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THE HINDU

GS 2 : Polity, Governance, International Relations

1. India, Russia set to ink AK-203 rifle deal worth 5,000 crore

- The Cabinet Committee on Security (CCS) has given its final approval for a deal with Russia to manufacture AK-203 assault rifles in India.

Significance of the Deal for India:

- The defence agreement with Russia will significantly increase India's defence industrial self-sufficiency.
- The AK-203 rifles will replace the INSAS rifles that have been in use for almost three decades, resulting in increased efficiency.
- They will improve the Indian Army's operational efficacy in counter-insurgency and counter-terrorism operations.

Determinants of India-Russia Relations in light of Russian President's Visit in India: -

1. **Criticism of QUAD** : Russia criticizes India's Quad effort with the United States, Australia, and Japan, as well as the concept of the "Indo-Pacific."
2. **Concerns over "Indo-Pacific"**:
 - a. The "Asia-Pacific" was seen by Russia as more "inclusive" than the "Indo-Pacific," while the "Indo-Pacific" was seen as an unequal partnership.
 - b. India, on the other hand, sees both the Asia-Pacific and the Indo-Pacific frameworks as being intended for "issue-based cooperation."
3. **CAATSA Sanctions**:
 - a. Despite the fact that the delivery of S-400 missile defence systems has raised India's prospects of being sanctioned under CAATSA (Countering America's Adversaries Through Sanctions Act), the country has maintained that its defence procurement strategy is governed by "strategic autonomy."

2. Sri Lanka's Malaiyaha Tamils in dire Straits: expert

A UN expert said that Sri Lanka's Malaiyaha Tamil workers are living in "inhumane and degrading" conditions.

Background:

- 200 years ago, Malaiyaha Tamils were recruited from India to work in the plantation industry of Srilanka.
- The visiting UN official criticized the community's continued discrimination based on caste, which prevents them from acquiring land rights.

Modern Slavery

- The extreme exploitation of others for personal or economic gain is known as modern slavery.
- Making clothing, serving our meals, picking crops, labouring in factories, or working as chefs, cleaners, or nannies may all lead to enslavement.
- Traditional slavery, forced labour, debt bondage, serfdom, minors working in slavery or slavery-like conditions, domestic servitude, sexual enslavement, and servile forms of marriage are all included by the mandate on contemporary forms of slavery.

Issues Flagged by UN Experts: -

1. **Neglected for long:** - They are subjected to a variety of types of discrimination depending on their ethnicity. The labourers live in colonial-era line rooms with insufficient sanitation, where up to ten individuals share a 10×12 area.
 2. **Human Rights Issue:** Throughout Sri Lanka's civil war and beyond, UN organisations have frequently raised human rights concerns. The suffering of the Malaiyaha Tamil population, which has been traditionally marginalised and neglected, has received little international attention.
- **Debt burden on Rural Women:** The UN expert also discussed the impact of predatory microfinance loans on rural women in Sri Lanka, including the forced labour of children to help families repay debt acquired owing to exorbitant interest rates. Many women become debt slaves as a result of the high interest rates on their loans.

Conclusion:

- The focus on abolishing modern forms of slavery must be re-energized and mainstreamed into state policies on the abolition of ethnic discrimination. Intersectional analysis based on ethnic or indigenous groups should be made essential as part of the victim identification process, ensuring that structural variables that govern current forms of slavery are taken into account.

3. When can an individual get statutory bail?

The National Investigative Agency (NIA) has moved the Supreme Court challenging the Bombay High Court's order granting bail to lawyer-activists.

Background:

- The National Investigation Agency (NIA) has petitioned the Supreme Court to overturn a Bombay High Court ruling awarding Sudha Bharadwaj bail.
- The court has ordered the NIA Court to determine on the conditions of her release in its bail order.
- In the same instance, she was allowed 'default bail,' while eight others were refused the benefit.
- Even though statutory bail is typically regarded "an indefeasible right," the case underscores the complexities inherent in a court evaluating the conditions in which it is granted or rejected.

What is Statutory bail?

- Default bail, also known as statutory bail, is a right to bail that emerges when police fail to complete an investigation into a person in court custody within a certain time limit.
- When the police are unable to finish an investigation within 24 hours, they must present the suspect in court and seek orders for either police or judicial detention, according to Section 167(2) of the Code of Criminal Procedure.
- This clause refers to the total amount of time a person can be held in custody before a charge sheet is filed.
- The police have 60 days to finish their investigation and file a final report with the court for most offences.
- The period allowed is 90 days if the offence carries a death sentence, life imprisonment, or a sentence of at least 10 years in prison.
- A magistrate cannot extend a person's judicial remand beyond the 60- or 90-day limit.
- If the investigation is not completed at the end of this time, the court will release the person "if he is willing to and does supply bail."

