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POLITY AND GOVERNANCE

RIGHT TO INFORMATION ACT 2005

WHY IN THE NEWS?

In light of criticism faced after revealing the **cost of selfie points** installed at railway stations in reply to an **RTI application**, the Indian Railways has tightened norms for Zonal Railways in furnishing information under the **Right to Information (RTI) Act 2005**

RIGHT TO INFORMATION ACT 2005:

- It sets out the rules and procedures regarding citizens **"Right to Information"** held as an integral part to realize Fundamental rights under **Article 19 (Freedom of Speech & Expression)** & **Article 21 (Right to dignified life)**.
- Under the provisions of the act, **any citizen of India** (*and not any foreigner residing in India*) can request information from a **"Public authority"**.
- "Public authority" under the RTI Act 2005 includes:
 - **Constitutional** authorities (executive, legislative & judiciary)
 - **Statutory body** created under the Act of Parliament or State legislature
 - Any such body created by the **order** of the government including bodies "owned, controlled or **substantially financed**" by the government
 - Any Non-Government organizations (NGOs) or "private institutions" which receives **over 95%** of their infrastructure funds from the government
 - Any **privatized public utility** companies (as held by Supreme court in **Sarbjit Roy case**)
- Any such information sought by citizen in "public interest" shall be provided expeditiously

or **within 30 days time limit**

- Additionally, if the information is sensitive and involves matter related to a **petitioner's life and liberty**, then it shall be provided **within 48 hours**

SHORTCOMINGS OF THE RTI ACT 2005:

- **Restricted Information disclosure:** Wide public information dissemination is barred by laws such as Official Secrets Act 1923, Civil Service Conduct Rules 1964, Indian Evidence Act 1872 etc.
- **Section 8 of the Act** itself provides **exemptions** from the disclosure of Information such as those affecting National security, trade secrets etc
- Various **Security agencies** which deals daily with citizens are also exempted from the purview of "RTI" under **2nd Schedule of the Act** such as: RAW, Aviation research centre, Directorate of Revenue Intelligence, Central Economic Intelligence Bureau, CISF etc
- It violates Individual's **Right to Privacy** as upheld under **KS Puttaswamy Judgement 2017**. For example, Supreme Court's recent judgment held the court as "public authority" under the Act but distanced the information related to conduct of Judges on the ground of the Right to Privacy.
- At the same time, the large corpus of **Private bodies** such as Corporates fall outside the purview of the act
- **Exclusion of Political parties:** CIC in 2013 held that National parties such as Congress, BJP & CPI are "public authorities" as they are "substantially" funded indirectly by the Central Government or State Governments:
 - However the Right To Information (Amendment) Bill 2013 **removed political parties** from the scope of the law.

- **Curbing voice of activists:** As per the Commonwealth Human Rights Initiative (CHRI) data, RTI activists faces repeated threat of repeated attacks and are physically and mentally harassed.
- **Red tapism:** Many RTIs are rejected due to *excessive bureaucratic requirements* to avail the information:
 - For example, more than **60% of RTI appeals** made to CIC in Delhi are rejected on the basis of “not written in English”, lack of index or listing of inaccurate dates.
 - This whole cumbersome process **disenfranchise the “common people”** of the country to seek information related to the quality of governance
- The State Information Commissions (SIC)s are facing huge backlogs of the cases due to the **shortage of available staff and rising vacancies**.

STEPS TO TAKE TO REFORM RTI ACT 2005:

As recommended by the **2nd Administrative Reforms Commission** (2nd ARC) report:

- Organizations performing the nature of “**public duty**” as performed by Government agencies shall be *brought within the purview of the act*.
- Provisions of restricting acts such as **Official Secrets Act 1923 & Evidence Act 1972** shall be amended to provide “**maximum & reasonable**” transparency.
- As per the recommendations of the **Shourie Committee, Section 5 (1)** shall be amended to make provisions of OSA 1923 applicable only to those information *that compromise national security*.
- All organizations listed in the Second Schedule (exemptions) shall appoint a **Public Information Officer (PIO)** and *Suo-motu disseminate information* in interest of the public.
- **Section 12** of the Act shall be amended to expand the Selection committee for Chief Information Commissioner (CIC) to include **Chief Justice of India (CJI)**.

- Similarly, a Selection Committee at the State level with the Chief Minister, Leader of the Opposition and the Chief Justice of the High Court shall be appointed.
- To fill the **huge vacancies** that mired the working of the Commissions, the Government shall constitute State Information Commissions (SIC) in all states **within 3 months**.
- Further, **Regional offices** for CIC in states & SICs in districts shall be created for wider disclosure of the information. Creation of **Public Records Offices** can also be taken in this direction.
- At Least **50% of the members** of the Information Commissions shall be drawn from “**Non-Civil services**” background for diversification in the approach of working of commission.
- Also for *wider reach to the public*, the disclosed information shall be made available in **all scheduled languages (22)** and revised periodically to keep it up to date.
- Further, **Liberalizing the payment methods** to seek information to ensure uniform payments across the country shall be taken.

PRELIMS PERSPECTIVE: CENTRAL INFORMATION COMMISSION (CIC):

- It is a **statutory body** created under the Right to Information Act in 2005.
- It acts upon the **complaints** from those individuals who have *not been able to submit information requests* to a Central Public Information Officer or State Public Information Officer (PIOs).
- It consists of One Chief Information Commissioner (CIO) & **10** other Information commissioners (ICs).
- CIO & ICs are appointed by the **President of India** on the recommendation of a committee which consists of: **Prime Minister** as Chairperson, the **Leader of Opposition in the Lok Sabha** and a Union **Cabinet Minister** to be nominated by the Prime Minister.
- Right to Information Act 2019 has further increased bureaucratic control by giving power to

the Central government to set the **salaries and service conditions** of Information Commissioners at central as well as state levels.

WAY FORWARD:

Transparency is a fundamental **pillar of the democratic form** of Government as in the words of John Maxwell; **“Transparency breeds legitimacy”**. Right to Information Act 2005 is a monumental step to instil transparency in the government functioning. It aims to inculcate a culture of **openness, accountability & participatory governance**. Thus effective implementation of the RTI Act 2005 is *sin quo non* for sustaining healthy democracy, for which above mentioned reforms are pertinent.

OPS VS NPS

WHY IN THE NEWS?

Recently, **Maharashtra cabinet** cleared a proposal that offers State Government employees who joined service after November 2005 (qualification date for New Pension scheme (NPS)) to avail themselves the benefit of the **Old pension scheme (OPS)**. The decision has come days after various Government & semi-government employees *struck work demanding restoration of OPS*.

DIFFERENCE BETWEEN OPS & NPS:

- In Old Pension scheme (OPS), the Government pays **50% of average** of last 10 months pay. There is *no contribution by the employee or Government* into fund but paid from Consolidated fund of India.
- However in the New Pension Scheme (NPS), the **employee pay a fixed share** which is equalled by the Government.
- The Old Pension scheme (OPS) was available **only to the Government servants** while the New Pension Scheme (NPS) extends to **all citizens aged between 18-65 years**.
- While OPS covers **Government & organized sector** employees through EPS (Employee Provident scheme), the NPS is available to **all subscribers even in unorganised sector** (Unor-

ganised sector is defined under Social security Act 2008 as an Organisation where total no. of workers do not exceed 10 employee)

- In OPS, the minimum term of employment ranged between **10-20 years** while there is **no such minimum term of employment** that exists in NPS.
- In OPS, there is **no portability across job changes** while NPS provides flexibility as it is pension scheme is **portable across jobs**.
- The OPS acts as **pooled account** while NPS provides for **Individual pension account (IPA)** thus better targeting of returns.
- While OPS is not regulated by any particular agency, **NPA is regulated by PFRDA**.

WHY EMPLOYEES ARE DEMANDING OPS?

- At the tie of retirement of the employee, the OPS offers a **fixed monthly pension of 50%** of the last drawn salary.
- While in NPS, 60% of pension fund is tax-free when redeemed but the **remainder is taxable and remains invested in annuities**.
- OPS has **no risk involved** as the Government bears the complete responsibility of the guaranteed pension at the end of tenure.
- However, NPS involves certain **market associated risk** as the monthly amount is invested in market securities thus liable to fluctuations.
- While OPS has **no tax deductions**, in NPS there is tax deductible on annual investments of up to ₹1,50,000 under Income Tax Act 1961.

WHY GOVERNMENT HAS REVERTED TO NPS?

- As per the **CAG report**, the Centre's committed expenditure covers **37%** of the total expenditure which means the Government has **lesser flexibility** to determine where revenue expenditure shall be spent.
- **19%** of this committed expenditure is *spent on paying pensions* while **14%** is driven towards wages & salary of the employees.

- In states like Gujarat & Karnataka, the corpus of pension is larger than salary. For example, in **Himachal Pradesh, pensions accounts for almost 80% of the state's own tax revenues.**
- At the same time, India's life expectancy has increased from 63 years in 2002 to **70 years in 2019 (NFHS-5)**, thus further increasing **fiscal burden** on the Government.
- Thus Government adopted for NPS where the employee shares equal burden of his/her pension in the future.

CONCLUSION:

However due to **various strikes and low fiscal health** of various states like Rajasthan, Chhattisgarh, Gujarat, Karnataka and now Maharashtra has forced them to revert back to OPS where the Government need not pay monthly instalments to equal employee's share though this may create **fiscal burden on the "future generation"**.

SECULARISM IN INDIA

WHY IN THE NEWS?

With increasing cases of **mob lynching, communal violence** & diluting fabrics of **tolerance and peace** in Indian society, there has been rising concerns about the **Indian brand of Secularism**. The anti-thesis of Secularism, **Communalism** defined as *aggressive religious chauvinism* based upon power struggle between communities has gained more prevalence at the same time when India aspires to enter into "**Amrit Kaal**" & emerge as "**Global superpower**".

WHAT DOES SECULARISM CONNOTE?

- As per Akeel Bilgrami, a Sidney Morgen's Professor of Philosophy, "Secularism consists of **three important commitments**:
 - freedom of **religious belief and practice**
 - Such principles enshrined in the **Constitution** that make no mention of religion (or opposition to religion) & promotes values such as **equality, freedom of**

speech & gender equality

- **Meta- commitment**, which says if there is a clash between the first and second commitments, the *second commitment must get priority*.
- To distinguish between the idea of **Secularisation** & Secularism, the former stands for a social process which *indicates loss of belief in religious doctrines, ceasing to carry out standard rituals, changing diets* and so on and so forth.
- On the other hand, **Secularism** is a **political doctrine** that emphasizes that religion should be kept out of the orbits of the politics and does *not deal with religious practices*.
- Thus, Secularism can be defined as the principle that emphasizes upon the sphere of knowledge, values and polity which is **independent of any religious authority**.

DIFFERENCE BETWEEN WESTERN & INDIAN CONCEPT OF SECULARISM:

- The French philosopher, **Voltaire** in the book "Candide" advocated for the strict separation of State (**France**) from religious authority (**Church**) which became bedrock of the **French Revolution of 1789**.
- It is this principle of **separation of the State & Religion** which became the bedrock of the Western concept of Secularism.
- For example, the Pope is recognised as the **religious head** of Christians who are *governed by the different laws of different countries* such as France, Germany, Italy etc.
- Such strict separation is applicable in a **homogenous societies** like **Europe and USA** where *laws passed by the Government holds greater value than religious customs and sanctions*.
- In such a manner, it can also lead to **hostility towards organized religious practices**. For example, **Ban on Burqa** worn by Muslim women by France and Poland at Public places.
- Thus, the Father of Indian Constitution, **Dr. BR Ambedkar** held that the Western idea of Sec-

ularism as **“Negative concept”** as it connoted **“Non-recognition” of any religious beliefs**, even if they are integral to sustainable function of the society.

- On the other hand, the Indian society, in the words of S. Tharoor represents a **“Thaali”** with distinct dishes (**ethnicities, languages, religions**) served together to make a satisfying meal (**multicultural society**) based upon ancient dictum of **“Vasudhaiva Kutumbakam”** i.e; One Earth, One Family, One Future.
- To meet the needs of such a socio-cultural diverse society, the Indian concept of Secularism as enshrined in the Constitution is not imported from the West rather has been prevalent in *ancient traditions* reflected in the ethos of **“Sarva Dharma Sambhava”**.
- Secularism in India is a **positive concept** as the State respects and provides equal protection to all religions. As **Article 25** of the Constitution provides Fundamental right to every citizen and person in India, the *Freedom to practice, propagate and profess any religion of their choice*.
- In India there is no “watertight separation” as **State share a positive correlation with Religion**. The State can *sponsor reforms* to remove negative aspect of religion: For example, **Sabarimala Judgement** allowing entry to Women in temples.
- Also, *positive tenets of religion* can be adapted into State practices. For example, removal of the old system of **Communal Representation in Politics**.

CONSTITUTIONAL PROVISIONS OF SECULARISM:

- The Constitution does not recognise any religion as the **“official” religion** of India.
- The **Preamble** promises to secure to all citizens of India; **“liberty of belief, faith & worship”**.
- Article 14** provides for **Equality before Law**
- Article 15** prohibits *discrimination on the basis of Religion*
- Article 25** ensures that every person residing in

India are entitled to **Freedom of Conscience & Right to freely profess, practice & propagate religion**

- Article 26** provides for **Right of religious denominations** to maintain their affairs
- Article 28** declares that *“No Religious instructions in Educational institutions maintained by State”*
- Further Constitutional directives to state under **Article 44** envisages Uniform Civil Code

The Supreme Court of India, in **SR Bommai Case 1994** held that Secularism is the basic structure of Indian Constitution.

DILUTION OF PRINCIPLES OF SECULARISM IN INDIA:

- The U.S. Commission on International Religious Freedom (**USCIRF**) has listed several *violations of Religious freedom in India*.
- The **NCRB Report 2021** highlighted more than 5000 cases of Communal riots across the country between 2017-2021. For example, the recent case of **communal violence in Nuh, Haryana**.
- The **“Vote bank” politics** of Polarisation has created resentment and apprehensions across community lines. For example, Election speeches propagating *“hate”* & creating **“Us v/s Them”** feelings among innocent citizens.
- This has been further aggravated by the spread of **“Fake news”** across media channels and rampant misuse of social media
- In a **“post truth” world** mired with misinformation, there is increasing **bystanders’ apathy** among citizens of India. For example, **issue of mob lynching** due to distrust in Judicial system.
- The Governance loophole is reflected in **absence of any “strict” laws** to effectively control communal violence
- Such vigilantism further creates the issue of **disruption of “Law & Order”** which ush-

ers anarchy & chaos in the society. For example, an individual **“Terror attack” by RPF personnel** against members of “other” community.

