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SEVEN IMPORTANT ISSUES

I. INTRODUCTION OF BHARAT STAGE-VI NORMS IN INDIA

Why in News?

Petrol pumps in the Delhi-NCR from April 1, 2018 started supplying ultra-clean Bharat Stage-VI grade fuel (both petrol and diesel). This move makes New Delhi the first city in the country to switch from BS-IV grade fuels to BS-VI (equivalent to fuel meeting Euro-VI emission norms). Other cities like Noida, Ghaziabad, Gurugram and Faridabad along with 13 major cities, including Mumbai, Chennai, Bengaluru, Hyderabad and Pune, will also switch over to cleaner BS-VI grade fuel from January 1 next year. However, BS-VI fuel will be rolled out in rest of the country by April 2020.

Background

The first emission norms were introduced in India in 1991 for petrol and 1992 for diesel vehicles. These were followed by making the catalytic converter mandatory for petrol vehicles and the introduction of unleaded petrol in the market. On 29 April 1999 the Supreme Court of India ruled that all vehicles in India have to meet Euro I or India 2000 norms by 1 June 1999 and Euro II was made mandatory in the NCR by April 2000. Car makers were not prepared for this transition and in a subsequent judgement the implementation date for Euro II was not enforced.

In 2002, the Indian government accepted the report submitted by the Mashelkar committee. The committee proposed a road map for the roll out of Euro based emission norms for India. It also recommended a phased implementation of future norms with the regulations being implemented in major cities first and extended to the rest of the country after a few years. Based on the recommendations of the committee,

the National Auto Fuel policy was announced officially in 2003. The roadmap for implementation of the Bharat Stage norms was laid out till 2010. The policy also created guidelines for auto fuels, reduction of pollution from older vehicles and R&D for air quality data creation and health administration

India is a country with 10 most populated cities of the world and this is one distinction we should not be proud of. Vehicular emission is a major contributor to the worsening air quality of Indian cities. Emission of NO_x, SO₂, CO₂ and particulate matter is taking a toll on people's health. In cities like Delhi, the PM_{2.5} level is more than 6 times the prescribed levels by WHO. Being a signatory to Paris Climate Agreement, India is obligated to bring down the carbon footprint by 33-55% from the levels recorded in 2005 in the next 12 years. This warranted the need for a stricter norm that could reduce the emissions considerably and put India on track to meet the Paris agreement goals. Ideally, BS-V would have been rolled out by 2021 and BS-VI in 2024 but leapfrog to Bharat Stage-VI norms by 2020 had to be planned because of the carbon footprint obligations.

Bharat Stage Norms

Introduced in 2000, the Bharat norms are emission control standards that are based on the European regulations (Euro norms). They set limits for release of air pollutants from equipment using



internal combustion engines, including vehicles. Typically, the higher the stage, the more stringent the norms. The BS-IV norms were introduced in 13 cities apart from the National Capital Region from April 2010 onwards. According to the roadmap, the entire nation was to be covered under BS-IV by April 1, 2017. BS-IV fuel was also to be made available across the country from April 1 this year. Other developing countries such as China have already upgraded to the equivalent of Euro-V emission norms a while ago. So, India is lagging behind even after implementation of BS-IV norms.

Bharat Stage-VI (BS-VI) is an emission standard that brings much-needed changes in the Indian automobile industry in terms of pollutant emissions. Now, Delhi comes at par with the US, European countries and other advanced automotive markets across the globe. Bharat Stage-VI norms includes a wide list of technology modifications under the hood, the most significant being making OBD (On-board diagnostics) mandatory for all vehicles. BS-IV grade fuel was first introduced in the country in April last year, but India subsequently decided to jump to BS-VI grade by April 2020 to meet international best practices. This measure is expected to help mitigate

the problem of air pollution in the country. IOC, the nation's biggest oil firm controlling roughly half of retail fuel market, will source the BS-VI fuel to meet Delhi's requirement from its Mathura and Panipat refineries, while Hindustan Petroleum Corp Ltd (HPCL) will do so from its joint venture refinery at Bhatinda. Bharat Petroleum Corp Ltd (BPCL) will supply the fuel from its Bina refinery.

Difference Between BS-IV and the New BS-VI: The major difference in standards between the existing BS-IV and the new BS-VI auto fuel norms is the presence of sulphur. The newly introduced fuel is estimated to reduce the amount of sulphur released by 80 per cent, from 50 parts per million to 10 ppm. As per the analysts, the emission of NOx (nitrogen oxides) from diesel cars is also expected to reduce by nearly 70 per cent and 25 per cent from cars with petrol engines.

Pollution Control Measures

National Air Quality Index (AQI) has been launched to disseminate air quality information. The AQI has six categories of air quality, viz Good, Satisfactory, Moderately polluted, Poor, Very Poor and Severe with distinct colour scheme. Each of these categories is associated with likely health impacts.

Government Policy and Programme:

- The government has notified National Ambient Air Quality Standards envisaging 12 pollutants to control air pollution under the Environment (Protection) Act, 1986.
- AQI considers eight pollutants (PM₁₀, PM_{2.5}, NO₂, SO₂, CO, O₃, NH₃ and Pb) for which short-term (upto 24-hourly averaging period) and four pollutant (benzene (C₆H₆), Benzopyrene (BAP), Arsenic (As) and Nickel (Ni)) and long term (yearly).
- These norms have been formulated to adopt uniform methodology for measurement of air pollutants with the help of network of 612 monitoring stations set up across the country.
- The government has also notified emission standards for on-road vehicles and mass emission standards for new vehicles under the Motor Vehicles Act, 1988.
- The same are enforced by transport departments of the state governments through Pollution Under Control (PUC) regime.
- Central Pollution Control Board (CPCB) has set up a mechanism called 'Environmental Surveillance Squad' (ESS) programme for carrying out surprise inspections of industrial units based on adoption of a uniform approach and elimination of subjectivity in scheduling of inspection.
- The role of State Pollution Control Boards / Pollution Control Committees is critical in enforcing the provisions of the Environment (Protection) Act, 1986, Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981.

Indian Emission Standards (4-Wheel Vehicles)			
Standard	Reference	YEAR	Region
India 2000	Euro 1	2000	Nationwide
Bharat Stage-II	Euro 2	2001	NCR, Mumbai, Kolkata, Chennai
		2003.04	NCR, 13 Cities
		2005.04	Nationwide
Bharat Stage-III	Euro 3	2005.04	NCR, 13 Cities
		2010.04	Nationwide
Bharat Stage-IV	Euro 4	2010.04	NCR, 13 Cities
		2017.04	Nationwide
Bharat Stage-V	Euro 5	(to be skipped)	
Bharat Stage-VI	Euro 6	2018.04	Delhi NCT
		2020.04 (proposed)	Nationwide

Advantages of BS-VI over BS-IV

BS-VI is in lines with Euro-VI norm already adopted in European countries. In fact, this new emission norm will also address one major drawback in the Euro-VI norm that allows emission of higher PM (particulate matter) in diesel engines.

Major Benefits of Bharat Stage-VI Norms

- NOx emission will come down by approximately 25% for the petrol engine and 68% for the diesel engines.
- The PM emission will see a substantial decrease of 80% in diesel engines.
- OBD (On-board Diagnostics) will become mandatory for every vehicle and it will help monitor the pollution caused by the vehicle in real time.
- RDE (Real Driving Emission) will be introduced for the first time that will measure the emission in real-world conditions and not just under test conditions.
- Bharat Stage-VI norms will also change the way particulate matter is measured. It will now be measured by number standard instead of mass standard thereby, regulating the fine particulate matter as well.

The reason behind making OBD mandatory is to make sure that the emission control component work at its optimum efficiency at all times. OBD port will help to detect the malfunction with the help of the error codes sent by the malfunctioning component.

Technology Challenges for Shifting from BS-IV to BS-VI

However, the introduction of higher grade fuel will be beneficial only if it is done in tandem with the roll-out of BS-VI compliant vehicles.

Using BS-VI fuel in the current BS-IV engines or, conversely, running BS-VI engines on the current-grade fuel, may be ineffective in curbing vehicular pollution and may damage the engine in the long run. Taking a leap from BS-IV to BS-VI comes with immense technical challenges. It took Europe 9 years to completely implement the Euro 6 standards.

- **Original Equipment Manufacturer (OEM):** Although BS VI is based on Euro 6, the OEMs cannot simply add required component to the vehicle. For instance, fitting a Euro 6 complaint Diesel Particulate Filter (DPF) in a small diesel car in India will require bonnet size to increase, thereby going beyond 4 meters mark. This may lead to a loss in excise benefit.
- **Constraints Related to Emission:** To keep both PM and NOx level under check, the OEMs would require diverse technologies to work in tandem. A Diesel particulate filter (DPF) will be fitted in the automobile to expel particulate matters from the exhaust gas. Similarly, for NOx reduction, selective catalytic reduction (SCR) and exhaust gas recirculation (EGR) will be used. In a nutshell, the engine will now have a purification plant built into them. The increase in weight resulting from the inclusion of these devices has also to be kept at its minimum in order not to affect the fuel-efficiency of the engine which is one of the major deciding factors for the car buyers.
- **Concerns over Fuel Grade:** Every pollution emission norm is partially based on the type of fuel used in the vehicle, based on which it limits the amount of permissible emission. In the transition from BS-IV to BS-VI as well, fuel companies have an important part to play. They will need to make the specified grade of fuel available before April 2020.

- **Automotive Electronics & Embedded systems Related Constraints:** Automotive OEMs, suppliers and automotive embedded software and hardware providers will have to work together to develop and update ECUs for continuous monitoring of the engine's increased complexity as well as real-time emission.

Air (Prevention and Control of Pollution) Act, 1981

Government of enacted Air (Prevention and Control of Pollution) Act, 1981 to arrest the deterioration in the air quality. The act prescribes various functions for the Central Pollution Control Board (CPCB) at the apex level and State Pollution Control Boards at the state level.:

Functions of Central Pollution Control Board

- To advise the central government on any matter concerning the improvement of the quality of the air and the prevention, control and abatement of air pollution. To plan and cause to be executed a nation-wide programme for the prevention, control and abatement of air pollution.
- To provide technical assistance and guidance to the State Pollution Control Board.
- To carry out and sponsor investigations and research related to prevention, control and abatement of air pollution.
- To collect, compile and publish technical and statistical data related to air pollution; and to lay down and annual standards for the quality of air.

Functions of State Pollution Control Boards

- To plan a comprehensive programme for prevention, control and abatement of air pollution and

to secure the execution thereof.

- To advise the state government on any matter concerning prevention, control and abatement of air pollution.
- To collect and disseminate information related to air pollution.
- To collaborate with Central Pollution Control Board in programme related to prevention, control and abatement of air pollution; and
- To inspect air pollution control areas, assess quality of air and to take steps for prevention, control

and abatement of air pollution in such areas.

Conclusion

The government of National Capital Territory of Delhi has taken several steps to reduce the level of air pollution in the city during the last 10 years. The benefits of air pollution control measures are showing in the readings. The Supreme Court put it best, "The health of the people is far, far more important than the commercial interests of the manufacturers". India is on the radar of global automakers

as vehicle penetration is still low here, compared to developed countries. Besides, many Indian cities are already among those with the poorest air quality in the world. Upgrading to stricter fuel standards helps tackle air pollution.

General Studies Paper- III

Topic: Infrastructure: Energy, Ports, Roads, Airports, Railways etc.

Topic: Conservation, environmental pollution and degradation, environmental impact assessment.

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2. AN EFFECTIVE PARLIAMENT: NEED OF THE HOUR

Why in News?

This year's budget session of Parliament ended as one of the most dramatic, yet least productive in 18 years. Out of the 580 starred questions, only 17 of them were answered and this translates to "0.58" questions being answered on an average every day during 29 sittings before the House adjourned sine die. A total of 127 hours and 45 minutes were affected due to "interruptions and forced adjournments".

Background

According to the Constitution of India, the union legislative body is called the Parliament. The Hindi term for Parliament is Sansad. The Parliament includes the President and the two Houses – the Council of States (Rajya Sabha) and the House of the People (Lok Sabha). This kind of system, with two Houses, is called a bicameral legislature.

- Least Amount of Time spent by Both Houses on debating the Budget since 2000 and 100% of the demand for grants passed without discussion

- In the first part of the session, majority of the time was spent on the general discussion of the Union Budget. Lok Sabha spent almost 15 hours discussing the Budget, while Rajya Sabha spent 11 hours. Since 2000, on an average, Lok Sabha has Rajya Sabha has spent 23 hours.
- In the second part of the session, the Finance Bill was passed in the Lok Sabha in 18, without any MP's participation. This was the lowest time spent on discussing the Finance Bill since 2000. The longest time spent was 12 hours and 48 minutes in 2003.
- The Finance Bill typically contains only tax proposals. However, this year, it included amendments to 18 Acts unrelated to taxation.
- In this session, the Demand for Grants of six ministries: Railways, Agriculture, Social Justice and Empowerment, Health, Youth Affairs and Road Transport, amounting to 28% of government expenditure was to be discussed. Note that the

total Demand for Grants of all ministries is about Rs 26 lakh crore.

- The entire expenditure was guillotined, i.e. passed without discussion. Note that 100% guillotining was also observed in 2004-05 and 2013-14.
- Poorest performance of Question Hour in Lok Sabha since 2014
 - Question Hour in Lok Sabha functioned for 11% of its scheduled time and for 3% in Rajya Sabha. In the 16th Lok Sabha, this was the least productive Question Hour for Lok Sabha.
 - Due to disruptions, Question Hour in Lok Sabha and Rajya Sabha functioned for its entire duration only for one day.
- Least Productive Budget Session since 2000. 1% of productive time spent on legislative business in Lok Sabha; 6% in Rajya Sabha Lowest number of discussions on matters of public importance since 2014
 - The President's address was taken up for discussion in

both Houses. The address was discussed for almost 26 hours in both Houses with 157 MPs participating in the discussion.

- This session saw the lowest number of non-legislative debates since the beginning of the 16th Lok Sabha. The issue of irregularities in the banking sector was listed for discussion. However, it was not taken up.
- During the budget session, Rajya Sabha examines the functioning of various ministries. In this session, the working of four ministries: Drinking Water and Sanitation, Home Affairs, Culture and Food Processing Industries were listed for discussion. However, none were taken up.

Functions of Parliament

In the Indian system, the Council of Ministers are also Members of Parliament (that is, there is an overlap of the legislative and executive functions for several members). For those members who are part of the Council of Ministers, there is an additional responsibility of the executive as compared to those who are not in the Council of Ministers.

The broad functions of Parliament can be described as follows:

- **Legislative responsibility:** To pass laws.
- **Oversight responsibility:** To ensure that the executive (i.e. government) performs its duties satisfactorily.
- **Representative responsibility:** To represent the views and aspirations of the people of their constituency in Parliament.
- **"Power of the Purse" responsibility:** To approve

and oversee the revenues and expenditures proposed by the government.

Need of the Hour

The time is ripe for the immediate setting up of a high-level committee on parliamentary reforms comprising eminent jurists and constitutional experts, to suggest a way to evolve and upgrade parliamentary procedures. This has also been suggested by Dr Subhash Kashyap, eminent expert in constitutional law and parliamentary affairs, as well as the 2004 report of the National Commission to Review the Working of the Constitution.

Second, there should be a monetary penalty for deviation from expected behaviour, executed in terms of disentitlement to the daily sitting allowance for MPs for days on which no substantial work has been transacted in parliament. The third step towards parliamentary procedural reforms should be reinstating the sanctity of Question Hour. This potent weapon in the hand of MPs to question all government acts of omission and commission is in pressing need of revamp. In order to rein in this repeated disruption no time should be lost in strictly defining the procedures and penalties for disrupting a Question Hour.

Fourth, Adjournment Motions should no longer be seen as a latent device for presenting a No-Confidence Motion against the ruling government. Entirely disassociated from a No-Confidence Motion, Adjournment Motions should be refurbished as a way to introduce matters of extraordinary and urgent concern, which could not be included beforehand in the business of parliament for a given day. And the final outcome of an Adjournment Motion should not entail any demand for the exit of the government, which is the essence of a No-Confidence Motion. Fifth, we need a specific codification of

the rules and punishments for entering the well of the house. Entering the well of the house should be possible only if the subject being raised has prior notice and also the formal approval of the party concerned. This rule should also entail the automatic suspension of the MP from the house and his/her disentitlement to the sitting allowance for the day in parliament, in case of disobedience.

The limits to parliamentary privileges are still undefined. Parliamentary privileges are allowed to MPs by the Constitution of India to enable them to discharge their parliamentary duties in the interests of the people without any obstruction towards the free and independent functioning of parliament.

Urgently Needed Reform

Parliament is supposed to be a union of exemplary orators, with a grass-roots touch. Unfortunately, one is rarely inspired by the quality of India's parliamentary debates nowadays. Parliamentary debates, which once focussed on national and critical issues, are now more about local problems, viewed from a parochial angle. Parliament should be a space for policy and not for politics.

- With niggardly attendance by our Members of Parliament (MPs), poor quality of debates and pandemonium marking the proceedings, there is seemingly little value that a parliamentary representative can add to the policy discourse.
- Low productivity: Between the 1950s and the 1960s, the Lok Sabha used to meet for an average of 120 days in a year. In comparison, in the last decade, it has met for an average of 70 days a year. It should have a minimum mandated

number of days to meet — with the National Commission to review the working of the Constitution recommending 120 and 100 days for the Lok Sabha and Rajya Sabha, respectively.

- **Women's Representation:** The Lok Sabha and the Rajya Sabha have not seen women MPs cross the 12% mark. In 2017, India ranked 148 in terms of representation of women in Parliament. While the 73rd and 74th constitutional amendments enabled the reservation of 33% of seats in local government, political representation by women candidates continues to be subdued. This needs to be changed dramatically by reserving 33% of all seats in Parliament and State legislatures for women.
- Question Hour is an important tool to ensure accountability. Using this tool effectively involves studying a subject thoroughly, asking questions on issues which have significant consequences, pursuing the subject matter doggedly and calling attention to discrepancies in the answers of Ministers. It is unfortunate that Question Hour

has become the first casualty in course of embarrassing the government and disrupting the legislature.

- With respect to Rule 377 (Lok Sabha) and special mention (Rajya Sabha), when MPs raise issues of public importance, the Minister has to respond. However, there is no time limit within which the response must be issued. Therefore, there are delays. In order to improve accountability, a time limit must be provided for response by the Minister.
- As regards Standing Committees, it is problematic that attendance in these committees is often poor. Even when people attend, they do not participate in the discussions. These committees should be taken more seriously because they allow for an opportunity to contribute to the law making process.
- It is often a misunderstanding that the Parliament makes laws. The executive makes the laws and also administers them. The Parliament only affirms and discusses the laws which are drafted by the executive.
- The only way by which Parliament

contributes to law making is through private member bills. If Parliament's law making powers need to be strengthened, private member bills ought to be given a bigger role, more time, more facilities and more attention. Currently, while half a day is devoted to private member resolutions, a full day should be used for this purpose.

- Due to the anti-defection law, MPs now face a dilemma. They stand for elections on a party ticket, but they are voted to power by their constituents. When an MP's constituents feel an issue is important, but the party does not find it important, or the party view is opposed to the issue, the MP is caught in a dilemma. If he raises the issue in Parliament, he will lose his seat and if he does not, he will not be reelected.
- Only 27%-30% of the funds utilised from the Consolidated Fund of India are subject to parliamentary scrutiny. This should change and there should be greater financial accountability.