Right To Seek Default Bail As A Fundamental Right:-

- The Supreme Court has clarified that the right to seek default bail under Section 167(2) of the Criminal Procedure Code stems from Article 21 of the Constitution.

- It is a basic right, not only a legislative right.
- It has been determined that it is an inalienable component of the right to personal liberty protected by Article 21 of the Constitution.

How does the provision vary for special laws?

- Only ordinary criminal law applies to the 60- or 90-day term.
- Special enactments give the police more leeway in closing up the investigation. The duration is 180 days under the Narcotic Drugs and Psychotropic Substances Act.
- The default limit under the Unlawful Activities (Prevention) Act is 90 days.
- These rules demonstrate that a time extension is not automatic and needs a court authorization.
- Regardless of the nature of the offence, default or statutory bail is a legal option.
- The charge sheet must be prepared within a certain amount of time after the accused is remanded for the first time.

Conclusion:

- The right to statutory bail must be invoked by the individual in detention, which is a condition for its grant.
- There is no automatic bail if the charge sheet is not filed within the time limit and there is no application for bail under Section 167(2) of CrPc.
- The right to bail in the event of an investigative agency's failure is often regarded as an "indefeasible right," although it should be used at the proper time.

GS 3 : Economy, Science and Technology, Environment

4. An innovation that can better protect power grids

- Researchers from IIT Kanpur have come up with an innovation that can help protect power grids against sudden current surges.

Superconducting Fault Current Limiter (SFCL):

- SFCL makes use of a superconductor, which permits current to flow without dissipation under normal conditions since it has zero resistance to current flow in the superconducting state.

- It protects the grid from huge current surges and the resulting fires.
- It may also predict when current surges will occur and alert the system.

5. Programme launched to upskill street food vendors

Minister of State for Skill Development and Entrepreneurship (MSDE) has launched a pilot programme to upskill street vendors of East Delhi.

- **Aim-**
 - To upskill **2,500 vendors that aged between 23 to 55 years.**
 - To make them eligible for e-cart licenses.
- **Implemented by:** Tourism and Hospitality Sector Skill Council (THSSC) and training partners of National Skill Development Corporation (NSDC).
- **Implemented under-** Recognition of Prior Learning (RPL)
 - It is a component of **Pradhan Mantri Kaushal Vikas Yojana (PMKVY) 3.0.**
- **Objective-**
 - To provide relevant skills to the Street Food Vendors leading towards **better services to consumers.**
 - To **provide more opportunities** to vendors for revenue generation.
 - To **spread awareness** on regulations and stipulated rules in return providing better services to the local bodies.
 - To **improve the hygiene conditions** in food preparation and aesthetics of vending.

Features-

- The Street Food Vendors will be educated on health and safety standards under COVID-19 protocols.
- New-age skills such as **digital literacy, financial literacy, digital payments and e-selling.**
- The vendors will be supported with loans **under the Mudra Scheme.**
- The scheme will provide social security and safety to **4,000 vendors of East Delhi and 25 lakh street vendors nationally.**

Significance of the programme-

- will **increase productivity and enhance the livelihood** of Street Vendors.
- will provide **cost for training, certification, and assessment.**
- will grant **Rs. 500/- incentive for 3 years.**

Key Facts-

- The contribution of **street vendors to the informal economy is 14%**.
- **Earlier, PM SVANidhi scheme** was launched by the Central Government.
 - **Objective-** to help street vendors access affordable working capital loans post COVID-19 lockdown.

Skill India Scheme:

- It is **flagship skill development scheme** launched by the government,
- **Launched-** 2015
- **Ministry-** Ministry of Skill Development and Entrepreneurship
- **Managed by-** National Skills Development Corporation of India.
- **Objectives-**
 - To offer market-relevant skills training to almost **40 Crore youth by the year 2022**.
 - To improve the **overall scope and space** for underdeveloped sectors.

Features of Skill India Mission:

- The **creation of a new hallmark'** rural India scheme.
- The focus is on **improving the employability level** of the youth.
- The mission **offers support, training, and guidance** for all traditional types of employment.
- Skill India Mission **emphasis on sectors** where skills are not on adequate level.
- It **enhances the international standards**.

Sub Schemes under Skill India Mission:

- Pradhan Mantri Kaushal Vikas Yojana
- Skill Loan Scheme
- Pradhan Mantri Yuva Udyamita Vikas Abhiyan (PM-YUVA).
- Skills Acquisition and Knowledge Awareness for Livelihood Promotion (SANKALP)
- UDAAN
- The National Skill Development Mission.
- Standard Training Assessment and Reward Scheme (STAR)

National Skill Development Corporation:

- It is a **not-for-profit public limited company**.
- **Founded-** 2008
- It was established under the **section 25 of the Companies Act, 1956**.