- It further leads to an unrepairable dent in the **harmonious fabric** of peace loving Indian society as society itself starts implementing “exclusivist policies”. For example, *exclusion of Muslim vendors from Temple fairs in Karnataka*.
- Such Social enmity spreads violence causing **loss of innocent life, destruction of property and disruption of Law and order**. For example, Massacre of **Kashmiri Pandits in the 1990s and the Delhi Riots in 2020**.
- It can also have adverse impact on Strategic relations of India with other countries as seen in the **backlash by Gulf countries** on communal hatred being spread on Social Media.

Such spread of communal hatred and diminishing tenets of Secularism in India has tarnished India’s image as “Cradle of Civilisation”.

STEPS TO PREVENT SECULAR FABRICS IN INDIA:

- Implementation of Supreme Court Directive in **Dorji vs UOI 2014** to prevent and monitor **Communal hatred and Violence**: For example, Early warning indicator (EWI) model of Malaysia.
- Government shall also create **“Peace Units”** in States and districts to *promote racial harmony* and facilitate integration of ethnic minorities. For example, **“Ministry of Tolerance”** by UAE.
- Also a strict law on Mob violence & Hate speech as recently framed under **Bhartiya Nyaya Samhita** will be effective in curbing communalism.
- Such law should be further supplemented with **speedy trials & adequate compensation to victims**.
- The rising **unemployment and resultant poverty** makes the disenchanted youth an easy target for vote bank politics. Thus, preventing concentration of wealth through Land reforms and Direct Benefit Transfers (DBT) shall be done

to *reduce inequality* as directed under **Article 39** of the Constitution.

- As recommended by **Sachar Committee report**, increasing representation of Marginalized communities in sphere of education, jobs etc shall be done in mission mode.
- As held by the Supreme Court of India in **Had-iyah Judgement 2018**, promotion of *Inter-faith & Inter-caste marriage* can infuse larger understanding of the diverse Indian society.
- Ensuring strict vigilance by Government institutions such as **CVC, CBI & ECI** on Political parties and Media institutions to *prevent use of religion as a tool for mobilization*.
- Further, effective use of Media & Civil society shall be done to create feelings of Solidarity & Brotherhood among the people. For example, **Know My India Programme** by National Foundation for Communal Harmony (NFCH).

WAY FORWARD:

To further sensitize the society and inculcate the Fundamental duty of **promoting brotherhood (Article 51A)**, the values based education system under the **National Education Policy (NEP 2020)** is the ideal way forward.

NEW RULES FOR ALLOCATING THE SYMBOLS TO UNRECOGNIZED POLITICAL PARTIES

Why in the News?

The Election Commission of India (ECI) has introduced a new set of rules for allocating symbols to Registered Unrecognised Political Parties (RUPPs).

What are the new rules?

- The last three fiscal years’ audited accounts must be provided by RUPPs.
- They are obligated to provide expenditure reports for the previous two elections.
- In the past, the RUPPs had provided the application form for symbols and the signature of

the party's authorised office-bearer separately. These details are now included in the common symbol application format.

- The revised regulations would take effect on January 11 2023.

Registered Unrecognised Political Parties (RUPPs)

- These parties fall into one of two categories: recently registered parties, parties that have never run for office after registering, or parties that did not receive enough votes in the assembly or general election to qualify as state parties.
- RUPPs are given common symbols in exchange for a promise to run "at least 5% of total candidates with regard to said Legislative Assembly election of a State."
- Applications for the allotment of symbols under the provisions of Paragraph 10B of the Election Symbols (Reservation & Allotment) Order, 1968 are received by the EC from RUPPs in the prescribed proforma.

Challenges and issues faced by RUPPs

- **Lack of exposure and credibility:** RUPP struggles to raise awareness and attract voters because of their restricted means, recognition, and reach. Additionally, they struggle with credibility because the public and media frequently view them as frivolous, opportunistic, or non-serious.
- **Absence of participation and representation:** RUPP is hardly represented in legislatures and the government as a result of their low vote and seat shares. Additionally, they participate in the governance and policy-making processes either little or not at all. They are frequently left out of discussions, debates, and consultations on a range of topics pertaining to the general public interest.
- **Lack of accountability and transparency:** RUPP has problems with accountability and transparency in their operations because of their inadequate internal democracy, organisational structure, and financial management. They are frequently charged with money laundering, tax

evasion, engaging in unlawful activity, defecting, merging, or splitting.

How election symbols are allocated to political parties in India?

Responsibility of ECI –

- The assignment of symbols is the responsibility of the Election Commission of India (ECI).
- The Election Symbols (Reservation and Allotment) Order, 1968 regulates this.
- This regulation aims to specify, reserve, select, and distribute symbols during elections in Assembly and Parliamentary Constituencies in order to acknowledge political parties.
- Symbols can be classified as "free" or "reserved," which indicates they are only available to recognised political parties. If a political party satisfies specific requirements, it may be acknowledged as a national or state party.
- By publishing a notice in the Indian Gazette, the EC makes lists of the parties and their emblems available.

Unrecognised political party and election symbol-

Candidates of unregistered parties can choose from a variety of free, non-exclusive symbols. After party selection, these symbols are proclaimed free for use by others in subsequent elections.

Recognised parties and election symbol-

Exclusive symbols are awarded to recognised national and state parties.

Unregistered parties and election symbol-

- These are expected to give the names of ten symbols, in order of choice, from the commission's list of free symbols.
- As per the 1968 ruling, parties may also suggest three new symbols of their choice, with names and clear design and drawings, in the order of preference.
- The Commission may therefore examine these symbols for allotment as its common symbol if

there is no obstacle in its opinion to allocating such symbols.

- Symbols offered by the parties should bear no resemblance to current reserved or free symbols, nor should they have any religious or communal connotation, nor should they portray any bird or animal.

Previous developments regarding RUPPs:

- To ensure transparency, the EC directed in 2014 that RUPPs seeking to use a common symbol submit proof of having filed up-to-date contribution reports, audited annual accounts, updated election expenditure statements, and their most recent organisational details.
- By 2022, the ECI had delisted 86 non-existent RUPPs and designated another 253 to be “inactive RUPPs.”

Conclusion

RUPP are an essential component of Indian democracy because they represent the different voices and perspectives of the people. They also contribute to the political system's energy and vigour. They do, however, encounter a number of problems and issues that impede their functioning and effectiveness. As a result, it is important to strengthen their registration and regulating procedure, enhance their privileges and advantages, encourage coalition and cooperation, and promote their internal democracy and governance.

PRELIMS QUESTIONS

Q1. Consider the following agencies:

1. Aviation Research Centre
2. Directorate of Revenue Intelligence
3. Central Economic Intelligence Bureau
4. Central Industrial Security Force

How many of the above mentioned agencies are exempted from the purview of Right to Information Act 2005 as listed in the 2nd schedule of the Act:

- a. Only one
- b. Only two
- c. Only three
- d. All four

Q2. Consider the following statements regarding Old Pension Scheme (OPS) & New Pension scheme (NPS) often seen in the news:

1. While OPS covered only Government employees, NPS extends to all citizen of India
2. Unlike OPS, NPS is available to all subscribers even in unorganised sector
3. Unlike OPS, there is no minimum term of employment required in the NPS
4. Both OPS & NPS are regulated by PFRDA

How many of the above statements is/are correct?

- a. Only one
- b. Only two
- c. Only three
- d. All four

ANSWERS

S. No.	Answers
1.	D
2.	B

MAINS QUESTIONS

Q1. “Recent amendments to the Right to Information Act will have profound impact on the autonomy and independence of the Information Commission”. Discuss. (2020 Question)

Q2. What do you understand by Uniform Civil Code? Examine its relevance for a secular country like India and challenges in its implementation. (15 M, 250 words)

Q3. Explain the importance of the Representation of the People Act of 1951 in determining India's electoral landscape. Examine its essential clauses and their implications for the democratic process.

Q4. Examine the problem of electoral violence in India. Discuss the role of the Election Commission in guaranteeing a free and fair electoral process, particularly in areas where security is a concern.

ECONOMY

THE FINANCE COMMISSION

WHY IN NEWS?

- The government on Sunday appointed former NITI Aayog Vice-Chairman **Arvind Panagariya** as the Chairman of the **16th Finance Commission**, which will recommend the **tax revenue sharing formula between the Centre and States** for the 5 year period beginning from April 2026.
- **October 2025** is the deadline set for the commission to submit its recommendations, so that they can be incorporated in the Budget exercise.

WHAT IS FINANCE COMMISSION?

- It is a **constitutional body** formed by the order of the **President** *every 5 years or whenever he deems fit* under **Article 280** of the Indian Constitution to define the **Centre-states financial relations**.
- The First Commission was established in 1951 headed by **KC Neogy**.
- As per the constitution, the Commission consists of a **chairman and 4 other members**.
- Qualifications required for **Chairman** of Finance Commission: **"Experience of Public affairs"**.
- Qualifications required for **Members** of Finance Commission:
 - Are, or have been, or are qualified, as **judges of a high court**,
 - Have knowledge of **government finances or accounts**, or
 - Have had **experience in administration** and financial expertise; or
 - Have special **knowledge of economics**

FUNCTIONS OF THE FINANCE COMMISSION:

As a federal nation under **7th Schedule**, India suf-

fers from both **vertical and horizontal fiscal imbalances**:

- Vertical imbalances **between the central and state governments** result from states incurring expenditures disproportionate to their sources of revenue, in the process of fulfilling their responsibilities.
- Horizontal **imbalances among state governments** result from differing historical backgrounds or resource endowments and can widen over time.

Thus, under the Constitution, the **main responsibilities of a Finance Commission** are the following:

- The distribution between the Union and the States of the **net proceeds of taxes** which are to be divided between them and the allocation between the States of the respective shares of such proceeds.
- Determination of principles and **quantum of grants-in-aid to States** which are in need of such assistance.
- Measures needed to augment the Consolidated Fund of a State to supplement the **resources of the Panchayats and Municipalities** in the State on the basis of the recommendations made by the Finance Commission of the State.
- The last function was added following the **73rd and 74th amendments** to the Constitution in 1992 conferring **statutory status** to the Panchayats and Municipalities.

Constitutional provisions providing functions of the Finance Commission:

- Levy of duties by the Centre but collected and retained by the States (**Article 268**)
- Taxes and duties levied and collected by the Centre but assigned in whole to the States (**Article 269**).

- Sharing of the proceeds of all Union taxes between the Centre and the States under **Article 270**.
- Statutory grants-in-aid of the revenues of States (**Article 275**)
- Grants for any public purpose (**Article 282**)
- Loans for any public purpose (**Article 293**)

The President shall cause every **recommendation** made by the Finance Commission under the provisions of this Constitution together with an explanatory memorandum as to the action taken thereon to be **laid before each House of Parliament**.

RECOMMENDATIONS OF THE 15TH FINANCE COMMISSION:

15TH Finance Commission which was headed by **NK Singh** made following recommendations will cover a period of five years from the year **2021-22 to 2025-26**:

- **Vertical Devolution** (Devolution of Taxes of the Union to States) to be kept at **41%**:
 - It is at the same level of 42% of the divisible pool as recommended by the 14th Finance Commission.
 - It has made the required adjustment of about 1% due to the changed status of the erstwhile State of **Jammu and Kashmir** into the new Union Territories of Ladakh and Jammu and Kashmir.
- For **Horizontal devolution**, it has suggested:
 - **45%** to income gap between the states
 - **15%** each to population and area,
 - **12.5%** weightage to demographic performance
 - **10%** to forest and ecology
 - **2.5%** to tax and fiscal efforts
- It has recommended post-devolution **revenue deficit grants** amounting to about Rs. 3 trillion

over the five-year period ending FY26.

MAHATMA GANDHI NATIONAL RURAL EMPLOYMENT GUARANTEE ACT WORKERS NOW MANDATORY TO LINK AADHAAR WITH THEIR BANK ACCOUNT FOR WAGES

WHY IN DISCUSSION / NEWS ?

According to the order issued by the Ministry of Rural Development, Government of India, wages under Mahatma Gandhi National Rural Employment Guarantee Act (MNREGA) will now be paid directly into bank accounts. Aadhaar based system (ABPS) has been prepared for this. Workers have been asked to link Aadhaar with their bank account. Laborers/workers will have to link Aadhaar with the bank account in which they have to receive wages. This order will come into effect across India from February 1, 2024. According to the department, out of the target set to generate man days by March 31 in this financial year, currently 76 percent has been achieved. It is a type of payment system based on unique identification number and allows Aadhar card holders to carry out financial transactions seamlessly through Aadhar based authentication. Aadhar Based System (ABPS) Banking Service aims to empower all sections of the society by making financial and banking services available to all through Aadhar. Cash deposit, cash withdrawal, account balance check, money transfer from one base to another, transactions and various government schemes like NREGA, Housing, NRLM. Payment of etc. Will go directly into the accounts of the beneficiaries/stakeholders through D.B.T. The beneficiary will have to take his Aadhar card and passbook to the bank. After that KYC The form will have to be filled and deposited in the bank.



INTRODUCTION TO MAHATMA GANDHI NATIONAL RURAL EMPLOYMENT GUARANTEE ACT (MNREGA):

- Mahatma Gandhi National Rural Employment Guarantee Act (MNREGA), launched in 2005 by the Ministry of Rural Development, Government of India, is one of the largest labor guarantee programs not only in India but in the entire world.
- The primary objective of the scheme is to guarantee 100 days of employment in every financial year to adult members of any rural household willing to do unskilled manual work related to public work.
- The Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) has seen a significant increase in women's participation, a historic increase in the current financial year 2023-24.

WHAT DO THE TRENDS OF WOMEN'S PARTICIPATION IN MGNREGA MEAN?

MEANING OF TRENDS IN WOMEN'S PARTICIPATION:

- There has been a gradual increase in women's participation over the last decade, with the percentage increasing from 53.19% during the COVID-19 outbreak in 2020-21 to the current 59.25%.
- Southern states such as Kerala, Tamil Nadu, Puducherry and Goa have significantly higher female participation rates, exceeding 70%, while northern states such as Uttar Pradesh and Madhya Pradesh are around 40% or less.
- Despite historical disparities across the world, some states in India such as Uttar Pradesh, Madhya Pradesh and Lakshadweep have shown recent improvement due to increasing percentage of women's participation rates in the current financial year.