Measuring the Effectiveness of the Indian Parliament

Metric	Remarks
Legislation	
Quantity of law: ➤ Total amount of time spent by MP on debating bills in Parliament ➤ Percentage of time spent on legislative business in Parliament ➤ Average time spent in discussing bills Type of legislation: ➤ Total number of original bills and amendments introduced by the government and private members respectively ➤ Ratio of private member bills to government bills ➤ Total time spent in discussion of private member bills ➤ Number of times that the government has given assurance that it would take up a private member -----	➤ Number of new laws and time spent on them are easily measurable and describes the priority of Parliament towards legislation. The time spent in discussing each bill demonstrates the level of scrutiny attendant on each bill. ➤ The number of private member bills demonstrates the initiative of MPs in proposing new laws. Government assurances regarding the taking up of private members' bills help demonstrate the impact of such private initiatives on legislation.

Oversight	
Quality of law: ➤ Quality of speeches made during legislative debate ➤ Quality of laws enacted □ Percentage of enacted laws struck down by the Supreme Court or the High Courts on grounds of constitutional invalidity □ Percentage of enacted laws amended subsequently by Parliament within ❖ 3 years ❖ 3-5 years Keeping track of legislation: ➤ Monitoring whether legislation is effectively implemented (includes inter alia whether adequate financial provision has been made for implementation of the legislation) Monitoring of delegated legislation ➤ Number of times MPs have objected to enactment of delegated legislation under the relevant statute and this has been discussed in Parliament ➤ Work of the Parliamentary Standing Committee on Subordinate Legislation □ Number of sittings of the Committee □ Number of reports issued by the Committee	➤ It is perhaps impossible to conceive of an objective set of criteria to judge the quality of legislative debates. If a law is struck down on grounds of constitutional invalidity, it is indicative of insufficient scrutiny on part of Parliament. Similarly, if a law is amended within a short period of time after its enactment, it may show that it was not well drafted in the first place. ➤ In determining whether adequate financial provision has been made with respect to legislation, it is important to bear in mind that the financial provision made for achieving the bill's stated objects is often understated. ➤ Many laws delegate details of implementation to the executive, subject to Parliament's approval. MPs perform this responsibility both on the floor of the House and through the Standing Committee on Subordinate Legislation. Whereas the number of sittings and reports of the Committee are measurable, the quality of its work is difficult to judge.
Work of Standing Committees and Ad Hoc Committees on bills ➤ Number of committee recommendations that have been accepted and adopted by the government as amendments to bills ➤ Average number of sittings per bill Oversight through the committee system: ➤ Number of issues taken up for discussion ➤ Average number of sittings of committee for issuance of report Oversight through Parliamentary questions and interpretations ➤ Number of starred questions actually discussed during Question hour ➤ Quality of questions asked ➤ Time lost during Question Hour as a result of interruptions	➤ This metric indicates the extent to which the work of Standing Committees has a substantive impact on law making. Again, it is difficult to determine the quality of the Standing Committee recommendations. ➤ Since a considerable amount of time during parliamentary discussion is lost due to interruptions, this metric seeks to measure the actual time devoted to relevant questioning of executive activity. While determining the quality of the questions asked is crucial to a determination of parliamentary effectiveness, it is not clear as to how this may be done.
Budgeting	
Ex ante consideration and approval of the government's financial budget ➤ Quantity of time devoted to discussion of budget in Parliament □ Number of sittings of Parliamentary Standing Committees pertaining to discussion of the budget □ Ratio of the amount of money to be spent on a project to the number of pages in the Standing Committee Report. This is a proxy to see whether the Committee devotes more time to examine big-ticket spending □ Ratio of number of pages in the report to the number of line items in the budget Monitoring government expenditure ex post to ensure that it has conformed to the terms that the Parliament has approved ➤ Number of issues raised during Parliamentary discussion based on reports of the Comptroller and Auditor General related ➤ Time spent on questioning of financial improprieties brought to light by media in Parliament ➤ Number of issues raised by the Public Accounts Committee. Number of their recommendations accepted by the government	➤ The government's budget proposals are examined by Standing Committees, and then discussed on the floor of the House. Several proxies may be used to measure the effectiveness of scrutiny at both these levels. ➤ The time spent in discussion of CAG related issues and debate over financial improprieties indicates parliamentary vigilance over expenditure of public finances. ➤ The Public Accounts Committee of Parliament holds ministries accountable to the findings of the CAG. It also inquires into whether government funds were spent on purposes for which they were allocated.
Representation	
➤ Total number of issues raised by Lok Sabha MPs under Rule 377 that have a bearing on their constituencies ➤ Total number of questions asked by Lok Sabha MPs during Question Hour that have a bearing on their constituencies	➤ This metric enables a quantitative determination of the amount of time spent by both Lok Sabha and Rajya Sabha MPs in monitoring government activities that affect their constituencies.

Conclusion

India is a democratic country and Indians are proud of the democratic norms followed by the government. The Parliament is the most important symbol of Indian democracy. India was under British colonial rule from 1858 to 1947 during which rule, the people lived in fear of the British government. A democratic government is run with the consent, approval and participation of the citizens. All the citizens of India are involved in the running of the government and in the decision-making process through their chosen representatives. The

government is put on trial during the Question Hour and every Minister whose turn it is to answer questions has to stand up and answer for his or his administration's acts of omission and commission. Starred Question is one to which a member desires an oral answer in the House. The Question to a Private Member is addressed to the Member himself/herself and it is asked when the subject matter of it pertains to any Bill. The MPs, as representatives of the people, play a crucial role in controlling, guiding and informing the Parliament and this is a main feature of the functioning of Indian democracy.

It has been suggested that the Parliament should reserve a certain number of seats for women, so that the problem faced by Indian women will get highlighted in Parliament and their problems taken care of.

General Studies Paper- II

Topic: Parliament and State Legislatures - structure, functioning, conduct of business, powers & privileges and issues arising out of these.

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3. UPHOLDING THE FREEDOM OF PRESS

Why in News?

The Information and Broadcasting ministry withdrew Guidelines for Accreditation of Journalists amended to regulate Fake News issued on 02 April 2018. The move came after the Prime Minister's Office advised the I&B Ministry to withdraw the order and let the Press Council of India handle fake news issue. The PMO had also suggested that any decision on fake news should be taken by bodies like the Press Council of India and the News Broadcasters Association.

Introduction

Democracy is based essentially on free debate and open discussion. If democracy means government of the people by the people, it is obvious that every citizen must be entitled to participate in the democratic process and in order to enable him to intelligently exercise his right of making a choice, free and general discussion of public matters is absolutely essential. The democratic credentials of a state are judged today by the extent of the freedom the press enjoys in that state. Freedom of thought and expression

and the freedom of the press are not only valuable freedoms in themselves but are basic to a democratic form of government.

The press is the medium of social, public and political intercourse; and is the means of expression of opinion, a means of communication of facts of public life. It is an educator of the people, the electorate and all persons generally. It is the fourth estate of the State. There is no separate mention of the freedom of the press, but it is held to be included in the larger freedom of speech and expression. The importance of the freedom of the press lies in the fact that for most citizens the prospect of personal familiarity with newsworthy events is unrealistic. In seeking out news, the media therefore act for the public at large. It is the means by which people receive free flow of information and ideas, which is essential to intelligent self-governance, that is, democracy.

Development of the Meaning of Freedom of Press

Historically, the origin of the concept of freedom of press took place in the England. From the earliest times, in the

West, persecution for the expression of opinion even in matter relating to science or philosophy was restored to by both the Church and the State, to suppress alleged heresy, corruption of the youth or sedition. Such restraints, through licensing and censorship, came to be accentuated after the invention of printing towards the latter part of the 15th Century and the appearance of newspaper in the 17th Century, - which demonstrated how powerful the press was as a medium of expression.

Shortly after their emergence, newspaper came to take up the cause of the opposition against monarchical absolutism, which in turn, led to different methods of suppression. It is in protest against such governmental interference that freedom of the press was built up in England. Opposition to governmental interference, which had been brewing on for some time, was supported by logical arguments by Milton in his *Areopagitica* (1644), for instance, that free men must have the 'liberty to know, to utter and to argue freely according to conscience, above all liberties'. Any form of censorship was intolerable, whether imposed by a royal decree or by legislation.

In fact, Milton's *Areopagitica* was a protest addressed to the long Parliament which had taken up licensing, after the abolition of the Star Chamber. It was as a result of such agitation that the Licensing Act of 1662 was eventually refused to be renewed by the House of Commons, in 1694, though the reasons given were technical. The history of freedom of press, in England, is thus a triumph of the people against the power of the licenser. Since there is no written Constitution nor any guarantee of fundamental right in England, the concept of freedom of press, like the wider concept of freedom of expression, has been basically negative. In other words, freedom of press, in England, means the right to print and publish anything which is not prohibited by law or made an offence, such as sedition, contempt of court, obscenity, defamation, blasphemy.

Background: Indian Perspective

Press laws in India have a long history and are deeply rooted in the country's colonial experience under British rule. The earliest regulatory measures can be traced back to 1799 when Lord Wellesley promulgated the Press Regulations, which had the effect of imposing pre-censorship on an infant newspaper publishing industry. The onset of 1835 saw the promulgation of the Press Act, which undid most of the repressive features of earlier legislations on the subject. Thereafter on 18th June 1857, the government passed the 'Gagging Act', which among various other things introduced compulsory licensing for the owning or running of printing presses.

Then followed the 'Press and Registration of Books Act' in 1867 and which continues to remain in force till date. Governor General Lord Lytton promulgated the 'Vernacular Press Act' of 1878 allowing the government

to clamp down on the publication of writings deemed seditious and to impose punitive sanctions on printers and publishers who failed to fall in line. In 1908, Lord Minto promulgated the 'Newspapers (Incitement to Offences) Act, 1908 which authorized local authorities to take action against the editor of any newspaper that published matter deemed to constitute an incitement to rebellion.

However, the most significant day in the history of press regulations was the 26th of January 1950 the day on which the Constitution was brought into force. The colonial experience of the Indians made them realise the crucial significance of the 'Freedom of Press'. Such freedom was therefore incorporated in the Constitution; to empower the press to disseminate knowledge to the masses and the Constituent Assembly thus, decided to safeguard this 'Freedom of Press' as a fundamental right.

It is evident from the history of freedom of the press during the past two centuries from its inception in the 1780s to 1980s that the government of India took measures both during the pre and post-independence period to curtail the freedom of the press. There were more Governor Generals and Viceroys who passed laws imposing restrictions on the press than those who relaxed such restrictions. After independence also, laws continued to be passed imposing restrictions on the press. There was always confrontation between the government and the press with the press waging a battle to preserve its freedom against the powers of the government. It is a tribute to the resilience of the press in the face of such heavy odds that it continued to grow in numbers as well as influence throughout this period. This is because the press from the beginning had the sanction of public opinion and the gradually developing democratic tradition in India.

Status of Freedom of Press in India

Freedom of press is not specifically mentioned in article 19(1) (a) of the Constitution and what is mentioned there is only freedom of speech and expression. In the constituent assembly debates it was made clear by Dr. Ambedkar, Chairman of the Drafting Committee, that no special mention of the freedom of press was necessary at all as the press and an individual or a citizen were the same as far as their right of expression was concerned.

In India, freedom of the press has been treated as part of the freedom of speech and expression guaranteed by Article 19(1)(a) of the Constitution, vide *Brij Bhushan and Another vs. The State of Delhi*, AIR 1950 and *Sakal Papers (P) Ltd vs. Union of India*, AIR 1962, among others. However, as mentioned in Article 19(2), reasonable restrictions can be placed on this right, in the interest of the sovereignty and integrity of India, the security of the state, public order, decency or morality, or in relation to contempt of court, defamation or incitement to an offence. Hence, freedom of the media is not an absolute freedom.

Under Art. 41 of the Constitution, it is the duty of the State to endeavour within the limits of its economic capacity, for securing the right to work, education etc. The directive principles though are not enforceable, nevertheless in terms of liberty of an individual, on the right to have education, the principles have a relevance while amplifying his right under Article 21 of the Constitution. This education is not to be, limited for any learning programme for employment or otherwise. Its reach is beyond learning or knowledge and is to equip him as a reasonable citizen, think ideally for him in the democratic State. The education of individual through dissemination of information and knowledge is the bedrock of

democracy. The universal declaration of Human Rights in its Preamble speaks about such right available to the individual. Thus, to exercise political power in democracy, citizen must be educated to actuate his public reasoning. Thus, the media's role has to be understood on the anvil of public function to educate the citizen in terms of his political, social and economic aspiration and development. The liberty of the Press having operational freedom in terms of Art. 19(1) of Constitution must be understood with liberty with responsibility. This responsibility has to be considered from the constitutional scheme of polity and the society as envisaged under the Constitution.

Role of Supreme Court

In *Romesh Thaper vs State of Madras* and *Brij Bhushan vs State of Delhi*, the Supreme Court took it for granted the fact that the freedom of the press was an essential part of the right to freedom of speech and expression. It was observed by Patanjali Sastri J. in *Romesh Thaper* that freedom of speech and expression included propagation of ideas and that freedom was ensured by the freedom of circulation.

Role of UNESCO

In 1989, after the end of the Cold War, UNESCO further strengthened its commitments to freedom of the press. To this end, UNESCO organized in all regions of the world a series of seminars on freedom of the press, independent and pluralistic media which led to the adoption of key reference texts. These texts were subsequently endorsed by all member states. Since the adoption of the New Communication Strategy by the General Conference in 1989, UNESCO has contributed to a wider recognition and public awareness of the importance of freedom of expression and freedom of information as a fundamental human right.

Issue of Press Freedom in India

The Indian media is often criticised for its deteriorating reporting standards, jaundiced coverage of politics and regurgitation of online trends. The 2017 World Press Freedom Index by Reporters Without Borders ranked India at 136 out of 180 countries.

In large part the threat to the Indian media's ability to preserve plurality of views is due to a flawed regulatory architecture that does little to protect press freedom and more to silence it. In what follows we look at the regulation and laws that govern the Indian media and what needs to change in order to strengthen press freedom.

Criminal Defamation

Criminal defamation, as defined under Section 499 of the Indian Penal Code, permits any person who has suffered damage in reputation on action of others to sue for defamation. A lack of clarity that often leads to misuse of defamation laws by using them as a harassment tool. The ultimate result is that this restricts speech.

Media Regulators without Power

The Press Council of India and News Broadcasting Standards Authority (NBSA) act as a watchdog for the print media and television news respectively. The lack of punitive power means the two self-regulating media bodies are at best, toothless tigers.

No Law for Protection of Sources

The protection of identity of sources used by the journalists is an important element in how they unearth the truth. However, in India, there are no statutory rights accorded to journalists to protect their sources. In fact, in a court of law, a journalist may be held in contempt of court for not disclosing her sources.

Should There be Limits on Media Ownership?

News media ownership needs to be examined from the angle of press plurality. At present there are no regulations that impose limits on

- i) Cross-media ownership,
- ii) Investment in news media by non-media organisations or
- iii) News media organisations diversifying into non-media businesses.

The Telecom Regulatory Authority of India (TRAI) has made significant recommendations with regard to media ownership, determination of market share and market power of media organisations with the idea of preserving plurality of views. In the case of cross media ownership, TRAI recommends that relevant markets should be defined as per the language which is spoken by majority of the people in the state.

Pros & Cons of Media Censorship

1. It protects children from extremely violent and sexual material.	1. It encourages ignorance.
2. It limits advertisements that can be harmful.	2. It promotes manipulation for personal gain.
3. It helps control hate.	3. It limits education and awareness.
4. It helps protect security.	4. It takes away the freedom of speech.

Way Forward

The role of the press in the developing and the democratic society should neither be that of an adversary nor an ally of the government. A free press should be in our view a constructive critic. Editors should insist on their right to have final say in the acceptance or rejection of advertisements, its contents specially those which border on or cross the line of decency and obscenity, legitimate claims for a product or services and also to the proportions of the space devoted to them.

In keeping with its affirmation that freedom of expression is one of the essential foundations of a [democratic] society, the Court has clearly shown a preference for freedom of press. It must be reiterated that the freedom of press and information are fundamental to healthy working of a democracy and therefore, must coexist with the freedom of speech and expression. At the time when the whole world

is waking up to the need of the hour India must also rise and join the race of freedom and liberalization. The status of freedom of the press is the same as that of an ordinary citizen.

However, as no freedom is absolute, India must put restrictions on these freedoms and must apply contemporary standards rather than international standards in determining the limits. Political debates and sharing

of ideas must be encouraged because they ensure a healthy government and in turn a healthy society.

General Studies Paper- II

Topic: Indian Constitution- historical underpinnings, evolution, features, amendments, significant provisions and basic structure.

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4. THE MENACE OF FOREST FIRE

Why in News?

The recent wildfire tragedy in Theni in Tamil Nadu, in which 20 trekkers lost their lives, once again brings into focus forest fires in India. Over the past few years, we have realised that these fires are not spontaneous; human beings set off fires. This tragedy raises several other issues — of approaches in fighting fires and ways of mitigating damage.

Introduction

The total forest cover of the country, as per current assessment is 7,08,273 sq km which is 21.54% of the geographic area of the country. In terms of density classes, area covered by very dense forest is 98,158sq km, that with moderately dense forest is 3,08,318 sq km and open forest is 3,01,797 sq km corresponding to 2.99, 9.38 and 9.18 percent respectively of the total geographical area of the country. The most common hazard in forests is forests fire. Forests fires are as old as the forests themselves. They pose a threat not only to the forest wealth but also to the entire regime to fauna and flora seriously disturbing the bio-diversity and the ecology and environment of a region. During summer, when there is no rain for months, the forests become littered with dry senescent leaves and twinges, which could burst into flames ignited by the slightest spark.

The Himalayan forests, particularly, Garhwal Himalayas have been burning regularly during the last few summers, with colossal loss of vegetation cover of that region.

Forest fire causes imbalances in nature and endangers biodiversity by reducing faunal and floral wealth. Traditional methods of fire prevention are not proving effective and it is now essential to raise public awareness on the matter, particularly among those people who live close to or in forested areas.

Causes of Forest Fire

Forest fires are caused by Natural causes as well as Man-made causes.

1. **Natural Causes:** Many forest fires start from natural causes such as lightning which set trees on fire. However, rain extinguishes such fires without causing much damage. High atmospheric temperatures and dryness (low humidity) offer favorable circumstance for a fire to start.
- Other natural causes are the friction of bamboos swaying due to high wind velocity and rolling stones that result in sparks setting off fires in highly inflammable leaf litter on the forest floor.
2. **Man-made Causes:** Fire is caused when a source of fire like

naked flame, cigarette or bidi, electric spark or any source of ignition comes into contact with inflammable material.

- ♦ Graziers and gatherers of various forest products starting small fires to obtain good grazing grass as well as to facilitate gathering of minor forest produce like flowers of *Madhuca indica* and leaves of *Diospyros melanoxylon*.
- ♦ The centuries old practice of shifting cultivation (especially in the North-Eastern region of India and in parts of the states of Orissa and Andhra Pradesh).
- ♦ The use of fires by villagers to ward off wild animals.
- ♦ Fires lit intentionally by people living around forests for recreation.
- ♦ Fires started accidentally by careless visitors to forests who discard cigarette butts.

Traditionally Indian forests have been affected by fires. The menace has been aggravated with rising human and cattle population and the consequent increase in demand for forest products by individuals and communities.

It has been estimated that 90% of forest fires in India are man-made.