- **Aim-** to promote skill development by catalysing creation of large, quality and for-profit vocational institutions.

Objectives-

- To upgrade skills to **international standards**.
- To develop **necessary frameworks for standards**, curriculum and quality assurance.
- To enhance **support and coordinate private sector** initiatives for skill development.
- To play the role of a "**market-maker**" by providing funding.
- To **foster private sector initiatives** in skill development programmes.
- To train **150 million people by 2022**.

Role of NSDC:

- **Funding:**
 - To provide **financing either as loans or equity**.
 - To provide grants and to improve financial viability through tax breaks, etc.
- **Enabling support services:**
 - To set up **standards and accreditation systems** in partnership with industry associations.
- **Shaping/creating:**
 - To **provide momentum** for large-scale participation by private players in skill development.
 - To develop ultra-low-cost, high-quality, innovative **business models**.

6. Report on base revision of Wage Rate Index (WRI)

The Labour Bureau, under the Union ministry of labour and employment, has decided to make some changes in the Wage Rate Index.

- The index will be **compiled twice a year**, on the first of January and July every year on a **point-to-point basis**.

Key Changes:

- The **base year** of India's wage rate index (WRI) revised to **2016 from 1963-65**.

- **Aim:** To cover **700 occupations** and makes the index **more representative**, expanding the number of industries, sample size and the weightage of industries.
- The previous series covered 21 industries, whereas the **new one covers 37 industries**.
 - It includes **30 industries** from the **manufacturing sector** and **4** from the **mining** and **3** from **plantation sectors**.
 - The top five industries are motor vehicles (11.49%), coal mines (9.53%), textile garments (9.32%), Iron & steel (9.30%) and cotton textiles (6.55%) which together accounted for 46% of the total weight.
- Sector-level weights in the new series have been changed, with **manufacturing's weightage raised substantially**.
 - **Manufacturing**, mining and plantation sectors have weights of **82.57%**, **11.23%** and **6.20%** respectively as compared to weights of **48.78%**, **17.01%** and **34.21%** in the old series.
- **Mica mines** industry has been **replaced with the oil mining** industry, under mining sector.

Updated WRI for 2020:

- The all-India wage rate index stood at **119.7** in the second half of 2020, showing an increment of 1.6% as against the first half of 2020.
- The **highest WRI** of 131.4 was in the **drugs & medicines industry**, followed by the sugar industry with a WRI of 129.8.
- **Among sectors**, the **highest WRI** was recorded for the **plantation sector** at 126.5.

Significance of the change:

- The changes will play a key role in **determining minimum wages** and **national floor wage policy**.
 - Minimum Wages in India remained unchanged at **178 INR/Day in 2021** from 178 INR/Day in 2020.
- It provides useful tips to employers in **deciding** on the appropriate **human resource strategy**.
- **Managements** can use the data to finalize corporate strategies by comprehending the likely expenditure on employee compensation, consequent per unit cost, marketing strategy, and assess viability of the business.

THE INDIAN EXPRESS

GS 2 : Polity, Governance, International Relations

1. MGNREGA seeks 25,000 crore more

In News: The Centre has sought 25,000 crore as additional funding for the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) scheme as part of the supplementary demand for grants submitted to Parliament.

- The additional budget for MGNREGA was needed because **pending payments** for wages and materials have threatened to cripple implementation of the scheme.

Rural distress & increased demand for MGNREGA

- Continuing economic distress in rural India has led to increased demand for jobs under the scheme, which promises 100 days of unskilled work for every household at a pay of about ₹210 per day.
- With four months remaining in the financial year, MGNREGA has finished spending the ₹73,000 crore initially allocated in the budget, and its financial statement now shows a negative net balance of ₹10,244 crore, including payments due.
- Last year, with the COVID-19 pandemic forcing lockdowns and widespread unemployment, MGNREGA, with a revised budget of ₹1.1 lakh crore, acted as a lifeline for the rural economy.
- This year, the Centre seeks to transfer ₹25,000 crore to the National Employment Guarantee Fund, and the supplementary demand for grants entails an additional cash out-go of almost ₹22,039 crore for the scheme.

2. Global Hunger Index 2021

What is the Global Hunger Index?

- The GHI is an annual peer-reviewed publication by Concern Worldwide and Welthungerhilfe.
- It aims to track hunger at global, regional and national levels.

- It uses four parameters to calculate its scores –
 - Undernourishment
 - child wasting
 - child stunting and
 - Child mortality
- Information from the World Health Organization, the World Bank and the United Nations are taken to calculate these parameters.
- All these international organisations draw from national data, which, in India's case, includes the National Family Health Surveys (NFHS).

