20 Sep 2019: UPSC Exam Comprehensive News Analysis

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A. GS1 Related

Category: ART AND CULTURE

1. Keeladi findings traceable to 6th century BCE: report

Context:

- The report titled, 'Keeladi-An Urban Settlement of Sangam Age on the Banks of River Vaigai', was published by the Tamil Nadu Archaeology Department (TNAD).
- Three excavations were undertaken by the Archaeological Survey of India, the fourth excavation was undertaken by the TNAD.
- The fifth excavation by ASI is underway.

Details:

- The TNAD stated that the cultural deposits unearthed at Keeladi date back to a period between 6th century BCE and 1st century CE.
- The new findings place Keeladi artefacts about 300 years earlier than previously believed 3rd century BCE.
- The results suggest that the second urbanisation of Vaigai plains happened in Tamil Nadu around 6th century BCE. The first urbanisation being credited to the Indus plains.
- The recent scientific dates obtained for Keeladi findings push back the date of Tamil-Brahmi script to another century, i.e., 6th century BCE.
- Fifty-six Tamil-Brahmi inscribed potsherds were recovered.
- The report states that the art of writing was attained as early as 6th Century BCE. The finding was based on potsherds which had names of people - like Aadhan and Kudhiranaadhan - written in Tamil-Brahmi script.
- Skeletal fragments studied, were identified as cow/ox, buffalo, sheep, goat, nilgai, blackbuck, wild boar and peacock, suggesting that the society in Keeladi had used animals predominantly for agricultural purposes.
- Recovery of 10 spindle whorls, 20 sharply pinpointed bone tip tools used for design creations, hanging stones of the yarn, terracotta spheres, copper needle and earthen vessels to hold liquid provide evidence to the various stages of weaving industry from spinning, yarning, looming and weaving and later for dyeing.

Significance of the study:

- The study highlights a possible link between the scripts of the Indus Valley Civilisation and Tamil Brahmi, which is the precursor to modern Tamil.
- Another major discovery is that there was an urban civilisation in Tamil Nadu that was contemporary to the Gangetic plain civilisation.

B. GS2 Related

Category: POLITY AND GOVERNANCE

1. Access to Internet is a basic right: Kerala HC

Context:

The Kerala High Court has held that the right to have access to the Internet is part of the fundamental right to education as well as the right to privacy under Article 21 of the Constitution.

Background:

- A petition was filed by a Kozhikode college student challenging her expulsion for not adhering to restrictions on the use of mobile phone.
- It was contended that restrictions on the use of mobile phones amounted to a violation of fundamental right to freedom of speech and expression under Article 19(1)(a) of the Constitution. And that the internet, accessible through mobile phones or laptops, provided an avenue for the students to gather knowledge.
- The Judge observed that the action of the college authorities infringed the fundamental freedom as well as privacy and would adversely affect the future and career of students who want to acquire knowledge and compete with their peers.
- Justice P.V. Asha ordered the Principal of the College, to re-admit the student who had been expelled

from the college hostel for using her mobile phone beyond the restricted hours.

Details:

- The petitioner had argued that the United Nation's General Assembly had declared right to internet to be a human right in 2014.
- The petitioner also highlighted that the mobile restriction was discriminatory on the grounds of gender as such restrictions were not imposed in the boys' hostel.
  - In February 2019, the High Court had struck down gender discriminatory rules in a hostel, observing that girls have equal freedom as boys.
- The court observed that
  - The Human Rights Council of the United Nations has found that the right of access to Internet is a fundamental freedom and a tool to ensure right to education.
  - Any rule or instruction that impairs the said right of the students could not be permitted to stand in the eye of law.
- The court while citing the observations of a Supreme Court case said "the fundamental freedom under Article 19(1)(a) can be reasonably restricted only for the purposes mentioned in Article 19(2)."
  - Article 19(2) of the Constitution authorises the government to impose, by law, reasonable restrictions upon the freedom of speech and expression.
  - Reasonable restrictions can be imposed in the interests of the sovereignty and integrity of India, the security of the State, friendly relations with foreign States, public order, decency or morality or in relation to contempt of court, defamation or incitement to an offence.

2. Alka Lamba disqualified from Delhi Assembly

Context:

- AAP Delhi MLA Alka Lamba was disqualified by Delhi Assembly Speaker under anti-defection law.
- When one resigns from the party from which the person has been elected, the person can be disqualified under anti-defection law," the Assembly Speaker said.