Types of Forest Fire

There are two types of forest fire i) Surface Fire and ii) Crown Fire

- **Surface Fire-** A forest fire may burn primarily as a surface fire, spreading along the ground as the surface litter (senescent leaves and twigs and dry grasses etc) on the forest floor and is engulfed by the spreading flames.
- **Crown Fire-** The other type of forest fire is a crown fire in which the crown of trees and shrubs burn, often sustained by a surface fire. A crown fire is particularly very dangerous in a coniferous forest because resinous material given off burning logs burn furiously. On hill slopes, if the fire starts downhill, it spreads up fast as heated air adjacent to a slope tends to flow up the slope spreading flames along with it. If the fire starts uphill, there is less likelihood of it spreading downwards.

Vulnerability of Indian Forests Towards Fire

The youngest mountain ranges of Himalayas are the most vulnerable stretches of the world susceptible to forest fires. The forests of Western Himalayas are more frequently vulnerable to forest fires as compared to those in Eastern Himalayas. This is because forests of Eastern Himalayas grow in high rain density. With large scale expansion of chirr (Pine) forests in many areas of the Himalayas the frequency and intensity of forest fires has increased.

The forest fire is dependent on three essential components i.e. fuel, oxygen and heat. Availability of these three components is not uniform throughout the country's forest and thus the forest fire situation in the country is not uniform. Depending upon the susceptibility of the tree species and climatic conditions, the fire situation is very

diverse in different forest areas. The vulnerability of the Indian forests towards fire varies from place to place depending upon the type of vegetation, the climate and various other factors- both natural as well as man-made. The coniferous forest in the Himalayan region comprising of fir (*Albiespp*), spruce (*Picea smithiana*), Cedrus deodra, Pinus roxburgii and P. Wallichiana etc. is very prone to fire. The most vulnerable stretches of the world to forest fire are the youngest mountain ranges of Himalayas.

Forest Fire Monitoring

Near Real Time Forest Fire Alerts:

When a fire anywhere in the world is detected by NASA's MODIS (Moderate Resolution Imaging Spectroradiometer) and VIIRS (Visible Infrared Imaging Radiometer Suite) satellites, the Forest Survey of India (FSI) analyses the data by overlaying the digitised boundaries of forest areas to pinpoint the location to the exact forest compartment.

- The resolution of these satellites are up to 375m x 375m, which means that such fires can be detected if their extent is above half the pixel, i.e. about seven hectares.
- The FSI relays news of the fire to the concerned state, so that the Divisional Forest Officer (DFO) in charge of the forest where the fire is raging is informed.
- A few years ago, the time lapse between spotting the fire and the news reaching the DFO was five to six hours, but this has been reduced to about two hours recently. The frequency of the two satellites orbiting the earth has also been increased from twice daily to once in three hours.
- Meanwhile, news of the fire would have reached the DFO from his guards in watchtowers and on patrol. The DFO decides whom to

deploy. Usually, there is a master fire control room which is informed and which sends firefighters from local fire crew stations to fight the blaze.

Pre Warning Alert System:

Forest Survey of India, with years of experience with the repository of fire related data, developed in 2016, an indigenous "Pre Warning Alert System". The alerts to state forest departments are based on parameters like forest cover, forest type, climatic variables (temperature and rainfall) and recent fire incidences over the area. The GIS layers of these parameters are overlaid and intersect areas above threshold values are chosen and communicated as pre warning forest fire alerts in the form of Keyhole Markup Language (KML) files through email to the nodal officer of the state forest departments. These alerts which are generated based on short term weather variables, are valid for the ensuing week. This process was further refined in 2017 wherein, small areas which are vulnerable to fires were also alerted. In the year 2017, the analysis was shifted to a grid based system (5km x 5km) allowing parameters to be quantified and represented within these grids. Inclusion of more parameters such as slope, aspect and soil type etc and integrating with near real time weather databases of Indian Meteorological Department (IMD) and Indian Institute of Tropical Meteorology (IITM) are also envisaged to develop indices to accurately indicate the fuel characteristics, fire behavior, improve pre-warning and reduce processing time in the near future.

Effects of Forest Fire

Forest Fires are a major cause of forest degradation and have wide ranging adverse ecological, economic and social impacts, including:

- Loss of valuable timber resources.
- Degradation of catchment areas.
- Loss of biodiversity and extinction of plants and animals.
- Loss of wildlife habitat and depletion of wildlife.
- Loss of natural regeneration and reduction in forest cover.
- Global warming.
- Loss of carbon sink resource and increase in percentage of CO₂ in atmosphere.
- Change in the microclimate of the area with unhealthy living conditions.
- Soil erosion affecting productivity of soils and production.
- Ozone layer depletion.
- Health problems leading to diseases.
- Loss of livelihood for tribal people and the rural poor, as approximately 300 million people are directly dependent upon collection of non-timber forest products from forest areas for their livelihood.

Impacts of Forest Fires on Biological Environment

Forest fires also pose serious health hazards by producing smoke and noxious gases, as the events in Indonesia after the forest fires on the islands of Sumatra and Borneo in 1977 have shown. The burning of vegetation gives off not only carbon dioxide but also a host of other, noxious gases (Green house gases) such as carbon monoxide, methane, hydrocarbons, nitric oxide and nitrous oxide, that lead to global warming and ozone layer depletion. Consequently, thousands of people suffered from serious respiratory problems due to these toxic gases. Burning forests and grasslands also add to already serious threat of global warming. Recent measurement suggest that biomass burning may be as significant global source of methyl

bromide, which is an ozone depleting chemical.

Forest Fires Fighting Approaches

There are four approaches to fighting forest fires.

- The first is technological, where helicopters or ground - based personnel spray fire retardant chemicals, or pump water to fight the blaze.
- Contain fire in compartments bordered by natural barriers such as streams, roads, ridges and fire lines along hillsides or across plains. A fire line is a line through a forest which has been cleared of all vegetation. The width depends on the type of forest being protected. Once the blaze has burnt out all combustibles in the affected compartment, it fizzles out and the neighbouring compartments are saved.
- Set a counter fire, so that when a fire is unapproachable for humans, a line is cleared of combustibles and manned. One waits until the wildfire is near enough to be sucking oxygen towards it and then all the people manning the line set fire to the line simultaneously. The counter fire rushes towards the wildfire, leaving a stretch of burnt ground. As soon as the two fires meet, the blaze is extinguished.
- The fourth approach, which is the most practical and most widely used, is to have enough people with leafy green boughs to beat the fire out. This is practised in combination with fire lines and counter fires.

The Needs of the Fire Management

The incidence of forest fires in the country is on the increase and more area is burned each year. The major cause of this failure is the piecemeal approach

to the problem. Both the national focus and the technical resources required for sustaining a systematic forest fire management programme are lacking in the country. Important forest fire management elements like strategic fire centres, coordination among Ministries, funding, human resource development, fire research, fire management and extension programmes are missing.

Taking into consideration the serious nature of the problem, it is necessary to make some major improvements in the forest fire management strategy for the country. The Ministry of Environment and Forests, has prepared a National Master Plan for forest fire control. This plan proposes to introduce a well-coordinated and integrated fire-management programme that includes the following components:

- Prevention of human-caused fires through education and environmental modification. It will include silvicultural activities, engineering works, people participation and education and enforcement. It is proposed that more emphasis be given to people participation through joint forest fire management for fire prevention.
- Prompt detection of fires through a well-coordinated network of observation points, efficient ground patrolling and communication networks. Remote sensing technology is to be given due importance in fire detection. For successful fire management and administration, a National Fire Danger Rating System (NFDRS) and Fire Forecasting System are to be developed in the country.
- Fast initial attack measures.
- Vigorous follow up action.
- Introducing a forest fuel modification system at strategic points.

- Firefighting resources.

Each of the above components plays an important role in the success of the entire system of fire management. Special emphasis is to be given to research, training, and development.

Preparedness and Mitigation Measures

Forest fires are usually seasonal. They usually start in the dry season and can be prevented by adequate precautions. Successive Five Year Plans have provided funds for forests fighting. During the British period, fire was prevented in the summer through removal of forest litter all along the forest boundary. This was called "Forest Fire Line". This line used to prevent fire breaking into the forest from one compartment to another. The collected litter was burnt in isolation. Generally, the fire spreads only if there is continuous supply of fuel (Dry vegetation) along its path. The best way to control a forest fire is therefore, to prevent it from spreading, which can be done by creating firebreaks in the shape of small clearings of ditches in the forests.

Food Agriculture Organisation (FAO) Recommendations on Forest Fire Management

To achieve the set objectives of the project, the work plan was divided into following four phases:

- To conduct comprehensive analysis of the forest fire situation in India, including the study of number of fires and area burnt; the effects of ecological, economical and social impacts, current capacity for forest fire management at the national and states levels, including review of existing laws, regulations and policies covering forest fire management.

- To design a training package on strategic forest fire management planning which would enable Indian foresters to prepare site specific fire plans for all the forest types in the country.
- To conduct training courses for the foresters and planners, who would then be capable of preparing strategic forest fire management plans and providing identical training to large number of field foresters throughout the country.
- To develop minimum one model state forest Fire management plan to serve as an example for subsequent state plans and national plan. Plans are to be organized into a series of program components, which can be considered for development assistance by international donors and financiers.

Way Ahead for Fire management in India

The successful method of fire protection in traditional forest management was an elaborate network of fire lines, block lines and guidelines, and their early clearing and burning need to be logically strengthened. Inculcate the sense of belonging for the forests to work effectively for the conservation of natural forests. The awareness campaign is a long way to bring down the forest fire incidences through the pioneer leaders who march for the cause of protection of natural resources. The institutionalization of the conceptual shift in Forest management from purely state sponsored to Joint Management with people's involvement through participatory approach in fire prevention and control. Mutual confidence and public support has to be created by participatory approaches e.g. incentives, income

generation activities, involvement in production enterprises etc. for involvement of communities in fire prevention and control.

People's view on the occurrence of forest fires is of vital importance in assessing the impact of community efforts at fire control. Socio-economic and cultural surveys reveals that communities do not realise the economic and ecological losses due to forest fires. Therefore, a motivation strategy for prevention requires an initial understanding of the cultural, socio-economic and psychological background of community perception of fire losses. This calls for the three general approaches to work in tandem i.e. Education, Engineering and Enforcement. Hazard reduction or limiting the exposure of forests to fire risks constitutes mainly the engineering aspect needed. The clearing along paths, early and control burning of vulnerable areas, fire lines etc. with assurance that the public abides by the rules and regulation set out for prevention of fires calls for effective enforcement of regulations. Finally, while community participation is important, it needs to be further augmented with appropriate pre-fire planning and fire prevention strategy like developing fire plans, fire maps, and capacity building through training, pilot demonstration, followed by fire suppression mechanism, and necessary post-fire rehabilitation and management.

Conclusion

The conservative estimate of loss from fire in India is around Rs 35-40 crores annually. The regular occurrence of fires, despite over a century of strict fire suppression by different means suggests that fires potentially play an important role in people's management of their

landscapes. Our knowledge about the causes of fires, their extent, effect on forest ecosystems, and their link to the goods and services that people derive from forests is limited. This lack of understanding of human induced fires regularly becomes

out of control which sometimes directed to small gain from forest by local communities. The ecological, socioeconomic, or cultural effects of fire strive for fire management that meets the livelihoods needs and effective forest resource utilization

by forest-dependent communities while also conserving forests and biodiversity.

General Studies Paper- III

Topic: Disaster and disaster management.



5. RESETTling OF INDIA-NEPAL TIES

Why in News?

Nepal's Prime Minister K.P. Oli just paid a three-day state visit to India, his first foreign visit after taking office on February 15 this year and his second visit to India as Prime Minister. This visit came soon after he won a floor test with two-thirds of the 275-member Parliament backing him, is arguably the most powerful politician to lead his country in recent times.

Introduction

Nepal and India signed just three new agreements — a partnership in agriculture, as well as plans for connectivity through inland waterways and expanding linkages to connect Indian railway lines to Kathmandu — breaking the tradition of signing a long list of documents. Both sides described the three initial agreements as “path breaking agreements” to boost connectivity between the two countries.

The visit follows a great deal of preparation by both Delhi and Kathmandu. External Affairs Minister Sushma Swaraj made an unusual departure from protocol to visit Mr. Oli in Kathmandu and congratulate him for his election win even before he had been sworn in. It was a significant shift from 2015-17, when the five-month-long blockade of truck trade at the Nepal-India border and Nepal's ties with China placed a severe strain on the relationship. For his part, Mr. Oli put aside the anti-India rhetoric of his

election campaign and came to India on his first post-election visit abroad seeking ‘friendship first and friendship second and third’.

The two sides have agreed that India will build an electrified rail link between the Indian border town of Raxaul and Kathmandu, apparently in response to China's reported plans to expand its railways from Tibet into Nepal. Prime Minister Modi described the project grandiosely as a plan to link the Everest to the ocean. A more ambitious project is to provide Nepal inland waterway connectivity to transport cargo. It will help in the movement of cargo, within the framework of trade and transit arrangements, providing additional access to sea for Nepal.

The two leaders also remotely attended the groundbreaking ceremony of South Asia's first transnational petroleum pipeline to supply fuel from India to Nepal. The 69-km pipeline from Motihari in Bihar to Amlekhganj in Nepal will deliver 2 million tonnes per annum (MTPA) of petroleum products to the fuel starved country and will be built at a cost of around Rs200 crore.

Historical Background

As close neighbours, India and Nepal share a unique relationship of friendship and cooperation characterized by open borders and deep-rooted people-to-people contacts. There has been a long

tradition of free movement of people across the borders sharing family ties and culture. Nepal shares a border of over 1850 kms in the East, South and West with five Indian states – Sikkim, West Bengal, Bihar, Uttar Pradesh and Uttarakhand.

The India-Nepal Treaty of Peace and Friendship of 1950 forms the bedrock of the special relations that exist between India and Nepal. Under the provisions of this Treaty, the Nepali citizens have enjoyed certain advantages in India, availing facilities and opportunities at par with Indian citizens. Nearly 6 million Nepali citizens live and work in India.

Contentious Issues

The first is indeed politics and India's ability to influence Nepali politics. In September 2015, Nepal's Constituent Assembly adopted a constitution; despite India urging Kathmandu to accommodate the concerns of the people of the Tarai, Nepal's political elite did not listen. India tacitly supported Madhesi protests at the border, crippling essential supplies. This generated a backlash in Kathmandu and the hills. India developed cold feet and eventually lost out on all ends. It earned the hostility of hill communities; and it could not deliver to Madhesi and get the constitution overhauled.

Once it became clear that India's word could be defied and defying it could well be politically attractive,

KP Oli took on the mantle of an ultranationalist leader. Delhi tried to block his electoral alliance with the Maoists; it tried to block their election victory; and it tried to stop the announcement of the merger of the two communist parties. It failed on all ends.

Second, a geopolitical alignment is underway. China was getting aggressive in precisely this period. It had stepped up economic investment and trade linkages. But as Indian influence waned, it got involved in shaping politics. Beijing backed the communist alliance and Oli's rise. KP Oli himself had made a trip to the Nepal-China border right after his win and has said he will deepen ties with the North to increase his leverage with the South.

The third rupture is happening at the level of the Eminent Persons Group (EPG). Nepal and India set up an EPG, of four members each, to relook at the entire gamut of relations - in particular the 1950 treaty. EPG is revisiting all bilateral agreements to submit a comprehensive report to both governments on how to reset bilateral relations. However, without substantial negotiations at the government level, progress on revising the treaty is highly unlikely.

Border disputes between two countries are another contentious issue that occasionally creates friction in bilateral relations. To enhance people-to-people relations, Nepal and India must resolve contentious issues relating to the border, including the two major areas of dispute at Susta and Kalpani. Four years ago, the two countries agreed to start talks at the foreign secretary-level in order to resolve the problems at Susta and Kalapani; however, not a single talk in this regard has taken place yet.

Another point of friction relates to India demonetization. In November,

2016, Modi announced his government would demonetize the Indian notes of 500 and 1000 rupees. This badly affected Nepali nationals residing in Nepal as well as in India because those notes were legal tender in Nepal. Nepali leaders and officials time and again requested that the Indian government make arrangements for the exchange of those notes held by Nepali nationals. Indian ministers and high-level government officials continued to assure that old notes held by Nepali citizens would be able to be exchanged.

Re-setting of India-Nepal Ties

The visit, however, generated some positive vibes to reset and redefine bilateral relations. First, the visit triggered a new discourse in New Delhi: India must respect Nepal's sovereignty; mutual respect is a key in bilateral relations; and India should not meddle in the internal political affairs

of Nepal or panic over China's growing investment in Nepal.

Second, it seems that Oli has given a clear message to the Indian side that he wants to focus on economic diplomacy, to secure India's support in his efforts to advance economic development and prosperity. In this context, both countries are preparing to focus on economic and development issues instead of political and other thorny bilateral issues.

Another step to the reset would be the completion of the ongoing process of updating the 1950 Treaty of Peace and Friendship. Nepal would acknowledge that its citizens have benefited from the ease of employment and residence in India that the treaty provides. But India must recognise that as in all other developing economies, Nepal's aspirational young population is also looking beyond the open Indian border for opportunities and Mr. Oli's desire to turn his "land-

The China-Nepal Mingle

- In 2016, Nepal's PM KP Oli visited China. Both signed three dozen pacts, agreements and MOUs, including the Transit and Transport Agreement.
- China has provided 3 billion Yuan for Nepal's Reconstruction to be used in the jointly selected 25 major projects for 2016-2018 period.
- In 2015/16, total exports to China stood at US\$ 181 million. In contrast, import from China has been growing at the rate of 39% per year. It rose from US\$ 421 million in fiscal year 2009/10 to US\$ 1,247 million in 2015/16.
- China has emerged as the largest source of foreign direct investment in Nepal. Chinese investors have shown intent to spend over \$8.3 billion in Nepal during the Nepal Investment Summit concluded in Kathmandu in March 2017.
- In 2015/16, total exports to China stood at US\$ 181 million. In contrast, import from China has been growing at the rate of 39% per year. It rose from US\$ 421 million in fiscal year 2009/10 to US\$ 1,247 million in 2015/16.
- China is the 2nd largest source of foreign tourist to Nepal. Over 100 thousands people visit Nepal annually.
- Nepal is the founding member of the AIIB. Nepal holds the observer status in the Shanghai Cooperation Organization.

Key Chinese Projects include:

- Upper Trishuli Hydropower Project- Power station and Transmission Line Projects (concessional loan)
- Food/Material Assistance (grant) in 15 bordering districts of Northern Nepal
- Kathmandu Ring Road Improvement Project with Flyover Bridges (grant)
- Tatopani Frontier Inspection Station Project (construction of ICDs at Zhangmu-Kodari) (grant)
- Pokhara International Regional Airport (loan)

locked” country into a “land-linked” country with a merchant navy must be considered positively. From here on it will be the deliverables, such as road and railway links, power projects and post-earthquake reconstruction commitments that will determine the success of the partnership, not just the announcement of new initiatives.

India has residual concerns over enhancing the constitution’s provisions for Nepal’s plains-based Madhesi population, but these should be taken up discreetly and diplomatically. Recovery in the relationship is still fragile and any grandstanding must be avoided.

Way Forward

If Oli rode the backlash on an intensely nationalist platform, his visit provides a major opportunity for India to put the relationship with Nepal back on a new set of rails. Three broad imperatives stand out for India. First, is to acknowledge Nepal’s sovereignty

and promise to conduct relations on that basis. India needs to shift from underlining “the special relationship” with Nepal to one based on “sovereign equality”. That would inevitably mean that India should stop meddling in Nepal’s internal affairs and focus more on the state-to-state relationship.

