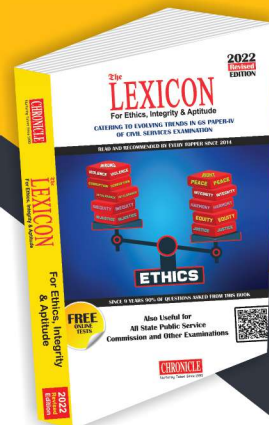


Civil Services

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THE NO. 1 MAGAZINE FOR IAS ASPIRANTS SINCE 1990



Mains Preparation: A New Pedagogy 100 Most Expected Mains Topics with Mock Questions

**Issue-based Content with Multidisciplinary
and Interdisciplinary Approach**



Interview with Uttam
CSE 2021 (Rank 121)



Articles

- Natural Farming
- 'One Health' Approach
- Mental Health in India: A Perspective
- Role of Private Sector in India's Space Programme
- Global Gender Gap Report 2022
- Natural Resource Accounting
- India Innovation Index 2022
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Role of Private Sector in India's Space Programme

The space industry in India has expanded significantly over the past ten years, as have its needs, to encompass applications for television and broadband services, space science and exploration, space-based navigation and, of course, defence and security.

As part of changes to boost commercial participation in the space sector, the government introduced a new entity, IN-SPACe, in June 2020. The Department of Space (DOS) is promoting private sector involvement in space operations to increase the dissemination of space technologies and strengthen the space economy within the nation. ISRO will support DOS in its goal of allowing private enterprises access to the space industry.

■ **Satish Kumar Karna**

On 10th June, 2022, India's Prime Minister officially inaugurated the IN-SPACe headquarters in Bopal, Ahmedabad. The Indian National Space Promotion and Authorization Centre (IN-SPACe) has been established in Ahmedabad to encourage privatization in the space industry. The nodal agency for approving the use of Department of Space-related facilities by non-government private organizations and space activities will be IN-SPACe. Its goal will be to guarantee as much private participation as possible in the space industry.

As determined by the Union Cabinet in June 2020, it will be a single-window nodal organization that will authorize and regulate space activities, including the construction of launch vehicles and satellites. In addition, it will keep an eye on the infrastructure needed for the production, control, and registration of spacecraft as Indian satellites. The objective is to emphasize that the private sector has a significant impact on India's space economy.

Non-Governmental-Private-Entities (NGPEs) will have free or affordable access to technology, knowledge, and facilities through IN-SPACe. For following the status of applications submitted by private parties, the facility will include an online interface.

In addition, ISRO will pinpoint technological fields that businesses might use to create new goods. The government will be asked to partially subsidise any winning plans. The industries will receive support and nurturing so they can reach technological standards set by the world. They will be better positioned to compete for a bigger piece of the global space market as a result.

Justification for Private Sector Participation in India's Space Program

Growing Demand

- The annual budget of the Indian Space Research Organisation (ISRO) has surpassed 10,000 crore (\$1.45 billion) and is rapidly increasing.

- However, the fast expanding global space economy, which is valued at least \$360 billion, only had a tiny 3 per cent stake for the Indian space industry.
- Only 2% of this sector is devoted to rocket and satellite launch services, which necessitate a sizable infrastructure and significant financial outlay.
- The remaining 95% concerned ground- and satellite-based systems and services.
- The demand for space-based services in India, however, much exceeds what ISRO can meet.
- As a result, it is essential to create an appropriate policy environment to encourage private sector investment.

Overall Expansion of the Space Sector

- To secure the entire expansion of the space industry, private sector involvement is required.
- ISRO has a close relationship with the industry, especially with significant private sector companies like Larsen & Toubro and Public Sector Undertakings (PSUs) like Hindustan Aeronautics Limited.

National Security

- To ensure continuity even if an enemy manages to take out one or more of our satellites, the most fundamental strategy to secure our space capabilities is to spread them across a variety of satellites and spacecraft.
- For instance, because it depends on thousands of its satellites, the US is extremely vulnerable in space. But because it can identify alternates to transition to, it is also best prepared to handle a hypothetical attack on its space assets.

Observations and Trends Worldwide

- The increasing importance of the private companies in the space industry has been underlined by Elon Musk's "SpaceX" and its high-profile initiatives.
- In India, a small private ecosystem has developed around the ISRO despite numerous strategic, security, and legal restrictions.

'One Health' Approach

'One Health' is a collaborative, multi-sectoral, and trans-disciplinary approach working at the local, regional, national, and global levels with the goal of achieving optimal health outcomes recognizing the interconnection between people, animals, plants, and their shared environment.

■ **Sharmila Senthil Kumar**

The COVID-19 crisis has emphasized the need to be better prepared for future pandemics to reduce the risk to global health security. Preventing a future pandemic or ensuring a more effective response depends on systems for early warning and identification of changing risk factors, including systems integrating information from multiple sectors. In this context, One Health Approach assumes great significance.

'One Health' Approach

Although the term "One Health" is fairly new, the concept has long been recognized both nationally and globally. Since the 1800s, scientists have noted the similarity in disease processes among animals and humans, but human and animal medicines were practiced separately until the 20th century. In recent years, through the support of key individuals and vital events, the One Health concept has gained more recognition in the public health and animal health communities.

The Wildlife Conservation Society (WCS) introduced the term "One World-One Health" in 2007 along with 12 recommendations (the Manhattan Principles) that focused on establishing a more holistic approach to preventing epidemic disease and maintaining ecosystem integrity.

