the only active volcano in India.

From Peak to Valleys: A Holistic Exploration of the Western Ghats

- The Western Ghats, also known as the **Sahyadri Mountain Range**, are recognized as a global biodiversity hotspot and often referred to as the Great Escarpment of India.
- It holds the prestigious designation of a **UNESCO World Heritage Site**.
- It stretches from a latitudinal extent of **8°-22°N** from the river **Tapti in the north** to **Kanyakumari in the South**.
- It encompasses regions in **six states**: Gujarat, Maharashtra, Goa, Karnataka, Kerala, and Tamil Nadu, and one Union Territory (Dadra & Nagar Haveli).
- The region is a watershed for **several major rivers**, including the Godavari, Krishna, Kaveri, and Tungabhadra, which provide water for irrigation, drinking, and hydropower generation to millions of people.
- The Western Ghats can be **subdivided into three primary parts**:
  - ✓ **The Northern Ghats:** From Gujarat to Maharashtra and represents the lowest and least rugged section of the Western Ghats.
  - ✓ **The Central Ghats:** They extend from Karnataka to Kerala and represent the highest and most rugged section of the Western Ghats.
  - ✓ **The Southern Ghats:** The area extends from Kerala to Tamil Nadu and represents the most dissected section of the Western Ghats.
- Western Ghats have the following **forest types**- (i) dry scrub vegetation (ii) dry deciduous forests (iii) moist deciduous forests (iv) semi-evergreen forests (v) evergreen forests (vi) shoals; and (vii) high-altitude grasslands.

Terms in Vogue

In the last few years, the trend of asking questions from popular terminologies has increased in competitive examinations. Accordingly, there is a need for special study of the terms discussed in the contemporary context. Keeping this in mind, we are presenting relevant content in this section.

Doxxing

➢ In recent times, doxxing incidents are increasing over internet across the globe.

➢ The word "doxxing" is derived from "dropping dox". It is a form of online harassment involving the publication of personal information about an individual without their consent.

➢ Originating in the online hacker community in the 1990s, doxxing emerged from conflicts between hackers who would reveal personal information of rivals as a form of retaliation or intimidation.

➢ This information can include details such as their full name, home address, telephone number, place of work and other sensitive information.

➢ Such information is usually obtained through illegal methods such as hacking or theft.

Men5CV

➢ Recently, Nigeria has taken a historic step in the fight against meningitis, becoming the first country in the world to introduce a new, highly effective vaccine called Men5CV.

➢ Men5CV vaccine protects against strains A, C, W, Y and X of the meningococcus bacteria, all of which can cause meningitis and blood poisoning.

➢ It is recommended by the World Health Organization (WHO).

Shallow Fakes

➢ The year 2024 is set to witness a record-breaking number of elections globally, with over 50 nations conducting elections, involving half the planet's population.

➢ Shallow fakes, or cheap fakes, are manually altered or selectively edited images, videos, and voice clips created without AI technology, making them easier to produce and share.

➢ Deepfakes are AI-generated photorealistic images, videos, and audio designed to deceive, while shallow fakes rely on existing technologies like conventional editing or mis-captioning.

➢ The rise of shallow fakes raises concerns about their impact on the electoral process and the need for media literacy to combat misinformation effectively.

Well-known TM

➢ On 2nd April 2024, the Delhi High Court declared the "Haldiram" mark as a well-known trademark for food items, restaurants, and eateries.

➢ The "Haldiram" mark and logo have been used in the food industry since the 1960s and have achieved the status of a well-known mark.

➢ A well-known trademark is widely acknowledged by the public and strongly associated with a prominent company or brand.

➢ These trademarks, often referred to as "famous" trademarks, receive heightened protection under the Trademark Act compared to regular registered marks.

GPS Spoofing

➢ GPS spoofing, a practice sending false location signals to satellites, has been affecting the U.S.-operated Global Positioning System, listing planes, people, and ships hundreds of miles from their actual locations.

➢ Researchers attribute this phenomenon to Israel, aimed at deterring rockets and missiles but posing risks to aviation safety and navigation systems.

➢ GPS spoofing overwhelms real signals with false ones, disrupting automated safety systems and forcing pilots and ship captains to abandon GPS-based navigation.

➢ The loss of reliable GPS signals has prompted pilots to revert to old navigation practices, disrupting the ground proximity warning system and forcing reliance on traffic control instructions.

