ForumIAS

Mains Marathon

Compilation

3rd to 8th April, 2023

1. **What is India's 6G vision? Highlight the rationale behind the early approach towards 6G.**
2. **What lessons can India take from its hydro-carbon policies, in transition to a self-reliant clean energy system?**

3. **A high enough carbon tax can pave the way for decarbonisation as a winning development formula. Explain.**
4. **Do you think, India's low ranking given by World Happiness Report, is based on a key misjudgment? Give reasons for your arguments.**

5. **Highlight the significance of the success of ISRO's Reusable Launch Vehicle Mission.**
6. **In the light of the recent controversy, highlight the shortcomings of the drug regulatory system of India.**

7. **Highlight the implications of strengthening Russia-China relations for India.**
8. **The Forest (Conservation) Amendment Bill, 2023 weakens the very purpose of the legislation, which is to protect and conserve India's forests. Discuss.**

9. **Do you think that India should join the investment facilitation agreement negotiations? Give reasons for your arguments.**
10. **What is the LIGO-India project? Also, highlight its significance for the technological developments in India.**

Q.1) What is India's 6G vision? Highlight the rationale behind the early approach towards 6G.

The Hindu

Introduction: Explain India's 6G vision.
Body: Explain the rationale behind the early approach towards 6G.
Conclusion: Write a way forward.

Vision Document promotes **to roll out high-speed 6G Communication Services by 2030** and also launched Bharat 6G Project to identify and fund research and deployment of the next-generation technology in India. **Bharat 6G Vision Document** enables India to become a leading global supplier of intellectual property, products and solutions of affordable 6G telecom solutions and identify priority areas for 6G research based on India's competitive advantages.

The project will be implemented in **two phases,** the first one from 2023 to 2025 and the second one from 2025 to 2030. In the first phase, it will provide support to explore new ideas and pathways. With the government's support, these ideas will then be used to develop use cases, intellectual properties (IPs) and testbeds. In the second phase, these IPs, prototypes and testbeds will be commercialized.

Rationale behind the early approach towards 6G:

- **Assuming Leadership:** The government wants to increase India's dominance in wireless data usage and it will be done through encouraging local manufacturing of telecom, supporting Indian companies and engineers in international discussions around standardization.
- **Avoiding Delays:** The government doesn't want to delay or stay behind the other countries in rolling out 6G as it did in 5G. **For instance,** 5G came in India years after countries like South Korea and the United States started using it.
- **Addressing the Demand:** with the advent of 5G and 6G technologies, lower frequencies in 4G networks may not be able to match the demand for traffic.
- **Developing R&D:** The government wants to support research in the field of 6G technologies. It will be done through **leveraging talent in academia and companies.**
- **Achieve connectivity goals**: 6G technology will help the government in achieving connectivity goals. **For instance,** ensuring that every person has access to a minimum of 100 Mbps of broadband, giving every **gram panchayat access to half a terabit** per second of connectivity, and installing over 50 million internet devices across the nation—13 per square kilometer.

6G will make websites load faster, videos to look better, and files to download faster than the 5G technology**.** However, businesses and governments are still figuring out how to best use 5G technology.

Q.2) What lessons can India take from its hydro-carbon policies, in transition to a self-reliant clean energy system?

Indian Express

Introduction: Contextual introduction.
Body: Explain what lessons India can take from its hydro-carbon policies, in transition to a self-reliant clean energy system.
Conclusion: Write a way forward.

According to the "**World Energy Transitions Outlook 2022"** report of **International Renewable Energy Agency (IRENA),** current crisis of high fossil fuel prices, energy security concerns and the urgency of climate change underscores the pressing need to move faster to a clean energy system.

India can take following lessons from its hydro-carbon policies, in transition to a self-reliant clean energy system:

- Clean energy minerals and components are internationally available. Instead of creating high-cost, domestic, clean energy hub dependent upon subsidies, government should **strengthen the trading relationship with exporting countries.**
- The hydrocarbon resources are located in harsh terrain and complex geology. They were difficult to produce on a commercial basis. The reason is the **high cost of drilling and development.**
- **Process cost,** due to land acquisition, erratic supplies of water and power and legal redress, needs to be **minimised**.
- The country should desist from building a high-cost, domestic, clean energy hub that is forever dependent on subsidies. Like oil, clean energy minerals and components are internationally traded. They can be purchased on the international market.
- Clean energy sector should not take the availability of tech as manufacturing competitiveness. China's dominance in PV solar cell manufacturing is because, China has been successful to **convert raw material into an end product, efficiently.**
- India should continue with its **two-track policy with China**. China is the lowest-cost supplier of clean energy components. One track will put us eye-ball-to-eye-ball on the border, the other should strengthen our trading relationship.
- In case of the **PLI scheme for clean energy sector**, the incentives offered are small compared to the benefits provided by the US and Europe. Therefore, endeavour should instead be to **lower entry barriers, ease business conditions** and remove the perception that India offers a high-cost operating environment.