Global Hunger Index (GHI) does not reflect India's true picture as it is a flawed measure of 'Hunger'.

It should not be taken at face value as it is neither appropriate nor representative of hunger prevalent in a country. Out of its four indicators, only one indicator, i.e., undernourishment, is directly related to hunger.

- The two indicators, namely, Stunting and Wasting are outcomes of complex interactions of various other factors like sanitation, genetics, environment and utilisation of food intake apart from hunger which is taken as the causative/outcome factor for stunting and wasting in the GHI.
- Also, there is hardly any evidence that the fourth indicator, namely, child mortality is an outcome of hunger.

In News: Two years ago PepsiCo India had sued nine Gujarati farmers for allegedly infringing patent rights by growing its registered potato variety.

- However, now the company's registration of the variety has been revoked by the Protection of Plant Varieties and Farmers Rights' Authority (PPV&FRA).
- The PPV&FRA questioned the documentation produced by PepsiCo claiming it was the owner of the variety, and thus could be considered the Registered Breeder under the law.

Brief Background of the issue

- The FL-2027 variety of potatoes, used in Lays potato chips, was grown by about 12,000 farmers with whom the **company had an exclusive contract** to sell seeds and buy back their produce.
- In 2016, **the company registered the variety under the PPV&FR Act, 2001.**
- Alleging that farmers who were **not part of its** "collaborative farming programme" were also growing and selling this variety in Gujarat, **PepsiCo had filed rights infringement cases** against nine farmers.

- The Frequently Asked Questions or FAQ document had claimed that “**only small and marginal farmers involved in subsistence farming**” are eligible to claim rights under the Protection of Plant Varieties and Farmers Rights (PPV&FR) Act, 2001. The FAQ also said these rights are not for “commercial farmers” and are only meant for “small scale” use.
- Pepsico cited the FAQ document to justify dragging more than nine farmers to court in 2018 for growing and selling its registered variety without its consent.
- The company faced product boycotts and major protests across the political spectrum for slapping a 4.2 crore lawsuit against four farmers, and ultimately withdrew all cases after government intervention just before Lok Sabha elections in May 2019.

The Protection of Plant Varieties and Farmers’ Rights (PPV&FR) Act, 2001:

- Enacted by India in 2001 adopting sui generis system.
- It is in conformity with International Union for the Protection of New Varieties of Plants (UPOV), 1978.
- The legislation recognizes the contributions of both commercial plant breeders and farmers in plant breeding activity and also provides to implement TRIPs in a way that supports the specific socio-economic interests of all the stakeholders including private, public sectors and research institutions, as well as resource-constrained farmers.

Objectives of the PPV & FR Act, 2001:

- To establish an effective system for the protection of plant varieties, the rights of farmers and plant breeders and to encourage the development of new varieties of plants.
- To recognize and protect the rights of farmers in respect of their contributions made at any time in conserving, improving and making available plant genetic resources for the development of new plant varieties.
- To accelerate agricultural development in the country, protect plant breeders’ rights; stimulate investment for research and development both in public & private sector for the development new of plant varieties.
- Facilitate the growth of seed industry in the country which will ensure the availability of high-quality seeds and planting material to the farmers.

Rights under the Act:

- **Breeders’ Rights:** Breeders will have exclusive rights to produce, sell, market, distribute, import or export the protected variety. Breeder can appoint agent/ licensee and may exercise for civil remedy in case of infringement of rights.

- **Researchers' Rights:** Researcher can use any of the registered variety under the Act for conducting experiment or research. This includes the use of a variety as an initial source of variety for the purpose of developing another variety but repeated use needs prior permission of the registered breeder.
- **Farmers' Rights:**
 - A farmer who has evolved or developed a new variety is entitled for registration and protection in like manner as a breeder of a variety;
 - Farmers variety can also be registered as an extant variety;
 - A farmer can save, use, sow, re-sow, exchange, share or sell his farm produce including seed of a variety protected under the PPV&FR Act, 2001 provided farmer shall not be entitled to sell branded seed of a variety protected under the PPV&FR Act, 2001;
 - Farmers are eligible for recognition and rewards for the conservation of Plant Genetic Resources of land races and wild relatives of economic plants;
 - There is also a **provision for compensation** to the farmers for non-performance of variety under Section 39 (2) of the Act, 2001 and
 - Farmer shall **not be liable to pay any fee in any proceeding** before the Authority or Registrar or the Tribunal or the High Court under the Act.

3. How HC spelt out limitations of sessions court

Recently, Bombay High Court hearing a bail application affirmed that the detention under the Unlawful Activities Prevention Act (UAPA) was extended by a sessions court that had no power to do so.

