

CURRENT AFFAIRS

WEEKLY

WEEK: 1

SEPTEMBER
2021

MAINS

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an indignity to
women

GS-II China's first
railway link to
Indian Ocean

GS-III National
mission on
edible oil

GS-III World Freed
from Toxic
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Submarine Volcano

**INTERNATIONAL
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Experts of BIMSTEC

■ ZAPAD 2021

**POLITY &
GOVERNANCE** ■ POSHAN 2.0

ECONOMY ■ Government launches
e-SHRAM portal

ENVIRONMENT ■ Conservation of
Groundwater

■ Odisha's Kendra Para
becomes only district in
India to have all three
crocodile species

**SCIENCE
& TECHNOLOGY** ■ ICGS 'Vigraha'
commissioned into Indian
Coast Guard

■ Indian researchers
discover cosmic collision

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The current affairs articles are segregated from prelims and mains perspective, such separation is maintained in terms of structure of articles. Mains articles have more focus on analysis and prelims articles have more focus on facts.

However, this doesn't mean that Mains articles don't cover facts and PT articles can't have analysis. You are suggested to read all of them for all stages of examination.


CURRENT AFFAIRS ANALYST

WEEK- 1 (SEPTEMBER, 2021)

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SECTION: A

(MAINS)

CURRENT AFFAIRS

MARTIAL RAPE, AN INDIGNITY TO WOMEN

CONTEXT

In a recent (August 2021) Judgment, the Chhattisgarh High Court upheld that sexual intercourse by husband is not rape, even if it was by force or against the wife's wish. This ruling has been deemed outrageous by many.

◎ BACKGROUND:

- The Chhattisgarh High Court on August 26 discharged a man from facing trial for allegedly raping his wife, given that **Indian law does not recognize marital rape** if the wife is above 15 years of age.
- **Justice N K Chandravanshi** relied upon an exception under **Section 375 of the IPC**, which states that "sexual intercourse or sexual act by a man with his own wife, the wife not being under fifteen years of age, is not rape."

Other Court Judgments on Section 375 (Marital rape)

• Supreme Court's clarification

- In 2017, the Supreme Court partially read down the exception in **Section 375**, so that it applied only to wives who were 18 years and older.
- This meant that the rape of a minor (below 18 years) wife would not be exempt from criminal sanction under the marital rape exception.

• Kerala High Court

- In August 2021, Kerala high court ruled that marital rape was "a good ground" to seek divorce.
- It held that albeit marital rape cannot be penalized, it falls in the frame of physical and mental cruelty.
- The court explained that marital rape occurred when the husband believed that he owned his wife's body and added that "such a notion has no place in modern social jurisprudence".

- Section 375 sets out the different situations in which consent is non-existent, or is vitiated as a mutual mistake for sexual intercourse.
- There is an exception to this. It states: "**Sexual intercourse by a man with his wife, the wife not being under fifteen years of age, is not rape.**"
- More than 100 countries have outlawed marital rape. Even the British, who introduced the IPC in India, outlawed marital rape in Britain in **1991**.
- In the past petitions seeking the criminalization of marital rape and removal of exception in **Section 375**, the SC has observed that it is not in its jurisdiction and it is for Parliament to take a call.

Why has Marital Rape not been recognized?

- Historically, matrimonial jurisprudence has upheld the tradition that marriage and solemnization of marriage results in giving unconditional and lifetime consent to sexual intercourse by the wife.
- The idea that sex within marriage can never amount to rape rest upon two assumptions:
 - first, that marriage amounts to a once, lifetime consent to sexual intercourse;
 - and second, that the criminalization of marital rape would violate the privacy of marriage; that the institution of marriage must be placed beyond the realm of constitutional scrutiny.
- Both these assumptions, however, are entirely incompatible with a constitutional democracy founded upon ideas of freedom and autonomy.