Anti-Defection Law:

Anti-defection law has been comprehensively covered in BYJU'S Comprehensive News Analysis under GS Paper 2 – Polity and Governance on 26th June 2019. **Click here** to read.

Also read, Gist of RSTV discussion on the **10th Schedule**.

3. Ola drivers to get healthcare benefits under Ayushman Bharat

Context:

Ayushman Bharat-Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) has partnered with Ola, a mobility platform, to extend the welfare to its drivers.

Details:

- The partnership is aimed at easing their financial burden.
- It will provide comprehensive health insurance for secondary and tertiary care to tens of thousands of drivers working with the cab aggregator and their families.
- Beginning from drivers in NCR, the partnership's implementation will be extended to all the other cities covering various Ola's verticals ranging from financial services, food and skilling.

- An MoU has been signed to extend the benefits of the Centre-sponsored healthcare scheme.
- The first phase will see Ola and AB-PMJAY conducting a pilot project in NCR, which will subsequently be rolled out at scale to other cities. Eligible drivers, as well as Ola employees, will be able to avail the benefits of the programme and obtain an Ayushman Bharat card at a minimal cost of 30.

Ayushman Bharat-Pradhan Mantri Jan Arogya Yojana (AB-PMJAY):

- AB-PMJAY was launched in September 2019.
- It provides a health cover of Rs.5 lakh in government and empanelled private hospitals to 10.74 crore economically disadvantaged families.

Read more about Ayushman Bharat Programme

4. Punjab plans ordinance route for CM's advisers

Context:

The Punjab government had recently appointed six minister-rank advisors to Chief Minister. Amid the controversy over these appointments, it has decided to bring in an ordinance to exclude adviser (political and planning) from the ambit of the Punjab State Legislature (Prevention of Disqualification) Act, 1952.

Issue:

- The appointments were termed by the opposition as an attempt to circumvent the constitutional cap on the size of state's Cabinet.
  - 91st Amendment of Article 164(1A) of the Constitution mandates that the strength of ministers cannot exceed 15 per cent of the total members of the House.
- The development was also seen as an attempt to placate those who failed to get a place in the last Cabinet reshuffle in the state.
- Five Congress MLAs were given the status of cabinet ministers and the sixth that of a minister of state.
- This is believed to put an additional financial burden on the state exchequer.

Details:

- The Punjab State Legislature (Prevention of Disqualification) Act, 1952, had been enacted in terms of Article 191 of the Constitution, to declare certain offices of profit as not disqualifying the holders of such office from being members of the State legislature.
- The proposed ordinance will amend the law to add these posts to the list of posts that are not considered office of profit for the purpose of disqualification of MLAs.
- With the amendment, these MLAs will not be disqualified.

Article 213:

- Under Article 213 of the Constitution of India, if at any time, except when the legislative assembly of the state is in session, if the Governor is satisfied that circumstances exist which render it necessary for him to take immediate action, he may promulgate such ordinances as the circumstances appear to him to require.

Disqualification of MLAs:

- Basic disqualification criteria for an MP are laid down in Article 102 of the Constitution, and for an

- They can be disqualified for:

1. Holding an office of profit under the Government of India or state government;
2. Being of unsound mind;
3. Being an undischarged insolvent;
4. Not being an Indian citizen or for acquiring citizenship of another country

What is 'office of profit'?

- The term is used in Article 102 (1)(A) of the Indian Constitution which bars a member of the Indian Parliament from holding an office that would give its occupant the opportunity to gain a financial advantage or benefit.
- It refers to a post under central/state government which yields salaries, perks and other benefits.
- The actual amount of profit gained during the violation has no bearing on its classification.
- The word 'office' has not been defined in the Constitution or the Representation of the People Act of 1951.
- But different courts have interpreted it to mean a position with certain duties that are more or less of public character.
- The essence of disqualification under the office of profit law is if legislators hold an 'office of profit' under the government, they might be susceptible to government influence, and may not discharge their constitutional mandate fairly.
- The intent is that there should be no conflict between the duties and interests of an elected member.

Category: HEALTH

1. India unlikely to meet 'Poshan Abhiyaan' targets, finds study

Context:

- A study states that India is unlikely to meet targets set under the ambitious Poshan Abhiyaan or National Nutrition Mission (NNM).
- The report is a joint initiative of Indian Council of Medical Research, Public Health Foundation of India (PHFI) and the Ministry of Health and Family Welfare.