Non combustion based RE power generation technologies have the potential to significantly reduce local and regional air pollution and lower associated health impacts compared to fossil-based power generation.

Q.3) A high enough carbon tax can pave the way for decarbonisation as a winning development formula. Explain.

Introduction: Introduction with recent context **Body:** Write both the sides of the argument for and against the carbon tax **Conclusion:** Why India cannot have high tax rate

Carbon Tax refers to the tax levied on the carbon emissions in the process of production, import and transportation. It is a source of revenue for the government as well as an incentive to switch away from carbon-intensive fuels, like coal.

The global average price of carbon tax currently is $6/ton, which is a fraction of the harm caused from pollution. IMF proposes that price floors for a ton of carbon for the United States, China, and India be $75, $50 and $25 respectively. Such a high carbon tax may pave way for decarbonization in a short span of time. The benefits of decarbonization are:

1) Extreme weather events are increasing for India. India ranks fifth in the global climate risk index 2020, and the climate change has led to direct economic losses worth trillions. Decarbonisation will reduce these losses for India.
2) Fiscal gains from high carbon tax will be huge, and can generate 2% of GDP as revenue. This can be used to promote the use of renewable and environment-friendly solutions. So that the carbon footprint can be lowered further. For example California state uses the revenue generated by Carbon permits to subsidize electric vehicles.
3) Carbon tax will also help India augment its effort toward carbon-neutral status by 2070. As a leader of the global south on climate action, high carbon tax will pace up

decarbonization. India will be able to lead through example, bolstering its claim as a world leader.

These reasons make the strategy of decarbonisation through high carbon tax a winning developmental formula, so that economic prosperity follows smaller carbon footprint.

However, there are certain challenges that India might face, if it opts for a high carbon tax rate:

1) The cumulative emissions determine the extent of temperature change. Historically, India has only contributed 4% to cumulative emissions. High carbon tax rate and consequent inflation will be a punishment, for a mistake that India never committed.
2) High carbon tax rate will make the exports uncompetitive for global market, especially while competing with countries that have lower or nil carbon tax.
3) High tax rate might lead to de-growth and de-industrialisation for India. However, due to the youth bulge, India needs employment and industrialisation.

Therefore, the concept of a high carbon tax for India, which has marginal contribution to cumulative emission, is not feasible. It is not a winning developmental formula, since it will dovetail inflation, uncompetitive exports and de-growth. If we opt for high tax and undifferentiated responsibility rhetoric, we shall be making the international inequality a reality for the fate of future generations to come.

Q.4) Do you think, India's low ranking given by World Happiness Report, is based on a key misjudgment? Give reasons for your arguments.

Introduction: Details about the report
Body: Reasons for misjudgement
Conclusion: Possible additions to index

World Happiness Report presents the people's assessment of their lives through qualitative indicators. It is published by Sustainable Development Solutions Network (SDSN), and uses a framework to evaluate people's own opinion about their lives, progress and well being, through quantitative indicators.

India ranked very low in these reports (126th out of 137 countries in 2023 report) and these reports have been widely criticised by experts for misjudgement. The reasons for misjudgement are:

1) Only a tiny fraction of citizens of a country participates in the report survey. Thus, the feedback of these people (about a thousand) determines the outcomes for all the citizens (about 130 crore), which may not be a realistic perception.
2) Happiness is a subjective feeling, which can not be caught into any fixed parameter. In a collectivist society, the parameters of happiness will be significantly different from the parameters in an individualistic society.
3) Happiness Index gains wide publicity, hence there may be politically motivated reason for dominant countries to tarnish the image of India through the index, when India defies its diktat, especially in the Ukraine-Russia war.
4) There has been obvious discrepancy in the rankings. The neighbouring countries of India, facing political, social and economic crisis (Pakistan, Sri Lanka Afghanistan and Myanmar), are ranked better than India, which has been enjoying a stable political and economic regime. The report indicates that citizens of such countries are happier than India, which seems distant from reality.
5) The methodology fails to incorporate diversity, spirituality, festivities, divorce rates and closeness of parents with their children. These factors would incorporate the key factors of happiness in a collectivistic society.