Arguments in favor of making Marital Rape a crime

- **Against Fundamental Rights:** The marital rape exception in Section 375 violates women's right to autonomy and privacy under **Article 21**. It is also against **Article 14** of the Constitution, which guarantees the equal protection of laws
- The Supreme Court held that **privacy began with the human body** and that at the heart of the right to privacy (Article 21) was the idea of decisional autonomy.
 - The argument is that if individual autonomy in a marital relationship is honored as a fundamental right, then marital sex without consent ought to be criminalized.

◎ ANALYSIS:

About Marital Rape:

- Despite the increasing instances of cases of marital rapes in our country, marital rape is not defined in any statute/law.
- While 'Rape' is defined under **Section 375** of the **Indian Penal Code**, there is no definition of 'Marital Rape'.

- Just as individuals cannot sell themselves into slavery, nor can they be **deemed to have waived their right to decisional autonomy** upon marriage.
- The **Kerala HC and Chhattisgarh HC judgments** demonstrated the need for a clear law on marital rape because there **can't be an "artificial distinction" between the social predicament of a wife below 18 and above**. Physical integrity is absolute at any age.
- **Justice Verma Committee**, set up in 2012, recommended to include marital rape under IPC, in light of India's obligations under the **Convention on the Elimination of All Forms of Discrimination Against Women**.
- **Marital Rape as a ground for Divorce:**
 - In 2019, the Delhi HC turned down a petition seeking a declaration of marital rape as a ground of divorce — which the Kerala HC has judicially recognized in its recent (August 2021) judgment.
- The belief that the institution of marriage would wither away if marital rape were made criminal justifies implies that **coerced sex is necessary for a long-lasting marriage!**

Arguments NOT in favor of making Marital Rape a crime

- **Social Aspects:**
 - The unfounded belief that allowing wives to complain about rape will destroy the family and the institution of marriage.

- Marriage amounts to a once, lifetime consent to sexual intercourse

- **Legal Aspects:**

- The **Law Commission** (172nd Report, 2000) has opined that criminalizing marital rape **may amount to excessive interference with the marital relationship**.
- If a woman is aggrieved by the acts of her husband, there are **other means of approaching the court**.
 - i.e. A husband may be tried for offenses such as sexual harassment, molestation, voyeurism, and forcible disrobing in the same way as any other man.

◎ CONCLUSION:

It is a reliable fact that an overwhelming percentage of sexual assaults are committed by spouses and partners. Women are being violated of their dignity when it occurs within four walls of the matrimonial home, it reduces the woman to the status of an object used merely for sexual gratification. There is an immediate need for a distinct law on marital/spousal rape in India at par with the accepted international norms. It is true that mere criminalization of marital rape in India will not be the solution, but it sure is an important step towards changing women's experience of sexual violence in marriage and providing them their say.

CHINA'S FIRST RAILWAY LINK TO INDIAN OCEAN

CONTEXT

The first shipment of the newly launched railway from the Myanmar border to the main commercial centre in Chengdu in western China has been made recently.

Geographic Location of Malacca Strait



About New Corridor

- The new trade corridor connects the lines of goods into Singapore, Myanmar and China, and is currently the best land and sea port linking the **Indian Ocean** to south-western China.
- China also has plans to build another port in **Kyaukphyu** in **Rakhine state, Myanmar**, including a proposed railway line from **Yunnan (China)** to the port, but progress has been halted by the Myanmar wars.
- China plans to develop the region in Myanmar as a place for 'border economic cooperation' under the **Belt and Road Initiative (BRI)**.
 - It is expected to be the mainstay of international trade with China, while providing a source of revenue for Myanmar.
- This trading post is another direct Chinese route to the **Indian Ocean**.
 - The first to be at the port of **Gwadar** in **Pakistan**.
 - This trade route is China's alternative to the "**Malacca Dilemma**".
- Malacca Dilemma is a name coined in 2003 by then-Chinese President Hu Jintao.
- This means China's fears of a sea embargo on the **Straits of Malacca**. As most of China's oil imports pass through the Straits of Malacca, a sea blockade here could cripple China's economy.