The One Health Approach gained popularity in response to zoonotic public health emergencies such as the outbreaks of severe acute respiratory syndrome, Middle East respiratory syndrome, H1N1 influenza, Ebola, and Zika. One Health is also prominent in several global commitments and political declarations such as the Sustainable Development Goals, the International Health Regulations, the Global Health Security Agenda, the UN Paris Agreement on climate change, and the UN Political Declaration on Antimicrobial Resistance.

Animals play an important role in human lives, whether for food, fiber, livelihoods, travel, sport, education, or companionship. Close contact with animals and their environments provides more opportunities for diseases to pass between animals and people. Many of the same microbes infect animals and humans, as they share the eco-systems they live in.

And the risk is not only for humans. While most risk assessments focus on the transmission of pathogens from animals to humans, animal health is also greatly impacted by diseases passed from humans. SARS-CoV-2, tuberculosis, various influenza viruses, among others, can harm or be fatal to differ-

ent species of animals. Gorillas and chimpanzees, with their close genetic makeup to humans, are particularly susceptible to human diseases, and they, as well as other endangered species should be handled with care by veterinary services, wildlife authorities and researchers.

Managing these major global health risks, from disease control to global warming, is not possible alone and needs the full cooperation of the animal, human, and environmental health sectors. One Health is a cross-cutting approach that carries out programmes, policies, legislation and research in which different sectors work together to achieve better public health outcomes.

Working of 'One Health' Approach

Successful public health interventions require the cooperation of human, animal, and environmental health partners. Professionals in human health (doctors, nurses, public health practitioners, epidemiologists), animal health (veterinarians, paraprofessionals, agricultural workers), environment (ecologists, wildlife experts), and other areas of expertise need to communicate, collaborate on, and coordinate activities.

Other relevant players in 'One Health' approach could include law enforcement authorities, policymakers, agriculture communities, and even pet owners. No one person, organization, or sector can address issues at the animal-human-environment interface alone. 'One Health' approach can also include other partners and organizations working on shared health threats. Working together allows to having the biggest impact on improving health for both people and animals.

A major barrier to the development of "One Health" approach is the lack of communication between human and veterinary medicine, agronomy and ecological, environmental, and evolutionary science. Removing this major impediment implies the integration of sufficient understanding of other disciplines, multidisciplinary approaches, and the aim and conditions of their implementation.

'One Health': Common Issues

'One Health' issues include zoonotic diseases, antimicrobial resistance, food safety and food security, vector-borne diseases, environmental contamination, and other health threats shared by people, animals, and the environment. For example:

Mental Health in India: A Perspective

The COVID-19 pandemic has led to a sharp increase in mental health disorders around the world. A report released by the World Health Organization (WHO) has said the worst hit were the low-and-middle-income countries (LMICs). India, incidentally, belongs to the category of LMICs. The report finds that people with severe mental health conditions die on average 10 to 20 years earlier than the general population, mostly due to preventable physical diseases. Major threats to mental health are social and economic inequalities, public health emergencies, war, and the climate crisis.

Recently, the WHO released the World Mental Health Report- its largest review of world mental health since the turn of the century where it has provided blueprint for various stakeholders with an ambition to support the world in transforming mental health. The report is designed to inspire and inform better mental health for all.

Drawing on the latest evidence available, showcasing examples of good practice from around the world, and voicing people's lived experience, it highlights why and where change is most needed and how it can best be achieved. It calls on all stakeholders to work together to deepen the value and commitment given to mental health, reshape the environments that influence mental health and strengthen the systems that care for mental health.

Pre-pandemic, in 2019, an estimated 970 million people in the world were living with a mental disorder. This was a number higher than the then total population of all of Europe. As many as 82% of these 970 million people lived in low-and-middle-income countries (LMICs).

At the 66th World Health Assembly of the WHO, a comprehensive action plan for 2013-2021 was initiated. The main objectives of the action plan are:

- Provide integrated, responsive and comprehensive social care and mental health services in a community-based environment.
- Strengthen evidence, research and information systems for mental health.
- Execute plans for prevention and promotion of mental health.
- Strengthen governance and effective leadership for mental health.

Importance of Mental Health

Emotional and mental health is important because it's a vital part of our life. Being healthy emotionally promotes productivity and effectiveness and plays an important part in maintaining relationships. It also allows us to adapt to changes in life which are rapid in this technology driven age and life.

Good mental health helps to cope up with adversity which no one could ever predict as to when it happens. It also impacts how we feel, think and behave in different situations. However, global burden of mental health is considered to be well beyond the treatment capacities of developed and developing countries.

Its social and economic ramifications are also extremely precarious. Hence, the rising social and economic costs of mental illness have forced the establishments across the globe to promote mental health as well as preventing and treating mental illnesses.

KEY FINDINGS OF WORLD MENTAL HEALTH REPORT 2022

Global Scenario

- Almost a billion people, 14% of whom were adolescents, were living with some form of mental health issues in 2019.
- Globally, 71% of psychosis patients don't receive treatment.
- Progress towards Comprehensive Mental Health Action Plan (CMHAP) 2013 -2030 has been slow.
- Adopted by all the 194 members, CMHAP aims to promote mental well-being, prevent mental disorders, etc.
- People with mental health conditions are at increased risk of physical and emotional abuse, denial of education and employment, and other human rights violations.
- Depression and anxiety cost the global economy an estimated 1 trillion US dollars per year.
- While the COVID-19 pandemic has increased mental health problems, it has led to a far greater understanding of the importance and fragility of good mental health.
- Initial estimates show a jump to 246 million for major depressive disorders and 374 million for anxiety disorders. This represents a jump of 28% in the former and 26% in the latter.