Second, instead of demanding an “India first policy” from Oli, Prime Minister Narendra Modi must affirm that India’s strong support for a “Nepal first” policy. Situated between the world’s two fastest growing economies, Nepal has every reason to benefit from its location. Oli should have no problem recognising the unique nature of Nepal’s relationship with India marked by the national treatment given to Nepali citizens, an open border and easiest access to the sea.

Third, while the Indian security establishment has long claimed a special political relationship, India’s economic policies have prevented the full development of the natural

economic complementarity between the two countries. The rotting trade infrastructure on the long and open border, India’s cumbersome procedures for administering economic assistance and the inability to implement infrastructure projects in reasonable time, have all added to India’s woes in Nepal.

The two sides must focus on the already committed projects and the ones that promise early returns to the people on both sides of the border is a good one. An emphasis on projects relating to cross-border trade, transport and tourism could be the beginning of a solid economic foundation for a sustainable political partnership with sovereign Nepal.

General Studies Paper- II

Topic: India and its neighborhood-relations.

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6. PESTICIDES MANAGEMENT AND REGULATION

Why in News?

A new draft bill on regulating pesticides, released by the centre, proposes an increase in penalties on violators and gives more power to state governments to take action against them. The Pesticides Management Bill, 2017, which seeks to replace the Insecticides Act of 1968, also puts in place detailed clauses for registration of new molecules, includes a broader category of offences and the provision for paying compensation to farmers. The draft comes in the wake of several pesticide-related deaths in recent months.

Introduction: Pesticides

The term pesticide covers a wide range of compounds including insecticides,

fungicides, herbicides, rodenticides, molluscicides, nematicides, plant growth regulators and others. Among these, organochlorine (OC) insecticides, used successfully in controlling a number of diseases, such as malaria and typhus, were banned or restricted after the 1960s in most of the technologically advanced countries. The introduction of other synthetic insecticides – organophosphate (OP) insecticides in the 1960s, carbamates in 1970s and pyrethroids in 1980s and the introduction of herbicides and fungicides in the 1970s–1980s contributed greatly to pest control and agricultural output. Ideally a pesticide must be lethal to the targeted pests, but not to non-target species, including man. Unfortunately, this is not the

case, so the controversy of use and abuse of pesticides has surfaced. The rampant use of these chemicals, under the adage, “if little is good, a lot more will be better” has played havoc with human and other life forms.

Pesticides are used in public health to kill vectors of disease, such as mosquitoes and in agriculture, to kill pests that damage crops. By their nature, pesticides are potentially toxic to other organisms, including humans and need to be used safely and disposed of properly.

- Pesticides are used to protect crops against insects, weeds, fungi and other pests.
- Pesticides are potentially toxic to humans and can have both acute and chronic health effects,

depending on the quantity and ways in which a person is exposed.

- Some of the older, cheaper pesticides can remain for years in soil and water. These chemicals have been banned from agricultural use in developed countries, but they are still used in many developing countries.
- People who face the greatest health risks from exposure to pesticides are those who come into contact with them at work, in their home or garden.
- Pesticides play a significant role in food production. They protect or increase yields and the number of times per year a crop can be grown on the same land. This is particularly important in countries that face food shortages.
- To protect food consumers from adverse effects of pesticides, World Health Organisation (WHO) reviews evidence and develops internationally-accepted maximum residue limits.

There are more than 1000 pesticides used around the world to ensure food is not damaged or destroyed by pests. Each pesticide has different properties and toxicological effects. Many of the older, cheaper (off-patent) pesticides, such as dichlorodiphenyltrichloroethane (DDT) and lindane, can remain for years in soil and water. These chemicals have been banned by countries who signed the 2001 Stockholm Convention – an international treaty that aims to eliminate or restrict the production and use of persistent organic pollutants.

The toxicity of a pesticide depends on its function and other factors. For example, insecticides tend to be more

toxic to humans than herbicides. The same chemical can have different effects at different doses (how much of the chemical a person is exposed to). It can also depend on the route by which the exposure occurs (such as swallowing, inhaling, or direct contact with the skin). None of the pesticides that are authorized for use on food in international trade today are genotoxic (damaging to DNA, which can cause mutations or cancer). Adverse effects from these pesticides occur only above a certain safe level of exposure. When people come into contact with large quantities of pesticide, this may cause acute poisoning or long-term health effects, including cancer and adverse effects on reproduction.

Pesticides Management Bill

Among the bill's stated objectives are ensuring availability of quality pesticides, minimizing the contamination of agricultural commodities by pesticide residue and creating awareness among users regarding safe and judicious use of pesticides. The import, manufacture, distribution and use of insecticides (including pesticides) in India are currently governed by the provisions of the Insecticides Act, 1968. The Act puts in place a registration system for pesticides and a licencing regime for manufacturers and distributors of pesticides to be administered by state governments. A procedure for inspection and testing of pesticides is also specified. A total of 217 pesticides have been registered for use in the country and thirty-three pesticides are banned.

The total consumption of pesticides in the country was around 55,000 tons in 2006-07. Four states – Andhra Pradesh,

Haryana, Punjab and Uttar Pradesh, account for around half the pesticides consumed. A Joint Parliamentary Committee, set up in 2003, to probe the issue of pesticide residues in soft drinks, had recommended changes to the Insecticides Act, including the mandatory fixation of tolerance limits for pesticide residues on crops.

The Pesticides Management Bill, 2018 seeks to replace the Insecticides Act, 1968. It establishes a central pesticides board to advise the government on issues relating to pesticide use and regulation. The Bill provides for a registration committee to register pesticides and monitor their use and provides for a system of licencing, inspection and testing administered by state governments.

Key Features

- The bill replaces the Insecticides Act, 1968. It defines a pesticide as a substance of chemical or biological origin intended to destroy or control the spread of any pests during the production, storage, transport or distribution of agricultural commodities and animal feeds.
- The bill defines misbranded, sub-standard and spurious pesticides and prescribes a set of penalties for the manufacture or distribution of such pesticides. The bill provides for a fine of between Rs 5-10 lakh, or imprisonment for up to 5 years, or both, for any, one who manufactures, imports, exports, or sells a spurious pesticide.
- The use of pesticides for household purposes, in gardens, or on self-cultivated land, is not covered by the bill.

Authorities and offices set up under the Bill		
Authority / Office	Functions / Powers	Composition / Eligibility
Authorities/ Offices set up under the Central Government		
Central Pesticides Board	To advise the government on standards for the manufacture, sale and distribution of pesticides and their monitoring and disposal. It shall also advise the government on safety and toxicity standards.	38 members; 10 shall be ex-officio government officials, 18 shall be representatives of various ministries, government bodies and institutions; 10 shall be nominees of the central government.
Registration Committee	To register pesticides, restrict or prohibit their use, and prescribe guidelines for the manufacture and advertising of pesticides.	Total of 10 members ex-officio from different ministries, government departments and institutions.
Central Pesticides Laboratory	To carry out functions under the Act.	Other accredited laboratories may also carry out functions of CPL. Officers of such labs cannot have a financial interest in the pesticides business.
Authorities/ Offices set up under the State Government		
Licensing Officer	To licence manufacture and distribution of pesticides. Can also revoke or suspend licences.	To be appointed by State governments; qualifications to be prescribed.
Pesticide Inspectors	To take samples of pesticides for analysis; to enter / search premises or examine / seize documents or stop the distribution of pesticides if violations are suspected, with the permission of magistrate.	Qualifications to be prescribed by central or state government; cannot have financial interest in manufacture/ import/export or sale of pesticides.
Pesticide Analysts	To test samples of pesticides according to provisions of the Act.	Qualifications to be prescribed; no financial interest in pesticides.

The bill bans the import, export, manufacture, sale, transport or distribution of pesticides (a) which are misbranded, sub-standard or spurious (b) whose sale, distribution or use has been temporarily prohibited by the government (c) in violation of conditions of registration, or licence of manufacture, or provisions of the Act. The import or export of pesticides must be in accordance with the provisions of the Prior Informed Consent Procedure. The state or central government can prohibit the use of any pesticide, or a batch of it, in a specified area on grounds risk to human beings or animals. Pending an investigation, such a prohibition will be in force for six months, further extendable for two months. Following the results of the investigation, the government may cancel the registration.

Key Issues and Analysis

- The bill defines a pesticide as any substance used to destroy or control pests in agricultural commodities or animal feeds. Pesticides used for non-agricultural

purposes, such as health care, are thus excluded from this definition. The Parliamentary Standing Committee has recommended that a broader definition be used.

- The tolerance limits for pesticides are to be specified according to the provisions of the Food Safety and Standards Act, 2006. However, the relevant provisions of the Food Safety and Standards Act have yet to be brought into force.
- Pesticides registered under the Insecticides Act, 1968, are automatically deemed to be registered under the bill. Tolerance limits have not been specified for some of these pesticides.
- The bill does not specify penalties for pesticide inspectors or analysts who misuse their powers. The Standing Committee has recommended that penalties be imposed on such government officers along the lines of similar provisions in the Drugs and Cosmetics Act, 1940 or the Food Safety and Standards Act, 2006.

Criticism: Pesticides Management Bill

The state has not only demanded more powers for state governments to regulate and control the use of agrochemicals, but also sought penalties on companies selling spurious pesticides to be raised to 2% of their total sales in a state.

- To regulate import, manufacture, sale, transport, distribution of insecticides with a view to prevent risk to human beings or animals and for matters connected there with".
- Several farmer organizations, activists and scientists endorsed policy advocacy group Alliance for Sustainable and Holistic Agriculture.
- The draft bill does not provide for automatic review of cleared pesticides after several years of usage and farmers and labourers will not be able to seek compensation from the consumer forum as envisaged in the bill.

Centre for Science and Environment (CSE) said that following global standards, the regulation of pesticide use has to come under health ministry and not agriculture ministry, as envisaged in the draft bill. CSE also recommended that “states must have the final power to disallow use of pesticides” as “they have a better idea about (state-specific) agro-ecological aspects”. CSE further recommended a ban on advertisement of pesticides as they are “by design suited to the commercial interest of the advertiser” and “aimed at influencing buying behaviour of farmers, who are often uneducated and unaware”.

Environmental Effects of Pesticides

Pesticides present the only group of chemicals that are purposely applied to the environment with aim to suppress plant and animal pests and to protect agricultural and industrial products. However, the majority of pesticides is not specifically targeting the pest only and during their application they also affect non-target plants and animals. Repeated application leads to loss of biodiversity. Many pesticides are not easily degradable, they persist in soil, leach to groundwater and surface water and contaminate wide environment. Depending on their chemical properties they can enter the organism, bioaccumulate in food chains and consequently influence also human health. Overall, intensive pesticide application results in several negative effects in the environment that cannot be ignored.

These obsolete pesticides are characterised by a high persistence in the environment (e.g. half life for DDT in soil range from 22 to 30 years, Toxaphene up to 14 years, Mirex about 12 years, Dieldrin up to 7 years, Chlordane up to 30 years), low water solubility and thus potential to accumulate in fatty

The Stockholm Convention on Persistent Organic Pollutants

The Stockholm Convention on Persistent Organic Pollutants was adopted by the Conference of Plenipotentiaries on 22 May 2001 in Stockholm, Sweden. The Convention entered into force on 17 May 2004. The Stockholm Convention on Persistent Organic Pollutants is a global treaty to protect human health and the environment from chemicals that remain intact in the environment for long periods, become widely distributed geographically, accumulate in the fatty tissue of humans and wildlife, and have harmful impacts on human health or on the environment.

Exposure to Persistent Organic Pollutants (POPs) can lead to serious health effects including certain cancers, birth defects, dysfunctional immune and reproductive systems, greater susceptibility to disease and damages to the central and peripheral nervous systems.

Given their long range transport, no one government acting alone can protect its citizens or its environment from POPs. In response to this global problem, the Stockholm Convention, which was adopted in 2001 and entered into force in 2004, requires its parties to take measures to eliminate or reduce the release of POPs into the environment.

The Stockholm Convention on Persistent Organic Pollutants, a global treaty entered in force in May 2004, aims to eliminate the production and use of twelve priority POPs including organochlorine pesticides such as aldrin, dieldrin, DDT and metabolites, endrin, heptachlor, chlordane, mirex and toxaphene. In August 2010, and hexachlorocyclohexane, lindane, chlordane and pentachlorobenzene were added.

Key elements of the Convention include the requirement that developed countries provide new and additional financial resources and measures to eliminate production and use of intentionally produced POPs, eliminate unintentionally produced POPs where feasible, and manage and dispose of POPs wastes in an environmentally sound manner. Precaution is exercised throughout the Stockholm Convention, with specific references in the preamble, the objective, and the provision on identifying new POPs.

tissue of living organisms including humans and toxicity to both human and wildlife. Due to intensive releases to the environment in past several decades, their chemical properties and tendency to long-range transboundary atmospheric transport, they are now widely distributed and are found around a globe. Significant levels are detected in regions where persistent pesticides have never been used such as in Polar regions, in tissues of fishes, birds and bears.

Conclusion

Pesticides have proved to be a boon for the farmers as well as people all around the world by increasing agricultural yield and by providing innumerable benefits to society indirectly. But the issue of hazards posed by pesticides to human health and the environment has raised concerns about the safety of pesticides. Although we cannot completely eliminate the hazards associated with pesticide use, but we can circumvent them in one way or the other.

Exposure to pesticides and hence the harmful consequences and undesirable effects of this exposure can be minimised by several means such as alternative cropping methods or by using well-maintained spraying equipments. Production of better, safe and environment friendly pesticide formulations could reduce the harmful effects associated with the pesticide usage. If the pesticides are used in appropriate quantities and used only when required or necessary, then pesticide risks can be minimised. Similarly, if a less toxic formulation or low dose of a toxic formulation is used, the havoc can be curbed.

The right dose differentiates a poison from a remedy. There are organochlorines, which are used as pesticides. These pesticides are least biodegradable and their use is banned in many countries. Besides this fact, organochlorines are highly used in many places. This results in serious health hazards. Water pollution is on the rise due to these pesticides, even at low concentration,

these pesticides have serious threat to the environment. The majority of farmers are unaware of the potential toxicities of pesticides. They have no information about types of pesticides, their level of poisoning, hazards and safety measures to be taken before use of those pesticides. Due to this reason, toxic and environmentally persistent chemicals are used to kill pests which can also lead to intentional, incidental

or occupational exposure. These compounds have long term effects on human health. Awareness should be arranged for farmers to reduce the uses of toxic pesticides.

In future chemical pesticides can be used in combination with natural treatments and remedies which result in more sustainable elimination of pests and insects. This combination not only promises environmental sustainability,

but also has diverse applications in controlling of urban pests and invasive species. Pesticides have also posed a serious threat on biological integrity of marine and aquatic ecosystems.

General Studies Paper- III

Topic: Conservation, environmental pollution and degradation, environmental impact assessment.

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7. ONGOING ELECTRIC VEHICLE REVOLUTION

Why in News?

State-run Energy Efficiency Services (EESL) plans to invest around Rs.2,400 crore to procure 20,000 electric vehicles (EV) for government use by March next year. The company is also likely to sign memorandums of understandings (MoUs) with the governments of Maharashtra and Gujarat this month to supply 1,000 and 8,000 electric vehicles.

An overview of EV

India's first EVs are likely to be fleet vehicles, especially taxis, buses, etc. When are they likely to plug in to charge? They are unlikely to be stationary and plugged in midday. Even for personal vehicles, a lot of charging may happen at home, especially overnight, in the absence of ubiquitous EV charging infrastructure—building such infrastructure in India is harder than in many countries due to land and grid limitations. In India, the automobile industry is one of the key sectors driving economic growth. More than 25 Mn vehicles including passenger vehicles, commercial vehicles, three wheelers and two-wheelers were produced in FY17, reporting a jump of 5.41% from the previous fiscal. However, it is also one of the biggest contributors of pollution, which incidentally keeps the

country's capital shrouded in smog for several months every winter.

Synergy between institutions engaged in nation-building is key to achieve a fully energy efficient India. India has made a significant commitment to reducing its emission intensity by 33-35% from 2005 levels by 2030. Transition to future-ready and scalable energy efficient solutions will accelerate the achievement of this goal. The company had floated a global tender for 10,000 electric vehicles last year to replace the government's fleet in line with the vision to switch to 100% electric mobility by 2030. Adoption of electric and shared vehicles could help India save \$60 billion in diesel and petrol, along with cutting down as much as 1 gigatonne of carbon emissions by 2030. Renewable energy (RE), primarily wind and solar, as deployed today is intermittent and opportunistic—take it when you can. Solar power has a well-known bell-curved shape for maximum possible output, with a peak around noon, falling to zero output by night. RE supplies about 6.6% of generation today, on average. As RE grows, through equally ambitious government targets of 175 gigawatt (GW) of RE by 2022, its share may become almost 20%.

The Global EV Market

As more and more governments across the world are aggressively looking for ways to benefit from the ongoing EV revolution, the market opportunity in the space has grown dramatically over the years. The sector is expected to grow at a Compound Annual Growth Rate (CAGR) of 28.3% between 2017 and 2026, as per BIS Research.

- New registrations of electric cars hit an all-time high in 2016, with over 750K sales worldwide, according to the International Energy Agency (IEA).
- With a 29% market share, Norway currently boasts the most successful deployment of electric vehicles globally, followed by the Netherlands at 6.4% and Sweden with 3.4% market share.
- In 2016, China accounted for nearly 40% of the world's total electric car sales. In fact, Chinese OEMs produced 43% of the 873K EVs built worldwide in 2016. With more than 200 Mn electric two-wheelers, 3.3 to 4 Mn low-speed electric vehicles (LSEVs) and over 300K electric buses (as of 2017), China is currently the global leader in the electric mobility race.

- In the second position, in terms of the number of EV sales, is the US.
- For the first time in 2015, the global electric vehicle fleet surpassed 1 Mn, which was later doubled in 2016.

In line with this growth, the market is expected to have more than 10.8 Mn units by 2026, as per a survey by BIS Research. Across the globe, some of the key players are Tesla Inc. (U.S.), BYD Company Limited (China), Volkswagen AG (Germany), Nissan Motor Corporation (Japan) and Mitsubishi Motors Corporation (Japan) among others.

History of Electric Vehicles

Electric vehicles, as the name suggests, run at least partially on electricity. Instead of fossil fuel-driven internal combustion engines, these vehicles are powered by electric motors for propulsion. The electric motor, in turn, derives energy from rechargeable batteries, solar panels or fuel cells. Historically, electric cars have been around for more than a century.

19th Century

- The first known electric car was built in Aberdeen, Scotland way back in 1837.
- In London, for instance, Walter C. Bersey built a fleet of electric taxis, called "hummingbirds", which became operational in 1897.
- Around the same time, New York-based Company, Samuel's Electric Carriage and Wagon Company, designed around 62 electric cabs.

20th Century

- Despite its early popularity, however, electric vehicles witnessed a decline globally in the first half of the 20th century.
- 1960s, EVs once again started garnering the interest of automakers. In 1959, for instance,

the American Motor Corporation entered into a joint research agreement with Sonotone Corporation to develop an electric car powered by a "self- charging" battery.

- In the decades since then, numerous electric car concepts have been showcased around the globe, including the Scottish Aviation Scamp (1965), the Electroair (1966), the Electron (1977). Tracing the history of electric vehicles, we found that the first modern version of the electric car, as we know it today, was built in the early 2000s.