Poshan Abhiyaan:

- Poshan Abhiyaan, the world's largest nutrition programme, expected to benefit 10 crore people.
- It was launched in 2018 by Prime Minister Narendra Modi.
- Poshan Abhiyaan or National Nutrition Mission (NNM) was launched with the aim of reducing the prevalence of stunting, underweight, low birth weight and anaemia in women and children by 2022.
- It aims to reduce:
  o Stunting, underweight, and low birth weight, each by 2% per year;
  o Anaemia among young children, adolescents and women each by 3% per year until 2022.
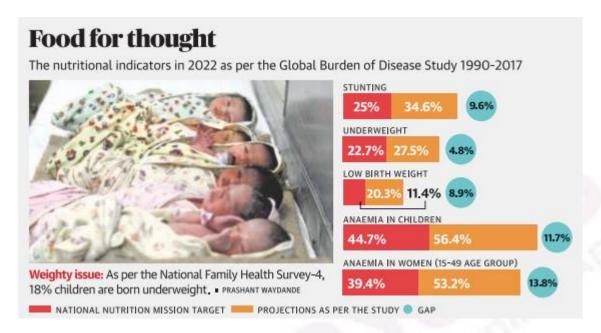 o A special target for stunting is set at 25% by 2022.

Read more about POSHAN Abhiyaan

Details:

- The study states that India is unlikely to meet targets if there is no progress achieved in improving the rate of decline observed between 1990 and 2017.

- The study points out that India will miss its target for
  - stunting levels of 25% by 9.6%;
  - underweight target of 22.7% by 4.8%;
  - desired low birth level of 11.4% by 8.9%;
  - anaemia level among women of 39.4% by 13.8%;
  - anaemia level among children of 44.7% by 11.7%, according to the Global Burden of Disease Study 1990-2017.

Food for thought

The nutritional indicators in 2022 as per the Global Burden of Disease Study 1990-2017

STUNTING
25% 34.6% 9.6%

UNDERWEIGHT
22.7% 27.5% 4.8%

LOW BIRTH WEIGHT
20.3% 11.4% 8.9%

ANAEMIA IN CHILDREN
44.7% 56.4% 11.7%

ANAEMIA IN WOMEN (15-49 AGE GROUP)
39.4% 53.2% 13.8%

Weighty issue: As per the National Family Health Survey-4, 18% children are born underweight. ■ PRASHANT WAYDANDE

■ NATIONAL NUTRITION MISSION TARGET ■ PROJECTIONS AS PER THE STUDY ● GAP

- The study, however, points out that the rates of improvement desired under the Poshan Abhiyaan are aspirational.

The findings of the report have been comprehensively covered in BYJU'S Comprehensive News Analysis under GS Paper 2 – Health on 19th September 2019. Click here to read.

C. GS3 Related

Category: ECONOMY

1. Telecom body okays Rs.8,500 cr. for mobile towers, optical fibre laying

Context:

The Digital Communication Commission has approved multiple projects worth over Rs.8,500 crore. It is the highest decision making body in the Department of Telecom.

Details:

- Approvals have been granted for setting up mobile towers and laying of optical fibre, with an aim to provide improved connectivity. Approval has been given for:
  - A special scheme to cover close to 12,000 uncovered villages in aspirational districts.
  - Laying of BharatNet fibre in Tamil Nadu and Telangana.
  - Setting up mobile towers for uncovered villages in the North Eastern states of Arunachal Pradesh, Assam, Meghalaya.
- This is part of a scheme to bring 11,878 uncovered villages in aspirational districts under mobile connectivity, funded from the Rs 50,000 crore Universal Service Obligation Fund (USOF).

- The Commission also approved 'in-building access' by telecom service providers, in which they will be allowed to share their infrastructure.
- These proposals will be now sent to the Cabinet for approval.

BharatNet Project:

BharatNet Project is the world's largest rural broadband connectivity programme using Optical fiber.

To know more, in detail about the BharatNet project, click here.

2. CDSCO looks to take more processes online

Context:

The Central Drugs Standard Control Organization has decided to take more of its approval processes and procedures online.