- [Natural Resource Accounting](#)
- [Natural Farming](#)
- [Global Gender Gap Report 2022](#)
- [India Innovation Index 2022](#)
- [Indian Antarctic Bill, 2022](#)

Natural Resource Accounting

The Government Accounting Standards Advisory Board (GASAB) has come up with a Natural Resource Accounting (NRA) for tracking and maintaining the natural resources of India.

- GASAB has developed standard operating procedures to ensure automated collection and compilation of data from 2022-23.
- India is a signatory to the 2016 UN General Assembly Resolution —“Transforming the World, the 2030 agenda for Sustainable Development” which requires the preparation of Natural Resource Accounts (NRA).

About Natural Resource Accounting (NRA)

- It is the compilation of data relating to natural resources within an accounting framework. NRA is an accounting system that deals with stocks and stock changes of natural assets, comprising biota (produced or wild), subsoil assets (proved reserves), water and land with their aquatic and terrestrial ecosystems. Natural resources accounts may involve both physical units and monetary values.
- The terms ‘NRA’, ‘green accounting’ and ‘environmental accounting’ are used interchangeably.

Aim

- It aims to provide a framework for organizing information on the status, use, and value of natural resources and environmental assets as well as expenditures on environmental protection and resource management.

Need for NRA

The need for NRA can be broadly classified in the following categories:

- Resource management
- Policy planning
- Identification and accounting the natural resources within the economy
- Monitoring sustainable development goals
- Combating climate change
- Aid to Environment Impact Assessments.

Significance

- **Policy Support:** It can support policy for integrated environmental and economic analyses at the sectoral and macro-economic levels.
- **Keeping Track and Decision Making:** Creation of NRA will also help in ascertaining the total stock of each of the resources vis-à-vis their periodic usage which would help in decision making regarding their further usages and also to opt for alternative action plan.

Issues and Challenges

- Continued preparation of asset accounts
- Limitations in preparing the asset accounts - mapping the periodicity of data
- Validation of data
- Multiple agencies in data collection in respect of water resources issues of data sharing/data conflict/classified data
- Unregulated extraction of underground water
- Unscrupulous mining companies/agencies
- Untapped resources

Role of NRA in Combating Climate Change

- Given the complex nature of climate change, the cost to prevent and adapt to its effects, and the controversy surrounding the issue, policy decisions in this area will need to be based on sound data.
- It is also imperative that the focus should be on mitigating the phenomenon by reducing greenhouse gas emissions and by enhancing carbon sinks. This has to be seen in distinction with adaptation to global warming which involves taking action to minimize the effects of such warming and is intended to reduce the vulnerability of natural and human systems to actual or expected climate change effects.
- As the climate change is linked to economic growth, governments must be able to connect economic data to environmental data to develop policies that allow for economic growth while supporting sustainability.

Interview

with

Uttam

CSE 2021 (Rank 121)

C.S.C. : *Heartiest congratulations to you from Civil Services Chronicle for your success. How are you feeling about it?*

Uttam: Thank you very much sir. I am quite happy and feeling is beyond description- a combination of excitement, joy, nervousness for upcoming transformation in life.

C.S.C. : *What is your inspiration for becoming an IAS officer? Whom do you give credit for your success? What is the role of family and others (teachers, friends) in your preparation and success?*

Uttam: My inspiration for opting civil service is social service - lessening sufferings of people, helping them to achieve their dreams. I would give credit of my success to my family (parents, siblings). They supported me throughout this journey. During my preparation, my teachers (special mention here for Sunil Gupta Sir) gave me proper direction and motivated me.

C.S.C. : *What strategy one should follow for preparing General Studies - Prelims & Mains? Did you integrate your Prelims and Mains preparation or was it separate?*

Uttam: General Studies, being the most important component of both the stages (49% in mains and 100% in prelims), requires special focus. I would say revising, and practicing regularly is the key for both the stages. Regular writing for mains, daily practice of MCQs would be helpful. I prepared for prelims and mains in an integrated manner. Only three months before prelims, I dedicatedly worked for prelims only.

C.S.C. : *What was your optional? What was the basis of selecting this optional? What strategy one should follow for preparing?*

Uttam: My optional was Public Administration. Basis for selection of this was – my interest for knowing all about administration, short syllabus, and comparative advantage (overlapping with general studies syllabus). For preparation, my strategy was joining a good coaching (I joined INSPIRATION IAS ACADEMY), revising coaching notes, daily answer writing and doing test series.

C.S.C. : *What was your strategy for preparation and books of Ethics Paper-IV?*

Uttam: Ethics Paper-IV is the area where one can score very high with little effort. I did two readings of Lexicon



book, practiced a lot of case studies and added a number of examples from Ramayana and Mahabharata.

C.S.C. : *Tell us something about preparation of Essay paper.*

Uttam: Essay again is an area where little efforts can fetch you good marks. I followed a strategy of writing essay every Sunday on INSIGHTS ON INDIA platform.