China's Belt and Road Initiative (BRI)

- **What is BRI?**
 - The **Belt and Road Initiative**, reminiscent of **Silk Road**, is a major infrastructure project that will travel from East Asia to Europe.

- **Launched in:** 2013
- The program has two sides:
 - **Silk Road Economic Belt**
 - **Maritime Silk Road**
- These both collectively were first named as the **One Belt, One Road program** but eventually became the **Belt and Road Initiative**.
- The project involves creating a large network of railways, pipelines, highways, and cross-border planning.
- **Pakistan and BRI:**
 - To date, more than 60 countries - accounting for two thirds of the world's population - have signed projects or expressed interest in doing so.
 - Analysts estimate that the largest to date is the **China-Pakistan Economic Corridor** estimated at 60 million, a series of projects involving **China and Pakistan's Gwadar Court** in the **Arabian Sea**.



China's development plan on other ports

- **About Gwadar Port:**
 - Gwadar is being developed as part of the CPEC in the remote and western region of Xinjiang.
 - Gwadar has long been called the site of a Chinese base suitable for the operation of the **People's Liberation Army Navy (PLAN)**.
 - China is following the concept of "strength strategies" in which foreign strategies contain regional strategies for trade firms used by

- Chinese firms that could be used by their military.
- ▶ Such “strong points” provide an opportunity for China to build a network of supply, distribution and testing facilities near the **Indian Ocean**.
- ▶ This is called **String of Pearls theory**.
- ◉ **Gwadar is important in China for three reasons:**
 - ▶ One to establish a direct link to the Indian Ocean via CPEC.
 - ▶ The second factor is that Gwadar helps to strengthen or stabilize western China, a region where China feels threatened by the Islamic State.
 - ▶ In addition, Gwadar is 400 kilometres from the main **Hormuz Strait** (linking the Persian Gulf with the Gulf of Oman to the Arabian Sea), where 40% of Chinese flow oil.
- ◉ **What does China hope to achieve?**
 - ▶ China has both economic and economic reasons behind the plan.
 - ▶ The country has promoted China’s more powerful vision, while reducing growth and trade relations with the United States and pressuring the country’s leadership to open new markets for its goods.
 - ▶ Experts see the BRI as one of the main targets of the Chinese superpower under Xi, alongside a strategic economic development plan developed in Made in China 2025.

- ▶ The BRI also serves as a backlash against the much-anticipated “pivot to Asia”, as well as China’s approach to creating new investment opportunities, developing export markets, and boosting China’s revenue and domestic consumption.

Results in India:

- ◉ China’s economic stakes on the **Bay of Bengal** and on this new trade route show greater maritime presence and maritime involvement in the region which also strengthens the pearl policy by China.
- ◉ In addition to this trade route with **China Pakistan Economic Corridor (CPEC)**, China is also planning the **China-Nepal Economic Corridor (CNEC)** which will link **Tibet to Nepal**.
- ◉ The end of the project will affect the boundaries of the **Gangetic plain**.
- ◉ So the three channels mean economic growth and strategic growth in China on the Indian subcontinent.

◎ CONCLUSION:

India has tried to convince countries that the BRI is a plan to dominate Asia, warning of what some analysts have called a “**String of Pearls**” geo-economic strategy whereby China creates unsustainable debt burdens for its Indian Ocean neighbours in order to seize control of regional choke points. However, New Delhi has long been unsettled by China’s decades-long embrace of its traditional rival, Pakistan.