Details:

- The initiative is aimed at enhancing transparency and ease of doing business over the next two years.
- It will pertain to product registration, quality certification as also outcome of studies.
- Though online approval for a few processes is already available. Except inspection, sampling and testing, the idea is to take most of the other processes online.
- The aim is to enable the Indian pharma industry to increase its share in global drug supplies from 40% (by volume) to 60% in three years.

Central Drugs Standard Control Organization (CDSCO):

- The Central Drugs Standard Control Organization (CDSCO) is the national regulatory body for Indian pharmaceuticals and medical devices.
- The agency is responsible for approving new drugs, clinical trials and laying down standards for drugs.
- It serves a parallel function to the European Medicines Agency of the European Union, the PMDA of Japan, the Food and Drug Administration of the United States and the Medicines and Healthcare products Regulatory Agency of the United Kingdom.
- Within the CDSCO, the Drug Controller General of India (DCGI) regulates pharmaceutical and medical devices, under the gamut of Ministry of Health and Family Welfare.
- The DCGI is advised by the Drug Technical Advisory Board (DTAB) and the Drug Consultative Committee (DCC).
- It is divided into zonal offices which do pre-licensing and post-licensing inspections, post-market surveillance, and recalls when needed.

SUGAM Portal:

- SUGAM is an online licensing portal of CDSCO that was implemented on January 2016
- It was launched to file applications for various services like Application Submission, Processing and Grant of permission for quick delivery of services.
- SUGAM is an e-Governance system to discharge various functions performed by the CDSCO under the Drugs and Cosmetics Act, 1940.

3. RBI revises norms for concurrent audit in banks

Context:

Reserve Bank of India (RBI) has revised the guidelines on concurrent audit system.

Details:

- The guidelines have been revised following the recommendations by an expert committee under Y.H. Malegam.
- Reserve Bank of India (RBI) had constituted the expert committee to look into the entire gamut of issues relating to classification of bad loans, effectiveness of audits and rising incidents of frauds.
- According to the revised guidelines
    - The tenure of external concurrent auditors with a bank should not be more than five years on continuous basis.
    - Concurrent auditors will be appointed for a period of not more than three years with a branch/business unit.
    - The age limit for retired staff engaged as concurrent auditors has been capped at 70 years.
    - It has been mandated lenders should ensure that risk-sensitive areas identified by them are covered under the audit.
    - It must be ensured that all centralized processing centres (business origination and monitoring) are covered under concurrent audit.
    - It has been left to banks whether concurrent audit should be done by bank's own staff or external auditors.
    - The head of internal audit in the bank should participate in selection of concurrent auditors where such function is outsourced and should be responsible for the quality review of the work of the concurrent auditors reporting to her/him.
    - Banks should ensure if any partner of a chartered accountant firm is a director of the bank, no partner of the same firm should be appointed as concurrent auditor in the same bank.
    - The scope of work for concurrent auditors is left to the discretion of the head of internal audit of banks, with the due prior approval of the Audit Committee of the Board of Directors (ACB)/Local Management Committee ((LMC) in case of foreign banks) of the bank.
    - The concurrent audit at branches should cover at least 50 per cent of the advances and 50 per cent of deposits of a bank.
    - The risk profile of branches should be taken into account while selecting them for concurrent audit.
    - The branches with high risk are to be subjected to concurrent audit irrespective of their business size.
    - The new areas posing risk may be brought under the purview of concurrent audit.
- It is a step to tone up oversight of operations within banks, especially in branches.

What is concurrent auditing?

- Concurrent audit means doing the examination of the financial transactions at the time of happening or parallel with the transaction.
- It is part of a bank's early warning system to ensure timely detection of irregularities and lapses.
- Concurrent audit aims at shortening the interval between a transaction and its independent examination.
- It helps in preventing fraudulent transactions at branches.

D. GS4 Related

Nothing here for today!!!