Key highlights:

- The court cited a previous case that held that a sessions court is incompetent to extend the detention, helped in granting bail to the accused.
 - A **special court designated under the National Investigation Agency (NIA) Act, had no jurisdiction to extend the detention beyond the stipulated 90 days.**

What is default bail?

- **Default or normal bail is given to an accused when the agency authorised in the investigation fails to comply with the deadlines set by the Criminal Procedure Code.**
 - Under Section 167 in the CrPC, 1973, **the maximum period of detention is 90 days** for the highest class of offences – those

punishable with death, imprisonment for life, or a term not less than 10 years.

- But a maximum detention of **180 days** is allowed for those accused of offences under UAPA, as a court can extend custody beyond the CrPC limits.

Sessions Court:

- In India, **sessions court has been established by the state government** for every session division.
 - There is **only one Sessions Court** in each division at different places.
 - It is presided over by a **Sessions Court judge**.
 - The judge is **appointed by the High Court** of the state.
- **District court is referred to as sessions court when it exercises its jurisdiction on criminal matters under Code of Criminal procedure (CrPc).**
 - The court is **responsible for cases relating to murders, theft, dacoity, pick-pocketing and other such cases.**
- **Sections 225 to 237** of The Code of Criminal Procedure deal with the procedure in trials before a Court of Sessions.

Functions of a Sessions court:

- To **discharge the accused** if sufficient grounds are not established under Section 277.
- **To Frame charges** if there is adequate ground for presuming that the said accused committed an offence that is exclusively triable by the sessions court as per section 228 (1)(b)).
- **To Read out the charge**, explain its meaning to the accused and record the accused's plea at the Sessions Court.

The Sessions Court judge can:

- **Give death sentence as per section 366 CrPC.**
- **Opt to transfer the case to the Chief Judicial Magistrate (CJM)** as per section 228 (1)(a).
 - If the Sessions Court judge feels that the offence that has been made out against the said accused is not exclusively to be tried in the Sessions Court.
- **Convict a person if the accused pleads guilty.**
- **Compel the attendance of witnesses** if the prosecution applies for it as part of the hearing of evidence.

4. Review school texts to include Vedas: Parliamentary panel

A parliamentary committee had made several recommendations on how history should be taught in Indian schools in a revamped curriculum.

Objectives of the recommendations:

- To give more **balanced and judicious perception** of the Indian freedom struggle.
- To give **due and proper space to the freedom fighters** hitherto unknown and oblivious in the freedom movement.
- To ensure that books are **free of biases**.

Recommendations of the panel:

Language:

- All NCERT textbooks should be **published in all Eighth Schedule languages**, with further translations into local languages not included in the official list.
 - This will enable all children to access resources in their own mother tongues.

Learning Friendly:

- It also offered suggestions for more **child-friendly textbooks** with additional audio-visual and interactive content, as well as the development of more **digital learning resources**.

Free of Bias:

- Gave emphasis on the need to make the books **gender-inclusive**.
 - The curriculum should include sections on contributions by leading women figures such as Kalpana Chawla, Kamladevi Chattopadhyay, Kittur Chennamma, M S Subbulakshmi and Savitribai Phule among others.

Back to the roots:

- **Educational methodologies** adopted in the ancient Universities like Nalanda, Vikramashila and Takshila **should be studied** and suitably modified to serve as a model reference for teachers.

- The syllabus should incorporate the **ancient wisdom, knowledge and teachings** about life and society from **Vedas** and other great Indian texts/books in the school curriculum.

Inclusive History:

- It should present an **overhaul of history-writing guidelines** to give **equal weightage** to various eras like Vikramaditya, Cholas, Chalukyas, Vijayanagar, Gondwana, Ahoms of the Northeast and Additions from Sikh and Maratha history.

GS 3 : Economy, Science and Technology, Environment

5. Centre's Air Quality Commission

In News: The Supreme Court approved the measures taken by the Centre's Air Quality Commission to create an 'Enforcement Task Force' and flying squads to prevent and penalise polluters in Delhi NCR.

- The task force was formed on December 2. The task force has two independent members. It will meet at 6 p.m. everyday. The task force will take **action on behalf of the commission against violators**.
- Also, 17 flying squads (which will increase to 40) to conduct surprise check was formed that would directly report to the task force.

About Centre's Air Quality Commission

- The Commission for Air Quality Management in the National Capital Region (NCR) and Adjoining Areas act, 2021 established the said commission.
- The objective of the commission is for better coordination, research, identification, and resolution of problems related to air quality in the NCR and adjoining areas.
- Adjoining areas have been defined as areas of Haryana, Punjab, Rajasthan, and Uttar Pradesh adjoining the NCR where any source of pollution may cause adverse impact on air quality in the NCR.
- It also dissolves the **Environment Pollution Prevention and Control Authority** established in the NCR in 1998.