MINILATERALISM: WEIGHING THE PROSPECTS FOR COOPERATION AND GOVERNANCE

CONTEXT

The Colombo Security Conclave (CSC) held in early August in Colombo, Sri Lanka led to the discussion between India, Sri Lanka, and the Maldives on security cooperation across “four pillars” including maritime security, human trafficking, counterterrorism, and cybersecurity. CSC has hinted towards the idea of ‘minilaterals’

◎ BACKGROUND:

- The idea of minilaterals is not new: bilateralism, multilateralism and minilateralism have co-existed in global governance since 1945.
- Notably, the multilateral institutions that were created in the post-war era were negotiated through “disguised” minilateralism, pursued between the United States (US) and other Atlantic powers.
- For instance, the **General Agreement on Tariffs and Trade 1947 (GATT)** can be traced to bilateral or minilateral negotiations between major trading powers, which were subsequently “multilateralised” by including other countries in the discussions.
- Nonetheless, it was in the more recent years that there has been a steady proliferation of minilateral initiatives in the areas of trade, security, finance, and climate change.

◎ ANALYSIS:

What is Minilaterals?

- Minilaterals (or plurilateral, as referred to in trade policy jargon) refer to informal and more targeted initiatives intended to address a “specific threat, contingency or security issue with fewer states (usually three or four) sharing the same interest for resolving it within a finite period of time.”
- It focuses on gathering the “critical mass” of members necessary for a specific purpose, in contrast to the broad and inclusive approach associated with multilaterals.

Multilateralism

- In contrast, multilateralism is defined as a “formal effort by three or more states to build trust and avoid conflict by identifying, institutionalizing and observing rules and norms for a common vision of regional or international order.”

► For illustration,

- **Multilateral:** the WTO would be a multilateral framework for **international trade regulation**

- **Minilateral:** a minilateral would be the **Regional Comprehensive Economic Partnership (RCEP)**—a free trade agreement among **Asia-Pacific countries**

What are the major features of minilaterals?

- Certain features are frequently associated with minilaterals:
 - they have a small number of participants
 - they are ad hoc
 - their outcomes and commitments are voluntary in nature

How minilateral cooperation is being witnessed nowadays?

- Minilateral cooperation is being witnessed on all vital themes for international cooperation, such as climate change, economic cooperation, trade, connectivity, financial regulation, and security.
- The growth of regional clubs for international economic cooperation are supplanting “global” multilateralism, such as:
 - European Union (EU)
 - Association of Southeast Asian Nations (ASEAN)
 - G20
 - G7

Why this concept is significant?

- **Achieving of specified goal:** The creation of the smallest group necessary to achieve a particular goal.
- **Soft mechanism:** It is a turn from formal treaties to non-binding accords and other soft-law mechanisms.

For regulating financial markets, regulators and countries now lean towards informal mechanisms such as the **Basel Committee** and the **Financial Stability Board**, which tend to adopt “soft law” methods.

- **Easy & simple:** It is associated with ease and simplicity.
- **Voluntary arrangement:** These arrangements are voluntary, and follow a bottom-up approach.
- **Better decision making and coordination:** With a smaller membership, they can expedite decision-making and facilitate policy coordination on important focus areas.

Disadvantages of multilateralism

- Large organisations with formal institutional structure, international bureaucracies, and heterogenous membership, can face hurdles that impede prompt decision-making.
- Too many frameworks can lead to:
 - fragmentation of action
 - dilute outcomes
 - weaken cooperation on global issues

Why shifting towards minilateralism is beneficial for India?

- There is growing importance of strategic alliances over global cooperation. These initiatives

can facilitate the creation of **issue-specific partnerships** between like-minded countries.

- For instance, minilaterals can provide a forum to strengthen defence and security cooperation in new regional theatres, such as the **Indo-Pacific**.
- Because of the importance of security cooperation in this region, a range of minilaterals have been created to advance the interests of like-minded countries, such as
 - **the Quad**
 - **the India-Japan-US trilateral**
 - **the India-France-Australia trilateral**
- They also provide an avenue for participation of countries like India, who lack a similar decision-making capacity in forums like the **UN Security Council**.

◎ CONCLUSION:

The evolving global order and the changing nature of threats are posing difficult questions on the continued relevance of multilateral frameworks. Minilaterals can help in framing targeted partnerships that can focus energies on shared interests and concerns.