C.S.C. : *What was your style of writing in the exam? How was it distinct from the general writing style? How did you develop this writing style?*

Uttam: My style of writing comprised a good structure (Introduction- Body- Conclusion), filled with data, substantiated with examples and case studies (for instance, if I have to write something about Urban Planning, I used to refer Indus Valley Civilisation). I developed my writing style with practice (I wrote four answers per day since the beginning of my preparation).

C.S.C. : *How did you prepare for interview? Which types of questions were asked in interview? Did you answer them all? Was there any specific area they emphasised upon?*

Uttam: Interview preparation for me was most scary one (because UPSC CSE Interview was first interview of my life). So, I dig a lot from internet and listened to a number of toppers' videos. I prepared a list of questions (personal questions, questions from current affairs and optional). I prepared those questions in front of mirror every day, gave 2 mock interviews also.

In my interview, questions were asked about my name (Uttam – How your name motivates you?) my hobbies, questions on optional paper, J&K Issue, Russia – Ukraine war and India's stand, two situation-based questions.

They also asked me 4-5 questions from Chemistry (my academic background).

I answered all of the questions except the name of chief minister of J&K at the time of drafting of Constitution of J&K.



Polity & Governance

- The Family Courts (Amendment) Bill 2022
- Foreign Contribution (Regulation) Amendment Rules 2022
- Flag Code of India Amendment 2022
- Draft Medical Devices Bill 2022

Polity & Governance

The Family Courts (Amendment) Bill 2022

On 4th August, 2022, the Parliament passed the Family Courts (Amendment) Bill, 2022. It seeks to amend the Family Courts Act, 1984 to establish family courts in Himachal Pradesh with effect from February 15, 2019 and in Nagaland with effect from September 12, 2008.

Need

Absence of Legal Authority

- Two family courts were established in Nagaland in 2008 and three in Himachal Pradesh in 2019, via notifications issued by the two State governments.
- However, these courts were functioning without any legal authority since no central notification was issued as prescribed under Section 1(3) of the Family Courts Act.

Need for Validation

- The amendment was brought with a view to tide over the legalities and validates all actions taken by the State Government and family courts, including the appointment of judicial officers and court staff.

Proposed Changes

- The Family Courts (Amendment) Bill, 2022 will amend the Family Courts Act by inserting a proviso to Section 1.
- The suggested new Section 3A extends the application of the Act to Himachal Pradesh and Nagaland, with effect from the dates the family courts were set up.
- Under Section 3A, all actions taken, appointments made and notifications issued under the Act in

Plans/Policies

- Model Tenancy Act 2021

Internal Security

- Namsai Declaration

Reports

- Promotion and Regulation of E-Commerce in India
- First State Ranking Index for Implementation of the NFSA 2013

News Snippets

Himachal Pradesh and Nagaland before the commencement of the Family Courts (Amendment) Act, 2022 will be deemed valid.

- The document also says that all orders of appointment of a family court judge, and the posting, promotion or transfer of such a judge under the Act will also be valid in the two States.

PRELIMS FACTS

Family Courts Act, 1984

- **Family Courts:** The law was passed to allow State governments to establish family courts to promote conciliation and ensure that disputes related to family affairs and marriage are promptly settled.
- **Role of State Government:** The setting up of family courts and their functioning comes under the purview of the State governments in consultation with their respective high courts.
- **Appointment of Judges:** The Act also lays down provisions for the appointment of judges in family courts.
- **Centre's Power:** The Centre has to notify a date for the Act to come into force in a State where such courts have been set up.

Foreign Contribution (Regulation) Amendment Rules 2022

Recently, the Central government made seven key amendments to existing rules of the Foreign Contribution (Regulation) Act (FCRA) rules 2011.

- It aims at prohibiting acceptance and utilization of foreign contribution or foreign hospitality for any activities detrimental to the national interest.



Social Issues

- 'Hyderabad Declaration' on Human Trafficking

Social Issues

'Hyderabad Declaration' on Human Trafficking

Recently, an Inter-State Declaration of Intent to collaborate in the fight against human trafficking was signed by six States - Telangana, Andhra Pradesh, Karnataka, Kerala, Odisha, and Tamil Nadu.

The first of its kind agreement emphasizes on cooperative efforts in intelligence gathering and sharing, witness and legal protection, and rehabilitation and care for survivors.

Human Trafficking in India

Constitutional & Legislative Provisions

- Trafficking in Human Beings or Persons is prohibited under the Constitution of India under **Article 23 (1)**.
- The **Immoral Traffic (Prevention) Act, 1956 (ITPA)** is the premier legislation for prevention of trafficking for commercial sexual exploitation.
- **Criminal Law (amendment) Act 2013** has come into force wherein Section 370 of the Indian Penal Code has been substituted with Section 370 and 370A IPC which provide for comprehensive measures to counter the menace of human trafficking.
- **Protection of Children from Sexual offences (POCSO) Act, 2012**, is a special law to protect children from sexual abuse and exploitation.
- **Trafficking in Persons (Prevention, Care and Rehabilitation) Bill, 2021**: It aims to tackle all aspects of trafficking including the social and economic causes of the crime, punishment to traffickers, and the protection and rehabilitation of survivors.

Institutional Measures

- **Anti-Trafficking Cell (ATC)**: It was set up in the Ministry of Home Affairs (MHA) in 2006 to act as a focal point for communicating various decisions and follow up on action taken by the State Governments to combat the crime of Human Trafficking.