Therefore, the attempt to arrest a wide emotion such as happiness within the folds of quantitative ranking has been mediocre at best. This report needs a revamp, so that all the

aspects of happiness have their due weightage, instead of vilifying certain countries for not becoming as individualistic as western countries.

Q.5) Highlight the significance of the success of ISRO's Reusable Launch Vehicle Mission.

Introduction: Provide a brief introduction on the 'success of ISRO's Reusable Launch Vehicle Mission'.
Body: Write 4-5 points on the significance of the success of ISRO's Reusable Launch Vehicle Mission. Write 2-3 points on the ways India can move forward after this mission.
Conclusion: Provide a conclusion on the success of the Reusable Launch Vehicle Mission.

Introduction:
ISRO's Reusable Launch Vehicle (RLV) Mission has achieved significant success in its recent test, marking a significant milestone in India's space exploration efforts. The Reusable Launch Vehicle Autonomous Landing Mission (RLV LEX) test, the second of five planned tests, demonstrated a precise landing of a reusable launch vehicle at the Aeronautical Test Range in Karnataka, India.

What is the significance of the success of ISRO's Reusable Launch Vehicle Mission?

- **Cost Reduction:** The success of the RLV Mission holds great significance as it aims to develop a fully reusable launch vehicle, enabling low-cost access to space. Reusable launch vehicles have the potential to significantly reduce the cost of space exploration, with estimates suggesting up to an 80% reduction in launch costs.
- **Access to Space:** Reusable launch vehicles open up new possibilities for frequent and affordable access to space, allowing for more frequent satellite launches, scientific experiments, and exploration missions.
- **Technological Advancement:** The RLV Mission involves the development of essential technologies, including hypersonic flight, autonomous landing, return flight, powered cruise flight, and scramjet propulsion. These advancements contribute to India's capabilities in space technology and strengthen its position in the global space industry.
- **Indigenous Development:** The success of the RLV Mission showcases India's indigenous efforts in developing advanced space technologies. By reducing dependence on foreign launch vehicles, India can enhance its self-reliance in space exploration and commercial satellite launches.
- **Environmental Impact:** Reusable launch vehicles have the potential to reduce space debris, as the same vehicle can be used multiple times instead of being discarded after a single launch. This contributes to the sustainability of space activities and helps protect Earth's orbital environment.

Way Forward:

- **Further Experiments:** The RLV Mission will continue with three more experiments: return flight, powered cruise flight, and Scramjet Propulsion Experiment (SPEX). These experiments will further refine and validate the technologies required for a fully reusable launch vehicle.
- **Scalability:** The RLV-TD, currently being tested, will be scaled up to become the first stage of India's reusable two-stage orbital launch vehicle. This scaling-up process will involve additional advancements and testing to ensure the successful deployment of a fully operational reusable launch system.

Conclusion:
The success of ISRO's Reusable Launch Vehicle Mission holds immense significance for India's space exploration endeavors. By developing a fully reusable launch vehicle, ISRO aims to reduce the cost of access to space, enhance technological capabilities, and promote indigenous development.

Q.6) In the light of the recent controversy, highlight the shortcomings of the drug regulatory system of India.

Introduction: Provide a brief introduction on the recent controversy and the shortcomings of the drug regulatory system of India.
Body: Write 4-5 points highlighting the shortcomings of the drug regulatory system of India. Write 3-4 points on the ways India can improve this shortcoming.
Conclusion: Provide a conclusion on the shortcomings of the drug regulatory system of India.

Introduction:
Recent controversy regarding the manufacturing process of eye drops exported by Chennai-based Global Pharma has raised concerns about the drug regulatory system in India. The US FDA conducted a plant inspection and listed multiple negative observations, leading to a halt in imports of the eye drops. Independent inspections by Indian regulators, however, found that quality standards were met. The focus should be on the domestic evaluation process and the overall shortcomings of India's drug regulatory system.