THE MAIN REASONS FOR THE INCREASING TREND OF WOMEN IN THE RURAL LABOR FORCE:

- The Periodic Labor Force Survey (PLFS) by the Ministry of Statistics and Program Implementation shows a substantial increase in the female labor force participation rate (LFPR) in rural areas, beyond the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).
- Notable data from the Periodic Labor Force Survey (PLFS) shows that the rural female labor force participation rate (LFPR) has increased from 18.2% in the session 2017-18 to 30.5% in the session 2022-23, with the female unemployment rate declined from 3.8% to 1.8%.
- The scheme provides a legal guarantee of minimum one hundred days of employment in each financial year to adult members of any rural household willing to do unskilled manual work related to public works at minimum wages.
- The number of active employees/workers under this scheme in the financial year/session 2023-24) was 14.32 crore.



KEY FEATURES OF MAHATMA GANDHI NATIONAL RURAL EMPLOYMENT GUARANTEE ACT (MNREGA):

- The cornerstone of the design of MGNREGA is its legal guarantee, which ensures that any rural adult can request work and must get it within 15 days.
- If for some reason this commitment is not fulfilled, then in such a situation those workers should be provided 'unemployment' allowance.
- It is necessary that priority be given to women in such a way that at least one third of the beneficiaries are women who have registered and

requested for work.

- Section 17 of MNREGA mandates social audit of all works executed under MNREGA.

ORGANIZATION IMPLEMENTING MNREGA:

- The Ministry of Rural Development (MRD), Government of India, is monitoring the overall implementation of this scheme in collaboration with the State Governments.

OBJECTIVE OF MNREGA:

- This Act was introduced with the aim of improving the purchasing power of the people in rural areas, its main objective is to provide semi or unskilled work mainly to the people living below the poverty line in rural India.
- The Mahatma Gandhi National Rural Employment Guarantee Act (MNREGA) seeks to reduce the income gap and lifestyle gap between the rich and the poor in India.

ACHIEVEMENTS OF MNREGA FOR THE YEAR 2022-23:

- Mahatma Gandhi National Rural Employment Guarantee Act (MNREGA) has provided employment to about 11.37 crore families across the country.
- Out of this, 289.24 crore person-days of employment has been generated, which includes:
- 56.19% women
- 19.75% Scheduled Caste (SC)
- 17.47% are Scheduled Tribe (ST) people.

MAJOR CHALLENGES IN THE IMPLEMENTATION OF MAHATMA GANDHI NATIONAL RURAL EMPLOYMENT GUARANTEE ACT (MNREGA):

DELAY AND INADEQUACY IN DISTRIBUTION OF FUNDS:

- Most states in India fail to pay wages within the 15 days mandated by MNREGA or have failed, according to some data. Apart from this, those workers are also not compensated for the delay in payment of wages, which creates many chal-

lenges in rural areas.

- Mahatma Gandhi National Rural Employment Guarantee Act (MNREGA), has turned the scheme into a supply-based program and after which, workers have stopped taking interest in working under it.
- Substantial evidence received so far, including admissions from the Ministry of Finance, Government of India, indicates that delays in salary payments are a result of inadequate funds.

NEGATIVE IMPACT OF CASTE-BASED SEGREGATION IN INDIA:

- There were significant variations in the delay in payments under this scheme based on caste in India. 46% payments to SC workers and 37% to ST workers were completed within the mandatory seven-day period, while it was a dismal (26%) for non-ST/SC workers.
- The negative impact of caste-based segregation is particularly felt in poorer states such as Madhya Pradesh, Jharkhand, Odisha and West Bengal.

INEFFECTIVE ROLE OF PANCHAYATI RAJ INSTITUTION (PRI):

- Panchayati Raj institution in India is a subject of "State List". In many states of India, the states are not able to implement the MNREGA Act in an effective and efficient manner due to very little autonomy given to the Panchayati Raj Institution (PRI) in practice by that state.

DELAY IN COMPLETING TASKS AND LARGE NUMBER OF INCOMPLETE TASKS:

- There has been delay in completing the works under MNREGA within the stipulated time frame and at the same time the inspection of these projects has been irregular. Besides, the issue of quality of work and wealth creation under MNREGA has also been related. As a result, the issue of a large amount of work remaining incomplete also comes to the fore.

CASE LIKE CREATION OF FAKE JOB CARD BY INCLUDING FAKE NAMES:

- It is coming that there are many issues under MNREGA like creation of fake job cards by including fake names, entries with multiple names missing and delay in inclusion of entries in the job card, posing challenges in its smooth functioning.

SCHEMES/INITIATIVES RUNNING UNDER MNREGA:

- **Amrit Sarovar Yojana:** The main objective of this scheme running under MNREGA includes construction/renovation of at least 75 Amrit Sarovar (ponds) in every district of the country which will help in increasing the availability of groundwater both on surface and underground.
- **'Jaldoot' App:** This app was launched in September 2022 to measure the water level in a Gram Panchayat through 2-3 selected open wells twice a year in the construction works under MNREGA.
- **Lokpal for MNREGA:** Lokpal app was launched in February 2022 for smooth reporting and classification of complaints received from various sources related to timely implementation of all schemes under MNREGA.

CONCLUSION / WAY FORWARD TO SOLVE THE PROBLEM:

- Even though the Constitution of India has provided all the fundamental rights to women in India in the year 1950 itself and has implemented "equal pay for equal work" and has prohibited any kind of discrimination between men and women on the basis of gender. But even today in Indian society, the working skills and abilities of women are underestimated. Therefore, there is a need to make it practical and visible on the ground for women to get "equal pay for equal work" even in the construction works done under MNREGA. Any kind of discrimination in the work of men and women is a hindrance in the "building of an inclusive society" and in the "process of building an egalitarian nation", which needs to be removed with immediate effect.
- There is an urgent need to ensure continuous

fund flow to States and implementing agencies by leveraging digital tools for timely and transparent salary payments.

- By focusing on the various exclusionary errors that deprive family members of marginalized SC and ST communities from the benefits of MNREGA and identifying the areas that deprive them of the benefits of MNREGA. There is an urgent need to remove it with immediate effect so that the objective underlying the MNREGA scheme can be fulfilled.

There is a need to strengthen the State and Central Employment Guarantee Councils to achieve the core objective of the MNREGA scheme by involving public participation through trade unions, civil societies and legislatures, as well as D.B. There is a need to send wages/salaries of MNREGA workers directly to the accounts of beneficiaries/stakeholders through T.T. so that any kind of discrimination and corruption can be stopped and the basic objective of the MNREGA scheme can be achieved.

RED SEA

WHY IN NEWS?

Yemen's Iran backed **Houthi** is have been *targeting vessels in the Red Sea* since November 2023 to show their support for the Palestinian Islamist group Hamas in its war against Israel.

IMPORTANCE OF RED SEA REGION FOR INDIA?

- From the **Suez Canal** that links it to the Mediterranean, to the **straits of the Bab al Mandab** that connect it to the Indian Ocean, the Red Sea is a vital artery for the world economy.
- Upwards of **10% of seaborne cargo** sails through its waters every year including the majority of Asian trade with Europe.
- An estimated **\$200 billion** worth of Indian exports flows every year through the key waterway connecting the **Mediterranean and the Red Sea**.
- With the Suez Canal becoming unusable due to recent attacks, India's exports of manufactured

goods including **automotive parts, agricultural products, chemicals, textile and readymade garments, and pharmaceutical products** are likely to be affected.

- The Saudi Arabia's Council of Arab and African littoral States of the Red Sea and Gulf of Aden includes **all eight states** with a coastline, namely **Djibouti, Egypt, Eritrea, Jordan, Somalia, Sudan and Yemen** as well as **Saudi Arabia** itself—but **not Israel**, which has a seaport at Eilat.

ADVERSE IMPACTS ON ECONOMY:

- The attacks have raised issue of **maritime security and free & safe passage** in the Red sea region and Indian ocean.
- This has prompted major shipping companies to take the **longer and costlier route** around Africa's **Cape of Good Hope** rather than through the Suez Canal.
- This leads to **delays in cargo deliveries**, and results in **increased fuel expenses**. Additionally, this circumstance **heightens the demand for vessels**.
- For Example, Re-routing via the Cape of Good Hope can add up to **10 days sailing time** & cost up to **\$1 million extra** in fuel for every round trip between the Far East and North Europe
- This is a cause for concern for India as it is a **major importer of crude oil from Russia** and a significant player in the **export of petroleum products to Europe**, *both of which require transportation through the Suez Canal*.
- As data analytics firm **Kepler** reported, India became **Europe's largest supplier of refined fuels in 2023**. In the ongoing and previous financial years, the **Netherlands** was the biggest importer of India's refined fuels.
- Further, as India is an **oil import dependent economy** constituting 80% of India's energy needs. Thus, increased prices of fuel can further lead to **"imported inflation"** in Indian economy having negative impact on overall consumer demand.

- For Example, in FY 2023-24, India imported over \$26,900 million worth of crude oil from **Russia — its biggest source of oil this year** — with **Iraq** featuring a distant second (\$15,582 million).

RELATED NEWS: OPERATION PROSPERITY GUARDIAN:

- It is an initiative **launched by USA to protect Red Sea commerce**.
- This follows missile and drone attacks by **Yemen's Iran-aligned Houthis**.
- Countries Involved: The U.K., Bahrain, Canada, France, Italy, Netherlands, Norway, Seychelles, and Spain are participating.
- Joint Patrols: These nations will conduct joint patrols in the southern **Red Sea and the Gulf of Aden**.
- **NOTE: India is NOT a member of alliance**

ATTACK IN RED SEA AND IMPACT ON INDIAN ENERGY SECURITY

WHY IN NEWS?

Yemen backed Houthi rebel have targeted many vessel in the red sea causing concern for India as it is a major importer of crude oil from Russia and a significant player in the export of petroleum products to Europe , both of which require transportation through Suez canal.

WHY ATTACKS ARE HAPPENING ?

Yemen's backed Houthi is have been targeting vessels in the Red sea since November to show their support for the Hamas in the war against Israel.

IMPORTANCE OF RED SEA TRADE ROUTE

- **Historical significance** – red sea has been one of the most important route since ages that connected many civilizations and continents i.e Asia , Africa, Europe.
- **Economic significance** – suez canal since its inception in 1869 has been the busiest trade

route that reduced distance between Europe and Asia by 7000km.

- **Geopolitical significance** -because of its economic importance and strategic location (narrow width of Suez Canal) it has also become geopolitically significant.

IMPORTANCE OF RED SEA FOR INDIA

- India is increasingly becoming a significant player in the petroleum products export market.
- In May 2023, India became Europe's largest supplier of refined fuel.
- In FY23-FY24, the Netherlands brought about \$19300 million worth of refined fuel from India.
- These northbound oil shipments reach via the Suez Canal.
- Red Sea is the part of Indian Ocean region that is also the backyard of India, security concerns in the region affect the sovereignty of Indian territorial water to some extent.

MEASURES TAKEN BY INDIA

- The Indian Navy has substantially enhanced maritime surveillance efforts in the central/north Arabian Sea and augmented force levels.
- Task Groups comprising destroyers and frigates have been deployed to undertake maritime security operations and render assistance to merchant vessels in case of any incident.
- Aerial surveillance by long-range maritime patrol aircraft and RPAs remotely piloted aircraft has been enhanced to have complete maritime domain awareness.
- Towards effective surveillance in economic exclusive zone, the Indian Navy is operating in close coordination with the Indian Coast Guard.
- The Indian Navy is monitoring the overall situation in coordination with national maritime agencies.

PRELIMS QUESTIONS

Q1. Which of the following are associated with 'Planning' in India?

1. The Finance Commission
2. The National Development Council
3. The Union Ministry of Rural Development
4. The Union Ministry of Urban Development
5. The Parliament

Select the correct answer using the code given below:

- A. 1, 2 and 5 only
- B. 3 and 4 only
- C. 2 and 5 only
- D. 1, 2, 3, 4 and 5

Q2. Consider the following: (2023 Prelims Question):

1. Demographic performance
2. Forest and ecology
3. Governance reforms
4. Stable government
5. Tax and fiscal efforts

For the horizontal tax devolution, the Fifteenth Finance Commission used how many of the above as criteria other than population area and income distance?

- (a) Only two
- (b) Only three
- (c) Only four
- (d) All five

Q3. Consider the following statements regarding Mahatma Gandhi National Rural Employment Guarantee Act (MNREGA).

1. This is one of the largest labor guarantee programs not only in India but in the entire world, launched by the Ministry of Rural Development, Government of India in the year 2005.

2. The primary objective of the scheme is to guarantee 180 days of employment in every financial year to unskilled adult members of any rural household engaged in public work.
3. The MNREGA scheme works to widen the gap in income and lifestyle between the rich and the poor in India.
4. Periodic Labor Force Survey (PLFS) data shows that the rural female labor force participation rate (LFPR) has increased to 30.5% in the session 2022-23, while the female unemployment rate has declined from 3.8% to 1.8%.

Which of the above statement/statements is correct?

- (A). Only 1 and 4
- (B). Only 1, 2 and 3
- (C). None of these.
- (D). All of these.

Q4. Consider the following statements:

1. The strait of Bab el Mandab connects Red sea to the Indian ocean
2. The Council of Arab and African littoral States of the Red Sea consists of 8 countries including Saudi Arabia, UAE & Egypt
3. In FY 2023-24, India is Europe's largest supplier of refined fuel
4. In FY 2023-24, Iraq is India's biggest supplier of crude oil followed by Russia

How many of the above statements is/are correct?

- A. One only
- B. Two only
- C. Three only
- D. All of the above

Q5. Which countries are located on either side of Bab el Mandeb?

- a. Djibouti

- b. Yemen
- c. Egypt
- d. Jordan

How many of the following statements are correct?

- (A) only one
- (B) only two
- (C) only three
- (D) all four

ANSWERS

S. No.	Answers
1.	C
2.	B
3.	A
4.	B
5.	B

MAINS QUESTIONS

Q1. What is Mahatma Gandhi National Rural Employment Guarantee Act? How will linking your Aadhaar with your bank account bring transparency in timely payment of salaries to MNREGA workers and implementation of government schemes? Discuss in details.

Q2. In the light of recent attack by the Houthis on the vessels in the red sea, what challenges Indian energy sector can face? And What will be the further repercussions of these event?

INTERNATIONAL RELATIONS

INDIA-KOREA DEFENSE COOPERATION / RELATIONS IN CURRENT CONTEXT

WHY IN DISCUSSION / NEWS ?