Social Justice

- Mission Vatsalya
- Mission Shakti – An Initiative towards Women Safety, Security and Empowerment

Indian Society

- Abortion Laws in India

Plans/Polices

- Ayushman Bharat Digital Mission

Reports

- World Population Prospects Report 2022

Suggestive Measures to Check Human Trafficking

Cross Border Measures

- Stringent Enforcement of cross border trafficking.
- Secure vigilance in trafficking routes.

Economic and Social Measures

- Taking measures to raise levels of social protection and to create employment opportunities.
- Taking appropriate measures to eliminate discrimination against women in the field of employment in order to ensure, on a basis of gender equality.
- Encouraging gender sensitization and education on equal and respectful relationships between the sexes, thus preventing violence against women.
- Ensuring that policies are in place that allow women equal access to and control over economic and financial resources.

Conclusion

Human trafficking jeopardizes the dignity and security of trafficked individuals, and severely violates their human rights. The laws for human trafficking must be strengthened that it meets all the requirements for preventing human trafficking. People who are in poverty across the country must be made aware about human trafficking and its consequences in order to prevent them from becoming victims.

Social Justice

Mission Vatsalya

Recently, the central government issued guidelines to states about the Mission Vatsalya for the welfare and rehabilitation of children.

About New Guidelines

- States cannot change the original name of the scheme in order to gain access to funding granted by the central government.
- Funds to states will be approved through the Mission Vatsalya Project Approval Board (PAB), which will be



Heritage Art & Culture

Art & Culture

- Convention for the Safeguarding of the Intangible Cultural Heritage
- Monuments of National Importance

Art & Culture

Convention for the Safeguarding of the Intangible Cultural Heritage

Recently, India has been elected as a member of the Intergovernmental Committee of UNESCO's 2003 Convention for the Safeguarding of the Intangible Cultural Heritage for the 2022-2026 cycles. The elections for the Intergovernmental Committee took place during the 9th General Assembly of the 2003 Convention held at UNESCO headquarters, Paris, from 5th to 7th July 2022.

- In the past, India has served two terms as a member of the Intergovernmental Committee of this Convention. One from 2006 to 2010 and the other from 2014 to 2018.
- Currently, India has 14 inscriptions on the Representative List of Intangible Cultural Heritage of Humanity.
- After the inscription of Durga Puja in 2021, India submitted the nomination for 'Garba' dance of Gujarat to be discussed in 2023.

Significance

- India will have the chance to closely monitor the implementation of the 2003 Convention as a member of the intergovernmental committee.
- Further, India shall endeavour to encourage international dialogue among the Convention's State Parties in order to better showcase the diversity and importance of living heritage.

Intergovernmental Committee of UNESCO's 2003 Convention

- It consists of 24 members and is elected in the General Assembly of the Convention according to the principles of equitable geographical representation and rotation.
- The members are elected for a term of four years.

- Keshava Temple
- Mangarh Hillock
- Mahuli Temples

History

- Sannati: Ancient Buddhist Site

Personality

- Acharya Prafulla Chandra Ray

Miscellaneous

- National Culture Fund

Functions

- To promote the objectives of the Convention.
- To provide guidance on best practices and make recommendations on measures for the safeguarding of the intangible cultural heritage.

India's Ratification

- India ratified the 2003 Convention for the Safeguarding of the Intangible Cultural Heritage in September 2005.

PRELIMS FACTS

Three Lists of the Convention

Urgent Safeguarding List

- It aims at mobilizing attention and international cooperation in order to safeguard intangible cultural heritage whose viability is at risk despite the best efforts of the community(ies) or the State(s) Party(ies).
- It records the safeguarding measures elaborated by the State Party with the widest participation of communities, which may benefit from the financial support of the Intangible Cultural Heritage Fund.

Representative List

- It aims at ensuring better visibility of the intangible cultural heritage and raising awareness of its importance while encouraging dialogue that respects cultural diversity.

Register of Best Safeguarding Practices

- It includes programs, projects and activities on the national, subregional and/or international levels that the Committee considers to best reflect the principles and objectives of the Convention.
- It aims at ensuring exchange and cooperation at the international level for programmes with proven success in safeguarding intangible cultural heritage.

ECONOMY WATCH

Agriculture

- India Animal Health Summit 2022
- Centre Constitutes Panel on Farm Issues
- Pradhan Mantri Fasal Bima Yojana
- International Rice Research Institute
- National Fish Farmers Day
- 11th Agricultural Census 2021-22

Agriculture

India Animal Health Summit 2022

On 6th July, 2022, Ministry of Fisheries, Animal Husbandry & Dairying inaugurated India Animal Health Summit 2022 in New Delhi.

It's India's first-ever Animal health Summit organized by the Indian Chamber of Food and Agriculture (ICFA) and the Agriculture Today Group.

Objective

- To understand the significance of animal health towards the broader objective of the country's food and nutrition security, rural incomes and prosperity and overall economic development.

Role of Livestock in Food Security in India

- The livestock sector is fundamental for food security not only at the household level, for small producers who depend directly on livestock to obtain food, income and services, but also at the national level, by providing consumers access to food of high nutritional quality.
- In this context, animal husbandry plays important and distinct roles in the four main pillars of food security: availability, access, stability and use.
- Livestock contributes directly to the availability and access of foods of these small producers, generally in a complex manner.
- Livestock plays an important indirect role that is fundamental to supporting food security by increasing incomes and hence contributing to poverty reduction.