NATIONAL MISSION ON EDIBLE OIL

CONTEXT

The Union Cabinet has approved implementation of a new centrally sponsored scheme National Mission on Edible Oils - Oil Palm (NMEO-OP) to achieve self-sufficiency in edible oil production.

◎ BACKGROUND:

- India's **vegetable oil economy** is the **world's fourth largest** after the USA, China & Brazil.
- India is the **largest edible oil importer** importing about 68% of the country's total edible oil requirement (22 MT).
- Of the total oil imported around 60% of the edible oil import is palm oil and its derivatives from Indonesia and Malaysia.
- The Mission aims** to increase the area under cultivation for Oil Palm by an additional area of 6.5 lakh hectare thereby reaching the target of 10 lakh hectares in the next 5 years.

◎ ANALYSIS:

About Vegetable Oils

- Oilseed crops are the **second most important determinant of the agricultural economy**, next only to cereals within the segment of field crops.

Present Status of Vegetable Oil Production in India

- Primary sources of vegetable oil:
 - Nine oilseeds are the primary source of vegetable oils in the country, which are largely grown **under rainfed condition** over an area of about 26 million ha.
 - Among oilseeds, soybean (34%), groundnut (27%), rapeseed & mustard (27%) contributes to more than 88% of total oilseeds production in the country.
 - Mustard (35%), soybean (23%) and groundnut (25%) contribute >80% of vegetable oil production in the country.
 - Andhra Pradesh (groundnut) & Gujarat (groundnut), Haryana (Mustard), Karnataka (G.nut), M.P (Soybean), Maharashtra (Soybean), Rajasthan (Mustard & Soybean), Tamil Nadu (G. nut), U.P(Mustard), West Bengal (Mustard) contributing more than 95% of total oilseed production in the country.
 - India is producing about 7-8 million tons of vegetable oils from primary sources.

- In addition to nine oilseeds, 3 million tonnes of vegetable oil is being harnessed from **secondary sources like cottonseed, rice bran and coconut.**

- The self-sufficiency in oilseeds attained through the **"Yellow Revolution"** during early 1990's, could not be sustained beyond a short period.
- Despite being the **fifth largest oilseed crop producing country** in the world, India is also one of the largest importers of vegetable oils today.

About Palm Oil

- Palm oil is the world's most consumed edible oil derived from Palm fruits. It is an incredibly productive crop.
- It is used in most packaged food, cosmetics, detergents, chemicals, energy to pharmaceuticals, and even in animal feed.
- Indonesia and Malaysia are the world's largest palm oil producers.

Aims and Benefits of NMEO - OP Mission

- Reduce Imports:**
 - The mission with a pegged outlay of Rs. 11,040 crore has been formulated to **boost palm oil production in the country** and **reduce dependence on edible oil imports.**
 - NMEO-OP aims to **reduce import dependence from 60% to 45% by 2024-25**, by increasing domestic edible oil production from 10.5 million tonnes to 18 million tonnes.
 - With this move, the government expects to increase palm oil production to 11.2 lakh tonnes by FY26 and 28 lakh tonnes by FY30 and thereby reducing import dependency.
- Development of NE region:** The Mission identifies the **North East region and Andaman and Nicobar** as special focus areas.
- Price stability for farmers:** The Centre will give **oil palm farmers a price assurance**, with the industry mandated to pay the viability gap funding of 14.3% of crude palm oil prices.
- Price assurance on Backward Linkages:**
 - The Mission will also more than **double the support provided for the cost of planting materials**, with an increase from ₹12,000 per

hectare to ₹29,000 per hectare along with **further assistance for maintenance, inter cropping interventions and the rejuvenation of old gardens.**

- To deal with the shortage of planting materials, the Mission will **provide assistance to seed gardens** up to ₹100 lakh for 15 hectares in the focus areas of the northeast and Andamans, and up to ₹80 lakh in the rest of the country.