India, during its G20 presidency in 2023, recalled the contribution of its diplomatic role in the Korean War seven decades ago. India and South Korea have taken their mutual relations to new heights through bilateral treaties and agreements over the years. During the global pandemic COVID-19, better mutual coordination was also seen between the two countries in the health sector. To stop the spread of Coronavirus, South Korea worked seriously on strategies like high speed of testing, strict quarantine policy and contact tracing, which proved to be a path-breaking example for India. Apart from the strong trade and economic relations between India and South Korea, equal importance is also being given to the dynamic defense relations. In the year 2019, India and South Korea have signed an agreement under Special Strategic Partnership under which both the countries will use each other's naval bases for exchange of logistics. Recently, between Indian Defense Minister Rajnath Singh and his South Korean counterpart Suh Wook, both the countries decided to emphasize joint research, joint production of defense equipment and joint export of defense industrial cooperation in the field of defense industrial cooperation. Defense industrial cooperation was discussed extensively in this meeting. South Korea, as a strong ally, has been a major supplier of arms and military equipment to India. In 2019, India and South Korea finalized a roadmap for cooperation in joint production of various naval systems.

- India's role in the Korean War was partially successful, yet India is counted among the countries that contributed to ending the war.

EVENTS OF THE KOREAN WAR:

BACKGROUND:

- This war event has its roots in the conflict over **Japanese control of Korea between 1910**

and 1945.

- When Japan was defeated in World War II, the Allied forces agreed to establish a **"Four Power Trusteeship over Korea"** at the Yalta Conference (1945).
- While the **Union of Soviet Socialist Republics (USSR)** invaded Korea and took control of the northern region, South Korea remained under the control of the rest of its allies, primarily the United States.
- **The 38th parallel**, the official border dividing Korea into two parts, divided the two regions into North and South Korea, which still remains the official border dividing Korea into two parts.
- **The Republic of Korea (South Korea) and the Democratic People's Republic of Korea (North Korea) were established in 1948.**
- Both the countries tried to expand their reach regionally and ideologically at their respective levels, due to which the Korean conflict emerged between the two countries.

HISTORICAL BACKGROUND:

- The relations between South Korea and India are not from today but are more than 2000 years old.
- There are many such legends and legends and it is believed that **Princess Suriratna of Ayodhya married King Kim-suro of Korea. Therefore, in view of this marital relationship between the two countries, a joint postage stamp has also been issued.**
- **Buddhism originated mainly in India but spread to China, Japan and Korea**, thus the cultural ties resulting from the spread of the religion brought the two countries closer to each other.
- Many rulers of India had sent their messengers to this region to spread Buddhism and also the students here used to come to get education in

the Buddhist education centers of India.



VARIOUS AREAS OF INDIA-SOUTH KOREA COOPERATION:

POLITICAL SECTOR:

- Political relations between India and South Korea began after the independence of South Korea in 1945. India has always played an important and positive role in the affairs of South Korea.
- Only **Shri K.P.S. Menon of India** was appointed as the Chairman of the 9-member United Nations Commission formed in 1947 to conduct elections in Korea.
- **During the Korean War (1950–53)**, both sides of the war accepted a resolution sponsored by India and a ceasefire was declared on 27 July 1953, which was a major achievement for India.
- The state visit of the then President of India, Dr. APJ Abdul Kalam to the Republic of Korea in 2006 marked the beginning of a new phase in India-Republic of Korea relations. During this visit, a task force was formed to take a decision on the bilateral **Comprehensive Economic Partnership Agreement (CEPA)**. This Comprehensive Economic Partnership Agreement came into effect in January 2010.
- **Indian Prime Minister Narendra Modi's** visit to South Korea in 2019 was very important when he was awarded the **Seoul Peace Prize**. In this way, political relations between India and South Korea have remained very strong.

ECONOMIC AND BUSINESS SECTOR:

- Korea is India's 15th largest trading part-

ner. Shipbuilding, automobile, electronics, textile, food processing and manufacturing etc. are the major sectors in India-Republic of Korea mutual trade.

- The investment of Indian technology companies in the Republic of Korea is approximately Rs 2 billion. Whereas big companies of Republic of Korea like Samsung, Hyundai Motors and LG have invested more than 3 billion dollars in India.
- 603 small and big Korean firms are officially operating in India. Multinational Korean company Samsung, by setting up its world's largest enterprise in Noida, has made its intention clear that if India creates an investment-friendly environment, Korea will not lag behind in investment.
- Apart from this, Korea has announced that it will establish a startup center in India. Bilateral trade between the two countries reached \$22.52 billion in the year 2019-2020.

CULTURAL AREA:

- To enhance cultural exchange between India and the Republic of Korea, Indian Cultural Centers were established in Seoul in April 2011 and Busan in December 2013.
- **Jawaharlal Nehru University, New Delhi** and the **University of Delhi**, which are located in Delhi, India, offer research programs ranging from graduate-level to PhD courses in Korea Studies and Korean Language courses, respectively.
- In the year 2013, '**Indian Institute of Studies Korea**' was established by the Korea International Trade Association. The Institute of Indian Studies Korea is a platform that brings together a large number of Korean and Indian academicians, economists and business representatives.
- Exchange of youth delegations between India and the Republic of Korea has been taking place on an annual basis for many years.

OVERSEAS INDIANS LIVING IN SOUTH KOREA:

- **The total number of Indian citizens living in the**

Republic of Korea is around 11,000. More than 1000 Indian scholars are studying and doing research in postgraduate and PhD courses in the Republic of Korea.

- Many professionals from important sectors like information technology, shipping and automobile have migrated to the Republic of Korea in the last few years mainly from India and are making significant contributions in strengthening the economy there.



CURRENT PERSPECTIVE OF INDIA-SOUTH KOREA BILATERAL RELATIONS:

- While South Korea wants to establish better relations with India through the **New Southern Policy**, India is promoting its relations through its **Look East Policy**.
- South Korea has declared India as its special strategic partner, South Korea has made such an agreement only with its traditional allies like Japan and America.
- During the global pandemic Covid-19, both the countries have ensured mutual exchange of health-related equipment such as testing kits, masks and medicines that develop immunity.
- Along with the joint meeting at the ministerial level between South Korea and India, talks like **2 + 2 Dialogue** are going on at the secretary level, due to which both India and South Korea are continuously strengthening their strategic relations. Are doing, it turns out.
- Comprehensive Economic Partnership Agreement that allows India and South Korea free import of critical metals and articles from each

other. There is also a **Comprehensive Economic Partnership Agreement** between India and South Korea.

- **South Korea is building a project on a trilateral basis with India in Afghanistan. Along with this, he has always been supporting India's Afghanistan policy.**
- India-South Korea Technology Exchange – Center has been established in the premises of 'National Small Enterprises Corporation' located in New Delhi. Through this, both the countries are helping each other in the field of small and medium industries.
- Korea Plus has been operationalized between the two countries since June 2016, involving representatives of the South Korean Ministry of Industry, Trade and Energy, Korea Trade Investment and Promotion Agency (KOTRA) and Invest India. Are included.
- **Korean Broadcasting System** and **Prasar Bharati** have agreed to facilitate the **broadcasting of Doordarshan India Channel in South Korea and Korean Broadcasting Channel in India** as well as to promote mutual cultural relations between India and South Korea.

CHALLENGES IN INDIA-SOUTH KOREA RELATIONS:

- **South Korea's trade with China is almost 10 times more than that with India.** Therefore, we should not forget that even though India wants to sideline China from a strategic and trade point of view by signing an agreement with South Korea, the undeniable truth is that there is still confusion between the two countries regarding the free trade agreement. Therefore, trade between India and South Korea is not achieving the expected pace.
- In the last few years, relations between South Korea and **North Korea have normalized and it is indirectly believed that there is a partnership between North Korea and Pakistan on nuclear programs which is a matter of concern for India.**
- Special attention is not being given to the cultural relations between India and South Korea,

as a result incidents based on racial discrimination are increasing.

- There was an agreement between India and South Korea to increase strategic partnership a decade ago, but that agreement is still limited on paper or it can be said that not much progress has been made in this regard.
- **The Indo-Pacific region** has the highest contribution in world trade but India's relations with these island countries are not as strong as they should be. Which may create difficulties for India in future in both strategic and commercial areas.

INDIA-SOUTH KOREA COMPLEMENT EACH OTHER:

- On one hand, while India is focusing on implementing its '**Act East Policy**', on the other hand, South Korea is also working with North-East Asia, South-East Asia, Australia and India as per its '**New South Policy**'. Will strengthen its strategic and trade relations.
- **India's population is 24 times that of South Korea, while in terms of per capita GDP it is only 16th of South Korea.** Thus, the relationship between the two complements each other because while South Korea has capital along with advanced technology and experts, **India has a huge market and availability of raw materials which both countries can take advantage of. Due to which both the countries can strengthen their strategic and trade relations between themselves.**
- Unlike India, South Korea is completely dependent on sea imports for its energy needs, while both India and South Korea are peninsular countries. In such a situation, amid India's growing influence in the Indo-Pacific region, there is a common interest of both the countries in the security of maritime traffic. The convergence of mutual interests between India and South Korea also facilitates technology transfer.
- The Indian Navy's dominance in the Indian Ocean may prove useful for Seoul. At the same time, South Korea's shipbuilding capabilities can prove helpful for India. South Korea's coop-

eration in shipbuilding modernization for military and commercial use in India can prove to be a '**win-win deal**'.

- From drones to air defense guns and effective border surveillance systems, there are many fronts of partnership on which both the countries are discussing. If India gets access to the sensitive surveillance systems developed by South Korea in the Demilitarized Zone adjacent to North Korea, then it can prove to be effective for India in dealing with the challenges of infiltration along the Line of Control with Pakistan. India and South Korea are also talking about joint development and production of missile air-defense systems.
- Both India and South Korea are in support of the Indo-Pacific Policy. Moreover, like India's Act East Policy, South Korea's New South Policy also aims at economic, diplomatic, and To strengthen strategic relations.
- In view of the increasing trade war between America and China, India needs a new market. In such a situation, India can give a new direction to economic relations with South Korea.

CONCLUSION / WAY FORWARD:

- The way the mutual relations between the two countries are currently deepening in order to contribute to the contribution of both India and South Korea in providing peace and security at the global level, is reflected in the mutual strategic, trade and economic development of both the countries. Cultural relations have attracted the attention of the global world towards mutual needs and requirements but there is a need to take it further so that both the countries can contribute to world peace and security.
- India's '**Act East Policy**' and South Korea's '**New South Policy**' still need to be strengthened to reduce growing regional instability.
- To emphasize on joint research, joint production of defense equipment and joint export of its strategic, trade, cultural and defense industrial cooperation, India needs to include South Korea among its top priority countries as South

Korea is a strong ally, the country has been a major supplier of arms and military equipment to India. Therefore, India and South Korea currently need to work together for regional stability.

FOREIGN MINISTER S. JAISHANKAR TO VISIT NEPAL THIS WEEK

WHY IN THE NEWS?

Foreign Minister Mr. S. Jaishankar will visit Nepal this week and will hold a Joint Commission Meeting with his Nepalese counterpart. On the agenda there will be discussions on digital payments, air connectivity, an agreement on the terms of buying 10,000 MW of hydroelectric power from Nepal, and the launch of development projects funded by India.

History of India-Nepal relations

- There has been a long history of free movements of people across the borders. They also share strong bonds known as Roti-Beti ka Rishta due to marriages and familial relationships.
- Both nations share the same values of Hinduism and Buddhism.
- Treaty of Peace and Friendship of 1950 is the bedrock of the special relations between India and Nepal. The treaty deals with the equal treatment of citizens of India and Nepal in the two nations regarding housing, property, commerce, and travel.
- In a number of multilateral forums, such as SAARC, BBIN, BIMSTEC, and the NAM, India and Nepal work together.

Importance of Nepal for India

- Nepal is an immediate neighbor hence acts as a natural security buffer between India and China.
- Nepal has launchpads of many terrorist groups like Taliban, LeT, Al-Qaida etc. which also deal Maoist groups in India and Nepal.

- More than 50 rivers flow from Nepal to India which feed the perennial river systems of India in terms of ecology and hydropower potential. Thus to control floods in India cooperation is needed.
- Since there is an open border system any unrest in Nepal will have a spillover effect on India.

Areas of Cooperation

In Defense :

- (a) India is helping the Nepal Army in its modernisation.
- (b) Recruitment from Nepal in the Indian Army. Approximately 30,000 Nepalese are serving in the Indian Army.

In water resources: In 2008 a three-tier bilateral mechanism was established to discuss the issues relating to cooperation in water resources.

In Energy : India and Nepal have signed Power Exchange Agreement since 1971 in order to fulfill the energy requirements in the border areas of the two countries by taking the benefit of each other's transmission.

In Connectivity :

(a) India is looking to develop the inland waterways for the movement of cargo and providing additional access to sea for Nepal calling it linking Sagarmatha (Mt. Everest) with Sagar (Indian ocean).

(b) Agreement has been signed for laying an electric rail track linking Kathmandu with Raxaul in India.

Issues in Relationship

Territorial disputes: There are various unsolved issues in some locations, including Kalapani, along the India-Nepal border. While India inherited these areas from British colonial control, but Nepal claims these parts as its own.

China factor: As India's influence has waned in Nepal in recent years, China has intervened with loans, investments, and assistance. The Belt and Road Initiative, which is funded by China in Nepal, is a threat to Nepal's ability to India's interests.

Porous Border : Because of the porous and inade-

quately patrolled border between Nepal and India, terrorist groups can use it to smuggle guns, ammunition, trained fighters, and Fake currency notes.

Identity issues : Nepal politics is dominated by high caste elites which try to uphold its separate identity and while doing this they treat India as others.

Trust Deficit: Due to India's sluggish project execution, mutual trust between the two countries has deteriorated. India is disliked by certain ethnic groups in Nepal because they believe that India interferes in Nepal's affairs and undermines its sovereignty.

Issues with Peace and Friendship Treaty, 1950 : A certain section in Nepal perceive this treaty as unequal and imposed by India.

Way Forward

Dialogues for Territorial Disputes: Need to set the stage for a calm conversation in which all parties act sensitively while considering their interests.

Strengthening Economic Ties :

- (a) Purchasing Hydropower from Nepal
- (b) focusing on completing projects quickly. Taking Projects that benefit the local people in order to create a positive image of India.

Conclusion

India needs to stop looking at Nepal through a security prism only. Both the governments must reset the narratives and should modernize their policies.

GLOBAL NUCLEAR ORDER

WHY IN THE NEWS?

- With increasing polarisation in Russia – USA relations on the issue of the ongoing **Russia-Ukraine war** & subsequent eastward expansion of the **North Atlantic Treaty Organisation (NATO)**, the **Global Nuclear Order** established through various treaties during and post Cold war period has come under severe tension.
- In this light, **India's Nuclear policy** and its role as **"balancing power"** in the world holds tre-

mendous importance.