Shortcomings of the drug regulatory system of India:

- **Fragmented regulatory framework:** India's regulatory system for licensing drug manufacture and quality control is split between the central government (GoI) and states, leading to a fragmented system.
- **Varying quality supervision:** The fragmented system provides arbitrage opportunities as the quality of supervision varies across states, affecting the overall consistency of regulatory norms.
- **Inconsistent quality evaluation:** The market for medicines in India is nationwide, but the quality evaluation process is not standardized. Different states employ different sampling methodologies, raising questions about the reliability of quality assessment.
- **Lack of transparency:** A study in 2016 revealed that apart from Kerala and Tamil Nadu, other states and the central government lacked satisfactory answers to Right to Information (RTI) questions on sampling, indicating a lack of transparency in the process.
- **Shortage of drug inspectors:** A 2020 report by Brookings India highlighted a nationwide shortage of drug inspectors, with their numbers failing to keep pace with the growth of the domestic pharmaceutical industry. This shortage hampers effective monitoring and regulation.

Way forward:

- **Establish a unified regulatory system:** The Indian government should work towards establishing a unified drug regulatory system that streamlines processes, eliminates arbitrage opportunities, and ensures consistent quality evaluation across all states.
- **Strengthen transparency and accountability:** Enhance transparency in the drug regulatory system by ensuring timely and accurate responses to RTI queries. This will promote accountability and build trust among consumers and stakeholders.

- **Increase the number of drug inspectors:** Address the shortage of drug inspectors by increasing their numbers to match the growth of the pharmaceutical industry. This will enable more effective monitoring and regulation of drug manufacturing processes.
- **Enhance collaboration and coordination:** Foster greater collaboration and coordination between the central government and state regulatory bodies to ensure a unified approach to drug regulation.

Conclusion:
In light of the recent controversy and the shortcomings of India's drug regulatory system, comprehensive reforms are needed. A unified regulatory system, standardized sampling, transparency, more drug inspectors, and better collaboration are crucial for ensuring high-quality standards and protecting consumer health.

Q.7) Highlight the implications of strengthening Russia-China relations for India.

Introduction: Provide a brief introduction on "strengthening Russia-China relations for India".
Body: Write 3-4 points on the Implications of Strengthening Russia-China Relations for India. Write 2-3 points on the ways India can counterbalance the influence of the Russia-China alliance.
Conclusion: Provide a conclusion on the Russia-China relations and its Implications for India.

Introduction:
Strengthening Russia-China relations have significant implications for India's foreign policy and security considerations. Xi Jinping's recent state visit to Russia reaffirmed the deepening partnership between the two countries, despite the Ukraine crisis. The partnership is driven by a shared belief in countering Western containment and the perceived decline of the United States and the West.

What are the Implications of Strengthening Russia-China Relations for India?

- **Increased Strategic Pressure:** Russia and China view the US-led West as determined to contain their respective ambitions, leading to a closer partnership. India may face increased strategic pressure as it aligns with the US and other Western powers, potentially limiting its autonomy and room for maneuver in regional affairs.
- **Geopolitical Shifts in Central Asia:** China's growing influence in Central Asia, through initiatives like the Central Asian summit, poses a challenge to Russia's traditional dominance in the region. India's limited presence in Central Asia may be further marginalized as China solidifies its position as a security guarantor for these countries.
- **Economic and Energy Partnership:** China has structured an advantageous economic and energy partnership with Russia, enhancing its energy security through land-based supply routes. This partnership gives China greater leverage over Russia's engagement with India, potentially limiting defense cooperation and independent relations between Russia and India.
- **Limitations on Mediation Role:** China's alignment with Russia in the Ukraine crisis prevents it from playing a mediatory role between Ukraine and Russia, contrary to some expectations. The absence of a phone call between Xi and Ukrainian President Zelenskyy signifies China's clear support for Russia, further solidifying their alliance.

Way Forward:

- **Assessing Strategic Interests:** India needs to carefully assess the evolving Russia-China partnership and its implications for its own strategic interests.
- **Strengthening Regional Alliances:** Strengthening ties with like-minded partners in the Indo-Pacific region and beyond can help counterbalance the influence of the Russia-China alliance.
- **Diversifying Energy Sources:** Diversifying energy sources and strengthening economic partnerships with other countries can reduce India's vulnerability to potential limitations imposed by the Russia-China partnership.