In 2004, Elon Musk-founded Tesla Motors started working on the Tesla Roadster, which was the first highway-legal all-electric car running on lithium-ion batteries. Over the years, most carmakers have jumped on the EV bandwagon, with Tesla, Ford, Nissan, Hyundai, Toyota and others leading the race.

Classification of EV

One of the chief features of electric vehicles is that they can be plugged into off-board power sources for charging. Because these types of vehicles don't consume fossil fuels such as petroleum, they do not produce any tailpipe emissions. Essentially, there are two types of EVs:

- **All-electric vehicles (AEVs):** AEVs, in turn, consist of battery electric vehicles (BEVs) and fuel cell electric Vehicles (FCEVs). Both BEVs and FCEVs are charged from the electrical grid and are also usually capable of generating electricity through regenerative braking.
- **Plug-in hybrid electric vehicles (PHEVs):** PHEVs (plug-in hybrid electric vehicles), on the other hand, are fueled primarily by gasoline and only supplemented with battery and motor for better efficiency. In PHEVs, a battery,

which can be plugged into the electric grid for charging, is used to power an electric motor, while gasoline drives the internal combustion engine. Certain types of plug-in hybrid electric vehicles are also known as extended-range electric vehicles (EREVs). Often times, PHEVs utilise electricity for shorter ranges (around 9.6 to 64.3 km). Once the battery is depleted, they switch to the internal combustion engine for greater speed and range. More eco- friendly varieties of plug-in hybrids, at times, use hydrogen fuel cells, biofuels or some other kind of alternative fuel in place of gasoline.

There is a Third Category

- **Conventional hybrids:** such as Toyota Prius, which is fitted with a petrol tank and also has a battery that gets charged every time the vehicle brakes. However, they can't be classified as EVs because they usually cannot be plugged-in.

EV: Crucial For India

Home to one of the largest automobile industries in the world, India currently contributes a major percentage of the global car sales. Though the government seems to have dropped its plan to implement a comprehensive electric vehicle (EV) policy, it is still keen on shifting India's petrol-diesel-based auto industry to electric.

- Public transport continues to be the primary mode of transport in tier II, tier III cities and rural regions.
- Over 1.2 Mn deaths occur in the country every year as a result of air pollution, according to a report by Greenpeace, the transition to more eco-friendly and renewable sources of energy is the need of the hour for India.

- Because they are powered by electricity and not fossil fuels, EVs are relatively emission-free and therefore, hold the key to India's burgeoning air pollution issue.
- Realising the potential of EVs, the Indian government has also announced plans to make the country a 100% electric vehicle nation by 2030. To that end, in January 2017, the central government said that it would bear up to 60% of the research and development (R&D) cost for developing the indigenous low-cost electric technology.
- National Electric Mobility Mission Plan (NEMMP) 2020, essentially, aims to deploy around 7 Mn hybrid and all-electric vehicles in the country by 2020.

vehicles more seamless, various state governments have unveiled or are in the process of launching dedicated policies on EVs.

Among the other states that have rolled out or are in the process of launching policies on electric vehicles are Maharashtra, Andhra Pradesh, Goa, Uttar Pradesh and others. Interestingly, Gujarat, WB, UP, Rajasthan and Maharashtra clocked the highest number of EV sales during FY2016-17, according to a report by the Society of Manufacturers of Electric Vehicles (SMEV).

- **August, 2013:** National Electric Mobility Mission Plan (NEMMP) 2020.
- **January, 2017:** Union Government promised to bear up to 60% of R&D costs related to EVs.
- **September, 2017:** EESL opened 1st global tender for 10,000 EVs.
- **September, 2017:** Tata Motors and Mahindra won the EESL bid.
- **March, 2018:** Second global tender for 10,000 EVs launched by EESL.
- **March, 2018:** Government announced plans to extend financial support worth \$1.3 Bn (INR 8,730 Cr) Under FAME II.

Initiatives Launched in India

Having already floated two global tenders for the procurement of up to 20,000 EVs, the government, now planning to extend financial support of up to \$1.3 Bn (INR 8,730 Cr) under the second phase of FAME India. While think tank NITI Aayog has created a special task force to come up with suggestions for the Union government, in a bid to make the transition to electric

As per the findings of the study, Gujarat topped the list with sales of just over 4,330 units. WB appeared in the second place with sales of 2,846 units, followed by UP which sold a total of 2,467 electric vehicles during the said period. Rajasthan reported sales of around 2,388 EV units, while Maharashtra came in fifth with sales of 1,926 units. In addition, 25,000 e-vehicles were sold across India between 2016-17. The study was conducted on all electric two-wheelers and four-wheelers which were sold during 2016-2017 and are successfully running in the mentioned states. In another study, ASSOCHAM and EY claimed that the electric vehicles (EV) market is expected to record double-digit growth rates with the rise in sales volume annually in India till 2020. Despite electric vehicles not being mainstream, stricter emission norms, reducing battery prices and increasing consumer awareness are driving EV adoption in India.

The Necessity of Robust Support Infrastructure

Just like conventional vehicles rely on petrol pumps or gas stations for refuelling, the mass adoption of electric vehicles mandates a robust charging infrastructure. With the growing popularity of electric vehicles, the global EV charging infrastructure market is expected to skyrocket to \$45.59 Bn by 2025, as per a report by Grand View Research. Within this sector, the fast charging segment is poised to witness the fastest growth, with an estimated CAGR of around 47.9% from 2017 to 2025. Changes call for innovation and innovation leads to progress. Today, driving the growth in the global EV market is innovation. With some of the best minds working to develop low-cost, eco-friendly electric mobility solutions, the sector is set to undergo substantial augmentation in the coming years.

Energy Efficiency Services Limited

Energy Efficiency Services Limited (EESL) is a joint venture of four National Public Sector Undertakings – NTPC Limited, Power Finance Corporation Limited, Rural Electrification Corporation Limited and POWERGRID Corporation of India Limited, set up under Ministry of Power, Government of India. EESL is a Super Energy Service Company (ESCO). It acts as the resource center for capacity building for State Distribution Companies (DISCOMs), Energy Regulatory Commissions (ERCs), State Development Authorities (SDAs), upcoming ESCOs, financial institutions, etc.

Founded in 2010 by the Government of India, EESL today is implementing the largest energy efficiency portfolio in the world. EESL's energy efficient appliances and technologies have saved India over 35 billion kWh energy annually.

As South Asia's first and foremost energy efficiency leader, EESL leads the market-related activities of the National Mission for Enhanced Energy Efficiency (NMEEE), one of the 8 national missions under the Prime Minister's National Action Plan on Climate Change (NAPCC). With an unprecedented 140X growth in 2 years, EESL's flagship initiative, Unnat Jyoti by Affordable LEDs for All (UJALA), has revolutionized India's access to energy saving LED bulbs and reduced carbon emissions by up to 27 million tonnes every year. Energy Efficiency and Conservation (EE&C) across India's energy intensive industries and other key demand-side economic sectors promise an investment potential of INR 74,000 crore through large scale deployments.

The Future of Mobility

Globally, automobile exhaust is one of the biggest contributing factors of pollution, especially air pollution. While the environmental impact of electric vehicles is somewhat obvious, there are other advantages to electric mobility solutions that conventional fossil fuel-powered vehicles don't have.

Keeping that in mind, here is a rundown of the some of the major advantages and disadvantages of electric vehicles over regular petrol or diesel-fuelled cars.

Advantages of EVs

- **No Fuel, Cheaper to Maintain:** Although the initial cost of electric cars is quite higher than that of conventional vehicles, in the long-run, it is actually cheaper to own and maintain EVs. Similarly, a battery electric vehicle (BEV) contains fewer components than a conventional petrol/diesel car, making servicing and maintenance a lot cheaper than petrol and diesel-powered vehicles.
- **More Eco-Friendly, Lower Carbon Footprint:** In fact, electric cars are 100% emission free as they run on electrically powered engines. Consequently, they do not emit any toxic gases or smoke that could adversely affect the environment. In this count, all-electric cars - particularly the ones powered

by renewable energy - are much better than hybrid cars.

- **Less Noise Pollution, Smoother Ride:** Since they are devoid of internal combustion engines and, in general, have less number of components, electric vehicles tend to be more silent than conventional vehicles. This, in turn, helps in curbing noise pollution, especially in crowded urban areas.

Disadvantages of EVs

- **Range Anxiety, Lack of Charging Infrastructure:** Despite the massive technological advancements, EV charging infrastructure remains inadequate in most parts of the world. Furthermore, most electric cars have a range that falls between 150 to 175 km on a single charge.
- **Long Charging Times:** The charging process of EVs can take anywhere from 30 minutes (in case of fast charging) up to 24 hours, depending on the capacity of the battery and motors. Most, however, take around four to six hours to be fully charged, which is several times longer than the time it takes to refuel a petrol/diesel car.
- **Lower Battery Life, High Battery Costs:** The batteries currently used in electric vehicles have a lifespan of only around three to 10 years, depending on the make and model. The lower battery life often serves as a hindrance that affects the performance of electric cars. The

higher costs of batteries, which are caused by the insufficient supply of raw materials, add to this problem.

Conclusion

From the first electric car developed in 1837 till the present times, we have witnessed massive advancements, notably in terms of technology but also in the people's attitude towards the environmental impact of cars and other mobility solutions. While the electric vehicles market is currently a lucrative destination for corporates and startups in India, there are still quite a few challenges that need to be overcome to make EVs ready for mass adoption. Manufacturing electric vehicles domestically, for instance, comes with the hurdle of high costs.

If successful, the shift to electric vehicles could potentially help India save up to \$300 Bn (INR 20 Lakh Cr) in oil imports and nearly 1 gigatonne of carbon dioxide emissions by 2030, as per a recent report by FICCI and Rocky Mountain Institute. Furthermore, EVs will be a stepping stone towards designing an intelligent, futuristic transport infrastructure in India that is capable of catering to the mobility needs of the country's huge population.

General Studies Paper- III

Topic: Infrastructure: Energy, Ports, Roads, Airports, Railways etc.

Topic: Investment models.

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SEVEN SUBJECTIVE QUESTIONS WITH MODEL ANSWERS

Introduction of Bharat Stage-VI Norms in India

Q1. India has been following European emission norms, though with a time lag of five years. Give a brief account of Bharat Stage (BS)-VI in India. Also discuss the challenges for shifting from BS-IV to BS-VI norms in India.

Hints:

- Petrol pumps in the Delhi-NCR from April 1, 2018 started supplying ultra-clean Bharat Stage-VI grade fuel (both petrol and diesel). This move makes New Delhi the first city in the country to switch from BS-IV grade fuels to BS-VI (equivalent to fuel meeting Euro-VI emission norms). Other cities like Noida, Ghaziabad, Gurugram and Faridabad along with 13 major cities, including Mumbai, Chennai, Bengaluru, Hyderabad and Pune, will also switch over to cleaner BS-VI grade fuel from January 1 next year. However, BS-VI fuel will be rolled out in rest of the country by April 2020.
- In 2002, the Indian government accepted the report submitted by the Mashelkar committee. The committee proposed a road map for the roll out of Euro based emission norms for India. The roadmap for implementation of the Bharat Stage norms was laid out till 2010. The policy also created guidelines for auto fuels, reduction of pollution from older vehicles and R&D for air quality data creation and health administration.
- Vehicular emission is a major contributor to the worsening air quality of Indian cities. Emission of NO_x, SO₂, CO₂ and particulate matter is taking a toll on people's health. In cities like Delhi, the PM_{2.5} level is more than 6 times the prescribed levels by World Health Organisation (WHO). Being a signatory to Paris Climate Agreement, India is obligated to bring down the carbon footprint by 33-55% from the levels recorded in 2005 in the next 12 years.
- Bharat Stage-VI (BS-VI) is an emission standard that brings much-needed changes in the Indian automobile industry in terms of pollutant emissions. Bharat Stage-VI norms includes a wide list of technology modifications under the hood, the most significant being making OBD (On-board diagnostics) mandatory for all vehicles.

- However, the introduction of higher grade fuel will be beneficial only if it is done in tandem with the roll-out of BS-VI compliant vehicles. Using BS-VI fuel in the current BS-IV engines or, conversely, running BS-VI engines on the current-grade fuel, may be ineffective in curbing vehicular pollution and may damage the engine in the long run. Taking a leap from BS-IV to BS-VI comes with immense technical challenges.
- Although BS-VI is based on Euro 6, the Original Equipment Manufacturer Diesel Particulate Filter (OEMs) cannot simply add required component to the vehicle. For instance, fitting a Euro 6 complaint DPF in a small diesel car in India will require bonnet size to increase, thereby going beyond 4 meters mark. This may lead to a loss in excise benefit.
- Every pollution emission norm is partially based on the type of fuel used in the vehicle, based on which it limits the amount of permissible emission. In the transition from BS-IV to BS-VI as well, fuel companies have an important part to play. They will need to make the specified grade of fuel available before April 2020.
- India is on the radar of global automakers as vehicle penetration is still low here, compared to developed countries. Besides, many Indian cities are already among those with the poorest air quality in the world. Upgrading to stricter fuel standards helps tackle air pollution.

An Effective Parliament: Need of the Hour

Q2. How can the people holding the highest offices in the Indian democracy be made accountable for the governance and financial setbacks caused by disruptions, logjams and standoffs in parliament? Discuss.

Hints:

- With Parliament set to consider the Judicial Accountability Bill, 2011, seeking to bring to book even the judges of the Supreme Court and High Court, parliamentary accountability is a must. The time is ripe for the immediate setting up of a high-level committee on parliamentary reforms comprising eminent jurists

and constitutional experts, to suggest a way to evolve and upgrade parliamentary procedures. This has also been suggested by Dr Subhash Kashyap, eminent expert in constitutional law and parliamentary affairs, as well as the 2004 report of the National Commission to review the working of the Constitution.

- Second, there should be a monetary penalty for deviation from expected behaviour, executed in terms of disentitlement to the daily sitting allowance for MPs for days on which no substantial work has been transacted in parliament. This same intent was strongly reflected by various private members' bill in the recent past, like the Disruption of Proceedings of Parliament (Disentitlement of Allowances) Act, 2004, introduced by Fali S Nariman which has since lapsed; and the Disruption of Proceedings of Parliament (Disentitlement of Daily Allowance to Members and Termination of Membership) Bill, 2009, introduced by Lagadapati Rajagopal, which is still pending before parliament.
- The third step towards parliamentary procedural reforms should be reinstating the sanctity of Question Hour. This potent weapon in the hand of MPs to question all government acts of omission and commission is in pressing need of revamp. During the 2011 Budget Session of the 15th Lok Sabha, out of the 12 hours slated for Question Hour, nearly eight were lost due to adjournments. Of the total 320 questions listed to be answered orally, only 40 have been answered in the Lok Sabha and 36 in the Rajya Sabha. In order to rein in this repeated disruption no time should be lost in strictly defining the procedures and penalties for disrupting a Question Hour. Any interruption to Question Hour should be admissible by the chair of the house only if it is introduced either by the leader of the opposition or the leader of the ruling party, premised further on the fact that the issue for disruption should comprise of an agenda of extraordinary concern. Any other grounds for creating disturbance during Question Hour by any other MP should call for automatic suspension of the concerned MP from the house and his/her disentitlement to the sitting allowance for the day.
- Fourth, Adjournment Motions should no longer be seen as a latent device for presenting a No-Confidence Motion against the ruling government. Entirely disassociated from a No-Confidence Motion, Adjournment Motions should be refurbished as a way to introduce matters of extraordinary and urgent concern, which could not be included beforehand in the business of parliament for a given day. And the final outcome of an Adjournment Motion should not entail any demand for the exit of the government, which is the essence of a No-Confidence Motion.

- Fifth, we need a specific codification of the rules and punishments for entering the well of the house. Entering the well of the house should be possible only if the subject being raised has prior notice and also the formal approval of the party concerned. This rule should also entail the automatic suspension of the MP from the house and his/her disentitlement to the sitting allowance for the day in parliament, in case of disobedience.
- Lastly, the limits to parliamentary privileges are still undefined. Parliamentary privileges are allowed to MPs by the Constitution of India to enable them to discharge their parliamentary duties in the interests of the people without any obstruction towards the free and independent functioning of parliament. Six decades after the commencement of the Constitution there are still no specific legal rules which delimit these privileges. In order to ensure that the real essence of this privilege is retained these privileges need to be legally defined right away.
- Way ahead: These six concrete suggestions proposed as an agenda for immediate action on parliamentary reforms in India may seem like token measures which might not completely weed out the unaccountability and inefficiency creeping into the highest legislative office of Indian democracy. But a beginning has to be made somewhere.

Upholding the Freedom of Press

Q3. The Indian media is often criticised for its deteriorating reporting standards, jaundiced coverage of politics and regurgitation of online trends. Discuss, why press freedom is on the decline in India?

Hints:

- The 2017 World Press Freedom Index by Reporters Without Borders ranked India at 136 out of 180 countries. A rank as dismal as 136, can only be a blot on the largest democracy in the world. One wishes that the government showed as much sincerity in improving India's ranking on the Press Freedom Index as they do towards the World Bank's Doing Business Rankings.
- In large part the threat to the Indian media's ability to preserve plurality of views is due to a flawed regulatory architecture that does little to protect press freedom and more to silence it. In what follows we look at the regulation and laws that govern the Indian media and what needs to change in order to strengthen press freedom.

- **Criminal defamation:** Criminal defamation, as defined under Section 499 of the Indian Penal Code, permits any person who has suffered damage in reputation on action of others to sue for defamation. The Essar Group, a multi business conglomerate filed a defamation suit for Rs. 250 crores against Caravan, a magazine known for its investigative journalism, when it published a 14,000-word article that made a number of allegations of corrupt practices by the company. While Caravan has decided to contest the case in courts, such threats may discourage other media organisations to investigate stories around wrongdoing by big companies or individuals.
- **Media regulators without power:** The Press Council of India (PCI) to act as a watchdog for the print media. The lack of punitive power means that the Press Council "cannot levy fines or order the withdrawal of advertisements by government agencies, leave alone place errant journalists behind bars." Hence PCI is rendered ineffective in placing any cost on those violating journalistic ethics. In the case of television news, the News Broadcasting Standards Authority (NBSA) looks into violation of code of ethics laid out by the News Broadcasters Association (NBA). However, the problem with this self-regulatory body is that its membership is voluntary and "out of 135 news channels in the country, only 28 news broadcasters owning 57 news channels are members of the NBA." A large number of television news channels continue to be beyond the ambit of any regulation by virtue of not being part of NBA. In such a scenario, the two self-regulating media bodies are at best, toothless tigers.
- **No law for protection of sources:** The protection of identity of sources used by the journalists is an important element in how they unearth the truth. However, in India, there are no statutory rights accorded to journalists to protect their sources. In fact, in a court of law, a journalist may be held in contempt of court for not disclosing her sources. This makes uncovering the truth tenuous. The law makes speaking the truth a risky choice between future harassment by those being exposed and putting up with injustice and wrongdoing in society.
- **Way ahead:** Between the threat of the assassin's bullet and the government's limitless legal resources, journalists in India face a chilling effect across the political spectrum. In the interest of democracy it is essential that the exchange of ideas take place in an uninhibited manner where all citizens can access information free of bias and prejudice. The debate around the media needs to seriously look at various facets of regulation that hinder its freedom. As a public good, the news media

has an important role in our democracy. The time has come to recognise explicitly the right to freedom of the press – as an institutional freedom.

The Menace of Forest Fire

Q4. Indian forests are prone to forest fires. Are some forests more vulnerable than others? Discuss the major causes and impacts of wildfires in India and also suggest an ideal approach to fight forest fires.