Tachyons

➢ Recently, physicists proposed the radical idea that our universe is dominated by tachyons, hypothetical subatomic particles that move faster than the speed of light.

➢ They are distinguished from "bradyons," particles that travel at less than the speed of light.

➢ According to special relativity, particles with mass cannot reach or exceed the speed of light in vacuum because their energy would become infinite.

➢ However, tachyons are thought to have imaginary mass, meaning their mass squared is a negative value. This implies that they could potentially travel faster than light without violating the laws of physics as we currently understand them.

Parliament Q & A

In almost all the examinations, direct questions are being asked on the subjects on which facts are presented in the Parliament. Moreover, this information presented in the Parliament is also factually accurate. In this section we have presented a useful compilation of such facts.

Cultivation of Different Types of Millets

- The Indian Government initiated a proactive multi-stake-holder engagement approach to achieve the objectives of International Year of Millets 2023 (IYM), involving various central government Ministries/Departments, States/UTs, farmers, start-ups, exporters, retail businesses, hotels, and Indian Embassies.
- Focus during IYM-2023 was on enhancing production, consumption, export, strengthening value chain, branding, and creating awareness for health benefits of millets.
- The Indian Institute of Millets Research (IIMR), Hyderabad, declared as the Global Centre of Excellence for sharing best practices, research, and technologies.
- IIMR provides training on manufacturing value-added millet food products, daily recipes, and supports establishment of self-enterprises.
- The Regional Research Centre for Bajra at Gudamalani, Rajasthan, was inaugurated to strengthen research collaboration.
- "Millets and Other Ancient Grains International Research Initiative (MAHARISHI)" adopted during the G20 Presidency to promote millets globally.
- The Ministry of Food Processing Industries approved the Production Linked Incentive Scheme for Food Processing Industry for Millet-based products (PLISMBP) with an outlay of Rs. 800 crores.
- Millets included under Poshan Abhiyan and guidelines revised to increase millet procurement under TPDS, ICDS, and Mid-Day Meal.
- Export Promotion Forum and Eat Right campaign promote millets domestically and internationally.
- Department of Agriculture and Farmers Welfare implementing Sub-Mission on Nutri-Cereals (Millets) under National Food Security Mission (NFSM), covering various millets under incentive schemes and capacity building programs.
- States have initiated Millet Missions under Rashtriya Krishi Vikas Yojana (RKVY) to promote millets, with flexibility provided for state-specific needs/priorities.

Promotion of Startups in Agriculture Sector

- The Government of India is promoting Agri-startups by offering financial and technical support in agriculture and allied sectors.
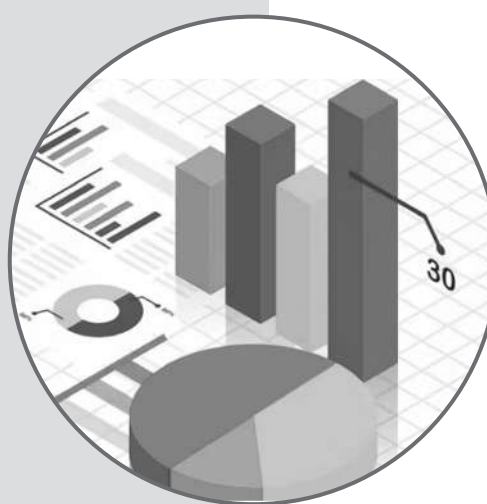- The "Innovation and Agri-Entrepreneurship Development" program under RKVY aims to foster innovation and entrepreneurship in agri-startups since 2018-19.
- There are 5 Knowledge Partners (KPs) and 24 RKVY Agribusiness Incubators (R-ABIs) appointed for training and incubation of agri-startups under this program.
- Funds are released to KPs and R-ABIs functioning in different states to establish incubation centres and provide training, mentorship, and financial support.
- Various national-level programs like agri-startup conclaves, fairs, exhibitions, webinars, and workshops are organized to promote agri-startups.
- The "Agriculture Infrastructure Fund" scheme aims to provide medium to long-term debt finance for post-harvest management and community farming assets.
- Knowledge Partners (KPs) include institutions like MANAGE, NIAM, IARI, University of Agriculture Science, Dharwad, and Assam Agriculture University, Jorhat.