Banking & Finance

- India's First International Bullion Exchange
- Zero Coupon Zero Principal Bond Declared Securities
- Regulatory Framework for Urban Cooperative Banks

Industry

- Funding Winter for Start-ups
- New Schemes to Strengthen Pharmaceutical MSMEs

Infrastructure

- India's First 100% Landlord Major Port
- Kaleshwaram Lift Irrigation Project
- North East Special Infrastructure Development Scheme

Reports

- NITI Aayog's Report on Digital Banks

- The nutrition of families will improve as long as the increase in income is accompanied by a more diverse diet.
- Livestock may be used as collateral to obtain credit, be sold to obtain income or may be consumed directly in times of crisis.
- Livestock can dampen the impact of negative household-level economic shocks such as unemployment, injury or illness to productive members.
- Livestock also provide energy and fertilizer for soil and have a controlling effect on diseases in farming systems, thereby contributing to overall farm productivity and thus to food security.

Centre Constitutes Panel on Farm Issues

On 18th July, 2022, the government formed a 29 member committee on Minimum Support Price (MSP), eight months after it promised to set up such a panel while withdrawing the three contentious farm laws.

Former agriculture secretary Sanjay Agrawal will be the chairman of the committee.

Task Assigned

Minimum Support Price

- The committee will give its report on making available MSP to farmers of the country by making the system more effective and transparent.

Natural Farming

- On natural farming, the committee will make suggestions for programmes and schemes for value chain development, protocol validation and research for future needs and support for area expansion under the Indian Natural Farming System.

SCIENCE & TECHNOLOGY

Space Science

- Multispectral Maps of Mars

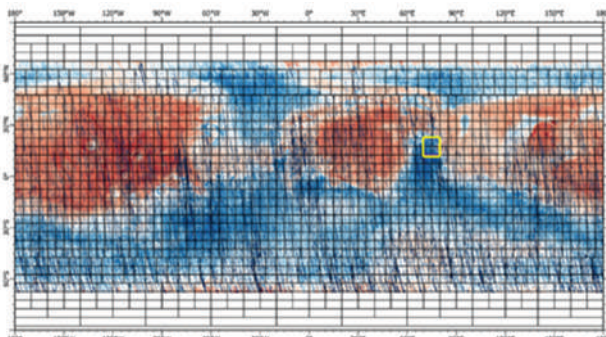
Space Science

Multispectral Maps of Mars

Recently, National Aeronautics and Space Administration (NASA) released the first portions of the multispectral maps of the surface of Mars.

Key Points

- **Planetary Data System:** The first portions were released from NASA's Planetary Data System, an open archive of all digital data that the agency has collected through planetary flights and other missions.
- **Images:** The first batch of the map comprises 51,000 images, with each image representing a strip of land 540 km long and 10 km wide.
- **Coverage:** The multicoloured map covers 86 percent of the Martian surface. NASA will release the map in its entirety over the next six months in batches.
- **CRISM:** The data for the maps was captured by NASA's Mars Reconnaissance Orbiter (MRO) - the longest orbiting satellite around the planet – that has been capturing the surface of the planet in search of minerals using its Compact Reconnaissance Imaging Spectrometer for Mars (CRISM) tool.



One of CRISM's Final Maps of Mars (Image Source: NASA)

New Technology & Innovations

- Novel Mechanism to Inactivate SARS-CoV-2
- Sodium-ion Battery Technology
- Antimicrobial Coating from Agricultural Waste
- Perovskite Solar Cells

News Snippets

- While the initial target for the CRISM coverage was only 80 percent of the Martian surface, the three cryocoolers used to keep the spectrometer on the CRISM chilled effectively exceeded their lifecycle.
- **Previous Maps:** Using detectors that see visible and infrared wavelengths, the CRISM team has previously produced high-resolution mineral maps that provide a record of the formation of the Martian crust and where and how it was altered by water. These maps have been crucial to helping scientists understand how lakes, streams, and groundwater shaped the planet billions of years ago.

Significance

- Readily available and accessible data will help planetary scientists, geologists, and meteorologists conduct research. It will also significantly enhance our understanding of the universe.

New Technology & Innovations

Novel Mechanism to Inactivate SARS-CoV-2

Recently, scientists at the Indian Institute of Science (IISc), in collaboration with researchers from the CSIR-Institute of Microbial Technology reported the design of a new class of synthetic peptides (chemically synthesized small polymers of amino acids) that can not only block the entry of SARS-CoV-2 virus into cells but also clump the virions (virus particles) together, reducing their ability to infect.

The rapid emergence of new strains of the SARS-CoV-2 virus has diminished the protection offered by COVID-19 vaccines, calling for new approaches to prevent infection by the virus.

- This novel approach provides an alternative mechanism to render viruses like SARS-CoV-2 inactive, promising a new class of peptides as antivirals.

ECOLOGY & ENVIRONMENT

Climate Change

- A New Theory to Explain Karakoram Anomaly

Climate Change

A New Theory to Explain Karakoram Anomaly

Recently, Indian researchers postulated a new theory towards solving the mystery of why few pockets of glaciers in the Karakoram Range are resisting glacial melt due to global warming (the phenomenon is called 'Karakoram Anomaly'), defying the trend of glaciers losing mass across the globe, with the Himalayas being no exception.

They attributed this phenomenon to recent revival of western disturbance.