Functions of the Commission:

- Co-ordinating actions by concerned state governments (Delhi, Haryana, Punjab, Rajasthan, and Uttar Pradesh)
- Planning and executing plans to prevent and control air pollution in the NCR
- Providing a framework for identification of air pollutants
- Conducting research and development through networking with technical institutions
- Training and creating a special workforce to deal with issues related to air pollution
- Preparing various action plans such as increasing plantation and addressing stubble burning.

Powers of the Commission:

- Restricting activities influencing air quality
- Investigating and conducting research related to environmental pollution impacting air quality
- Preparing codes and guidelines to prevent and control air pollution
- Issuing directions on matters including inspections, or regulation which will be binding on the concerned person or authority.
- It may impose and collect environment compensation from farmers causing pollution by stubble burning. This compensation will be prescribed by the central government.

6. S-400 Triumph Missile System

In News: A contract has been signed for delivery of S-400 system from Russia.

- The S-400 Missile is a potent system in terms of its operational capability to provide continuous and effective air defence system to a very large area.
- With the induction of this system, air defence capability of the nation will be significantly enhanced.
- The system is also known as the 'Triumf' interceptor-based missile system.
- This risks the possibility of sanctions from the U.S. under the Countering America's Adversaries Through Sanctions Act (CAATSA) which would come up for discussion at the India-U.S. 2+2 ministerial dialogue, also scheduled for early December.

What is CAATSA?

- Countering America's Adversaries through Sanctions Act (CAATSA)'s core objective is to counter Iran, Russia and North Korea through punitive measures.

- Enacted in 2017.
- Includes sanctions against countries that engage in significant transactions with Russia's defence and intelligence sectors.

What are S-400 Triumf anti-aircraft missile systems?

- The S-400 Triumf is a mobile, surface-to-air missile system (SAM) designed by Russia.
- It can simultaneously track numerous incoming objects – all kinds of aircraft, missiles and UAVs – in a radius of 400km and launch appropriate missiles to neutralise them.
- It is the most dangerous operationally deployed modern long-range SAM (MLR SAM) in the world, considered much ahead of the US-developed Terminal High Altitude Area Defense system (THAAD).

7. Digitalisation of Agricultural Sector

Context: Government has taken various initiatives/steps to enable digitalisation of agricultural sector in the country and to promote agri-tech business:

1. Government has finalized an **India Digital Ecosystem of Agriculture (IDEA) framework** which would lay down the architecture for the federated farmers' database is being built by taking the publicly available data as existing in various schemes and linking them with the **digitized land records**. The IDEA would serve as a foundation to build **innovative agri-focused solutions leveraging emerging technologies** to contribute effectively in creating a better Ecosystem for Agriculture in India. This Ecosystem shall help the Government in effective planning towards increasing the income of farmers in particular and improving the efficiency of the Agriculture sector as a whole.
2. Under **National e-Governance Plan in Agriculture (NeGP-A)**, funds are released to the State(s)/UT(s) for project involving use of modern technologies viz. Artificial Intelligence (AI), Machine Learning (ML), Robotics, Drones, Data Analytics, Block Chain etc.
3. **National Agriculture Market (e-NAM) Scheme:** Creating online transparent competitive bidding system to facilitate farmers with remunerative prices for their produce.
4. To make provisions of **subsidy for farm machinery** more transparent Government has developed Direct Benefit Transfer (DBT) portal, Centralized Farm Machinery Performance Testing Portal and FARMS Mobile App.
5. A Central Sector Scheme of financing facility under 'Agriculture Infrastructure Fund' for investment in **digital Connectivity and optic fibre**

infrastructure is an eligible activity for the projects covered under the scheme. The scheme provides support for creation of **post-harvest management infrastructure and community** farming assets.

6. **Krishi Yantra App** to augment research, operations and technology dissemination process in the field of agricultural engineering. In order to ensure that appropriate mechanization technology is selected by the entrepreneurs, a web-portal has been made available by ICAR-CIAE on their website. This helps prospective and existing entrepreneurs in selection of machines and available choices for procurement.
7. ICAR-CIAE has also developed the following **Mobile Apps**:
 1. **'Farm mech' App**: The App is related to decision support for selection of suitable farm machineries for five major crops of Tamil Nadu. It also has dynamic Networking of 2250 Custom hiring service operators in Android platform.
 2. **'Farm Safety'**: Provides information about Safety Guidelines and Safety Gadgets to avoid accidents while using different type of agricultural machinery.
 3. **Water Balance Simulation Model for Roof Water Harvesting (Mobile App)**: It is helpful to decision makers to make recommendations for design requirements where roof water harvesting system adoption may lead to water saving and water security.