- ◉ **Generation of Employment**

Concerns with the Mission

- ◉ **Environmental Impact of palm oil:**

- **Deforestation and Biodiversity Loss:**

- It is considered to be a major driver of deforestation and has also led to the destruction of endangered animal's habitats in various regions of Indonesia and Malaysia.
- Studies on agrarian change in Southeast Asia have shown that increasing oil palm plantations is a major reason for the region's declining biodiversity

- **Contribute to Climate change:** The palm plantation also led to the conversion of rich soils to millions of tonnes of greenhouse gases contributing to climate change.

- **Increase in Water Pollution** due to extensive use of fertilisers and pesticides.

- Has a possibility to become an **invasive species.**

- ◉ **Social Impact of Palm Oil**

- **Change traditional agriculture practices:**

- Traditionally, rice and maize are grown in the North East, but with the Government incentivizing Palm oil, farmers are shifting to it.

- In the North East, oil is used very rarely in food, thus there will not be any immediate benefit to the community.

- ◉ Create conflict between Government and communities over **customary land rights.**

- ◉ **Experience of other countries :**

- Although it shares similarly suitable climatic conditions, **Sri Lanka** has recently disavowed oil palm, with a May announcement to **raze existing plantations and ban palm oil imports** as the crop has replaced more environmentally friendly and employment generating plantation crops, dried up local streams, and shows signs of becoming an invasive species threatening native plants and animals.

Palm Oil case in Supreme Court

- There is also an ongoing case in the Supreme Court on plantation of palm in the Andaman regions.
- A report submitted by the Indian Council for Forestry Research and Education to the court in January 2020 had said that the introduction of palm oil should be avoided in biodiversity-rich areas, including grasslands without detailed studies on its ecological impact.
- Again in June this year, an affidavit was filed with the report and ICFRE has again recommended comprehensive and detailed studies to assess the invasiveness of oil palm in Little Andaman.

◎ CONCLUSION:

- ◉ While there are real fears of impact on biodiversity, an assessment by the **Indian institute of Oil Palm Research** had found 28 lakh hectares across the country which could be safely used for oil palm cultivation. Less than four lakh hectares are currently planted with oil palm.
- ◉ The Government can also extend similar **subsidies and support to oilseeds which are indigenous to India** and suited for dryland agriculture; they **can help achieve self-reliance** without dependence on oil palm.
- ◉ Lastly, the **success** of mission oil palm will also **depend on import duty on crude palm oil.**

WORLD FREED FROM TOXIC LEAD: UNEP

CONTEXT

The World has achieved a landmark global success. It is formally announced by the United Nations Programme on Environment (UNEP) that not a single fuel outlet across the globe is now selling leaded automotive petrol anymore.

◎ BACKGROUND:

- Humanity has travelled a long distance of 100 years to stop the use of leaded fuel. The campaign was guided and supported by the UNEP and its Partnership for Clean Fuels and Vehicles (PCFV). Algeria finally stopping producing leaded fuel, it has been possible to eliminate leaded automotive fuels worldwide.

◎ ANALYSIS:

- It is a huge milestone for global health and the environment that we have achieved.

- It is going to prevent more than 1.2 million premature deaths annually from heart disease, strokes and cancer and in monetary terms this milestone is to save \$2.4 trillion annually (global economy).
- It has offered us the opportunity for restoring ecosystems, especially in urbanised regions that are affected the most.
- It is expected to support the realization of various Sustainable Development Goals, including good health and well-being (SDG3), affordable and clean energy (SDG7), industry, innovation and infrastructure (SDG9), sustainable cities and communities (SDG11), climate action (SDG13) and life on land (SDG15).

Sustainable Development Impact:



Understanding the Issue in-depth:

- Soon after the discovery of anti-knock and octane-boosting properties of **Tetraethyl Lead (TEL)**, it was widely brought into use across all the countries. It being a neurotoxin has caused a great deal of harm since then.

What is an Octane Number?