Steps to Increase Production of Oilseeds and Edible Oil

- The Government is implementing the National Food Security Mission- Oilseeds & Oil Palm (NFSM-OS&OP) to increase the production and productivity of nine oilseed crops and expand the area under Oil Palm & Tree Borne Oilseeds since 2018-19.
- Under NFSM- Oilseeds, farmers receive incentives/subsidies for seed purchase, production, distribution, production inputs, technology transfer, and training.
- The National Mission on Edible Oils (Oil Palm)- NMEO (OP) was launched in 2021-22 to promote oil palm cultivation, aiming to increase the area from 3.70 lakh hectares to 10.00 lakh hectares by 2025-26.
- Both NFSM- Oilseeds and NMEO (OP) aim to increase edible oil availability, reduce import dependency, and augment domestic production.
- Rashtriya Krishi Vikas Yojana also supports oilseed-related activities, with states implementing programs on oilseeds with SLSC approval.
- The Finance Minister announced a strategy in the 2024 budget to achieve self-sufficiency in oilseeds by focusing on research, modern farming techniques, market linkages, value addition, and crop insurance. ■■

India Update
Fact Sheet

In this section, we have presented a compilation of useful information on those topics which are important for geaneral competitive examinations and from which facts and figures related questions are repeatedly asked.

Ayush Sector in India

Market Scenario

- The Ayush sector has grown 17% year on year between 2014 and 2020.
- The market size of the industry stands at $18.1 Bn from $2.85 Bn in 2014, clocking a phenomenal growth of almost 6 times.
- India is the 2nd largest exporter of Ayurveda and alternative medicines globally.
- India has exported Ayush and herbal products worth $1,240.6 Mn in last two years (2021-2022 to 2022-23).

Growth Drivers

- Ayurveda market predicted to grow at 15% CAGR from 2021-2026.
- Ayush ranks among the top five health services export earnings with Medical Value Travel (MVT) in India.
- More than 8,000 species of medicinal plants found in India.

Share of Sub-sectors in Ayush Market

- Herbal Plants (43.35%)
- Nutraceuticals (24.65%)
- Pharmaceuticals (14.11%)
- Cosmeceuticals (8.37%)
- Plant Derivatives (5.14%)
- Plant Extracts (4.39%)
- The sector of herbal medicine grew at the rate of 7.4 % per annum during 2014-20.

Treatment with Ayush System

- The number of patients treated with Ayush system of medicine through government hospitals and dispensaries has risen from 25 Mn (FY 2017-18) to 43 Mn (FY 2020-21).
- There are more than 8100 manufacturing units existing in the country (as of 2022).
- According to the data available on the Udyam portal, there are about 53000 MSMEs (Micro – 47,892; Small – 4,412; Medium – 719) of Ayush sector.
- Under Ayush Health Infrastructure, there are 3,859 Ayush Hospitals and 37,385 Ayush Dispensaries.

Ease of Doing Business

- 100% Foreign Direct Investment (FDI) in Ayush Sector is permitted through an automatic route.

India's Cement Sector

The infrastructure sector in India plays a pivotal role in driving the country's economic growth by facilitating the expansion of various industries, including real estate and construction.

India's Cement Industry Overview

- Second-largest producer of cement globally.
- Accounts for over 8% of the global installed capacity.
- Market size reached 3.96 billion tonnes in 2023.
- Expected to touch 5.99 billion tonnes by 2032, exhibiting a CAGR of 4.7% during 2024-32.

Cement Production Capacity

- India's cement production reached 374.55 million tonnes in FY23, a growth rate of 6.83% year-on-year (yoy).
- India's cement manufacturers produce various types of cement, including Portland Cement, PPC Cement, High Strength Cement, Marine Technology Cement, Blended Cement, Fly Ash Cement, Slag Based Cement, Silica-based Cement, and High Alumina Cement.