E. Editorials

Category: POLITY & GOVERNANCE

1. Smoke of the vaper

Context:

- The Union Cabinet has approved a ban on all forms of electronic cigarettes including Electronic Nicotine Delivery System (ENDS), amid growing fears over the health risks posed by vaping.
- The ban has been approved following the recommendations of a Group of Ministers (GoM) headed by the Finance Minister.
- Once the ban comes into force, **consumption, production, manufacturing, import, export, transport, sale, distribution, storage and advertisement of e-cigarettes would become illegal and any violation would be treated as a cognizable offence punishable with imprisonment of up to one year, or fine up to ₹1 lakh, or both for the first offence; and imprisonment of up to three years and fine up to ₹5 lakh for a subsequent offence..**
- The ban has been brought in through an ordinance (Prohibition of Electronic Cigarettes Ordinance, 2019) and it has to be approved by the Parliament in its next session.
- According to the draft ordinance, the storage of e-cigarettes shall now be punishable with imprisonment of up to six months or a fine of up to ₹50,000 or both.
- Once the ordinance is issued, those holding e-cigarette stocks must declare them and deposit the stocks at the nearest police station.
- While a sub-inspector of police will be authorized to search and seize stocks, the central and state governments will be free to designate any other equivalent officer for the same.
- The government has said that the ban is aimed at protecting the youth, the section that is most vulnerable to the health hazards of e-cigarettes.
- Prior to this announcement, 15 states and one Union territory had already banned e-cigarettes. These include Punjab, Karnataka, Mizoram, Kerala, Jammu & Kashmir, Uttar Pradesh, Bihar, Maharashtra, Tamil Nadu, Jharkhand, Himachal Pradesh, Puducherry, Rajasthan, Meghalaya, Odisha and Nagaland.

What are E-cigarettes?

- E-cigarettes and ENDS are battery-operated devices and they do not burn tobacco, but use a heating element to vaporize liquid nicotine, which the user inhales/vapes.
- These are often marketed as products that are less harmful than cigarettes and which can help smokers quit their addiction.
- The main constituents of the solution, in addition to nicotine, are propylene glycol, with or without glycerol and flavouring agents.
- Studies have shown that vaping can be far more dangerous than smoking regular cigarettes and instead of aiding in de-addiction, it can actually become a gateway product for youngsters to get addicted to smoking.
- The World Health Organisation has flagged these concerns and it has stated that they can be as addictive as conventional cigarettes.
- WHO says, "It can have adverse effects during pregnancy and may contribute to cardiovascular disease."
- The Indian Council of Medical Research has also issued a white paper recommending a complete ban on e-cigarettes based on available scientific evidence.
- Although nicotine itself is not a carcinogen, it may function as a tumour promoter. Nicotine seems to be involved in fundamental aspects of the biology of malignant diseases, as well as of neuro-

degeneration.

- There are other compounds in the aerosol that are toxic and known to have deleterious effects, and might just be less harmful than cigarettes but not entirely harmless.
- Seven deaths have been recorded in the United States which is the world's largest consumer of e-cigarettes and recently, New York has even banned the sale of flavoured ecigarettes.

Editorial Analysis:

- The Centre's move to ban these products shows a welcome intolerance of anything that impacts negatively on the health and wellness of the people of the country.
- There is enough evidence available to prove the harmful effects of nicotine addiction and how vaping, which is marketed as a cool, fun, activity, lures youngsters, and ironically, pushes them to take up smoking.
- According to the WHO's Framework Convention on Tobacco Control (FCTC), these devices can be considered to be successful in promoting de-addiction only if smokers have moved on to an alternative nicotine source, and then stopped using that too.
- It should also push the entry of minors into nicotine dependency, eventually to zero.
- The FCTC also reports that ecigarettes are actually harmful, and in the long run its usage is expected to increase the risk of chronic obstructive pulmonary disease, lung cancer, and possibly cardiovascular disease and other diseases associated with smoking.
- Considering the exponential increase in the import of e-cigarettes and its accessories, it is justified for the government to act on it by bringing in stringent measures.
- The government appears to have the right intentions in mind but if it has to succeed in its efforts then it must enforce the ban in letter and spirit.
- The poor execution of the Cigarettes and Other Tobacco Products Act should serve as a reminder in this regard.
- So the ban can be effective only if there is rigorous implementation.

2. Over the hills and far, far away

Context:

- In July 2019, 11 Himalayan States of India met in Dehradun and they demanded the Centre to provide them a "green bonus", or a payment for environmental services they provide to the nation.
- The respective Chief Ministers argued that the Himalayan States which stretch from Jammu and Kashmir to Tripura paid a developmental price for ecological maintenance of forests, rivers, and other environmental goods which serves the rest of the country.
- The ruling BJP had made a commitment in its election manifesto to provide a financial package to the Himalayan States in order to address their special developmental needs.
- The States had asked for Centre's help to sustainably exploit their hydropower potential, subsidies for their environmental protection measures which doesn't allow them to implement regular models of 'growth & development', and recognition for their efforts to meet the parameters of human development.
- They had even demanded a separate Union ministry to deal with problems that are endemic to these states.