- Octane number is a universally accepted standard that measures the fuel's ability to withstand compression in an internal combustion engine without detonating (Engine Knocking).
- A higher-octane number indicates that the fuel can withstand the compression in the internal combustion before getting detonated.
- Octane rating has nothing to do with the power output of the fuel but simply indicates gasoline's capability against the engine's compression.
- Petrol with a higher octane rating can be used in higher-compression engines, to yield higher power. This higher power comes from the fuel's higher compression and not from the fuel (Gasoline).

What is Tetraethyl Lead (TEL)?

- To solve the problem of knocking of the engine, various efforts had been made and, in the year, 1921 **Tetraethyl Lead (TEL)** (Anti-knocking agent) had been found its use as a highly inexpensive and effective additive that allowed the engine compression to be raised without the issue of engine knock. It is sometimes also called **organic lead**.

Why Tetraethyl Lead (TEL) has caused so many problems?

- Since 19th century TEL has been recognised as a dangerous substance that could result in lead poisoning.
- The combustion of leaded petrol causes the lead to be released into the atmosphere and it not only causes damage to the environment but also to the people who have been exposed to it. Over time, lead has the tendency of getting accumulated in the tissues and various organs.

Toxicity:

- There is a high rate of absorption for Tetraethyl lead by the skin, the lungs, and the gastrointestinal tract. It is later converted to triethyl lead, and the research has suggested that in this form it is more toxic.
- It gets accumulated in the brain, liver, kidneys, bones and other major organs in the body. It can result in heart disease, stroke and cancer. It also affects the development of the human brain, especially at a young age.
- Long term effects of TEL include encephalopathy, dementia and poor verbal memory.

Octane Numbers of Fuels in India:

- The minimum octane rating for fuels as prescribed (**Bharat IV emission standards**) is 91 Octane.
- Premium fuels like Extra-Premium, Speed and Power also have the same octane rating of 91, but they have extra additives that prevent sludge formation inside the engine.

Fuel with higher-Octane rating than 91

- 93 Octane from Indian Oil and
- Speed 97 from Bharat Petroleum.
- Lately, India has also started production of XP100- a 100 octane petrol from Indian Oil.

Campaign against leaded petrol:

- Since 1922, TEL was used as a petrol additive to enhance engine performance but by the 1970s, its catastrophic effects on public health and the environment became evident.
- Leaded petrol/gasoline was phased out in the developed world by 2000.
- Despite warnings from public health authorities, the use of TEL continued to be in use for decades. By 2002, almost all low-income, middle-income countries, and some Organisation for Economic Co-operation and Development (OECD) members continued using leaded petrol. Leaded petrol was used mainly in the African subcontinent and in other low-income countries.
- The UN Environment Programme (UNEP) started its campaign to end the use of lead in petrol in 2002 through the Global Partnership for Clean Fuels and Vehicles (PCFV).
- The **Partnership for Clean Fuels and Vehicles (PCFV)** was set up in 2002 at the World Summit on Sustainable Development to eliminate leaded petrol globally.
- The Partnership for Clean Fuels and Vehicles (PCFV) is the leading global public-private initiative promoting cleaner fuels and vehicles in developing countries and countries in transition.

- The PCFV Secretariat is located at the United Nations Environment Programme headquarters in Nairobi, Kenya.

Efforts by India:

- The process of eliminating lead in the petrol had started as early as 1994, which got completed in 2000.
- Unleaded petrol was introduced across India in the year 1995.
- The introduction of unleaded petrol was mandated in April 2000 for the entire country.
- India has moved towards other anti-knocking additives which are relatively less toxic.**
- After the lead phase out, Indian refineries took voluntary steps to not use MMT (**Methylcyclopentadienyl manganese tricarbonyl**) and Methyl tertiary butyl ether (MTBE).

Curbing on other emission sources:

- TEL is the largest source of lead pollution, but other sources require urgent action too— such as lead in paints, leaded batteries, and lead in household items.
- Backyard smelting and unauthorised reprocessing of lead-acid batteries is also a point of concern. The draft for **Battery Waste Management Rules, 2020** is working towards making the recycling process a more responsible one, by functionalizing the idea of “**Extended Producer Responsibility**”.