Investment and Foreign Direct Investment (FDI)

- FDI inflows in the industry, related to the manufacturing of cement and gypsum products, reached Rs. 5.08 lakh crore between April 2000-December 2023.
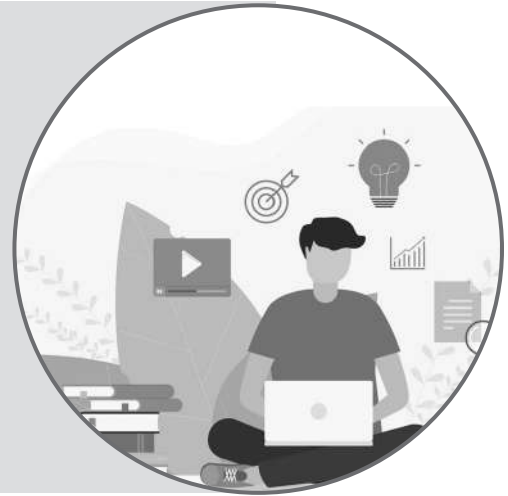
Cement Consumption Patterns

- Cement manufacturing is energy-intensive, with coal being the primary fuel due to its abundance and availability.
- Cement consumption in India is highly regional due to difficulties in transportation over long distances.
- As of 2021, the rural housing and urban housing sectors accounted for a combined 54 percent of cement consumption, while low-cost housing contributed a further 12 percent.

Installed Capacity and Regional Distribution

- India has abundant limestone deposits across the country, essential for cement production.
- Regional distribution of installed capacity:
  - ✓ Southern region: 33%
  - ✓ Northern region: 22%
  - ✓ Eastern region: 19%
  - ✓ Western region: 13%
  - ✓ Central region: 13%

Current Affairs based
Model MCQs

Here we have presented current affairs based model MCQs for the upcoming UPSC & State PSCs Prelims and other graduate level examinations. The content related to the questions can be accessed in this issue of the magazine.

1. **With reference to the Wholesale Price index, consider the following statements:**
   1. It is derived on the basis of Gross Value of Output.
   2. It comprises all transactions at last point of sale in the international market.
   3. The index is released annually.

   Which of the statement(s) given above is/are correct?
   (a) Only 1   (b) 2 and 3
   (c) Only 3   (d) None of the above

2. **Consider the following:**
   1. India's foreign trade balance
   2. Foreign exchange reserves
   3. Value of the rupee

   Which of the factor(s) given above will have implications of high oil prices?
   (a) 1 and 2   (b) 2 and 3
   (c) 1, 2 and 3   (d) None of the above

3. **With reference to the Small Modular Reactors (SMRs), consider the following statements:**
   1. Small modular reactors (SMRs) are advanced nuclear reactors that have a power capacity of up to 300 MW(e) per unit, which is about one-third of the generating capacity of traditional nuclear power reactors.
   2. Given their smaller footprint, SMRs can be sited on locations not suitable for larger nuclear power plants.
   3. SMRs have reduced fuel requirements. Power plants based on SMRs may require less frequent refuelling, every 3 to 7 years, in comparison to between 1 and 2 years for conventional plants.

   Choose the incorrect statement(s) from the options given below:
   (a) 1 and 2   (b) Only 3
   (c) 1 and 3   (d) None of the above

4. **With reference to the Krutrim AI, consider the following statements:**
   1. It is supposed to perform tasks in various Indian languages.
   2. It uses Natural Language Processing (NLP) — a component of AI — to understand the nuances of human language.

   Which of the statement(s) given above is/are correct?
   (a) 1 only   (b) 2 only
   (c) Both 1 and 2   (d) Neither 1 nor 2

5. **Kallakkadal was recently in news. It is associated with:**
   (a) Coastal flooding during the pre-monsoon
   (b) Local term used for heat waves
   (c) Cyclone originated in Arabian Sea
   (d) Backwaters of Kerala

6. **Consider the following statements with respect to the 'Infectious Respiratory Particles' (IRPs) by the World Health Organization (WHO):**
   1. IRPs include pathogens causing gastrointestinal infections such as cholera and dysentery.
   2. The COVID-19 pandemic did not contribute to the need for standardized terminology for airborne pathogen transmission.
   3. The introduction of IRPs eliminates the need for further research on airborne transmission.