ESTABLISHMENT OF GLOBAL NUCLEAR ORDER (GNO):

- Under the **"Manhattan project"**, with efforts of Robert Oppenheimer, USA became the **first country** to possess Nuclear weapons in 1945 during the World War II period.
- The devastating effects of Nuclear weapons became known to the world after its use in the bombings of the **Hiroshima & Nagasaki**, Japan by USA to provide deathblow to the war.
- As Russia (erstwhile USSR) & USA entered into the **Cold war period (1945-1989)**, a **nuclear weapon race** ensued with both nations trying to outdone each other by developing ballistic missiles.
- Following the **1962 Cuban Missile Crisis**, when US & Russia came perilously close to launching a nuclear war, both U.S. President **John F. Kennedy** and Russia's General Secretary **Nikita Khrushchev** understood two political realities:
 - First, as the two nuclear superpowers, they needed **bilateral mechanisms** to prevent tensions from escalating to the nuclear level.
 - And, second, nuclear weapons are dangerous and, therefore, their **spread should be curbed**.
- It was this convergence on the issue of curtailing the spread of Nuclear weapons which created the **Global Nuclear Order (GNO)**.

GLOBAL NUCLEAR DISARMAMENT POLICY:

- The hotline established between Russia & USA in 1963 gradually developed into **nuclear risk reduction centres**.
- It was followed by **arms control negotiations** as the two nuclear superpowers sought to manage their nuclear arms race and maintain strategic stability.
- The **Geneva Convention 1965** to curb the spread of nuclear weapons was followed by

the **Nuclear Non-proliferation Treaty (NPT)** in 1968.

- The NPT has proved to be successful as despite dire predictions of more than 20 countries possessing nuclear weapons by the 1970s, (there were actually 5 in 1968 – the U.S., U.S.S.R., U.K., France, and China), only 4 countries have since gone nuclear, i.e., **India, Israel, North Korea, and Pakistan**.
- Further, in 1969 **SALT-1 (Strategic Arms Limitation Talks)** concluded with both sides agreeing not to build new Intercontinental Ballistic Missile (ICBM) silos.
- However, such arms control did not end the U.S. – U.S.S.R. nuclear race; as in fact, their arsenals grew from 28,000 bombs in 1962 to over **65,000 bombs** in the early 1980s.

EVOLUTION OF INDIA'S NUCLEAR POLICY:

- India's Nuclear policy embarked under the "**Dual Intent strategy**" of First Prime Minister J.L. Nehru & Homi J. Bhabha.
- The **Atomic Energy Commission (AEC)** was established under Atomic Energy Act 1948 with Homi J. Bhabha as the Chairman.
- After **Indo-China War 1962** and development of Nuclear weapons by China in 1964, it became imperative for India to develop its own arsenal to ensure National security.
- Thus, India **refused to sign NPT in 1970** on the following grounds:
 - The NPT defines "nuclear weapons states" as those that **tested devices before 1967**, which means India cannot ever be one
 - **No fixed timelines** have been mentioned for disarmament
 - NPT is unfair treaty as nuclear weapon states have no obligation to give them up while **non-nuclear states are not allowed to equip themselves**
 - In 1974, India conducted its first nuclear

test known as **Smiling Buddha** under Srimati Indira Gandhi.

- Subsequently, India conducted its 2nd nuclear test called as **Operation Shakti in 1998** under Shri Atal Bihari Vajpayee and declared itself as "**de-facto**" Nuclear state.
- Due to this Internationally not sanctioned test, India was ousted from the **Nuclear Supplier Group (NSG)**, which seek to **prevent nuclear proliferation** by controlling the export of materials, equipment and technology that can be used to manufacture nuclear weapons.
- India finally managed to have some relief when the US relented and agreed to sign a civil nuclear deal with India in 2008 also known as **the 123 Agreement**.

Under this, India signed a civil-military separation plan and **India-IAEA safeguard agreement**. In return, US diplomacy helped us to get NSG waiver.

INDIA'S CURRENT NUCLEAR DOCTRINE:

In the year 2003, India adopted a Nuclear doctrine based on "**NO FIRST USE**" (**NFU**) policy. Certain key aspects of the draft were:

- India would **not initiate** a nuclear attack on any country.
- India would not use nuclear weapons on **non-nuclear states**.
- India's nuclear arsenal will be used for the **sole purpose of defence** and would serve as a deterrent against external nuclear attacks.
- The retaliatory 2nd strike to a first nuclear attack would be massive and would inflict unacceptable damage on opponent.
- India would adopt the **Nuclear triad model** to develop capability of launching nuclear attacks on 3 fronts i.e. **land, air, and water**.

RISING ISSUES AFFECTING GNO:

Growing polarisation between Russia & USA due to expansion of NATO has brought the initiative of Nu-

clear Disarmament to a standstill:

- For example, in 2002, the U.S. withdrew from the Anti-Ballistic Missile **(ABM) Treaty** & Intermediate Range Nuclear Forces **(INF) Treaty** on grounds that Russia was violating it.
- The only remaining agreement, **New START**, will lapse in 2026 as its verification meetings were suspended during the COVID19 outbreak and never resumed.
- Russia de-ratified the CTBT to bring it on a par with the U.S., raising concerns about the resumption of nuclear testing.
- More recently, the nuclear submarine **AUKUS deal** (Australia, U.S., U.K.) with Australia, a non-nuclear weapon state, is raising concerns in the NPT community
- With **China** developing its own Nuclear capable missiles & submarines, it has become imperative for India to **revive & restore Global Nuclear Order (GNO)**.

WAY FORWARD:

Moreover, Russian nuclear sabre rattling to warn the North Atlantic Treaty Organization and the U.S. against escalation in Ukraine has *revived nuclear concerns*. The old definitions of strategic stability no longer hold and thus it is important for India to ensure that its **“balancing role”** between two extreme blocs bear fruits to curb the use & production of Nuclear weapons.

CANCELLING OF FREE MOVEMENT REGIME AT INDIA-MYANMAR BORDER

Why in the News?

The Indian government has vowed that it'll no longer allow free movement at the Myanmar border, meaning a visa will be needed to enter India. The Indian Government is planning to make a 300-kilometer smart hedge system between India and Myanmar, and work is anticipated to start soon.

About Free Movement Regime(FMR)-

- In 2018, the Free Movement Regime was brought as part of India's Act East Policy to strengthen India's ties with Myanmar. This allows those who live near to the India- Myanmar border to enter each other's nation for over to 16 kilometres without a visa they may cross with a border pass that's good for a time and stay for an outside of two weeks at a time.
- It's the duty of both governments to apply FMR for people living near to the border.
- The purpose of this governance was to encourage cross-border trade, marriages, and common festivity of leaves in further trans- border communities by the occupants.
- In 2020, the Manipur government formally put a stop to FMR.

Reasons to end the Free Movement Regime-

- **Misused by insurgents** : Insurgent groups use FMR to launch strikes against the Indian side and create unrest in North-East India. Many Insurgent groups like ULFA, NDB, NSCN-K etc. have launchpads in Myanmar.
- **High Influx of Anti-Junta rebels** : The Myanmar military overthrew the civilian government on February 1, 2021, announcing a one-year period of emergency. Since then thousands of anti-junta rebels have entered India creating an economic burden on the North-East part of the country and also deteriorating the relations between India and Myanmar.
- **Illegal activities** : There are worries over gun smuggling, human trafficking, drug smuggling, and illegal immigration as a result of the porous and unfenced border between India and Myanmar.
- **Deforestation**: The Manipur government has accused village heads for facilitating the deforestation by relocating migrants from Myanmar to new villages.

Significance of Myanmar for India

Geo-political significance :

- Myanmar is the only nation that lies at the in-

tersection of India's "Act East" and "Neighborhood First" policies.

- Myanmar is an important member of BIMSTEC, ASEAN, MEKONG GANGA cooperation. Hence, Myanmar is important for India

Geo-economic significance :

- India is developing certain projects like India-Myanmar-Thailand (IMT) trilateral highway and kaladan multi-modal project in order to link India's landlocked north eastern states to Sittwe port of Myanmar.
- Myanmar has adequate Oil and natural reserves, which is important for India to tackle its concern about Energy security.

Geo strategic significance :

- Important for national security as local armed separatist groups like NSCN-K, NDB, ULFA etc are operating on Myanmar's soil.
- Proximity to Golden Triangle enable the environment for the traffickers to smuggle heroin and psychotropic substances into India
- Increasing China's role in Myanmar is undermining India's leadership role in South Asia. So can't go against Junta rule of Myanmar as it will further deteriorate the relation between India and Myanmar.

Steps taken for better relations between India and Myanmar

- In the Rakhine state of Myanmar, India has manufactured the Sittwe port as part of India's SAGAR Vision. This port is designed to serve as India's response to Kyaukpyu port, which is developed by China and in order to to strengthen China's geostrategic influence
- India signed an MOU with Myanmar for the "Rakhine state's development programme" under which India will build prefabricated housing in Rakhine State.
- India abstained from voting on the Myanmar resolution regarding Junta rule at various times at UNSC and UNGA.

Conclusion :

India needs a cautious and well-rounded strategy to address these issues, taking into account the complexity of the actual scenario. Complete cancellation on FMR will have an impact on the cultural assimilation of the people across the border.

PRELIMS QUESTIONS

Q1. What is the 2 + 2 Dialogue running between South Korea and India?

- (A). A Rail project between South Korea and India.
- (B). A roadmap for cooperation in joint production of naval systems between South Korea and India.
- (C). Establishment of India-South Korea Technology Exchange – Center in the premises of 'National Small Enterprises Corporation' located in New Delhi.
- (D). Along with the joint meeting at the ministerial level between the two countries, South Korea and India, talks are being held at the secretary level.

Q2. Kali river divides which 2 parts of Himalayas?

- (a) Kumaon himalayas and Nepal himalayas
- (b) Assam himalayas and nepal himalayas
- (c) Punjab himalayas and kashmir himalyas
- (d) Kumaon himalyasa and punjab himalayas

Q3. What is a Junta?

- (a) A religious ceremony
- (b) Constellation of stars
- (c) A legal tender issued by government
- (d) A military group that rules a country after seizing power

ANSWERS

S. No.	Answers
1.	D
2.	A

3.

D

MAINS QUESTIONS

Q1. What is the 'Comprehensive Economic Partnership Agreement' between India and South Korea? In the context of strategic, cultural and economic relations between India and South Korea, discuss how India's 'Act East Policy' and South Korea's 'New South Policy' can affect the increasing regional instability?

Q2. In the context of the recent developments in Global Nuclear Order, critically analyse India's Nuclear policy. Also provide suggestive measures to restore the "disarmament policy" in increasingly polarised world. (15M, 250 Words)

Q3. How China is impacting the relation between India and Myanmar and what steps are taken by India to tackle the issue of the rohingya refugee crisis in Rakhine state?

Q4. Discuss the importance of INDIA-NEPAL challenges despite growing challenges.

SCIENCE & TECHNOLOGY

X RAY POLARIMETER SATELLITE (XPOSAT)

WHY IN NEWS?

ISRO on 1st Jan, 2024 launched **XPoSat on PSLV C-58** from the Satish Dhawan Space Centre in Sriharikota into an eastward low inclination orbit, becoming only **Second nation in the world** to send an observatory to study astronomical sources such as **black holes, neutron stars** among others.

WHAT IS X RAY POLARIMETER SATELLITE (XPOSAT)?



- XPoSat is only the second X Ray polarimetry mission in the world, after **NASA's Imaging X ray Polarimetry Explorer (IXPE)** launched in 2021.
- It is the first dedicated scientific satellite from ISRO to carry out research in space based polarization measurements of **Xray emission from celestial sources**.
- It carries two payloads, namely **POLIX** (Polarimeter Instrument in Xrays) and **XSPECT** (Xray Spectroscopy and Timing).
- POLIX has been developed by the Raman Research Institute and will track Xrays in the **830 kiloelectronvolt (keV) energy range** and observe emissions from around 50 sources in five years.
- XSPECT by the Space Astronomy Group of URSC, Bengaluru.

OTHER MISSIONS LAUNCHED ON PSLV C-58:

During the mission, the PSLV Orbital Experimental Module3 (**POEM3**) experiment was also executed to meet the objective of other payloads developed by start-ups, education institutions and ISRO centres:

- Radiation Shielding Experimental Module (RSEM) by TakeMe2Space
- Women Engineered Satellite (WESAT) by LBS Institute of Technology for Women
- BeliefSat0 Amateur radio satellite by K.J. Somaiya Institute of Technology
- Green Impulse Transmitter (GITA) by Inspecity Space Labs Private Limited
- Launching Expeditions for Aspiring Technologies Technology Demonstrator (LEAPTD) by Dhruva Space Private Limited
- RUDRA 0.3 HPGP by Bellatrix Aerospace Private Limited
- **ISRO Fuel cell Power System (FCPS)** by VSSC: FCPS payload is significant as it has potential applications in **India's space station which is proposed to come up by 2035**.
- ISRO and Sibased High Energy cell by VSSC, ISRO.

OTHER IMPORTANT SPACE MISSIONS OF ISRO IN 2024:

GAGANYAAN MISSION:

- Gaganyaan project envisages demonstration of **human spaceflight** capability.
- It aims to launch crew of **3 members** to an orbit of **400 km for a 3 days mission** and bring them back safely to earth, by landing in Indian sea waters.
- **LVM3 rocket** – The well proven and reliable heavy lift launcher of ISRO, is identified as the

launch vehicle for Gaganyaan mission. It consists of **solid stage, liquid stage and cryogenic stage**.

NISAR MISSION:

- NASA-ISRO SAR (NISAR) is a **Low Earth Orbit (LEO)** observatory being jointly developed by **NASA and ISRO**.
- NISAR will map the **entire globe in 12 days**.
- It will provide spatially and temporally consistent data for understanding changes in Earth's ecosystems such as **ice mass, vegetation biomass, sea level rise, ground water and natural hazards** including **earthquakes, tsunamis, volcanoes and landslides**.
- It carries **L and S dual band** Synthetic Aperture Radar (SAR), which operates with Sweep SAR technique to achieve large swath with high resolution data.
- **NASA** is responsible for providing the **L-Band SAR payload system** in which the ISRO supplied **S-Band SAR payload** and both these SAR systems will make use of a large size (about 12m diameter) common unfurlable reflector antenna.
- In addition, NASA would provide engineering payloads for the mission, including a **Payload Data Subsystem, High-rate Science Downlink System, GPS receivers and a Solid State Recorder**.
- ISRO is responsible for providing the **SSAR data handling system, High rate downlink system, spacecraft bus systems, the GSLV launch system** and Mission Operations Related Services.