Karakoram Anomaly

- Himalayan glaciers are fast receding under the impact of global warming, and stifling stress on the water resources is inevitable in the coming decades. In contrast, the glaciers of central Karakoram have surprisingly remained unchanged or slightly increased in the last few decades. This phenomenon is called Karakoram Anomaly.
- This is peculiar because the behaviour seems to be confined to a very small region, with only Kunlun ranges being another example of showing similar trends in the whole of Himalaya.

Key Points

- **Western Disturbance:** The study attributes the anomaly to the recent revival of western disturbance (WD), which has been instrumental in triggering and sustaining the anomaly since the advent of the 21st century.
- **WD-precipitation Input:** It is for the first time that a study brought forth the importance that enhanced WD-precipitation input during the accumulation period plays in modulating regional climatic anomaly.
- **Feeder of Snowfall:** WDs are the primary feeder of snowfall for the region during winters. The study suggests they constitute about around 65% of the total seasonal snowfall volume and about 53% of the total seasonal precipitation, easily making them the most important source of moisture.

Biodiversity

- Cheetah Reintroduction: India and Namibia Sign MoU
- New Study on Snow Leopard
- India Designates Five New Ramsar Sites

Pollution

- CAQM's Policy to Curb Air Pollution in Delhi-NCR

News Snippets

- **Precipitation Intensity:** The precipitation intensity of WDs impacting Karakoram has increased by around 10% in last two decades, which only enhances their role in sustaining the regional anomaly.
- The analysis for the tracks passing through the Karakoram reveals the role of snowfall as a crucial factor in mass balance estimations.
- Calculations by the scientists reveal that contribution of WDs in terms of snowfall volume over the core glacier regions of Karakoram have increased by about 27% in recent decades, while precipitation received from non-WD sources have significantly decreased by around 17%, further strengthening their claims.
- While previous studies have highlighted the role of temperature in establishing and sustaining the anomaly over the years, the current study, for the first time, highlighted the role and impact of precipitation in feeding the anomaly.

WESTERN DISTURBANCES & KARAKORAM-HIMALAYAS

- Western disturbances (WDs) are upper-tropospheric synoptic-scale cyclonic systems embedded in the subtropical westerly jet stream, often associated with extreme rainfall events in northern India during boreal winter.
- They are further enhanced over the Karakoram-Himalayas due to orographic uplift.
- WD-associated snowfall is the dominant precipitation over the Karakoram-Himalayas during winter, playing a critical role in establishing and sustaining the regional snowpack and, at the same time, replenishing regional water resources.
- The Karakoram-Himalayas region contains the largest glacier mass outside the Arctic and Antarctica. It is often referred to as the "Water Tower of Asia" and is the source of several perennial rivers that flow through the major basins surrounding the "High Asian" region. Even the slightest variation in the annual glacier-melt runoff can have profound impacts on water resources.



WORLD WATCH

International Relations

- First I2U2 Summit

International Relations

First I2U2 Summit

On 14th July, 2022, Indian Prime Minister virtually attended the inaugural I2U2 Summit along with Prime Minister of Israel, President of the UAE and President of the USA.

Key Highlights

- **Focus on Food Security Crisis and Clean Energy:** The grouping focused on food security crisis and clean energy during their meeting and discussed innovative ways to ensure longer-term, more diversified food production and food delivery systems that can better manage global food shocks.
- **Investments in India:** The United Arab Emirates announced an investment of USD 2 billion to develop a series of integrated food parks across India as part of efforts by I2U2 to help tackle food insecurity in South Asia and the Middle East.
- **Hybrid Renewable Energy Project:** The I2U2 group will also advance a hybrid renewable energy project in Gujarat consisting of 300 megawatts (MW) of wind and solar capacity, complemented by a battery energy storage system.
- **Leveraging Markets:** The I2U2 leaders expressed their determination to leverage well-established markets to build more innovative, inclusive, and science-based solutions to enhance food security and sustainable food systems.
- **Support to Abraham Accords:** The I2U2 leaders reaffirmed their “support for the Abraham Accords and other peace and normalization arrangements with Israel”.

About I2U2

- The I2U2 Group is a grouping of India, Israel, the United Arab Emirates, and the United States.
- It was conceptualized during the meeting of the Foreign Ministers of the four countries held on 18 October 2021.

- Myanmar/Malaysia-India-Singapore Transit (MIST) Submarine Cable System
- BRICS Labour and Employment Ministers' Meeting

World Issues

- The Guiding Principles for Children on the Move in the Context of Climate Change

Reports/Indices

- WHO Report on Accelerating Access to Genomics for Global Health

News Snippets

- Each country also has Sherpa- level interactions regularly to discuss the possible areas of cooperation.
- Its stated aim is to discuss “common areas of mutual interest, to strengthen the economic partnership in trade and investment in our respective regions and beyond”.

Areas of Cooperation

- Following six areas of cooperation have been identified by the countries-water, energy, transportation, space, health, and food security.

Significance

- The coming together of India, Israel, US and UAE is likely to facilitate greater engagement across the Western Indian Ocean region - which lies between India, the Suez Canal and South Africa.
- It is strategically critical as it contains the key maritime chokepoints of the Bab-el-Mandeb and the Suez Canal.
- Major sea lanes pass through the region and it is a critical cog in the global energy network as well as security dynamics.
- The region has seen a rise in maritime piracy, illegal smuggling of drugs and weapons, and terrorism. Regional states also host military bases of major powers including China (in Djibouti), Russia (Sudan), Japan (Djibouti) and France (Djibouti), making it an arena of major power contestation.
- The I2U2 can become a feature of the broader region, just as the Quad has become a central pillar of the Indo-Pacific strategy of the United States.