Hints:

- The recent wildfire tragedy in Theni in Tamil Nadu, in which 20 trekkers lost their lives, once again brings into focus forest fires in India. Over the past few years, we have realised that these fires are not spontaneous; human beings set off fires. This tragedy raises several other issues — of approaches in fighting fires and ways of mitigating damage.
- The youngest mountain ranges of Himalayas are the most vulnerable stretches of the world susceptible to forest fires. The forests of Western Himalayas are more frequently vulnerable to forest fires as compared to those in Eastern Himalayas. This is because forests of Eastern Himalayas grow in high rain density. With large scale expansion of chirr (Pine) forests in many areas of the Himalayas the frequency and intensity of forest fires has increased.
- The vulnerability of the Indian forests towards fire varies from place to place depending upon the type of vegetation, the climate and various other factors—both natural as well as man-made. The forest fire is dependent on three essential components i.e. fuel, oxygen and heat. Availability of these three components is not uniform throughout the country's forest and thus the forest fire situation in the country is not uniform.
- Many forest fires start from natural causes such as lightning which set trees on fire. However, rain extinguishes such fires without causing much damage. High atmospheric temperatures and dryness (low humidity) offer favorable circumstance for a fire to start.
- Human related causes result from human activity as well as methods of forest management. These can be intentional or unintentional, for example the centuries old practice of shifting cultivation (especially in the North-Eastern region of India and in parts of the states of Orissa and Andhra Pradesh).
- The causes of forest fire have been increasing rapidly. The problem has been accentuated by the growing

human and cattle population. People enter forests ever more frequently to graze cattle, collect fuelwood, timber and other minor forest produce. It has been estimated that 90% of forest fires in India are man-made.

- Forest fires also pose serious health hazards by producing smoke and noxious gases. Forest fire causes imbalances in nature and endangers biodiversity by reducing faunal and floral wealth. The burning of vegetation gives off not only carbon dioxide but also a host of other, noxious gases (Green-house gases) such as carbon monoxide, methane, hydrocarbons, nitric oxide and nitrous oxide, that lead to global warming and ozone layer depletion. Consequently, thousands of people suffered from serious respiratory problems due to these toxic gases.
- When a fire anywhere in the world is detected by NASA's MODIS (Moderate Resolution Imaging Spectroradiometer) and VIIRS (Visible Infrared Imaging Radiometer Suite) satellites, the Forest Survey of India (FSI) analyses the data by overlaying the digitised boundaries of forest areas to pinpoint the location to the exact forest compartment.
- The incidence of forest fires in the country is on the increase and more area is burned each year. Taking into consideration the serious nature of the problem, it is necessary to make some major improvements in the forest fire management strategy for the country. The Ministry of Environment and Forests, has prepared a National Master Plan for Forest Fire Control.

Resetting of India-Nepal Ties

Q5. The engagement between India and Nepal is entering in new era, as the two countries deepen cooperation in many sectors. Critically analyse the nature of relationship between two countries.

Hints:

- Nepal's Prime Minister K.P. Oli just paid a three-day state visit to India, his first foreign visit after taking office on February 15 this year and his second visit to India as Prime Minister. Nepal and India signed just three new agreements — a partnership in agriculture, as well as plans for connectivity through inland waterways and expanding linkages to connect Indian railway lines to Kathmandu — breaking the tradition of signing a long list of documents. Both sides described the three initial agreements as "path breaking agreements" to boost connectivity between the two countries.

- The two sides have agreed that India will build an electrified rail link between the Indian border town of Raxaul and Kathmandu, apparently in response to China's reported plans to expand its railways from Tibet into Nepal.
- A more ambitious project is to provide Nepal inland waterway connectivity to transport cargo. It will help in the movement of cargo, within the framework of trade and transit arrangements, providing additional access to sea for Nepal.
- The two leaders also remotely attended the groundbreaking ceremony of South Asia's first transnational petroleum pipeline to supply fuel from India to Nepal. The 69-km pipeline from Motihari in Bihar to Amlekhganj in Nepal will deliver 2 million tonnes per annum (MTPA) of petroleum products to the fuel starved country and will be built at a cost of around Rs. 200 crore.
- As close neighbours, India and Nepal share a unique relationship of friendship and cooperation characterized by open borders and deep-rooted people-to-people contacts. There has been a long tradition of free movement of people across the borders sharing family ties and culture.
- A geopolitical alignment is underway. China was getting aggressive in precisely this period. It had stepped up economic investment and trade linkages. But as Indian influence waned, it got involved in shaping politics.
- Border disputes between two countries are another contentious issue that occasionally creates friction in bilateral relations. To enhance people-to-people relations, Nepal and India must resolve contentious issues relating to the border, including the two major areas of dispute at Susta and Kalpani.
- Instead of demanding an "India first policy" from Oli, Prime Minister Narendra Modi must affirm that India's strong support for a "Nepal first" policy. Situated between the world's two fastest growing economies, Nepal has every reason to benefit from its location. Oli should have no problem recognising the unique nature of Nepal's relationship with India marked by the national treatment given to Nepali citizens, an open border and easiest access to the sea.
- The two sides must focus on the already committed projects and the ones that promise early returns to the people on both sides of the border is a good one. An emphasis on projects relating to cross-border trade, transport and tourism could be the beginning of a solid economic foundation for a sustainable political partnership with sovereign Nepal.

Pesticides Management and Regulation

Q6. Recently the government has released a new draft Pesticide Management Bill, 2018. Critically discuss the relevance of new draft bill.

Hints:

- A new draft bill on regulating pesticides, released by the centre, proposes an increase in penalties on violators and gives more power to state governments to take action against them. The Pesticides Management Bill, 2017, which seeks to replace the Insecticides Act of 1968, also puts in place detailed clauses for registration of new molecules, includes a broader category of offences and the provision for paying compensation to farmers. The draft comes in the wake of several pesticide-related deaths in recent months.
- Among the bill's stated objectives are ensuring availability of quality pesticides, minimizing the contamination of agricultural commodities by pesticide residue and creating awareness among users regarding safe and judicious use of pesticides. The import, manufacture, distribution and use of insecticides (including pesticides) in India are currently governed by the provisions of the Insecticides Act, 1968. The Act puts in place a registration system for pesticides and a licencing regime for manufacturers and distributors of pesticides to be administered by state governments. A procedure for inspection and testing of pesticides is also specified. A total of 217 pesticides have been registered for use in the country and thirty-three pesticides are banned.
- The bill replaces the Insecticides Act, 1968. It defines a pesticide as a substance of chemical or biological origin intended to destroy or control the spread of any pests during the production, storage, transport or distribution of agricultural commodities and animal feeds.
- The bill defines a pesticide as any substance used to destroy or control pests in agricultural commodities or animal feeds. Pesticides used for non-agricultural purposes, such as health care, are thus excluded from this definition. The Parliamentary Standing Committee has recommended that a broader definition be used.
- The bill does not specify penalties for pesticide inspectors or analysts who misuse their powers. The Standing Committee has recommended that penalties be imposed on such government officers along the

lines of similar provisions in the Drugs and Cosmetics Act, 1940 or the Food Safety and Standards Act, 2006.

- The state has not only demanded more powers for state governments to regulate and control the use of agrochemicals, but also sought penalties on companies selling spurious pesticides to be raised to 2% of their total sales in a state.
- The draft bill does not provide for automatic review of cleared pesticides after several years of usage and farmers and labourers will not be able to seek compensation from the consumer forum as envisaged in the bill.
- Pesticides have proved to be a boon for the farmers as well as people all around the world by increasing agricultural yield and by providing innumerable benefits to society indirectly. But the issue of hazards posed by pesticides to human health and the environment has raised concerns about the safety of pesticides. Although we cannot completely eliminate the hazards associated with pesticide use, but we can circumvent them in one way or the other.
- In future chemical pesticides can be used in combination with natural treatments and remedies which result in more sustainable elimination of pests and insects. This combination not only promises environmental sustainability, but also has diverse applications in controlling of urban pests and invasive species. Pesticides have also posed a serious threat on biological integrity of marine and aquatic ecosystems.

Ongoing Electric Vehicle Revolution

Q7. Electric vehicles (EVs) seem to be gaining in prominence as part of the renewable energy movement. What challenges will India face in mainstreaming electric vehicles and how these challenges can be overcome? Examine.

Hints:

- State-run Energy Efficiency Services (EESL) plans to invest around Rs.2,400 crore to procure 20,000 electric vehicles for government use by March next year. The company is also likely to sign memorandums of understandings (MoUs) with the governments of Maharashtra and Gujarat this month to supply 1,000 and 8,000 electric vehicles.
- The company had floated a global tender for 10,000 electric vehicles last year to replace the government's fleet in line with the vision to switch to 100% electric mobility by 2030. Adoption of electric and shared

vehicles could help India save \$60 billion in diesel and petrol, along with cutting down as much as 1 gigatonne of carbon emissions by 2030.

- NITI Aayog has created a special task force to come up with suggestions for the Union government, in a bid to make the transition to electric vehicles more seamless, various state governments have unveiled or are in the process of launching dedicated policies on EVs. Among the other states that have rolled out or are in the process of launching policies on electric vehicles are Maharashtra, Andhra Pradesh, Goa, Uttar Pradesh and others. Interestingly, Gujarat, WB, UP, Rajasthan and Maharashtra clocked the highest number of EV sales during FY2016-17.
- India's first EVs are likely to be fleet vehicles, especially taxis, buses, etc. They are unlikely to be stationary and plugged in midday. Even for personal vehicles, a lot of charging may happen at home, especially overnight, in the absence of ubiquitous EV charging infrastructure—

building such infrastructure in India is harder than in many countries due to land and grid limitations.

- Just like conventional vehicles rely on petrol pumps or gas stations for refuelling, the mass adoption of electric vehicles mandates a robust charging infrastructure. With the growing popularity of electric vehicles, the global EV charging infrastructure market is expected to skyrocket to \$45.59 Bn by 2025.
- Despite the massive technological advancements, EV charging infrastructure remains inadequate in most parts of the world. Furthermore, most electric cars have a range that falls 150 to 175 km on a single charge.
- While the electric vehicles market is currently a lucrative destination for corporates and startups in India, there are still quite a few challenges that need to be overcome to make EVs ready for mass adoption. Manufacturing electric vehicles domestically, for instance, comes with the hurdle of high costs.



SEVEN IMPORTANT NATIONAL & INTERNATIONAL NEWS

NATIONAL

1. Two New Endangered Languages Discovered

Researchers from the University of Hyderabad have discovered two new languages- Walmiki and Malhar, both predominantly in the remote regions of Odisha. The languages are categorised 'endangered' as the number of people speaking is small.

Walmiki is spoken in the district of Koraput and in the bordering districts of Andhra Pradesh. It is an isolate language i.e. it does not belong to

a family of languages. The name of the language is also interesting and indicative because the speech community claims descent from the great Indian saint-poet Valmiki.

Malhar is spoken by just 75 including children from a particular community. It belongs to the North Dravidian subgroup of the Dravidian family of languages and has close affinities with the other North

Dravidian languages like Malto and Kurux spoken in West Bengal, Jharkhand and Bihar.

The government of India has been making efforts to document the endangered tribal and minor languages. There are several languages unknown to the world and waiting to be discovered and documented. India is also considered a linguists paradise and termed a sociolinguistic giant. ■

2. Pradhan Mantri Mahila Shakti Kendra Scheme

Government of India has approved a new scheme namely Pradhan Mantri Mahila Shakti Kendra for 2017-18 upto 2019-20 to empower rural women through community participation.

The scheme is envisaged to work at various levels and at the national level (domain based knowledge support) and State level (state resource centre for women) technical support to the respective governments on issues related to women is provided.

It will aim to improve declining child sex ratio, ensure survival and protection of the girl child, ensuring

her education and empowering her to fulfil her potential. It will provide an interface for rural women to approach the government for getting their entitlements and for empowering them through training and capacity building.

The scheme is implemented through the state government/UTs administration with a cost sharing ratio of 60:40 between centre and states except for North East & Special Category States where the funding ratio is 90:10. ■



3. Government Banned Imports of Oxytocin Hormone

The government banned imports of the hormone oxytocin to stop its misuse in the livestock industry, where activists say it causes hormonal imbalances and shortens the lives of milch animals. The government also asked customs officials to step up vigilance against those likely to try and smuggle oxytocin into India. The government has decided to rely on domestic production to satisfy requirements of the hormone.

A panel of top drug experts had recommended an import ban in February. It also recommended that sale be limited to registered government hospitals and clinics, a bar code system used on all forms of the

drug to ensure tracking and prevent abuse.

Oxytocin is a hormone secreted by the posterior lobe of the pituitary gland, a pea-sized structure at the base of the brain. It's sometimes known as the "cuddle hormone" or the "love hormone," because it is released when people snuggle up or bond socially.

The drug's abuse in animals shortens their lives and makes them barren sooner. The drug is used by dairy owners and farmers to boost milk production and make vegetables look



bigger and fresher. But, it was found that indiscriminate use of Oxytocin in milch animals and by farmers was causing irreversible hormone damage. ■

4. Van Dhan Vikas Kendra

The Ministry of Tribal Affairs has approved establishment of the first multipurpose "Van Dhan Vikas Kendra" on pilot basis in Bijapur District of Chhattisgarh state for providing skill upgradation and capacity building training and setting up of primary processing and value addition facility.

This first model Van Dhan Vikas Kendra is being implemented for training of 300 beneficiaries with a total outlay of Rs 43.38 lakhs for training, providing equipments & tools for primary level processing and

infrastructure & building for housing the Kendra. This Kendra to start with will have processing facility for Tamarind brick making, Mahua flower storage facility and chironjee cleaning and packaging. The selection of the tribal beneficiaries and formation of the SHGs has been undertaken by TRIFED.

The Van Dhan Vikas Kendras will be an important milestone in economic development of tribals involved in collection of (Minor Forest Products) MFPs by helping them in optimum utilization of natural resources and

provide sustainable MFP-based livelihood in MFP-rich districts. Minor Forest Produce (MFP) is a major source of livelihood for tribals living in forest areas. The importance of MFPs for this section of the society can be gauged from the fact that around 100 million forest dwellers depend on MFPs for food, shelter, medicines and cash income. It provides them critical subsistence during the lean seasons, particularly for primitive tribal groups such as hunter gatherers, and the landless. ■

5. POSHAN Abhiyaan

It was launched on International Women's day (March 8) in 2018 to boost nutrition among children and women. The Abhiyaan targets to reduce stunting, under-nutrition, anemia (among young children men and adolescent girls) and reduce low birth weight by 2%, 2%, 3% and 2%

per annum respectively. The target of the mission is to bring down stunting among children in the age group 0-6 years from 38.4% to 25% by 2022.

The annual targets set under POSHAN Abhiyaan beginning 2017-18 are as under:

1. Prevent and reduce stunting in children (0-6 years) by 6% @ 2% p.a.
2. Prevent and reduce under-nutrition (underweight prevalence) in children (0-6 years) by 6% @ 2% p.a.

3. Reduce the prevalence of anemia among young Children (6-59 months) by 9% @ 3% p.a.
 4. Reduce the prevalence of anemia among women and adolescent girls in the age group of 15-49 years by 9% @ 3% p.a.
 5. Reduce low birth weight (LBW) by 6% @ 2% p.a.
- Aanganwadi Workers have been equipped with smart phones and supervisors with tablets to record the data for ICT-real time monitoring to achieve the targets set under the POSHAN Abhiyaan.



6. Prohibition on Dealing in Virtual Currencies

The Reserve Bank of India (RBI) has asked banks to stop providing service to any entity dealing with virtual currencies, with immediate effect. The RBI has repeatedly cautioned

users, holders and traders of virtual currencies, including bitcoins. Regulated entities that are already providing such services should exit the relationship within three months.

with entities associated with virtual currencies. However, RBI also recognises that the blockchain technology or distributed ledger technology that lies beneath the virtual currencies has a potential benefit for financial inclusion.

RBI also said it would explore introducing digital currency and had formed an interdepartmental group to study and provide guidance on the desirability and feasibility to introduce a central bank digital currency.



After advising all stakeholders about the risks of virtual currencies, the central bank had decided to ring-fence the RBI regulated entities from the risk of dealing

7. The RBI Deferred the Implementation of the Ind AS

The Reserve Bank of India (RBI) deferred the implementation of the Indian Accounting Standards (Ind AS) by one year as many banks are not prepared to migrate to the new accounting system. The earlier deadline for banks to switch to the Ind AS was from April 1 2018.

The implementation of IndAS for public sector banks requires an amendment to the Banking Regulation Act. The schedule in BR Act relating to financial statement disclosures needs to be changed to the IndAS format. Private sector banks are covered by

the Companies Act, which is based on the new accounting standards.

About Ind AS

Ind AS is a set of accounting norms developed by Indian authorities, which converge with the International Financial Reporting Standards. Ind AS govern the accounting and recording of financial transactions as well as the



presentation of statements such as profit and loss account and balance sheet of a company.

INTERNATIONAL

1. Odilorhabdins: New Class of Antibiotics

A new class of antibiotics, from an unconventional source which has a distinct way of killing bacteria, has been discovered which may help combat drug-resistant or hard-to-treat bacterial infections. The antibiotic called odilorhabdins, or ODLs, are produced by symbiotic bacteria found in soil-dwelling nematode worms that colonise insects for food. The bacteria helps in killing the insect and,

importantly, secretes the antibiotic to keep competing bacteria away. Like many clinically useful antibiotics, ODLs work by targeting the ribosome but ODLs are unique because they bind to a place on the ribosome that has never been used by other known antibiotics.

Odilorhabdins is unique and promising on two fronts: its unconventional source and its distinct way of killing bacteria, both of which

suggest the compound may be effective at treating drug-resistant or hard-to-treat infections.

According to the World Health Organisation, antibiotic resistance is one of the biggest threats to global health today and a significant contributor to longer hospital stays, higher medical costs and increased mortality. ■

2. Parker Solar Probe

NASA's Parker Solar Probe is humanity's first mission to the Sun. It is undergoing final preparations for its launch scheduled for July 31. After launch, it will orbit directly through the solar atmosphere- the corona- closer to the surface than any human-made object has ever gone.

One of the most critical elements of the spacecraft is the thermal protection system (TPS) or heat shield. It will be installed just prior to being fuelled. TPS is the breakthrough technology. It will allow Parker Solar Probe to survive

the temperatures in the Sun's corona which is just 9.8 million kilometres from the surface of our star.

While facing the brutal heat and radiation of the sun, the mission will reveal:

- Fundamental science behind what drives the solar wind.
- The constant outpouring of material from the Sun that shapes planetary atmospheres.
- Affects space weather near Earth.
- It will explore the Sun's outer

atmosphere.

- The mission will make critical observations to answer decades-old questions about the physics of stars.
- Its data will also be useful in improving forecasts of major eruptions on the Sun.
- This will also help in determining the subsequent space weather events that impact technology on Earth, as well as satellites and astronauts in space. ■

3. 16th International Energy Forum Ministerial

India, the world's third-largest energy consumer after the US and China, will host the 16th International Energy Forum Ministerial (IEF-16). The ministerial comes in the backdrop of a supply cut by the Organization of the Petroleum Exporting Countries (OPEC) and Russia that has led to a rally in global oil price. The IEF ministerial meetings are informal dialogues, at both the political and technical

levels, aimed to improve policy and investment decisions and through increased knowledge and experience sharing. The biennial IEF ministerial meetings are the world's largest gathering of Energy Ministers who engage in a dialogue on global energy issues.