   Which of the statement(s) given above is/are correct?
   (a) 1 and 2 only   (b) 2 and 3 only
   (c) 1 only   (d) None

7. **What is the scientific name of the chital deer?**
   (a) Axis axis   (b) Cervus nippon
   (c) Odocoileus virginianus (d) Rusa unicolor

8. **Which term describes manipulated images or videos created without the use of AI technology, often relying on simple editing tools?**
   (a) Virtual reality   (b) Deepfakes
   (c) Shallow fakes   (d) Augmented reality

9. **Which of the following statement(s) regarding the EU's recent announcement on Schengen visas for Indian nationals is/are true?**
   1. The Schengen visas allow for stays of up to 180 days within a 90-day period in the 29 European countries.
   2. The decision to introduce two-year multi-entry visas aligns with the EU-India Common Agenda on Migration and Mobility.
   3. Schengen visas grant Indian nationals the right to work in the countries within the Schengen area.

   Select the correct answer using the codes given below:
   (a) 1 and 2 only   (b) 2 and 3 only
   (c) 1 only   (d) 2 only

Answers					
1. (a)	2. (c)	3. (d)	4. (c)	5. (a)	6. (d)
7. (a)	8. (c)	9. (d)			■■

Info Bytes

From Govt. News Services like PIB, AIR, etc.

- By which year India aims to cease importing urea entirely, according to Union Minister of Chemicals and Fertilizers? **- 2025**
- Which is the first Indian company to be certified with ASI Performance Standard? **- Vedanta's BALCO**
- Who replaced five-time world champion Viswanathan Anand as the highest-ranked Indian in the official FIDE rating list recently? **- GM Arjun Erigaisi**
- Who is the first Indian woman to be appointed as jury for the Summer Olympics in Paris? **- Bilquis Mir**
- Name the former Reserve Bank of India (RBI) deputy governor who has been appointed as a member of the World Bank's economic advisory panel? **- Rakesh Mohan**
- Which planet's moon is Callisto, where ozone was discovered recently? **- Jupiter**
- What was the theme of World Health Day 2024 observed annually on April 7th? **- 'My health, my right'**
- Who lead the inaugural 'Parivartan Chintan', a Tri-Service Conference focusing on Jointness & Integration? **- CDS Gen. Anil Chauhan**
- What is the name of the healthcare-focused loan product introduced by Canara Bank? **- Canara Heal**
- In which fiscal year did India achieve a record iron ore production of 252 million metric tonnes? **- FY24**
- Which Indian shuttlers secured their singles titles (Women's and Men's respectively) at the Kazakhstan International Badminton Challenge Tournament? **- Anupama Upadhyaya and Tharun Mannepalli**
- Where did DRDO initiate the establishment of a test center for the country's weapon systems? **- Junput Village, West Bengal**
- Who was appointed to head the Delhi Forest Protection Committee after retiring from the Delhi High Court? **- Justice Najmi Waziri**
- Who has been conferred with the honorary fellowship of the American Surgical Association? **- Dr. Raghu Ram Pillarisetty**
- Which organization has been honored with two prestigious awards at the 15th CIDC Vishwakarma Awards 2024? **- SJVN Limited**
- Which countries are set to conduct joint naval exercises in the South China Sea? **- Philippines, US, Australia, and Japan**
- Which country has surpassed India as the primary importer of Russian crude oil via sea routes? **- China**
- Who created history by becoming the first-ever Indian to win a main draw match in the Monte Carlo Masters? **- Sumit Nagal**
- Who has been elected as the Chairman of the National Cooperative Dairy Federation of India (NCDFI)? **- Dr. Meenesh Shah**
- What is the name of 1st privately-built surveillance satellite of India with a sub-metre resolution built by TATA Advanced Systems Limited in collaboration with Satellogic? **- TSAT-1A**
- Which country has unveiled the world's most powerful laser technology? **- Romania**
- When is World Homeopathy Day celebrated globally every year? **- 10th April**
- After developing a 30 GW renewable energy plant in Khavda, which company is set to become one of the world's largest renewable power companies? **- Adani Green Energy**
- From which state, Matabari Pera – a dairy-based confectionary, and Pachra – a handwoven cloth have been granted Geographical Indication (GI) tags? **- Tripura**
- Which initiative has been launched by the NTPC Limited, its flagship Corporate Social Responsibility program that aligns with the Beti Bachao, Beti Padhao initiative? **- Girl Empowerment Mission (GEM)**
- What is the name of the new gold-backed currency introduced by Zimbabwe? **- ZiG**
- Who secured victory at the F1 Japanese Grand Prix 2024? **- Max Verstappen**
- Which Indian naval vessel was awarded the 'On the Spot Unit Citation' for successful anti-piracy operations? **- INS Sharda**
- Who has been elected as Ireland's youngest Prime Minister? **- Simon Harris**
- Which team was honored with the 2024 John L. "Jack" Swigert, Jr. Award for Space Exploration? **- Chandrayaan-3 team**