Conclusion:
The deepening partnership between Russia and China carries significant implications for India's foreign policy and security considerations. China's alignment with Russia amid the Ukraine crisis and its growing influence in Central Asia may limit India's regional presence and autonomy. India should carefully assess the evolving dynamics and seek strategic partnerships to counterbalance the influence of the Russia-China alliance. Diversification of energy sources and economic partnerships can enhance India's resilience in the face of potential limitations imposed by this strategic partnership.

Q.8) The Forest (Conservation) Amendment Bill, 2023 weakens the very purpose of the legislation, which is to protect and conserve India's forests. Discuss.

Introduction: Provide a brief introduction on the "Forest (Conservation) Amendment Bill, 2023 weakens the very purpose of the legislation, which is to protect and conserve India's forests"
Body: Write 3-4 points on "How The Forest (Conservation) Amendment Bill, 2023 weakens the purpose of the legislation". Write 2-3 points on the ways the bill can be modified so that no one is at loss.
Conclusion: Provide a conclusion on the Forest (Conservation) Amendment Bill, 2023 and the balance upheld to protect forests and biodiversity.

Introduction:
The Forest (Conservation) Amendment Bill, 2023 was introduced in Lok Sabha to make changes to The Forest (Conservation) Act, 1980. The proposed amendments focus on building carbon stocks in plantations and providing land for compensatory afforestation in lieu of diverted forest land. However, these changes weaken the original purpose of the legislation, which is to protect and conserve India's forests.

How The Forest (Conservation) Amendment Bill, 2023 weakens the purpose of the legislation?

- **Restricting applicability of the FC Act:** The Bill limits the applicability of the Forest (Conservation) Act only to land recorded as 'forest.' This excludes millions of hectares of land that have forest characteristics but are not officially notified as such, removing their protection under the Act.
- **Ignoring unrecorded forests:** Vast areas of unrecorded forests were left out during the process of designating reserved and protected forests. Instead of completing the demarcation process, the Bill ignores these unrecorded forests, further jeopardizing their protection.
- **Promoting plantations over natural forests:** The Bill incentivizes the establishment of plantations on land where the FC Act is not applicable. These plantations can then be used to compensate for the diversion of recorded forest land for development

projects. This trade-off between natural forests and plantations weakens the conservation goals of the legislation.

- **Expanding exemptions:** The proposed amendments seek to expand exemptions for certain projects and activities from obtaining forest clearance. This includes strategic linear projects near international borders and areas affected by Left Wing Extremism. Such exemptions further undermine the conservation efforts of the legislation.

Way forward:

- **Complete ground surveys:** Instead of limiting the applicability of the FC Act, there should be a focus on completing the demarcation process for unrecorded forests. This would ensure their inclusion and protection under the legislation.
- **Balance development and conservation:** There should be a careful balance between development projects and forest conservation. Compensatory afforestation should be carried out on non-forest land or degraded forest land, rather than promoting plantations over natural forests.
- **Indigenous and forest community rights:** The rights of indigenous and forest communities should be respected and their consent sought when it comes to the diversion of forest land. Their livelihoods and dependence on forests should be considered in decision-making processes.

Conclusion:

The Forest (Conservation) Amendment Bill, 2023 undermines forest conservation by prioritizing plantations, limiting the Act's applicability, and expanding exemptions. Balance and indigenous rights must be upheld to protect forests and biodiversity.

Q.9 Do you think that India should join the investment facilitation agreement negotiations? Give reasons for your arguments.

Introduction: Provide a brief introduction on "India and the investment facilitation agreement negotiations"
Body: Write 2- points on India's Advantages of Joining IFA Negotiations. Write 3-4 points on Way Forward for India.
Conclusion: Provide a conclusion on Whether India should join the investment facilitation agreement negotiations or not

Introduction:

The investment facilitation agreement (IFA) is gaining momentum as a rule-making initiative in the World Trade Organization's (WTO) current challenges. While India has not joined the negotiations, it is important to consider whether India should participate in the IFA discussions.

What are the Advantages of Joining IFA Negotiations?

- **Enhancing Investment Flows:** The IFA aims to create legally binding provisions that facilitate investment flows, which can benefit India by attracting foreign direct investment (FDI). Regulatory transparency and predictability of investment measures can attract more investors, stimulating economic growth and job creation.
- **Addressing Apprehensions of Investor-State Dispute Settlement (ISDS):** India's concerns regarding potential ISDS claims under existing bilateral investment treaties (BITs) should be addressed. The IFA can be structured to ensure that its provisions do not allow foreign investors to bring claims against the host state for alleged treaty

breaches. Including language in the IFA text that explicitly insulates it from BITs and clarifies its limited scope can safeguard India's interests.