About IEF

The International Energy Forum (IEF)

is an inter-governmental arrangement set up in 1991. It is based in Riyadh. It aims to foster greater mutual understanding and awareness of common energy interests among its members. Its 72 member countries are signatories to the IEF Charter, which outlines the framework of the global energy dialogue through this inter-governmental arrangement. ■

4. 1200-year-old Buddha Cliff Carvings Found in Tibet

A newly discovered cliff carvings of Buddha in Eastern Tibet may offer

a glimpse into the Buddhist art and local history from 1,200 years ago.

According to the regional cultural relics protection research institute, the

discoveries dating back to the Tibetan Tubo Kingdom were found in Acur township in Chagyab County of Qamdo City. The era of Tubo Kingdom is said to be the most powerful period in Tibets history which has made contributions

to the Tibetan culture and the Tibetan Buddhism.

The carvings are inscribed on cliffs that stretch some 10 metres in total. Experts believe that the carvings were created in the 9th century,

based on their style. The discoveries will not only contribute to the study of art and culture, but also ancient transportation. ■

5. Mars Landing Parachute

The Advanced Supersonic Parachute Inflation Research Experiment (ASPIRE) that will help the NASA missions to land on Mars, was successfully launched into the sky during a key test designed to mimic the conditions of entering the

red planet. The Mars rover is scheduled to launch in two years, on a mission to hunt for signs of ancient life on the Red Planet. The six-wheeled vehicle, whose body is based heavily on Nasa's Curiosity Mars rover, will study rocks

on site and cache samples for eventual return to Earth. It will rely on a special parachute to slow the spacecraft down as it enters the Martian atmosphere at over 12,000 mph (5.4 kilometers per second). ■

6. Icarus: Farthest Individual Star

NASA's Hubble Space Telescope has discovered the farthest individual star ever seen – an enormous blue stellar body nicknamed Icarus located over halfway across the universe. The star, harboured in a very distant spiral galaxy, is so far away that its light has taken nine billion years to reach Earth. It appears to us as it did when the universe was about 30 per cent of its current age.

Normally, the star would be too faint to view, even with the world's largest telescopes. However, through a phenomenon called gravitational lensing that tremendously amplifies the star's feeble glow, astronomers were able to pinpoint this faraway star and set a new distance record. Gravitational lensing occurs when forces of gravity from massive cluster of galaxies acts as a natural lens in

space, bending and amplifying light. In the case of Icarus, a natural 'magnifying glass' is created by a galaxy cluster called MACS J1149+2223. Detecting the amplification of a single, pinpoint background star provided a unique opportunity to test the nature of dark matter in the cluster. Dark matter is an invisible material that makes up most of the universe's mass. ■

7. UN Disarmament Commission

India has voiced opposition to the "weaponisation" of outer space, saying it should not become an area of conflict while calling for collective efforts to strengthen safety and security of the space-based assets. India believes that outer space should be an ever expanding frontier of cooperative endeavour rather than an area of conflict.

The group of governmental experts on outer space, which will meet in Geneva in August 2018, has been mandated to make recommendations on the substantive elements of

an international legally - binding instrument on the prevention of an arms race in outer space.

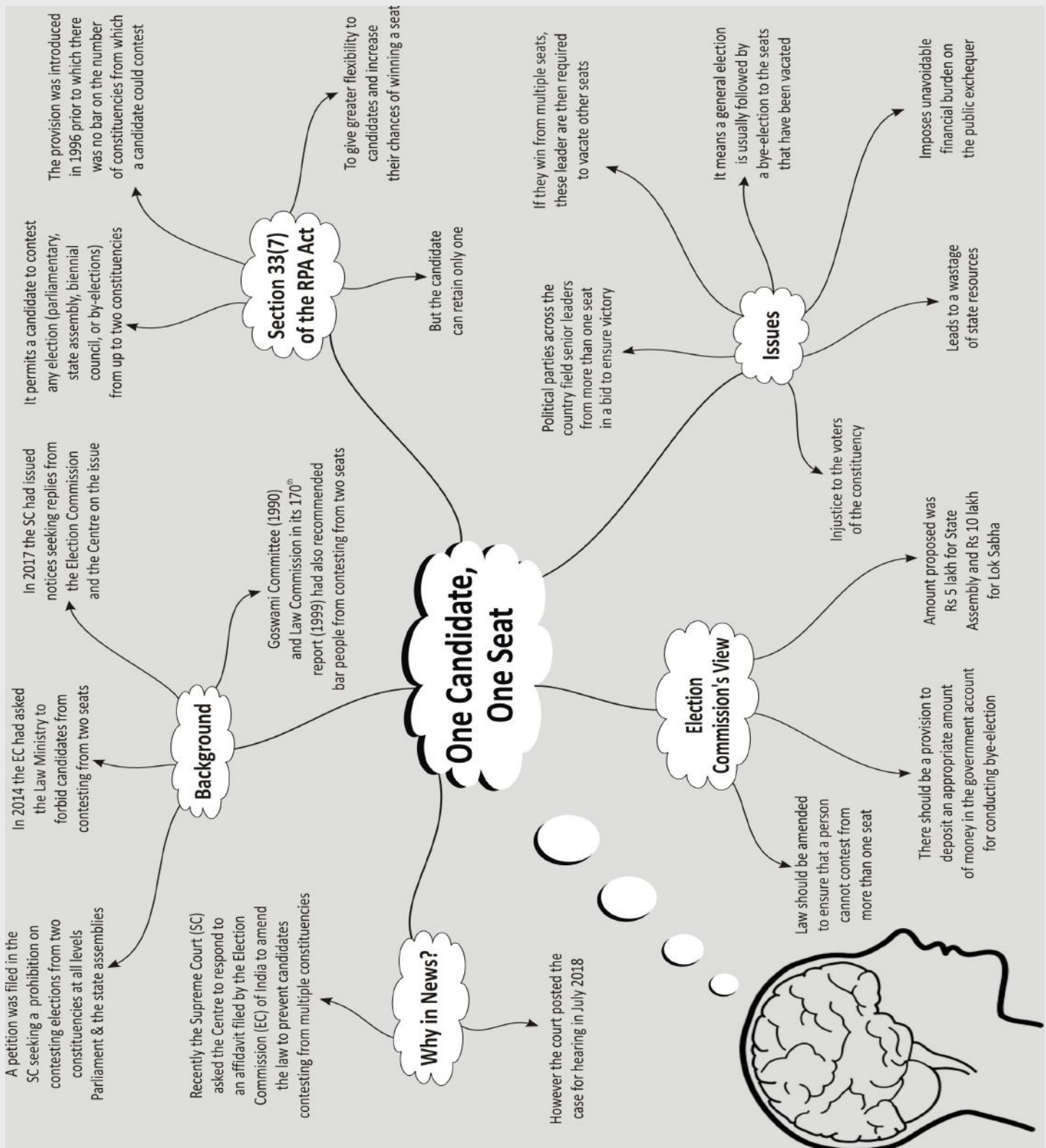
About United Nations Disarmament Commission

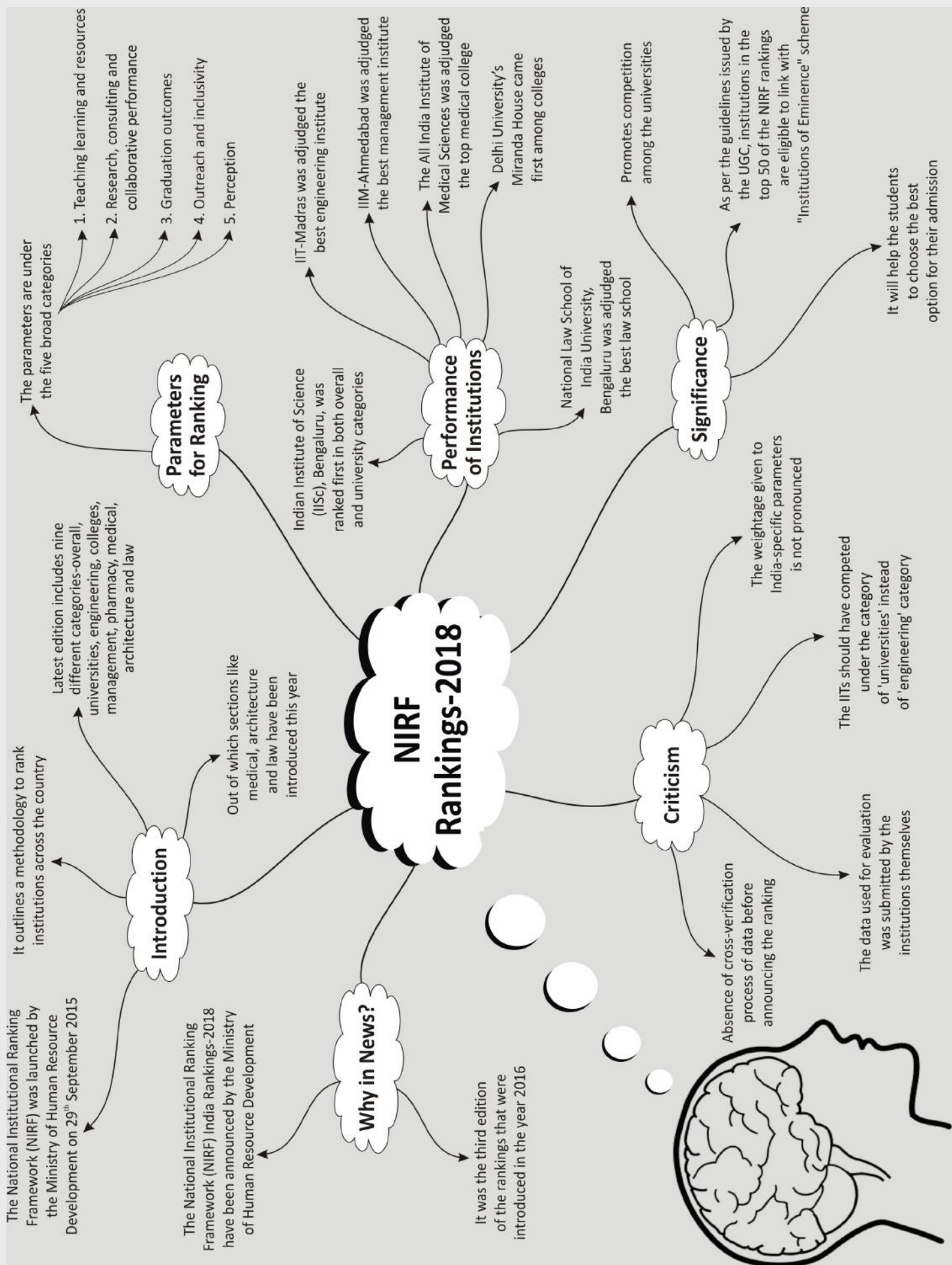
It is a deliberative body and a subsidiary organ of the UN General Assembly which is mandated to consider and make recommendations on various disarmament related issues and to follow up the relevant decisions and recommendations of the special sessions devoted to disarmament held so far. The Disarmament Commission

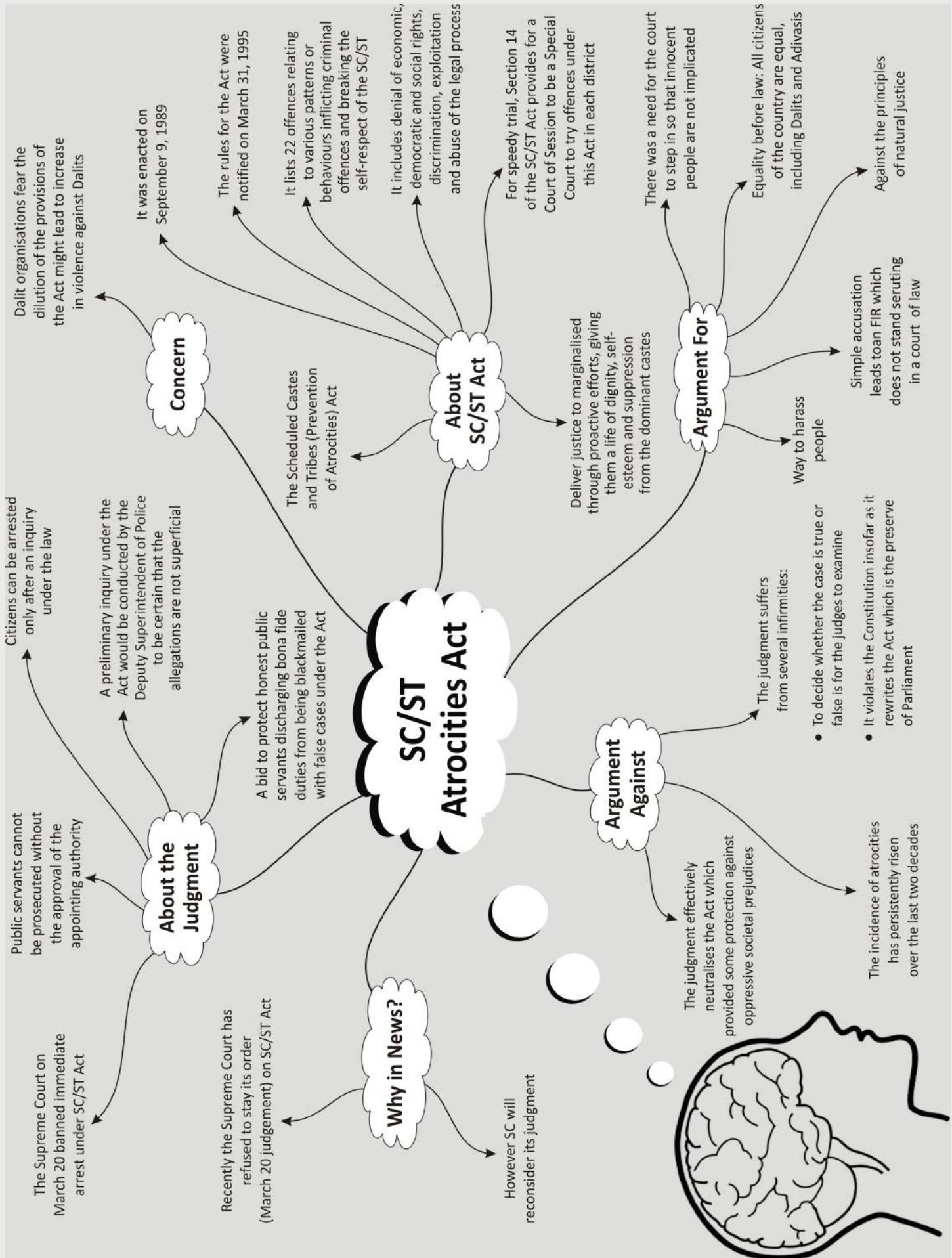
was re-established at the first Special session of the General Assembly devoted to disarmament in 1978 to succeed an earlier disarmament commission, which ceased to convene after 1965.

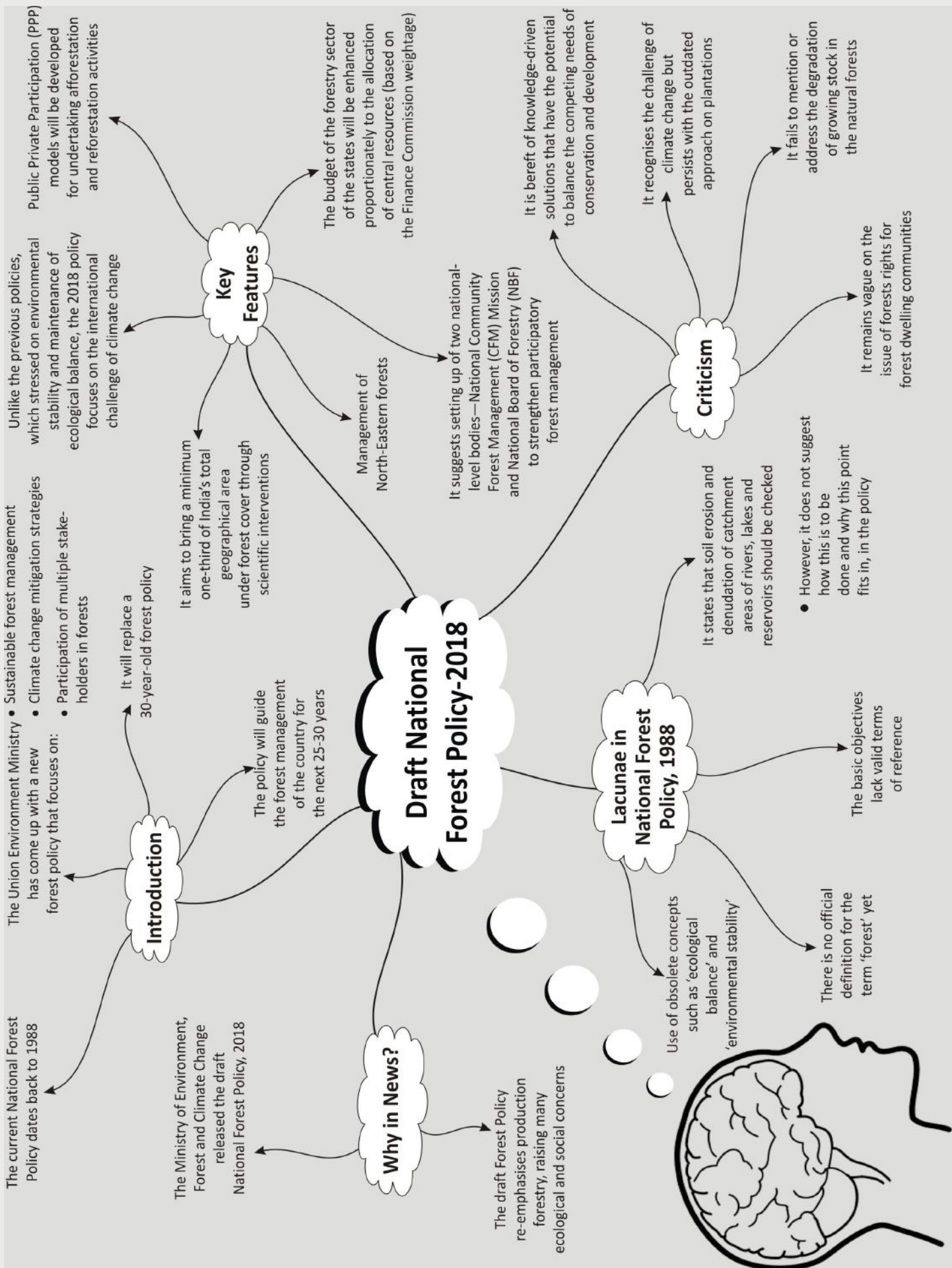
At a time of growing mistrust and rising international tensions as well as numerous challenges to both the disarmament agenda and the disarmament machinery, the role of the UNDC as a platform for dialogue and cooperation assumes even greater significance. ■