ADITYA L-1:

- Aditya L1 shall be the first space based Indian mission to **study the Sun**.
- The spacecraft shall be placed in a halo orbit around the **Lagrange point 1 (L1)** of the Sun-Earth system, which is about 1.5 million km from the Earth.
- A satellite placed in the halo orbit around the

L1 point has the major advantage of continuously viewing the Sun **without any occultation/eclipses**. This will provide a greater advantage of observing the solar activities and its effect on space weather in real time.

- The spacecraft carries 7 payloads to observe the **photosphere, chromosphere and the outermost layers of the Sun (the corona)** using electromagnetic and particle and magnetic field detector.

COVID-19 SUB-VARIANT JN.1

Why in the News?

A new sub-variant JN.1 of COVID has been detected in the country and approximately 200 cases of it have been detected so far by Indian SARSCoV2 Genomics Consortium (INSACOG).

About JN.1

- It is a sub-variant of Omicron, and it is also known as the Mu variant or B.1.621. It has evolved through some genetic changes from Omicron variant to its current genetic changes.
- JN.1 is a descendent of BA 2.86 also known as Pirola. Even though JN.1 only has one extra spike protein mutation when compared to Pirola, researchers have been keeping an eye on it because Pirola has more than 30 mutations.
- JN.1 possesses a single mutation in its spike protein, which might potentially modify some of the virus's characteristics. However, initial studies suggest that this mutation could offer more immune evasion.
- WHO has classified JN.1 as a separate "variant of interest" because of its rapidly increasing spread. Any virus-associated index (VOI) often identifies specific genetic markers linked to modifications in the virus's receptor-binding behaviour.

Symptoms of COVID-19 JN.1 variant

- Sore throat

- Congestion
- Cough
- Runny Nose
- Fatigue
- Muscle aches
- Sneezing

Although right now it is hard to tell whether JN.1 had different symptoms than the other Omicron sub variants or COVID-19 variants. But if someone faces issues of breathlessness then the patient should immediately seek a doctor's help.

Difference between JN.1 variant and other Omicron variant

- 1) In Genetic make up
- 2) When compared to Omicron, JN.1 has a far higher transmissibility rate, meaning it can affect a larger population.
- 3) It has 1 extra mutation in spike protein than the BA 2.86.

Precautions and treatments of JN.1

The precautions and treatments of JN.1 variant and other COVID-19's variants are similar in nature. Hence, the difference between both regarding precautions and treatments is minute.

Precautions

- Maintain physical distancing.
- Frequent hand washing.
- One needs to Cover his nose and mouth from tissue while sneezing and coughing in public.
- When interacting with people, keep a safe distance, especially from those who appear to be sick with the flu.
- To sneeze on the inner side of your elbow and not to cough into the palms of your hands.
- Should visit a physician if you have any symptoms of illness, such as fever, coughing, and difficulty breathing.

- Get Vaccinated.

Treatments

- **Medications**

(a) Antiviral Drugs : Remdesivir

(b) Anti-Malaria Medications : Chloroquine and Hydroxychloroquine

(C) HIV Drugs : Lopinavir and Ritonavir

- **Convalescent Plasma Therapy** : It uses the antibodies of the recovered patients. These recovered patients donate whole blood or plasma, which is then injected into critically ill patients in order to help them fight off the virus by transferring antibodies.

- While **Oxygen therapy** only for severe cases.

Tests to detect the JN.1 and other variants of COVID

- **Molecular (RT-PCR) test** = RT-PCR stands for Reverse Transcription Polymerase Chain Reaction. Generally it is used to directly detect the presence of the virus in the given sample. It detects the virus's RNA and then this RNA is converted to DNA using an enzyme known as reverse transcriptase. The PCR then detects this converted DNA. For sample Throat swab is taken.
- **Rapid Antigen test** = Antigen is any foreign matter or protein in the body which triggers an immune response. It is performed outside the laboratory and is generally used to obtain a diagnostic result fast as it takes less time than the molecular tests. For sample Throat swab is taken.
- **Antibody test** = It only identifies the antibodies that the immune system produces in reaction to the infection—not the virus itself. It tells whether a patient was previously infected from the virus. For sample minute amount of blood is taken.

Some concerns regarding JN.1 variant

- More transmissible than other variants which could lead to larger outbreaks

- One possible concern is that it may be more resistant to vaccines than the other variants of the COVID.
- Can cause severe illness comparable to other variants. Hence, it has enough potential to harm people suffering from chronic diseases like Hypertension, diabetes etc.
- If lockdown is ordered again then it will cause severe harm to Human Capital as already acknowledged by the World Bank in its report *"Collapse and Recovery: How COVID-19 Eroded Human Capital and What to Do"*.

Conclusion

To mitigate the possible threats which can be caused by the upcoming variants of the COVID we need to follow the prevention measures and WHO guidelines regarding COVID-19. A pan India robust monitoring is needed to monitor genomic variations in the SARS-CoV-2.

SPACE MISSIONS 2024

WHY IN THE NEWS?

- The year 2023 proved to be a milestone in India's space policy as India became the **first and only country** to achieve *"soft landing" on the South pole of the moon* through **Chandrayaan 3**. In the same year, NASA's **OSIRIX mission** extracted sample from asteroid Benu.
- With important missions of ISRO such as **"Gaganyaan" & "Aditya L-1"** missions & a joint mission with NASA i.e; **NISAR** planned for the year 2024, the important space missions around the world hold grave importance from the *examination perspective*.

INTERNATIONAL SPACE MISSIONS PLANNED FOR 2024:

EUROPA CLIPPER:

- It is a mission by the US Space agency **NASA** which aims to explore the Europa i.e; one of the **largest moons of the planet Jupiter**.
- Europa is *slightly smaller than the earth's moon*,

with a surface that is made of ice.

- The interest of scientific community lies in the prospect of Europa harbouring a **saltwater ocean** which may contains *more than twice the volume of water* contained in the oceans of the Earth
- Thus Europa can act as a suitable habitat for **extra-terrestrial life**.
- The mission will be launched on the private space agency **SpaceX's Falcon heavy rocket**.

ARTEMIS 2:

- With the launch of Artemis 2, **NASA** plans to *send humans again to the moon* after a gap of 51 years (last time a man landed on the moon was in 1972).
- Astronauts on their first flight aboard NASA's Space Launch System (SLS) rocket and **Orion spacecraft** will venture around the Moon.
- It will launch the crew from NASA's Kennedy Space Center in Florida.
- The mission also holds *socio-cultural significance* as it aims to ensure the landing of the **first women and first person of colour**, on the moon.
- It follows the mission Artemis 1 which sent an uncrewed capsule into orbit around the moon in late 2022

VIPER:

- Volatiles Investigating Polar Exploration Rover (VIPER) is a robot the size of a golf cart that **NASA** will use to explore the **moon's south pole** in late 2024.
- It aims to study the *origin and distribution of water* on the Moon and help determine how humanity can harvest the Moon's resources for future human space exploration.
- It will also analyse where the Moon's ice is most likely to be found and easiest to access, making VIPER the **first-ever resource mapping mission** on another celestial body.

- It will search for **volatiles**, which are molecules that easily vaporize, like water and carbon dioxide, at lunar temperatures.

LUNAR TRAILBLAZER:

- Like VIPER, NASA's Lunar Trailblazer will also look for water on the moon.
- But while *VIPER will land on the moon's south pole, Lunar Trailblazer will only orbit the moon*
- It will measure the temperature of the surface and mapping out the locations of water molecules across the globe.

PRIME-1:

- NASA's PRIME-1 will help scientists search for water at the lunar South Pole, and will be the *first in-situ resource utilization demonstration on the Moon*.
- PRIME-1, which will be mounted to a lunar lander, is made up of two components – The Regolith and Ice Drill for Exploring New Terrain (**TRIDENT**) and the Mass Spectrometer for Observing Lunar Operations (**M-Solo**)

MARTIAN MOON EXPLORATION (MMX):

- It is a Martian Moon exploration mission of the **Japanese Space agency (JAXA)**
- It aims to study the origin of the Moons of Mars named: **Phobos and Deimos**
- The scientists are intrigued whether Phobos and Deimos are former asteroids that Mars captured into orbit with its gravity or if they formed out of debris that was already in orbit around Mars.
- The MMX will land on the surface of Phobos & collect a sample before returning to Earth.

HERA MISSION:

- It is a mission by the **European Space Agency (ESA)** to replicate **NASA's DART mission** which studied the physical properties of the asteroids **Didymos & Dimorphos**.
- The DART mission of NASA also tested a planetary defense technique called "**kinetic im-**

pact" when it collided with Dimorphos to change its orbit.

- "Kinetic impact" technique can prove useful if humanity ever finds a potentially hazardous object on a *collision course with Earth and needs to redirect it*.

CONCLUSION:

India needs to strictly implement the **Space Policy 2023** to realise the vision of the Prime Minister i.e; "*Space is the space to be in*" and further cooperate with other space agencies such as NASA to expand the Research & exploration to cement its position as "**Space power**".

INDIA'S OTHER SPACE MISSIONS:

ADITYA-L1 MISSION

Why in the News?

ISRO will carry out a critical maneuver on January 6 to place Aditya-L1 in L1 orbit. It was launched on September 2 last year. The spacecraft will be able to observe the sun without any eclipses once it arrives at its final location

About Aditya-L1 mission

- Aditya-L1 is India's first space-based observatory-class solar mission, observing the Sun from a distance of 1.5 million km.
- Aditya-L1 is also ISRO's second observatory-class mission, succeeding AstroSat (2015).
- The journey is much shorter than Mangalyaan, India's previous Mars orbiter effort.
- The spacecraft will be set up in a halo orbit around the Lagrangian point 1 (L1) of the Sun-Earth system.

Objectives of Aditya-L1 mission

- It will examine the dynamics of the Sun's upper atmosphere (chromosphere and corona).
- It will study the chromospheric and coronal heating, the physics of partly ionized plasma and the formation of coronal mass ejections.

- It will study particle dynamics from the Sun by analyzing the in-situ particle and plasma environment.
- It will examine the physics of the solar corona as well as its heating mechanism.
- It will study the Coronal Mass Ejection's (CME) evolution, dynamics, and genesis.
- To Analyze the sequence of processes that occur at many levels (chromosphere, base, and extended corona) and its impact on solar eruptive events.
- Temperature, velocity, and density measurements of coronal and coronal loop plasma.

Payloads and its objectives

The spacecraft has been equipped with "seven" payloads designed to observe the photosphere, chromosphere, and the Sun's outermost layers (known as the corona) using electromagnetic and particle detectors. Using the unique vantage position of L1, four payloads would directly observe the Sun, while the remaining three payloads would conduct in-situ particle and field research near the Lagrange point L1.

(1) Visible Emission Line Coronagraph (VELC)

- (a) To examine the solar corona
- (b) To Pay focused attention to the fluctuations of Coronal Mass Ejections.

(2) Solar Ultraviolet Imaging Telescope (SUIT)

- (a) To record near-ultraviolet (UV) images of the Solar Photosphere and Chromosphere.
- (b) To Measure fluctuations in solar irradiance in the near ultraviolet.

(3) Solar Low Energy X-ray Spectrometer (SoLEXS)

- (a) Works as a Soft X-ray spectrometer.
- (b) Study solar X-ray flares over a wide X-ray energy range.

(4) High Energy L1 Orbiting X-ray Spectrometer (HEL1OS)

- (a) Acts as a Hard X-ray spectrometer.
- (b) Study solar X-ray flares over a wide X-ray energy range.

(5) Aditya Solar Wind Particle Experiment (ASPEX)

- (a) Solar wind and energetic ions will be studied by it.
- (b) It examines the distribution of their energy.

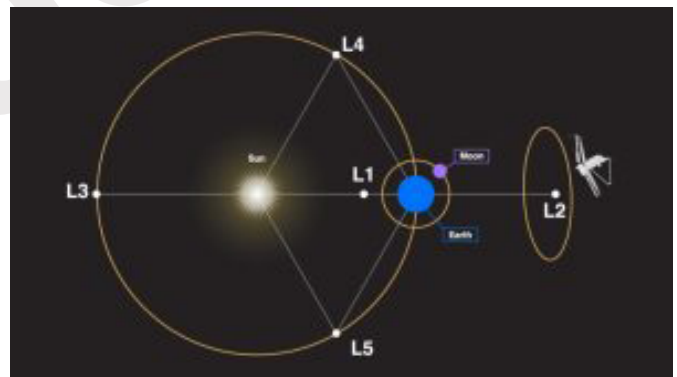
(6) Plasma Analyser Package for Aditya (PAPA)

- (a) Collect data regarding the characteristics and composition of plasma in interplanetary space.
- (b) Provides information on how solar wind interacts with the environment.

(7) Advanced Tri-axial High-Resolution Digital Magnetometers (MAG) : To measure the inter-planetary magnetic field's intensity in space.

Lagrangian Points

Lagrange points are locations in space where the gravitational pulls of two big orbiting bodies, such as the Earth and Sun, form zones of equilibrium in which a smaller object can orbit with little fuel. There are '5' Lagrange points, named L1 to L5. "L1, L2, and L3" are located along the line that connects the two enormous masses. While L4 and L5 create equilateral triangle corners, with the huge masses at the other two.



Importance of Lagrangian Point 1

L1 is a gravitationally stable location in space where the gravitational forces of two enormous bodies, such as the Sun and Earth, balance out. L1, located around 1.5 million kilometres from Earth and facing the Sun, offers an uninterrupted view of the Sun with no eclipses or occultations. There are many advantages of locating a solar observatory at L1.

- It can continuously watch the Sun with no obstructions. This enables the tracking of solar storms on their way to Earth from their start on the Sun's surface.

- Unlike probes in elliptical heliocentric orbits such as the Parker Solar Probe, the satellite can be positioned to always face the Sun. Since the gravitational forces are matched, maintaining position at L1 requires relatively little fuel.
- L1 provides an early advantage point for monitoring coronal mass ejections and solar flares before they have an impact on Earth. This gives space weather forecasters more time to prepare.
- A worldwide solar observatory, the Solar and Heliospheric Observatory (SOHO), is already installed at L1, confirming its utility.

Solar Missions Of different countries –

The United States-

Solar and Heliospheric Observatory (SOHO):

This is a collaboration between the NASA-European Space Agency (ESA) launched in 1995 to study the Sun's outer atmosphere and solar wind.

SDO (Solar Dynamics Observatory): Launched by NASA in 2010, it examines the Sun at many wavelengths in order to better understand solar changes and their impact on Earth.

ESA (European Space Agency):

Solar Orbiter: Solar Orbiter is a joint mission of ESA-NASA that will be launched in February 2020 to examine the Sun's polar regions and heliosphere.

Japan-

Hinode (Solar-B): This mission was launched in 2006 as a collaboration between the Japan Aerospace Exploration Agency (JAXA), NASA, and the United Kingdom. It studies the Sun to learn about its magnetic fields and how they affect solar activity.