India's Strategic Importance at I2U2

- The US administration has offered a full-throated justification for elevating ties with India, especially through multilateral platforms such as the newly launched I2U2 that the two countries form with Israel and the UAE, and the Quad with Japan and Australia calling India the “most strategically consequential countries in the Indo-Pacific”.
- Earlier, the US had set up the Quad, the Asian Pacific Quad, with the US, Australia, India and Japan which is also seen by many as a forum to counter Chinese influence in the Indo-Pacific region.

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Most Expected Mains Topics with Mock Questions

Mains Preparation : A New Pedagogy

A careful analysis of previous three years' Civil Services Main Examination question papers reveals that the questions are issue-based, open-ended and interdisciplinary in nature. Accordingly, in this special section, we have come up with curated content on a select list of topics for the upcoming Mains examination along with questions & answers.

- The topics included herein have been prepared keeping in mind those aspects from which questions are expected in the Mains examination.
- The topics comprise those issues which have multiple facets to them and many types of questions could be asked from them.
- The issues covered under questions and answers are those from which direct questions could be asked.
- The answers to the questions are as per the word limit prescribed by UPSC and represent the ideal answer writing technique.

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Indian History and Culture

Ayurveda in Modern Times

Significance

- **Integration of Basic Elements:** According to Ayurveda, a living person is made up of the three humours (Vata, Pitta, and Kapha), seven basic tissues (Rasa, Rakta, Mansa, Meda, Asthi, Majja, and Shukra), and the body's waste materials (mala, mutra, and sweda).
- **Balance between Parts:** The fundamental factor affecting one's health is the growth and decay of the body matrix and its constituent parts, which revolve around psychological mechanisms of these elements. The Ayurvedic medical system uses a holistic, tailored therapeutic approach with elements of prevention, cure, mitigation, recovery, and rehabilitation.
- **Health Promotion:** The main goals of Ayurveda are maintaining and promoting health, preventing disease, and treating illness.

Challenges

- **Ineffective Treatment in Emergency Cases:** The lack of significant therapeutic research and the inadequacy of Ayurveda in treating acute infections and other crises, such as surgery, continue to prevent Ayurveda from being widely accepted. There are too many dos and don'ts in ayurvedic medicine, and it is complicated. Ayurvedic drugs need time to work and heal. Response or prognosis are difficult, if not impossible, to predict.
- **Lack of Homogeneity:** Ayurvedic medical procedures vary widely. The reason for this is that the medicinal plants employed in it change depending on the location, climate, and local agricultural techniques. In contrast to Ayurveda, modern medicine classifies and treats ailments according to previously established universal criteria.
- **False Advertising by Ayurvedic Pharmaceutical Companies:** The Ayurvedic pharmacopoeia industry asserted that its production methods were in line with the original Ayurvedic writings. Pharmaceutical corporations publicised several medical claims about their ayurvedic medications without enough scientific support in order to increase the market attractiveness of ayurvedic medicines. As a result, the culture became even more obsessed with pharmaceuticals, and illnesses that called for lifestyle changes were treated with many medications.
- **Lack of Recognition:** Interest in Ayurveda has grown significantly on a global scale during the past few decades. However, many nations have imposed several restrictions on the use of Ayurvedic medications and do

not formally recognise Ayurveda as a branch of medicine. Ayurvedic medications are supplied over-the-counter as health products rather than medications in several nations, notably the US, where the regulation process for "food and diet supplements" is streamlined and less severe.

- **Lack of Deep Knowledge:** A prestigious American journal revealed in 2004 that some Ayurvedic medications supplied in the US contained levels of heavy metals (arsenic, mercury, and lead) that were well beyond the permitted safety limits. As a result of widespread outrage, the government made heavy metal testing of herbal drugs mandatory and demanded that the business adhere to WHO guidelines. It tarnished Ayurveda's reputation.
- **Sub-standard Studying Ayurveda:** The majority of the research done on Ayurveda over the past 50 years has been limited to hundreds of medication studies that followed the same protocols as other medical systems. It was frequently discovered that the study's standardisation of formulation and the calibre of its methodologies and data were deficient.

Land Revenue System in British India

Zamindari System

Characteristics

- Lord Cornwallis established the zamindari system in 1793 through the Permanent Settlement, which guaranteed the members' land rights in perpetuity without making any provisions for fixed rent or an occupancy right for genuine cultivators.
- The intermediaries known as Zamindars were responsible for collecting the land revenue from the farmers under the Zamindari system.
- The government retained a 10–11% part of the overall land revenue collected by the zamindars, with the remaining amount going to the zamindars.
- West Bengal, Bihar, Odisha, UP, Andhra Pradesh, and Madhya Pradesh have the highest concentrations of the system.

Issues

- **For the Cultivators:** In communities, where rent to the zamindar was extremely high and his claim to the land was very shaky, the cultivators found the system to be oppressive and exploitative. The cultivators frequently had to take out loans to pay their rent; if they didn't, they were kicked off the property.
- **For the Zamindars:** The revenue was set at a level that made it difficult for them to pay, and those who didn't