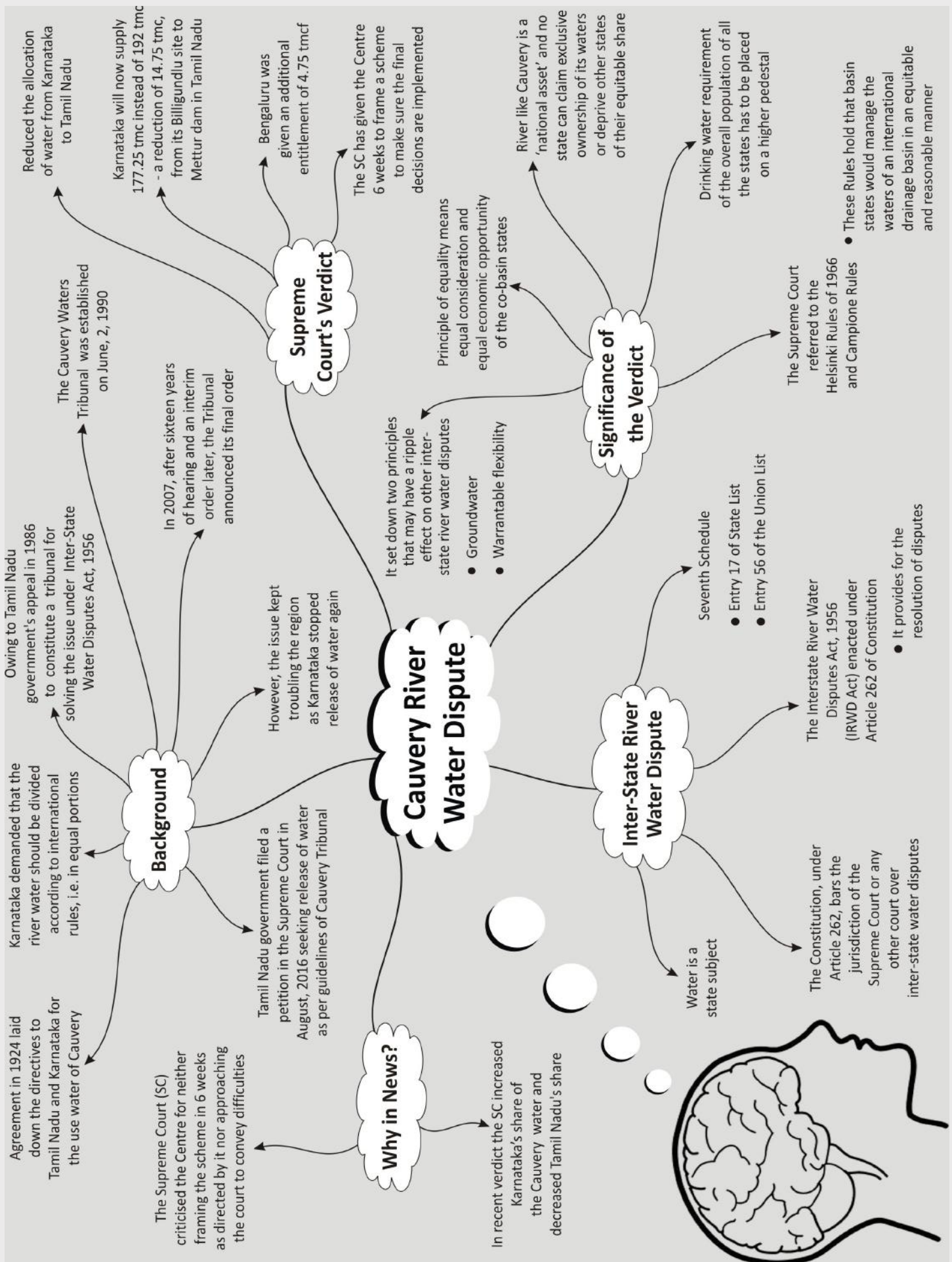
SEVEN BRAIN BOOSTERS

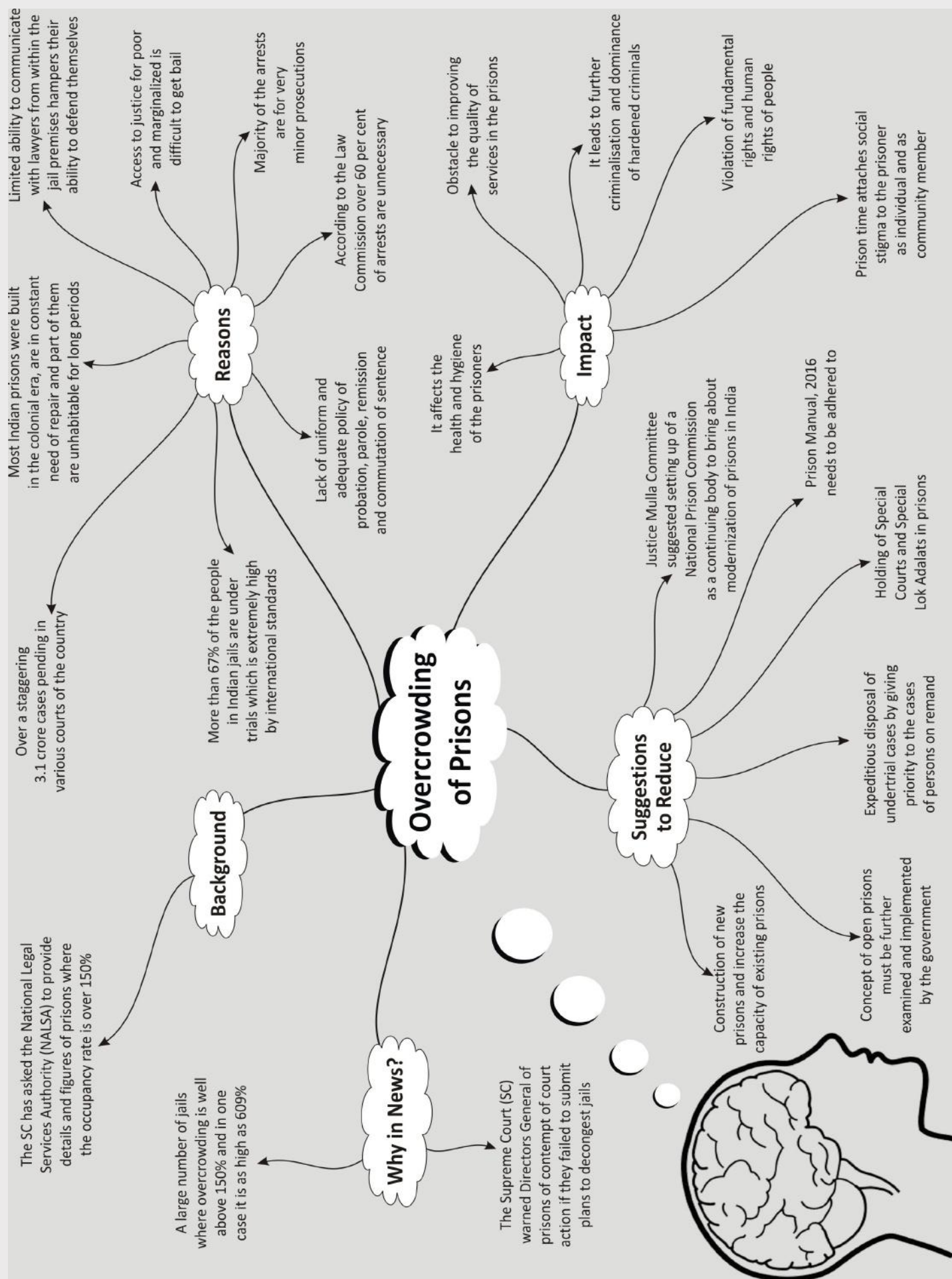


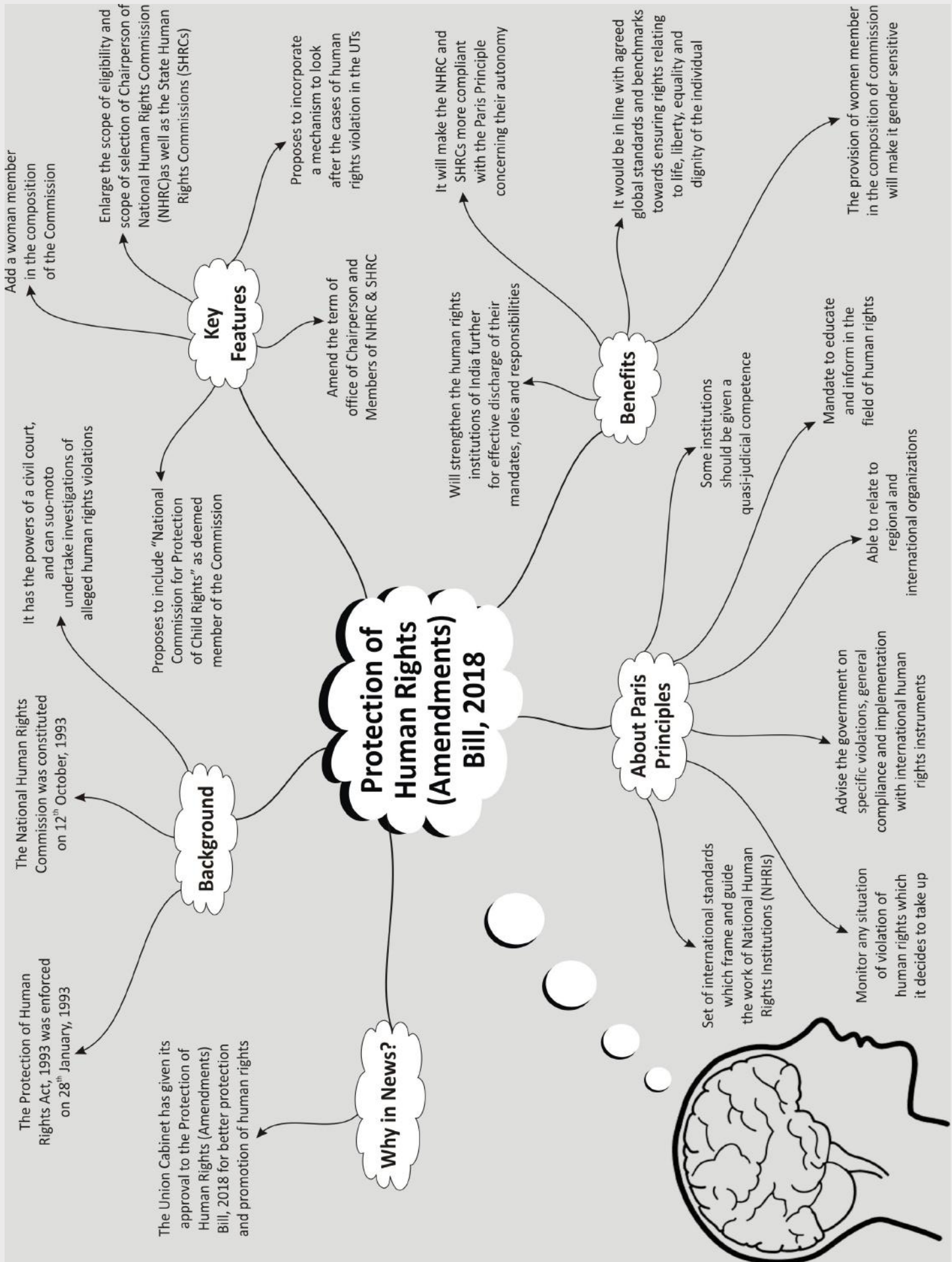












SEVEN MCQ's WITH EXPLANATORY ANSWERS

(Based on Brain Boosters)

One Candidate, One Seat

Q1. Which of the following statements is correct with regard to 'One Candidate, One Seat'?

- a) Section 33(7) of the Representation of the People Act, 1951 allows a person to contest only general election or by-elections from a maximum of two constituencies.
- b) Section 33(7) of the Representation of the People Act, 1951 allows a person to contest only general election or state assembly elections from a maximum of two constituencies.
- c) Section 33(7) of the Representation of the People Act, 1951 allows a person to contest any election (parliamentary, state assembly, biennial council, or by-elections) from up to two constituencies.
- d) Section 33(7) of the Representation of the People Act, 1951 allows a person to contest only Lok Sabha & Rajya Sabha elections from a maximum of two constituencies.

Answer: (c)

Explanation: Section 33(7) of the Representation of the People Act, 1951 allows a person to contest any election (parliamentary, state assembly, biennial council, or by-elections) from up to two constituencies but the candidate can retain only one. Before a 1996 amendment in the electoral laws, there was no bar on the number of seats a person could contest.

NIRF Rankings-2018

Q2. With reference to the 'National Institutional Rankings Framework', consider the following statements:

- 1. It was launched by the Ministry of Human Resource Development on 29th September 2015.
- 2. Institutions in the top 50 of the National Institute Ranking Framework (NIRF) rankings are eligible to link with "Institutions of Eminence" scheme.

Which of the statements given above is/are correct?

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

Answer: (c)

Explanation:

Both statements are correct. The National Institutional Ranking Framework (NIRF) was launched by the Ministry of Human Resource Development on 29th September 2015. This framework outlines a methodology to rank institutions across the country. As per the guidelines issued by the UGC, institutions in the top 50 of the National Institute Ranking Framework (NIRF) rankings or those who have secured ranking among top 500 of the Times Higher Education World University Rankings, QS University Rankings or Shanghai Ranking Academic Ranking of World Universities are eligible to apply for "Institutions of Eminence" scheme.

SC/ST Atrocities Act

Q3. With reference to the Scheduled Castes and Tribes (Prevention of Atrocities) Act, consider the following statements:

- 1. It was enacted on September 9, 1989 to prevent atrocities against scheduled castes and scheduled tribes.
- 2. In recent judgment the Supreme Court banned immediate arrest under SC/ST Act and introduced the provision of anticipatory bail.

Which of the statements given above is/are correct?

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

Answer: (c)

Explanation:

Both statements are correct. The Scheduled Castes and Tribes (Prevention of Atrocities) Act is popularly known as POA, the SC/ST Act, the Prevention of Atrocities Act, or simply the Atrocities Act. The SC/ST Act was enacted on September 9, 1989. The rules for the Act were notified on March 31, 1995. In recent judgment the Supreme Court expressed concern over misuse of the Act and ruled against automatic arrest of the booking of accused under the law. It also introduced the provision of anticipatory bail. The Supreme Court ruled that public servants cannot be prosecuted without the approval of the appointing authority and citizens too should be arrested only after an inquiry under the law.

Draft National Forest Policy - 2018

Q4. Consider the following statements in respect of draft National Forest Policy-2018:

1. It suggests setting up of two national-level bodies—National Community Forest Management (CFM) Mission and National Board of Forestry (NBF).
2. It proposes a green tax for facilitating ecologically responsible behaviour and supplementing financial resources essential to address forestry woes.

Which of the statements given above is/are correct?

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

Answer: (a)

Explanation:

Statement 1 is correct. It suggests setting up of two national-level bodies—National Community Forest Management (CFM) Mission and National Board of Forestry (NBF)—for better management of the country's forests.

Statement 2 is not correct. The latest draft of National Forest Policy has omitted any reference to a green tax or a national stream revival programme. But it continues to speak about private participation in forest management, while noting that productivity of forest plantations are poor in most states.

Cauvery River Water Dispute

Q5. With reference to the Cauvery river water dispute, consider the following statements:

1. The Inter-State Water Disputes Act, 1956 was enacted to deal with inter-state water disputes.
2. It is a dispute among Tamil Nadu, Karnataka and Andhra Pradesh.
3. The Supreme Court in its recent judgment directed the central government to constitute the Cauvery Water Management Board.

Which of the statements given above is/are correct?

- a) 1 and 2 only b) 2 and 3 only
c) 1 and 3 only d) 1, 2 and 3

Answer: (c)

Explanation:

Statement 1 is correct. The Constitution, under Article 262, bars the jurisdiction of the Supreme Court or any other court over interstate water disputes. The Interstate (River) Water Disputes Act, 1956 provides for the resolution of disputes. Under its provisions, the disputes are to be adjudicated by ad-hoc, temporary and exclusive tribunals.

Statement 2 is not correct. The Cauvery River has been a source of conflict between the states of Karnataka and Tamil Nadu for over 124 years.

Statement 3 is correct. The court directed the central government to constitute the Cauvery Water Management Board within six weeks to supervise implementation of the order.

Overcrowding of Prisons

Q6. Consider the following statements:

1. Prisons in India are governed by the Prisons Act, 1894.
2. All India Committee on Jail Reforms suggested setting up of a National Prison Commission as a continuing body to bring about modernization of prisons in India.

Which of the statements given above is/are correct?

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

Answer: (c)

Explanation: Both statements are correct. The Prisons Act 1894 is one of the oldest pieces of legislation in India dealing with laws enacted in relation to prisons in India. The Prison Act, 1894 deals more with the smooth functioning of prison rather than reformation and rehabilitation of prisoners. And All India Committee on Jail Reforms (also known as Justice Mulla Committee) suggested setting up of a National Prison Commission as a continuing body to bring about modernization of prisons in India.

Protection of Human Rights (Amendments) Bill, 2018

Q7. With reference to the Protection of Human Rights (Amendment) Bill, 2018, consider the following statements:

1. It proposes to include "National Commission for Protection of Child Rights" as deemed member of the Commission.
2. It will make the National Human Rights Commission and State Human Rights Commissions more compliant with the Paris Principle concerning their autonomy.

Which of the statements given above is/are correct?

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

Answer: (c)

Explanation: Both statements are correct. The salient features of the proposed amendments bill include making the National Commission for Protection of Child Rights as deemed member of the National Human Rights Commission, adding a woman member in the composition of the commission among others. And it will make National Human Rights Commission (NHRC) and State Human Rights Commission (SHRC) more compliant with the Paris Principle concerning its autonomy and independence in order to effectively protect and promote human rights.



SEVEN IMPORTANT FACTS FOR PRELIMS

1. Which state government has launched water ATM policy for urban areas?

–Haryana

2. Which state recently launched the state component of Pradhan Mantri Kaushal Vikas Yojana?

–Tripura

3. Which state government has issued a protocol to confirm brain death cases?

–Kerala

4. Name the farthest star that was recently seen by NASA's Hubble Space Telescope?

–Icarus

5. Which nation is going to allow women to volunteer for national service for the first time ever?

–Qatar

6. Which country developed a novel method by mixing two chemicals that help generate stem cells?

–China

7. Which sportsperson has been named UN World Tourism organization's tourism ambassador?

–Lionel Messi

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SEVEN PERFECT QUOTES

(IMPORTANT FOR ESSAY AND ANSWER WRITING)

"To achieve greatness, start where you are, use what you have, do what you can."

—George Bernard Shaw

"Everything comes to us that belong to us if we create the capacity to receive it."

—Rabindranath Tagore

"The future belongs to those who believe in the beauty of their dreams."

—Muhammad Ali

"We are what our thoughts have made us; so take care about what you think.

Words are secondary. Thoughts live; they travel far."

—Swami Vivekananda

"A man with no imagination has no wings."

—William Shakespeare

"Men are mortal. So are ideas. An idea needs propagation as much as a plant needs watering. Otherwise both will wither and die."

—B. R. Ambedkar

"Strong, deeply rooted desire is the starting point of all achievement."

—Lao-Tsu

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SEVEN PRACTICE QUESTIONS FOR MAIN EXAM

Answer each of the following questions in 200 words:

- Q1. Is it time for India to review the first-past-the post system (FPTP) and move towards proportional representation (PR) model? Critically examine.
- Q2. Discuss why India's banking sector is among the most vulnerable in G-20 economies today.
- Q3. By promoting the culture of mass following, social media are shaking the foundations of democracy. Discuss.
- Q4. Analyse challenges and give practical solutions that exist in making members of the transgender community part of the mainstream.
- Q5. Better designed Kisan Credit Card can help improve access to institutional credit and ensure crop insurance. Critically discuss.
- Q6. The Big Data revolution raises a bunch of ethical issues related to privacy, confidentiality, transparency and identity. Discuss these ethical issues with suitable examples.
- Q7. Rashtriya Uchchatar Shiksha Abhiyan (RUSA) can prove be a real game changer for higher education in the country. Discuss the significance of the decision of Government of India to continue this scheme.

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