China-

Advanced Space-based Solar Observatory (ASO-S): China's ASO-S mission is meant to observe and study the Sun at multiple wavelengths.

Russia-

Coronas-Photon: Launched in 2009 by the Russian

space agency Roscosmos, this mission studies solar flares by observing the Sun in X-rays and gamma rays.

PRELIMS QUESTIONS

Q1. Consider the following statements regarding XPoSat launched by ISRO:

1. It is a joint mission launched by ISRO & NASA
2. India became the third country in the world to send an observatory in the space to study astronomical sources
3. It will provide information related to Black holes & neutron stars

How many of the above statements is/are correct?

- A. Only one
- B. Only two
- C. All three
- D. None of the above

Q2. Consider the following statements regarding NISAR mission recently seen in the news:

1. It is a joint observatory being launched by NASA & ISRO which will study the entire globe in 12 days
2. NASA will provide L & S-band Synthetic Aperture Radar (SAR)
3. The GSLV launch system will be provided by ISRO
4. It will provide temporally consistent data for study of natural hazards such as Earthquake, tsunami & volcano eruptions

How many of the above statements is/are correct?

- A. Only two
- B. Only three
- C. Only four
- D. All five

ANSWER: B

Q3. Which of the following COVID vaccines uses mRNA technology?

- (a) MODERNA
- (b) Sinovac
- (c) Covaxin
- (d) AstraZeneca

Q4. Consider the following statements regarding "Europa" mission recently seen in the news:

1. It is a mission by European space agency to explore one of the largest moons of the planet Jupiter
2. While the Jupiter's moon is smaller than the earth's moon, it contains more volume of water than contained in the oceans of the Earth
3. The mission will be launched on Space X's Falcon rocket

Which of the above statement is/are correct?

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

Q5. What is the most important factor influencing the stability of Lagrangian points?

- (a) The Earth's gravitational pull
- (b) The Sun's gravitational pull
- (c) The relative masses of the two stellar bodies
- (d) The pressure of solar radiation

Q6. Because of its steady position relative to Earth and the Sun, which Lagrangian point is often suggested for the placement of space-based solar observatories?

- (a) L1
- (b) L2
- (c) L4
- (d) L5

ANSWERS

S. No.	Answers
1.	A
2.	B
3.	A
4.	B
5.	C
6.	A

MAINS QUESTION

Q1. How COVID has impacted the culture and human capital? What do you understand by Shadow Pandemic?

Q2. What are the payloads Aditya-L1 carrying? and How would Aditya L1 Mission benefit India?

Q3. What are the Goals of the Aditya L1? What makes the Lagrange L1 point unique?

ART AND CULTURE

WARLI ART FORM

WHY IN NEWS?

India's art represents its rich **cultural diversity**, which includes over 2,500 tribes and regional groupings. Recently the Warli art form was in the news for its increasing popularity in mainstream media, passing boundaries of limited reach of **Tribal art-forms in India**.

WHAT IS WARLI ART?

- Belonging to the state of **Maharashtra**, this tribal art is famous for its elementary **wall paintings**.
- Warli art represents the **daily routine of rural life**, the relationship of the tribal people with Nature, their gods, myths, traditions, customs, and festivities
- The triangles, circles and lines in **austere white against a mud brown background** align to tell stories of village life and their customs and traditions on walls and canvasses.
- For example: Images of Dhaan katayi (rice cutting), ant march, the parikrama of the migratory Aasara birds believed to fly around every temple on their journey
- It was traditionally practised by women of the Warli tribe called **Suvasinis**, who decorated the lagn chowk or the wedding square.
- The Warli women posts layers of **cow dung** slapped on the walls of village homes formed the canvas.
- When the dung dried, they were painted in mud brown to create a background, and bamboo-stick paint brushes were used to meticulously craft scenes, figures, and objects.

OTHER TRIBAL ARTFORMS IN INDIA:

THANJAVUR PAINTINGS:

- Originating from the town of Thanjavur in the state of **Tamil Nadu**, this tribal art is a celebration of the region's rich artistic tradition.
- The art form draws its immediate resources and inspiration from way back about **1600 AD**, a period when the **Nayakas of Thanjavur** under the suzerainty of the **Vijayanagara Rayas** encouraged art such as classical dance and music as well as literature, both in **Telugu and Tamil** and painting of chiefly Hindu religious subjects in temples.
- The faces of the deity are made such that they have a round face, oval-shaped eyes. After this, the main body of the deity is enclosed using an arch, curtain, etc.
- It is distinguished by its **famous gold coating**.

MADHUBANI PAINTINGS:

- Madhubani art also called as the Mithila art is a style of painting practiced in the Mithila region of **Bihar, India and Nepal**.
- Artists create these paintings using a variety of mediums, including their own fingers, or twigs, brushes, nib-pens, and matchsticks.
- The paint is created using **natural dyes and pigments**.
- The paintings are characterised by their eye-catching geometrical patterns.
- There is ritual content for particular occasions, such as birth or marriage, and festivals, such as **Holi, Surya Shasti, Kali Puja, Upanayana, and Durga Puja**.

SAURA PAINTINGS:

- Saura is a style of mural paintings which is related to the **Saura tribe of Odisha**.
- These paintings are also found in the states of

Maharashtra, Madhya Pradesh and Jharkhand.

- They are also called **Ikons**.
- The backdrop of the painting is prepared from **red or yellow ochre** which is painted using brush and bamboo.
- Very simple figures are used which depict the simple yet meaningful everyday life of a village farmer thus sharing **similarity to Warli paintings**.
- The only difference between the two is the use of **geometrical figures in Warli paintings which is absent in Saura paintings**.

PATTACHITRA PAINTINGS:

- Pattachitra paintings are traditional paintings which originated from **Odisha and West Bengal**.
- It is a **cloth-based painting** which portrays Gods and Goddesses, made of sharp and fine lines in **bold colours, floral designs in borders**.
- In olden days, these paintings were used as story-telling.
- What makes this art different from others is the way clothes are depicted. These paintings are carved on "**Patta**" which means canvas.
- It is said that an original Pattachitra painting is made from 100% natural colours and can take even months to complete.
- It is one of the oldest tribal art in India.

KHOVAR PAINTINGS:

- Khovar art originated from **Jharkhand**.
- This traditional wall art is done in the **harvest season**.
- The word Kho or Koh means cave and Var means husband. This **matriarchal art** is done by the women of the house to decorate the *wedding chambers of newlywed couples*.
- The backdrop is prepared by firstly applying a **coat of black mud** and then followed by ap-

plying a coat of white mud. After this, a tool is used to peel the coating and give the desired design.

- Usually, tribal people living in the forest carve animals like, **Tiger, Snake, Peacock, etc.** while those living on plains carve **Cow, Goat, Pigeon, etc.**

KAVAD PAINTINGS:

- The roughly 500-year-old Kavad or Kawad art of **Rajasthan** is practised by **Jangid Brahmins** from Chittorgarh.
- It's a multi-panelled, **three-dimensional box** that can be opened up.
- Several Gods and Goddesses have been painted on this portable temple.
- **Ramayana, Puranas, Bhagavad Gita**, and other epic stories are depicted on these panels, which are composed of light wood.

PHAD PAINTINGS:

- Phad, which has its roots in Rajasthan, is primarily a religious style of **scroll painting** that features the folk gods **Pabuji or Devnarayan**.
- The canvas or fabric that it is painted on is referred to as phad and is 30 or 15 feet long.
- These paintings are characterised by **vegetable colours** and a continuous narrative of the lives and valiant acts of deities.

KALAMKARI PAINTINGS:

- Kalamkari is a type of **hand-painted cotton textile** produced in the Indian state of **Andhra Pradesh**.
- **Only natural dyes are used** in Kalamkari, which involves twenty-three steps.
- There are various styles associated with Kalamkari paintings: **Srikalahasti style, Machilipatnam style etc.**
- The style owes its present status to **Kamaladevi Chattopadhyay** who popularized the art as the first chairperson of the All India Handicrafts Board.

- The term Kalamkari became popular term under the patronage of the **Golconda sultanate**.
- For royal families, a modern style known as **Karuppur features fabric** that has been embellished with golden brocade was designed.

2.

A

PRELIMS QUESTIONS

Q1. Consider the following statements regarding the Warli artform recently seen in the news & identify the incorrect statement:

- A. Famous for its elementary wall paintings, this artform belongs to the state of Maharashtra
- B. It depicts the daily routine of rural life such as Dhaan katayi, migratory birds etc.
- C. It is traditionally practised by the women called as Suvasinis
- D. Geometrical patterns are mostly absent in Warli art unlike similar Saura paintings of Odisha

Q2. Consider the following pairs regarding various Tribal artforms found in India:

1. Kalamkari paintings : Tamil Nadu
2. Kavadi paintings : Rajasthan
3. Khovar paintings : Odisha
4. Saura paintings : Jharkhand

How many of the above pairs is / are correctly matched?

- A. Only one
- B. Only two
- C. Only three
- D. All of the above

ANSWERS

S. No.	Answers
1.	D

ECOLOGY AND ENVIRONMENT

MASSIVE EARTHQUAKE OF MAGNITUDE 7.6 STRIKES JAPAN , TRIGGERING TSUNAMI WARNING

WHY IN NEWS?

On Monday afternoon, a powerful earthquake with an estimated preliminary magnitude of 7.6 struck north-central Japan. The Japan Meteorological Agency promptly issued a tsunami warning along the coasts of the prefectures of Ishikawa, Niigata, and Toyama; however, it was later withdrawn.

WHAT IS AN EARTHQUAKE AND TSUNAMI?

- **EARTHQUAKE**— any abrupt earth trembling brought on by seismic waves passing through the rocks of Earth. The quick release of energy from the Earth's crust, typically caused by the sudden fracture and "slip" of masses of rock under strain, is what causes seismic waves. Most earthquakes happen at geologic faults, which are slender areas where different rock masses move in respect to one another. The major global fault lines are found at the edges of the massive tectonic plates that comprise the crust of the Earth.
- **TSUNAMI**-Tsunamis are giant waves caused by earthquakes or volcanic eruptions under the sea. Out in the depths of the ocean, tsunami waves do not dramatically increase in height. But as the waves travel inland, they build up to higher and higher heights as the depth of the ocean decreases. The speed of tsunami waves depends on ocean depth rather than the distance from the source of the wave.

DIFFERENT TYPES OF PLATE TECTONIC DUE TO WHICH EARTHQUAKE HAPPENS

- **Divergent boundary** —A divergent border is the result of two tectonic plates moving apart. Magma, or molten rock, rises to the surface of the Earth from the mantle and solidifies to form new oceanic crust along these borders, causing frequent earthquakes. Mid-Atlantic Ridge, for example

- **Convergent boundary:** the point at which two plates converge. One or both of the plates may bend downward forming a deep under-sea trench or the margins of the colliding plates may buckle up into mountain ranges. Along convergent plate borders, a chain of volcanoes frequently arises, and strong earthquakes frequently occur. Pacific Ring of Fire, for instance
- **Transform plate boundary:** A transform plate boundary is created when two plates move past one another. An example is the San Andreas fault zone.

HOW PRONE IS INDIA FROM EARTHQUAKE ?

- (a) Approximately 59% of India's landmass is vulnerable to earthquakes of different magnitudes, according to the government.
- (b) Eight states and Union Territories have cities and towns in zone 5, which puts them at danger of the strongest earthquakes.
- (c) The second-highest level, zone-4, includes the National Capital Region. Other notable earthquakes that have occurred in the region of Delhi-NCR throughout documented history include the ones in Mathura (1803) and Bulandshahr (1956).
- (d) Zone 2 experiences the least powerful earthquakes, while Zone 5 experiences the strongest ones. The country's land area is divided into zones 5 and 2, with 11% in Zone 5, 18% in Zone 4, 30% in Zone 3, and the remainder in Zone 2.

RISK MITIGATION STRATEGY

- Establishment of **NDRF** National disaster response force in 2006 , to provide the specialist response in any disaster situations like earth-

quake.

- **Structural** -There are several different experimental techniques that can be used to test the response of structures to verify their seismic performance, one of which is the use of an earthquake shaking table (a shaking table, or simply shake table).
- **Seismic retrofitting** -the process of improving existing structure to increase increase their resistance to seismic activity, ground motion, or soil failure brought on by earthquakes is known as seismic retrofitting.
- **Seismic hazard mapping** – thorough analysis of potential danger spots in the region and demarcation of different zones based on the potential risk factor.
- **International cooperation** among countries to mitigate the affect of earthquake through sharing the risk assessment, new technology and protocol. Example -Sendai framework.
- **Education and informative campaigns** – Educate the public about earthquake risks and safety measures through awareness campaigns. Conduct regular drills and training sessions for schools, businesses, and communities.

WAY FORWARD

Earthquake is one of the deadly disaster that occurs without any prior notice there is an urgent to be updated about the modern mitigation strategies , that can significantly reduce the loss of lives as well as property.

EARTHQUAKE IN JAPAN TRIGGERED TSUNAMI

Why in the News?

A 7.5 magnitude earthquake rocked central Japan, toppling buildings, igniting fires, and sending tsunami warnings as far away as eastern Russia, prompting orders for citizens to evacuate Japan's affected coastal areas.

What is a Tsunami ?

- A tsunami is a series of exceptionally long-wave-length ocean waves with high energy, often triggered by a big and rapid disturbance in or near a body of water. Tsunami is a Japanese word used for "harbour wave."
- Tsunamis, despite their long wavelengths, can travel at great speeds across open sea. The waves compress and grow in height as they approach shallow coastal areas, producing disastrous floods and destruction when they reach the shore.

The main drivers of tsunami formation are –

Tsunamis are primarily triggered by underwater disturbances that cause a massive volume of water to be displaced. The following are the most common causes of tsunamis:

- **Underwater Earthquakes:** Underwater earthquakes, particularly those of large magnitude, cause the majority of tsunamis. When tectonic plates below the ocean floor rapidly shift, a huge quantity of water is displaced, resulting in enormous tsunami waves.
- **Volcanic Eruptions :** Underwater volcanic eruptions can result in the development of tsunamis. When magma and gases are ejected from a volcano below the sea, they force the surrounding water to shift, resulting in tsunami waves.
- **Submarine Landslides:** Landslides on the ocean floor, particularly in coastal or subsea locations, can displace water and cause tsunamis. These landslides can be caused by a variety of events, such as volcanic activity, underwater mining, or even basic instability of underwater slopes.
- **Meteorite Impacts:** Large meteorites striking the ocean can occasionally displace enough water to cause tsunami waves. The energy generated during impact can cause waves to propagate over the ocean.
- **Anthropogenic Factors :** Tsunamis can be caused by anthropogenic factors too, such as underwater nuclear explosions. For example, nuclear testing by the United States triggered

a tsunami in Marshall Island in the 1940s and 1950s.