Unique needs of Himalayan States

- The recent political turmoil in J&K is an indicator of the problem that India has historically had with the Himalayan states: its inability to come to terms with the specificity of the Himalayan region, whether political, social, or ecologicaleconomic.
- One problem, in particular, is the problem of integrating the northern hilly regions into the national mainstream.

- This 'integration problem' is not just a phenomenon in South Asia. Even China is struggling to integrate its mountain people and their homelands with its national mainstream, as are Myanmar, Thailand, and other countries.
- On the other hand, scholars have always argued that the mountain zone of South-East Asia (and South Asia) have deliberately kept itself independent of the plains.
- In the case of India, scholars have pointed out how the Himalayan regions are structurally different from the Indian mainstream in terms of their social and economic structure.
- Despite the availability of this research, it has not really led to political understanding of the unique needs of the hilly areas, whether at the level of policy formulation or popular conceptions.

Legacy of the colonial era

- Most Himalayan regions were introduced to the concept of a 'nation-state' under British rule. This was also the first time that a 'nation-state' which was anchored in the society and political-economy of the plains, was able to reach so deep into the Himalayas and control them in a way which was historically unprecedented.
- The main objective of the British was to cultivate the Himalayas as a buffer and they successfully provided a barrier to Russian colonial expansion but were unsuccessful in opening a trade route into China.
- By the end of the 19th century, the desired objective of the British was to keep the mountains politically silent and socially stable. The setting up of these areas as 'hill stations' and the warlike strategies towards the northern tribesmen were both creations of this policy.
- The postcolonial nation-states of South Asia, be it India, Pakistan, China or Myanmar, have not been able to break out of this complex relationship with their mountain regions.
- These independent nation-states have all inherited the geopolitical stakes of their colonial predecessors.
- So as result the hill areas have not received the same attention and care as compared to the riverine plains.
- This mindset has not only left a socialpsychological impact but also has direct practical consequences as policies and programmes are devised with the 'national norm' in mind, which almost always have unintended consequences on the hilly regions.

Resources as commodities

- In India, the massive expansion of the national economy since the economic reforms were introduced has allowed for the commodification of mountain resources (forests, water, labour, tourism, horticulture and even agriculture) in ways that are unprecedented.
- This has completely changed the class structure and led to the emergence of a new middle class with national aspirations that finds the geographical uniqueness of the Himalayas as a hindrance to development.
- This has given rise to a perception that the Himalayan states are merely a provider of main commodities to the nation-state and a buffer against geo-political threats.
- Hence, the region has witnessed a number of secessionist movements in J&K and Nagaland, it has also led to active integrationist movements in Himachal Pradesh, Arunachal Pradesh and Manipur.
- So the question is, how do these regions and people arrive at a fair deal and become a part of the national imagination of the Indian nation-state?

Category: ECONOMY

1. Maths helped Einstein; it can help the economy too

Context:

- Prime Minister Modi has laid down an ambitious objective of transforming India into a $5 trillion dollar economy by 2025.
- However, the Indian economy has run into deep problems under his government and there are decades-old structural flaws that are yet to be addressed and resolved.
- Despite this, the government appears to be ignoring the fundamentals of sustaining economic growth.
- So can our policymakers plan to make India a $5 trillion economy in five years without worrying about the basic mathematics of economic growth?

Maths and Einstein:

- Recently, Union Minister Piyush Goyal triggered a controversy by invoking Albert Einstein's discovery of relativity (which he mistook for gravity) as a successful example for achieving seemingly unattainable goals through "outofthebox" thinking.
- Two obvious questions arise. First, did Einstein indeed explain relativity without any inputs from mathematics? And, second, can economic growth models be devoid of mathematics?
- Be it Einstein's general theory of relativity or Isaac Newton's universal law of gravitation, both were made possible due to the application of precise mathematical calculations.
- For example, the theoretical calculation of Mercury's orbit turned out to have a small disagreement with the actual observations of Mercury's motion. Einstein's theory not only predicted its orbit accurately, but also predicted a number of interesting phenomena which had not been anticipated earlier.