Sports in News

Based on recent developments in the world of sports

Sportspersons in News

- **Bilquis Mir:** Bilquis Mir, a canoeist from Jammu and Kashmir, is the first woman from India to represent the country as a jury member at the upcoming Summer Olympics in Paris.
- **Sumit Nagal:** He became the first Indian to win an ATP Masters 1000 match on clay courts at the Rolex Monte Carlo Masters. In January, at the Australian Open, he became the first Indian man to beat a seeded player at a Grand Slam in 35 years.
- **Devon Thomas:** The International Cricket Council (ICC) has imposing a five-year period of ineligibility from cricket against West Indies player Devon Thomas after he admitted to breaching multiple anti-corruption codes.
- **Bindyarani Devi:** Indian weightlifter Bindyarani Devi won a bronze medal at the IWF World Cup 2024 in Phuket, Thailand.
- **Rashmi Kumari:** Three-time World Champion Rashmi Kumari beat K Nagajothi in the women's final of the 51st National carrom championship organised by the Madhya Pradesh Carrom Association. It was a record 12th national women's singles title for Rashmi.
- **Sana Mir:** The former Pakistan cricket captain has been appointed as the ambassador for the ICC Women's T20 World Cup Qualifier being organized in Abu Dhabi.
- **Sharath Kamal:** Ace table tennis player Sharath Kamal will be the Indian team's flagbearer for the upcoming Paris 2024 Olympics.
- **MC Mary Kom:** The first female boxer in boxing history to have captured six world titles, she has been named as the chef de mission for the upcoming Paris 2024 Summer Olympics Games.
- **Rohan Bopanna/ Matthew Ebden:** The top-seeded duo of Rohan Bopanna from India and Matthew Ebden from Australia won the Men's Doubles Title at the Miami Open, a prestigious ATP Masters tennis tournament. Bopanna is the first Indian to win the Miami Open since three-time champion Leander Paes, who last won it in 2012, a year after he and Mahesh Bhupathi were champions there. Sania Mirza too has won a WTA title in Miami in 2015 partnering Swiss legend Martina Hingis.
- **PR Sreejesh/ Camila Caram:** The International Hockey Federation (FIH) has appointed former Indian men's hockey team captain and goalkeeper PR Sreejesh and Chile's Camila Caram as co-chairs of the FIH Athletes Committee.
- **Usain Bolt:** Legendary sprinter Usain Bolt has been named the official ambassador for the upcoming ICC Men's T20 World Cup, co-hosted by the West Indies and the United States from June 1 to 29.
- **Saurav Ghosal:** Arjuna awardee Indian squash player Saurav Ghosal has announced his retirement from professional squash.

FIDE Candidates Tournament	Laureus World Sports Awards 2024
• Dommaraju Gukesh, at 17, became the youngest ever to win FIDE Candidates Chess, earning the right to challenge World Champion Ding Liren.	**Major Awards**
• He is the second Indian after Viswanathan Anand to triumph in the elite event.	• **Novak Djokovic:** The tennis player made history by winning the Laureus World Sportsman of the Year award for the fifth time, equaling Roger Federer's record.
• He finished as the sole leader at the end of a gripping 14-round Candidates tournament in Toronto, Canada.	• **Aitana Bonmatí**: A football star from Barcelona and the Spanish national team, created history by becoming the first footballer to win the Laureus World Sportswoman of the Year award.

Sports Bits

- Himachal Pradesh cricket Association Stadium in Dharmshala became the inaugural BCCI-accredited venue to incorporate a 'hybrid pitch' from Netherlands-based 'SISGrass'. The technology, combines polymer fibre with natural turf to ensure resilience and even bounce, easing pressure on ground staff.
- The renowned Indian dairy giant Amul has been named the Lead Arm sponsor for the USA and South Africa cricket teams during the highly anticipated T20 World Cup in June.
- The Karnataka Milk Federation, known for its 'Nandini' brand, will sponsor Scotland and Ireland cricket teams in the 2024 T20 World Cup to enhance global brand visibility. ■■