India's Tsunami Preparation

- **Indian Tsunami Early Warning System (ITEWS) of India:** ITEWS was established to provide early alerts about impending tsunamis. A network of seismological and tide gauge stations, as well as a deep ocean assessment and reporting system (DOARS), are part of this system, which monitors and detects tsunami-generating earthquakes. Indian Tsunami Early Warning System Centre (ITEWC) is located at the Indian National Centre for Ocean Information Services (INCOIS) in Hyderabad.
- **Public Education and Awareness :** INCOIS conducts mock drills and organises workshops/training on tsunami awareness and preparedness in collaboration with the National Disaster Management Authority (NDMA).
- **Evacuation Plans:** Tsunami-prone coastal areas have evacuation plans in existence. These plans include defined evacuation routes, assembly places, and the creation of safe zones or shelters where people can seek refuge in the event of a tsunami.
- **Part of the Indian Ocean Tsunami Warning System :** India is one of the members of the Indian Ocean Tsunami Warning System (IOTWS) The acquired data is used to send timely warnings to coastal populations.
- **Community Drills and Training:** Residents in coastal towns receive exposure to regular drills and training sessions to ensure that they are familiar with evacuation protocols and know how to respond in the case of a tsunami warning. This could include simulated evacuation drills and community-based training programmes.
- **Monitoring software for earthquakes and multinode tsunami early warning systems :**
 - (a) INCOIS already has the necessary software in place for monitoring earthquakes.
 - (b) INCOIS has additionally developed Decision Support System software for automati-

ically producing and disseminating tsunami alerts for effective tsunami early warning information distribution. For example, INCOIS has created interfaces to the NDMA Common Alert Protocol (CAP) system. Additionally, it created the INCOIS smartphone app "SAMUDRA – Smart Access to Marine Users for Ocean Data Resources and Advisories."

Reasons behind high frequency of Earthquake and Tsunami in Japan

- This is due to its position. Japan is located along the 'Pacific Ring of Fire,' the world's most active seismic tectonic region.
- According to a report by Live Science, the 'ring' refers to "an imaginary horseshoe-shaped zone located around the rim of the Pacific Ocean, where the majority of the world's earthquakes and volcanic eruptions occur."
- Within the Ring of Fire, many tectonic belts, such as the Pacific Plate, Eurasian Plate, and Indo-Australian Plate, are constantly meshing and clashing, leading to earthquakes, volcanic eruptions, and tsunamis.

Conclusion

Tsunamis caused by seismic or volcanic activity are formidable natural hazards that have the ability to have devastating results along coasts. Governments around the world, including India, have put in place sophisticated contingency plans that include early warning systems, community education, and infrastructure resilience. These measures are pivotal in minimising casualties and damage.

PRELIMS QUESTIONS

Q1. What differentiates tsunami waves from normal waves as they approach the coastline?

- A) Low energy and short wavelength
- B) Low amplitude and slow pace
- C) High energy and long wavelength
- D) Patterns that are irregular and unexpected

Q2. Which ocean is most vulnerable to tsunamis due to its seismic activity?

- a. the Atlantic Ocean
- b. the Indian Ocean
- c. Pacific Ocean
- d. Arctic Ocean

Q3. Consider the following statements regarding seismic waves and their effects:

1. Seismic waves are classified into two main types: body waves and surface waves.
2. P-waves (primary waves) are compressional waves that travel through the Earth's interior, including solids and liquids.
3. Richter scale measures the magnitude of earthquakes based on the amplitude of seismic waves.
4. Tsunamis are primarily caused by underwater volcanic eruptions, not seismic activity.

How many of the following statements are correct?

- (A) only one
- (B) only two
- (C) only three
- (D) all four

ANSWERS

S. No.	Answers
1.	C
2.	D
3.	C

MAINS QUESTIONS

Q1. Examine the efficacy of India's early warning systems in minimising the effects of natural catastrophes. Consider factors such as technological

developments, community engagement, and response coordination.

Q2. Analyse the socioeconomic consequences of large-scale displacements in India caused by calamities. Investigate the long-term effects on affected populations, their livelihoods, and the government's response to these difficulties.

Q3. In Light of Recent Earthquake in Japan, Mention the Different Types of Plate Tectonics and Also Mention some Risk Mitigation Strategy for Earthquakes?

SOCIAL ISSUE

DEFINITION OF SLUM , ITS CHANGING NARRATIVE AND THEIR INNOVATIVE SOLUTIONS

WHY IN NEWS?

Recent article by Nipesh narayan in **The hindu newspaper on slums and changing narrative about their definition** issues challenges and their empowerment.

WHAT IS SLUM?

A slum is a neighborhood that has subpar housing that is unmaintained, crowded, and/or inadequately served, making it unsafe, unhealthy, and socially unattractive. While a single residence may meet this criteria, the phrase “rural” or “urban” is typically used to refer to larger areas. Like the impoverished who live in them, slums have always existed, but their numbers increased as industrial cities grew.

TIMELINE OF CHANGING PERCEPTION ABOUT SLUMS

First era (1950-60)- The slums were viewed as a legacy of the country's creation, the product of partition and the influx of a massive population into small, decaying residential zones. Example-old delhi's katras. Introduction of the Slum Areas Act of 1956 which marked a pivotal moment that made government intervention plausible after an area was officially notified as a slum. After this act slums became legal entity and their citizenship rights were also ignored , there sites were very prone to demolition by government.

Second era (1970-80)- The narrative around slums changed from one of a place that needed to be eradicated to one of as a necessary evil that required advancement. Town planning became crucial in the governance.

Third era (mid 1980-late 90)- in 1985 National Commision on Urbanisation published its first re-

port , where cities were consider as an asset than liabilities. Interventions in cities were justified based on economic considerations rather than social ones. Town planning suffered a setback while housing policy saw a major shift toward a more comprehensive strategy that addressed land, finance, and infrastructure concerns. During this time, the first two National Housing Policies were implemented. In addition, the National Slum Launching the Development programme brought back targeted funding for slum reconstruction from the union government. It was all based on data because the period depended on economic growth and the emphasis was on a variety of social and physical infrastructure.

Fourth era(2000-2014)- The definition of slums expanded with the aid of the census of 2001, giving rise to numerous specialized programs. Slums were formerly social issues but are now technical, economic items, emphasizing the effectiveness of implementation and economic growth.

CHALLENGES FACED BY SLUMS

Overcrowding: Tight quarters with little room for occupants are a common feature of slums.

Housing of poor quality: Many slum dwellings are made of improvised materials and lack facilities and adequate foundations.

Water Scarcity: Access to dependable, clean water sources is frequently limited in slum regions.

Poor Sanitation: Unsanitary conditions raise the risk of disease because of inadequate sewage and waste disposal systems.

Absence of Essential Services: Healthcare: Restricted availability of medical services and facilities.

Education: Lower literacy rates are a result of inadequate educational facilities and resources.

Poverty and Joblessness: Limited Economic Opportunities: Slum inhabitants frequently struggle to obtain steady jobs, which feeds the cycle of poverty.

Low Income: Most people living in slum areas usually live below or on minimum income.

Discrimination: People who live in slums may experience prejudice and social stigma, which can cause them to become marginalized and shut out of normal society. The susceptibility to calamities

Lack of Resilience: Slums are more likely to be affected by natural disasters since they are frequently situated in high-risk regions like floodplains or steep slopes. Low levels of security and high rates of crime:

Limited Law Enforcement: There may not be enough police presence in slum areas, which raises crime rates and makes people feel uneasy. Informal Settlements: Because they frequently do not have a valid land title, people living in slums are at risk of being uprooted and evicted.

Health Issues: Disease Outbreaks: Respiratory infections, waterborne illnesses, and vector-borne illnesses are among the diseases that are made more likely to spread when living circumstances are poor.

MEASURES TAKEN BY GOVERNMENT FOR THE AMELIORATION OF SLUMS

Jawaharlal Nehru National Urban Renewal Mission(-JNNURM)- The Integrated Housing and Slum Development Programmes (IHSDP) and Basic Services to the Urban Poor (BSUP) are being implemented with an emphasis on integrated slum development and basic services to the urban poor.

Swarna Jayanti Shahari Rozgar Yojana (SJSRY)- to give the urban poor who are unemployed or underemployed gainful employment. It does this by promoting self employment among those who fall below the poverty line, offering skill development opportunities, and paying wage workers for their labor when public assets are being built that will benefit society and the economy. This program is applicable to all of the nation's cities and towns.

Rajiv awas yojana- Under the Scheme, States that agree to grant slum inhabitants property rights in exchange for providing them with a respectable place to live, basic civic and social services, slum redevelopment, and the construction of an inventory of inexpensive homes are given financial support.

The Interest Subsidy Scheme for Housing the Urban Poor (ISHUP), which offers a 5% interest subsidy on loans up to Rs. one lakh, is being implemented to help the urban poor get credit for housing loans at reasonable rates. RAY and this plan go hand in hand.

Conclusion– Since a Very Long Time Time Urban Poors Were Seen In Bad Light , But in Recent Times Due to Social as well as Political Changes Their Empowerment as well as Amelioration has Become The Subject of Debate.

PRELIMS QUESTION

Q1. What is the main reason why urban slums are spreading so quickly in developing nations?

- A) Absence of governmental directives
- B) Rapid migration from rural to urban areas
- C) Recession in the economy
- D) Insufficient progress made in technology

ANSWERS

S. No.	Answers
1.	B

MAINS QUESTION

Q1. Explain the reason that leads to the accumulation of slums and mention measures taken by government for their amelioration?

SECURITY

CYBER CRIMES

Why in the News?

According to Rajesh Kumar, chief executive officer of the Indian Cyber Crime Coordination Centre (I4C), Ministry of Home Affairs (MHA), around 50% of cyber-crime complaints received on the national cyber crime helpline every day have their origin in China and pockets of Cambodia and Myanmar.

What is cybercrime?

- Cybercrime is defined as criminal activity carried out through the use of computer networks or digital technology.
- It refers to a wide range of illicit operations that take advantage of flaws in computer systems and networks.
- Cybercriminals often aim to steal sensitive information, financial data, or disrupt digital systems for financial gain or malicious intent. The motive behind cybercrime can vary, including financial gain, political motives, revenge, or simply causing chaos.
- Malware, social engineering, and exploiting software flaws are some common cybercrime methods.
- It can target individuals, businesses, governments, or critical infrastructure, posing a threat to national security.

Some types of cybercrimes are-

- **Hacking** : Hacking is defined as unauthorised access to computer systems or networks in order to get information or disrupt operations.
- **Phishing**: False attempts to get sensitive information, such as passwords or credit card numbers, by impersonating a trustworthy institution.

- **Ransomware**: Malicious software that encrypts a user's files and demands payment to unlock them.
- **Identity theft** : It is the theft of personal information in order to impersonate someone for financial gain or other fraudulent purposes.
- **Online fraud** : It refers to deceptive practices carried out over the internet in order to defraud individuals or corporations for financial gain.
- **Malware** : It is the malicious software that is meant to harm or exploit computer systems, such as viruses, spyware, and trojans.
- **Denial-of-Service (DoS) Attacks**: Overloading a system or network to render it unavailable to users, causing services to be disrupted.
- **Cyber Espionage** : The illegal access and theft of sensitive information in order to gain intelligence or a competitive advantage.
- **Social Engineering** : Manipulation of individuals to reveal secret information or undertake security-compromising acts.
- **Cryptojacking** : Unauthorised use of another person's computer to mine bitcoins without their knowledge or agreement.

Negative impact of cybercrime-

- **Financial Loss**: Individuals, corporations, and governments can all suffer major financial losses as a result of cybercrime.
- **Data Breaches**: The exposure of sensitive information can result in identity theft, fraud, and the invasion of an individual's privacy.
- **Operational Disruption** : Cyberattacks, like ransomware or denial-of-service attacks, can disrupt routine operations, resulting in downtime and financial losses.
- **National Security Threat** : Cybercrime creates a national security risk when key infrastructure,

government systems, or military networks are targeted.

- **Intellectual Property Loss:** Businesses may lose important intellectual property as a result of cyber espionage, reducing their competitiveness.
- **Reputational Damage :** Organisations can suffer reputational loss as a result of data breaches or other cyber incidents, affecting trust and credibility.
- **Global Economic Impact :** Cybercrime can have a broader impact on the global economy, affecting interconnected systems and international trade.

Initiatives taken by government to assuage the frequency of cybercrimes

- **CERT-In (Indian Computer Emergency Response Team):** The national nodal agency for responding to cybersecurity issues is CERT-In. It provides proactive and reactive cybersecurity support and is critical to the country's cyber infrastructure's security and resilience.
- **Botnet Cleaning and Malware Analysis Centre (Cyber Swachhta Kendra):** This campaign aims to raise awareness about botnet and malware infections and also to provide detection and cleaning solutions.
- **Indian Cyber Crime Coordination Centre (I4C):** I4C was developed by the government to provide a framework and ecosystem for Law Enforcement Agencies (LEAs) to deal with cybercrime in a comprehensive and coordinated manner.
- **National Cyber Security Policy:** (a)The goal of this policy is to provide a safe and resilient cyberspace for individuals, enterprises, and the government.(b)It includes several goals and tactics for protecting cyberspace information and infrastructure, developing capacities to avoid and respond to cyber attacks, and minimising harm through collaborative efforts of institutional structures, people, procedures, and technology.
- **National Cyber Crime Reporting Portal:** (1)The

government has developed the National Cyber Crime Reporting Portal in order to allow citizens to report incidents involving all sorts of cyber-crime.

(b) A toll-free hotline 1930 has been established to help people in filing online cyber complaints.

(C) The Citizen Financial Cyber Fraud Reporting and Management System module has also been launched to allow for the prompt reporting of financial frauds and to prevent criminals from siphoning off monies.

PRELIMS QUESTION

Q1. Which section of the IT Act authorises law enforcement agencies to issue orders for the interception or monitoring of any information transmitted via computer systems?

- (a) Section 43
- (b) Section 66A
- (c) Section 69
- (d)Section 79A

ANSWER

S. No.	Answers
1.	C

MAINS QUESTIONS

Q1. How effective, in your opinion, is India's Information Technology (IT) Act in dealing with evolving cyber risks and ensuring the security of digital transactions and data?

Q2. In your opinion, how well does India's IT Act strike a balance between preserving individual privacy and empowering law enforcement agencies to effectively combat cybercrime?