A theory of 'space-time'

- Einstein's description of gravity was radically different from that of Newton. Newton assumed the existence of an absolute space and universal time. According to Einstein, space and time are part of a single entity called 'space-time'.
- Einstein said that the perception of space and time is subjective to the observer and that gravity is the manifestation of curved space-time. Any massive object would curve the space-time around it.
- It is hard to imagine a curved space-time, an entity that spans across four dimensions — three spatial dimensions (x, y and z axes) and time.
- It is impossible to directly observe the curvature of the spacetime since we don't have access to a fifth dimension.
- However, it is possible to infer the curvature of a space without accessing extra dimensions. This can be done by relying upon the principles of Euclidean geometry.
- Einstein himself was not well-versed in the geometry of curved spaces. Here, Einstein turned to his friend, mathematician Marcel Grossmann, to master the necessary techniques and tools.
- Armed with these tools, and driven by some unique physical insights which are marks of a genius, Einstein was able to construct an elegant mathematical theory of spacetime.
- Einstein and many others were able to extract specific observable consequences of the curved nature of spacetime by mathematically solving the equations.
- Even though spacetime itself is not directly observable, all of these observable predictions were verified by a variety of astronomical observations and laboratory tests.

Is math useful?

- Not all areas of sciences are able to construct theories or models that have the level of mathematical rigour that theories of physics enjoy.
- This is due to the highly complex nature of the phenomena they seek to describe.
- However, economics is probably one notable exception, where models and techniques employing

higher mathematics have proven to be highly fruitful.

- Ideally, planning and policy should be largely informed by quantitative reasoning, including the purported goal of doubling the size of the Indian economy in five years.
- Wishful thinking and ideological propaganda are poor substitutes to quantitative reasoning.

F. Tidbits

1. In liquidity push, PSBs plan 'loan melas' in 400 districts

- Finance Minister Nirmala Sitharaman has announced that all scheduled banks will hold large gatherings in a total of 400 districts.
- The customers can visit and take any type of loan they want from the banks and the NBFCs partnering with them.
- The Melas have been organised to dispel the notion that only the banks have liquidity and it is not flowing to the NBFCs and the customers.
- The programme is meant to encourage customers to avail of not just retail, agriculture, and MSME loans, but also loans for vehicles and housing, and Mudra loans.
- The Finance Ministry said that the banks had already entered into 14 tie-ups with NBFCs for co-originating loans.
- Banks have been instructed that no MSME-stressed loan will be classified as an NPA until March 31, 2020 and the banks will have work with these MSMEs to see how to resolve the stress.

2. UNICEF warns of emerging threats that young people face

- UNICEF's Executive Director, in an open letter marking 30 years since the adoption of the Convention on the Rights of the Child has highlighted major growing and future challenges facing children.
- The letter cautions that the following are some of the most concerning emerging global threats to children:
  o Protracted conflicts
  o Worsening climate crisis
  o A rising level of mental illness among young people
  o Online misinformation
- The letter outlines eight growing challenges for the world's children including prolonged conflicts, pollution and the climate crisis, a decline in mental health, mass migration and population movements, statelessness and online misinformation.
- The letter also expresses concern that the majority of children will grow up as natives of a digital environment saturated with online misinformation.
- It expresses concern that the majority of children will grow up as natives of a digital environment saturated with online misinformation.

G. Prelims Facts

1. River Yangtze Kiang

- River Yangtze Kiang is one of the most important rivers of Asia that drains into the East China Sea.
- It is the longest river in Asia, the third-longest in the world.
- It is the longest in the world to flow entirely within one country.
- World's largest 3-gorges Xiling Gorge, Wu Gorge, Qutang Goge dam on it.

2. Light Combat Aircraft (LCA) Tejas

- The Light Combat Aircraft Tejas is an indigenous lightweight; multi-role supersonic aircraft developed in both fighter and trainer versions.
- The Tejas is designed to carry a plethora of air-to-air, air-to-surface, precision-guided and standoff weaponry.
- The Light Combat Aircraft (LCA) programme began in the 1980s to replace India's ageing MiG-21 fighters.
- In 2003, the LCA was officially named "Tejas".
- The Tejas is an Indian single-engine, delta wing, multirole light fighter designed by the Aeronautical Development Agency (ADA) and Hindustan Aeronautics Limited (HAL) for the Indian Air Force and Indian Navy.