8. Presence of Lithium in Red Giant Stars

As per the study of Ministry of Science and Technology, scientists have found a clue to the mystery behind the high abundance of Lithium in some evolved stars.

Highlights of the study:

- A **red giant star** with high lithium abundance at its surface was discovered.
- About 1% of sun-like red giants had a **lithium**-enriched surface.
- The **abundance of lithium** was confirmed after the experts conducted a survey named GALAH.
 - It provided a collection of 500,000 stars with lithium abundances.
- In order to find the origin, experts gathered the **interior oscillations** data in red giant stars that were found to have abundance of lithium.
 - These stars have **helium burning** in their core.

About GALAH Survey:

- The **Galactic Archaeology with HERMES (GALAH)** Survey is a project to observe a million stars in our Milky Way Galaxy.
- **Aim:** To understand to what extent the galactic disk's composition is from stars that originated in other galaxies and merged with the Milky Way Galaxy.
- It allows detailed measurements to be made on 400 stars at a time.

Significance:

- It will **map out substructures** of the early Milky Way galaxy to understand of how the Galaxy formed and evolved.
- It will provide **accurate velocity**, allowing astronomers to trace the growth of the cannibalistic Galaxy.

What is a Red Giant Star?

- A **red giant star** is a luminous star of low or intermediate mass in a late phase of stellar evolution.
 - **Stellar evolution** is the process by which a star changes over the course of time
- Its outer atmosphere is inflated and tenuous making its radius larger than that of the Sun.
- The **surface temperature** is around 5,000 K.

Key Facts:

- A **red giant star** is a dying star in the last stages of its stellar evolution.
- These stars usually result from low and intermediate-mass main-sequence stars of around 0.5 to 5 solar masses.
- Most of the **bright stars** are red giants, due to their **luminosity**.
- Red giant stars are between 100 to 1,000 times more luminous than the Sun.
- **Most red giant stars** live up to around 0.1 to 2 billion years.
- The stars can have a **stable habitable zone**, allowing life to probably develop on planets.
- One of the biggest red giants ever discovered is **VY Canis Majoris**, around 1,400 times bigger than the Sun.

Key Facts on Lithium:

- **Lithium** is an alkali metal.
- It's **silver-white in pure form**. It has one of the **lowest melting points** and a high boiling point for a metal.
- Lithium metal burns **white**, though it imparts a crimson color to a flame.

- Lithium **doesn't occur free in nature**; it is found in nearly all **igneous rocks** and in mineral springs.
- It was one of three elements produced by the big bang, along with hydrogen and helium.
- **Pure lithium metal** is corrosive, it can easily react with air and water,
- It is the least dense solid element with a density of about half that of water.
- Lithium is employed in **medicine**, as a heat transfer agent, for making alloys, and for batteries.
- The **transmutation of lithium** to tritium was the first man-made nuclear fusion reaction.

Prelims Practice Questions

1. Bharat Parv an annual event happens in Delhi is organised by?

- a. Ministry of Human Resource and Development
- b. Ministry of Defence
- c. Ministry of External Affairs
- d. Ministry of Tourism

Answer : d

Explanation:

Bharat Parv

- It will be celebrated every year from 26th to 31st January, 2020 in New Delhi.
- It aims to encourage Indians to visit different tourist places of India and to inculcate the spirit of 'Dekho Apna Desh'.
- It includes highlights of the Republic Day Parade Tableaux, performances by the Armed Forces Bands, theme pavilions of different States and Central Ministries and cultural performances from different regions of the country.

2. Consider the following statements:

1. National Payments Corporation of India (NPCI) helps in promoting financial inclusion in the country.
2. NPCI has launched RuPay, a card payment scheme.

Which of the statements given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Answer: c

Explanation:

- The National Payments Corporation of India (NPCI) is a government-owned corporation that manages retail payment and settlement systems and promotes financial inclusion in India.
- It is the result of a collaboration between the Reserve Bank of India (RBI) and the Indian Banks' Association (IBA).
- NPCI has launched RuPay which is an Indian-developed payment system that is tailored to the expectations and needs of Indian consumers, banks, and merchants.
- **Hence both statements are correct.**

3. Consider the following statements:

1. The Wage Rate Index (WRI) is compiled and maintained by the Labour Bureau.
2. The base year for WRI has been changed to 2016 from 1963-65.

Which of the statements given above is/are correct?