- **Reforming BITs:** Joining the IFA negotiations provides an opportunity for India to reform its existing BITs and align them with the IFA's principles. Countries supporting the IFA can collaborate to amend their respective BITs and exclude the IFA from its scope, ensuring consistency and avoiding conflicts.

Way Forward:

- **Participate Actively in IFA Negotiations:** India should actively engage in the IFA negotiations, contributing to the development of provisions that align with its interests. By participating, India can shape the agreement to address apprehensions and incorporate safeguards that protect its sovereignty and regulatory autonomy.
- **Collaborate with Like-minded Countries:** India should collaborate with other countries supporting the IFA to amend their BITs accordingly. By forming a coalition of countries sharing common objectives, India can strengthen its position and influence the direction of the IFA negotiations.
- **Monitor and Evaluate ISDS Interpretations:** India should closely monitor ISDS tribunal decisions and interpretations to ensure they align with the intended scope of the IFA. If necessary, India can advocate for reforms to prevent any overly broad interpretations that could undermine the agreement's objectives.

Conclusion:

India should consider joining the investment facilitation agreement negotiations at the WTO, taking advantage of the opportunity to shape provisions that align with its interests. By actively participating and collaborating with like-minded countries, India can address its apprehensions regarding ISDS claims and reform its existing BITs. Joining the IFA negotiations can promote investment flows, enhance regulatory transparency, and contribute to India's economic growth while safeguarding its regulatory autonomy.

Q.10 What is the LIGO-India project? Also, highlight its significance for the technological developments in India.

Introduction: Provide a brief introduction to the "LIGO-India project"
Body: Write 3-4 points on the Significance of Technological Developments in India. Write 3-4 points on Way Forward for India in the LIGO-India project.
Conclusion: Provide a conclusion on the LIGO-India project and its significance for the technological developments in India

Introduction:

The Union Cabinet has approved the establishment of LIGO-India, a gravitational-wave detection facility in Maharashtra, India. LIGO-India will consist of a detector called the Laser Interferometer Gravitational-wave Observatory (LIGO), similar to the existing instruments in the United States. Its purpose is to enhance the collective ability of LIGO detectors to locate gravitational wave sources, contributing to the field of astrophysics and opening up new avenues for scientific exploration.

What is the Significance of Technological Developments in India?

- **Advancing Scientific Research:** LIGO-India presents an opportunity for India to become a global hub for gravitational physics research, enabling the training and development of expertise in precision technologies and control systems.

- **Technological Expertise:** The project will drive advancements in precision instrumentation, data analysis, and high-performance computing, bolstering India's technological capabilities.
- **Research Collaboration:** LIGO-India will foster collaborations with international scientific communities, attracting top talent and promoting knowledge exchange in cutting-edge scientific techniques.
- **Innovation and Economic Growth:** The development of LIGO-India will stimulate research and innovation, contributing to India's technological advancements and economic growth.
- **Participation in International Scientific Community:** LIGO-India signifies India's commitment to scientific progress and active participation in the global scientific community.

Way Forward:

- **Addressing Societal Concerns:** LIGO-India should engage in meaningful dialogue with local communities, addressing concerns related to land-use change, environmental sustainability, and access to resources.
- **Community Engagement:** The project should contribute to the communities it relies on, through knowledge sharing, employment opportunities, and public outreach initiatives.
- **Responsible Land Management:** LIGO-India should ensure responsible land management practices, respecting cultural and environmental sensitivities.
- **Timely Execution:** Timely release of funds and efficient allocation of resources are crucial for the successful construction and operation of LIGO-India.
- **Collaboration with LIGO Scientific Collaboration:** Active collaboration with the international LIGO Scientific Collaboration will enhance the scientific value and global recognition of LIGO-India.

Conclusion:

LIGO-India's approval marks a significant milestone in India's scientific and technological advancements. The project holds immense potential for India to excel in gravitational physics research and develop expertise in precision technologies. LIGO-India's establishment signifies India's commitment to scientific progress and its active involvement in the global scientific community. By addressing societal concerns, engaging with communities, and fostering collaboration, LIGO-India can achieve its goals and contribute to India's technological development and scientific reputation.