3. Astra missile

- India has successfully flight-tested the indigenously developed air-to-air missile Astra.
- It is the first air-to-air missile developed by India.
- The state-of-the-art missile was launched from Sukhoi-30 MKI.
- The missile is designed by the Defence Research and Development Organisation (DRDO).
- The Astra missile is a beyond visual range missile of both short-range targets (up to 20 km) and long-range targets (up to 80 km) using alternative propulsion modes.
- It is capable of engaging different targets at different altitudes.
- The missile has a strike range of 70km and a 15-kg high-explosive pre-fragmented warhead.

H. Practice Questions for UPSC Prelims Exam

Q1. Consider the following statements with respect to Ayushman Bharat-PM Jan Arogya Yojana:

1. The scheme provides a defined benefit cover of Rs. 5 lakh per individual per year.
2. Pre and post-hospitalisation expenses are not covered under the scheme.
3. Beneficiary will be allowed to take cashless benefits from any public or private empanelled hospitals across India.

Which of the given statement/s is/are NOT correct?

a. 1 only
b. 1 and 2 only
c. 3 only
d. 2 and 3 only

Answer: b

Explanation:

AB-PMJAY provides a defined benefit cover of Rs. 5 lakh per family per year. To ensure that nobody is left out (especially women, children and elderly) there will be no cap on family size and age in the scheme. The benefit cover will also include pre and post-hospitalisation expenses. A defined transport allowance per hospitalization will also be paid to the beneficiary. Benefits of the scheme are portable across the country and a beneficiary covered under the scheme will be allowed to take cashless benefits from any public/private empanelled hospitals across the country.

Q2. Consider the following statements with respect to "Astra Missile":

1. It is a beyond visual range missile.

2. It is the first air-to-air missile developed by India.
3. It has a strike range of 700 km.

Which of the given statement/s is/are correct?

a. 1 only
b. 1 and 2 only
c. 1 and 3 only
d. 1, 2 and 3

Answer: b

Explanation:

India has successfully flight-tested the indigenously developed air-to-air missile Astra. It is the first air-to-air missile developed by India. The state-of-the-art missile was launched from Sukhoi-30 MKI. The missile is designed by the Defence Research and Development Organisation (DRDO). The Astra missile is a beyond visual range missile of both short-range targets (up to 20 km) and long-range targets (up to 80 km) using alternative propulsion modes. Astra missile has a strike range of 70km.

Q3. Which of the following is/are the objectives of Janani Suraksha Yojana (JSY):

1. Reducing Maternal Mortality
2. Reducing Infant Mortality
3. Promoting Institutional delivery among pregnant women

Choose the correct option:

a. 1 and 3 only
b. 1 and 2 only
c. 3 only
d. 1, 2 and 3

Answer: d

Explanation:

Janani Suraksha Yojana (JSY) is an intervention under the National Health Mission. It is a Centrally sponsored scheme. It was launched with the objective of reducing maternal and infant mortality by promoting institutional delivery among pregnant women. Under the JSY, eligible pregnant women are entitled for cash assistance irrespective of the age of mother and number of children for giving birth in a government or accredited private health facility.

Q4. Consider the following statements with respect to LCA Tejas:

1. LCA Tejas is an indigenous multirole combat aircraft.
2. It can carry air-to-air, air-to-surface, precision-guided and standoff weaponry.

Which of the given statement/s is/are correct?

a. 1 only
b. 2 only
c. Both 1 and 2

d. Neither 1 nor 2

Answer: c

Explanation:

The HAL Tejas is an Indian single-engine, delta wing, multirole light fighter designed by the Aeronautical Development Agency (ADA) and Hindustan Aeronautics Limited (HAL) for the Indian Air Force and Indian Navy. It came from the Light Combat Aircraft (LCA) programme, which began in the 1980s to replace India's ageing MiG-21 fighters. In 2003, the LCA was officially named "Tejas". It can carry air-to-air, air-to-surface, precision-guided and standoff weaponry. A multirole combat aircraft (MRCA) is a combat aircraft intended to perform different roles in combat.

I. UPSC Mains Practice Questions

1. In this increasingly digital age, where the government is on a mission to move towards a cashless economy and promote e-governance and digitisation, access to Internet is absolutely essential. However, declaring access to the Internet as a citizen's right is not a defensible proposition. Critically comment. (15 Marks, 250 Words)
2. Write a note on 'office of profit'. What is the underlying principle for including 'office of profit' as criterion for disqualification? (15 marks, 250 Words)