- A 1 only
- B 2 only
- C Both 1 and 2
- D None

Answer :C

Explanation

- Recently, the government **has revised the base year for Wage Rate Index (WRI) to 2016** which will replace the old series with a base of 1963-65. **Hence, statement 2 is correct.**
 - The Wage Rate Index Number measures the relative changes in wage rates over a period of time, high or low Wage Rate Index in an industry does not necessarily indicate high or low wage rate in that industry as compared to other industries.
 - A base year is the first of a series of years in an economic or financial index and is typically set to an arbitrary level of 100.
- The **Ministry of Labour & Employment** has released a new series of Wage Rate Index (WRI) with base year 2016, being **compiled and maintained by the Labour Bureau**, an attached office of the ministry. **Hence, statement 1 is correct.**
 - It is based on the recommendations of the International Labour Organization and the National Statistical Commission.
- The new series on WRI **has been compiled on a half-year basis** (on the first of January and July every year) as against the annual in the existing series.
 - The new WRI basket (2016=100) **has enhanced the scope and coverage in terms of occupations and industries** as compared to old WRI series (1963-65=100).
 - Of the 37 industries covered in the new series, **16 new ones** - including textile garments, footwear and petroleum - have been added under the manufacturing sector.
 - In the new series, the **oil mining industry has been introduced in the basket in place of mica mines industry**, to make the mining sector more representative of the three different kinds of mining namely coal, metal and oil.
 - **Total 3 plantation industries** namely tea, coffee and rubber have been retained in the new WRI basket with enhanced coverage.
 - The **top five industries** - motor vehicles, coal mines, textile garments, iron & steel and cotton textiles **together account for 46% of the total weight.**

4. With respect to Lesser florican, which of the following statements is/are correct?

1. It is endemic to the Indian Subcontinent.

2. The bird is listed as “critically endangered” on the International Union for Conservation of Nature’s Red List of Threatened Species.

Options:

- a. 1 only
- b. 2 only
- c. Both
- d. None

Answer: a

Explanation:

- Lesser Florican is a small and thin bustard-like bird that lives in tall grasses.
- *Sypheotides indicus* is the scientific name for Lesser Floricans.
- During the monsoon season, the endangered bird may be seen in Rajasthan, Madhya Pradesh, Gujarat, and other areas. **Hence Statement 1 is correct.**
- The International Union for Conservation of Nature’s Red List of Threatened Species classifies the bird as “Endangered.” **Hence Statement 2 is not correct.**

5. The Manikya dynasty ruled the which north-eastern state from the late 13th century until the signing of the Instrument of Accession with the Indian government in 1949?

- A Assam
- B Tripura
- C Arunachal Pradesh
- D Mizoram

Answer : B

Explanation

- Recently, several tribal outfits in Tripura have joined hands to push their demand for a separate state, Greater Tipraland for indigenous communities in the region.
 - Among the political parties that have come together for the cause are TIPRA Motha (Tipraha Indigenous Progressive Regional Alliance) and IPFT (Indigenous People’s Front of Tripura).

- Tripura was a kingdom ruled by the Manikya dynasty from the late 13th century until the signing of the Instrument of Accession with the Indian government in 1949. Hence, option B is correct.
- The joint forum has also pointed out that the indigenous people have not only been reduced to a minority, but have also been dislodged from land reserved for them by the penultimate king of the Manikya dynasty Bir Bikram Kishore Debbarman.

6. Which of the following words were added to the Preamble by the 42nd Constitutional Amendment Act?

1. Integrity
2. Liberty
3. Secular
4. Socialist

Options:

- a. 1, 2 and 3 only
- b. 2, 3 and 4 only
- c. 1, 3 and 4 only
- d. 1, 2, 3 and 4

Answer: c

Explanation:

- India's status was altered from "sovereign democratic republic" to "sovereign, socialist secular democratic republic" with the 42nd Amendment. It also modified the phrase "national unity" to "national unity and integrity."
- During the Emergency, the administration led by Indira Gandhi adopted the 42nd Amendment to the Indian Constitution, formally known as The Constitution Amendment Act, 1976.
- The 42nd Constitutional Amendment introduced the phrases socialist, secular, and integrity to the Preamble.
- **Hence only terms 1, 3 and 4 are correct.**

MAINS PRACTICE QUESTIONS

1Q. The double burden of undernutrition and obesity needs to be tackled as part of India's national nutrition strategy. Discuss (250 words)

Approach

- State the facts related to double burden of malnutrition and obesity as introduction.
- What are factors responsible for double burden.
- Describe the consequences of double burden of malnutrition and obesity.
- Describe the national nutrition strategy to tackle double burden of malnutrition and obesity.
- Give conclusion.

2Q. What is the relevance of Buddha's teachings in contemporary societies? (250 words)

Approach

- Discuss briefly the problems associated with contemporary societies. Mention four noble truths of Buddha and the eightfold path.
- Discuss the relevance of Buddha's teachings in contemporary times.
- Conclude suitably.