Greener Future:

- The “**global vehicle fleet**” contribute to air, water and soil pollution, as well as to the climate crisis. The transport sector is responsible for nearly 25% of energy-related global carbon emissions and is set to grow to 33% by 2050.
- Already many countries have started to transition to electric vehicles, about 1.2 billion new vehicles are expected to hit the road in coming decades, and many of these will still be using the traditional fossil fuels, especially in developing countries.
- The accelerated transition towards electric vehicles and reducing its cost of manufacturing hold the key to a greener future.

CONCLUSION:

- It is only “unified global efforts” towards the protection of public health, which is going to yield results. For that to happen, the global community must be guided by science. We are not done yet, as there are other sources of lead in the environment like the industrial processes or contamination of soil due to past emissions of lead that need to be addressed.

ABORTION ETHICS

CONTEXT

Recently Texas, USA has banned most abortions procedures after about 6 weeks of pregnancy. It has ignited debate across the corridors about its legitimacy and has made access to abortion services more restrictive.

◎ BACKGROUND:

- Access to health services and the right to make a decision about managing the pregnancy or obtaining an abortion has a lot to do with individual rights. This conservative approach of the state has the potential of causing irreversible damage to female health and it can also be seen as an infringement of women's rights.
- It has become a contentious issue all over the world. Everybody is in a bit of a predicament whether a mother has a right to terminate her pregnancy at any time she wishes or an unborn child has a right to life.
- The law prohibits abortions once cardiac activity gets detected in the embryo, which usually occurs around the sixth week of pregnancy. Most women do not know they are pregnant at that point as it's the early stage of pregnancy. So, it becomes relevant to unearth the Abortion Ethics, which often gets ignored or subjected to misinterpretations.

◎ ANALYSIS:

Reasons women give for wanting abortions, worldwide:

- disruption of education or employment
- lack of support from father
- desire to provide for existing children
- poverty, unemployment or inability to bear children
- interrelation problems with husband or partner
- a women's feels that she is too young to have a child

The morality of Abortion:

- Many of us do believe that at least a few abortions are immoral but the law should not restrict choice in this realm. For example, if abortion is permissible when a pregnancy is due to rape or incest, **that's hardly a general right to abortion or a choice gives to a female.**
- Cardiac activity in a foetus is often considered a sign of potential life. There are chances that the cardiac activity detected on ultrasound is not

a true heartbeat. It may be due to the electrical activity, and the valves of the heart may not have formed yet. And the sound of the activity does not indicate the pregnancy is viable (baby can be born and have a reasonable chance of survival). "Coercing them to find out about the pregnancy and make a decision about how to manage it in such a short window (six weeks) is contradictory to ideals of ethical care.

Arguments for Abortion:

- A female is considered a moral person, that is entitled to rights, including the right to life. So, abortion is deemed acceptable as the foetus is not a person. **A list of criteria of personhood is identified, which includes consciousness, reasoning, activity, communication and self-awareness. A foetus undeniably is incapable of fulfilling these criteria.**
- The mother, who is a person has a right to life and it supersedes the rights of the foetus to choose whether or not it remains connected to her body.
- Also, pregnancy is assumed to be a foreseeable consequence of heterosexual intercourse, that too when there is no intention to 'have a baby'. So, denying her the right to abort the child when she was not planning for it, is unwarranted.

- Consciousness:** perception of oneself, the external world and the ability to feel pain.
- Reasoning:** a developed ability to solve fairly composite problems.
- Ability to communicate:** on a variety of topics, with some profundity.
- Self-motivated activity:** ability to choose what to do (or not to do) in a way that is not determined by genetics or the surroundings.
- Self-concept:** see themselves or identify themselves as; e.g., female, male, athlete, Hindu, Christian, atheist, etc.

- Abortion in self-defence:** It may be ethical for a mother to have an abortion to defend herself from the danger to her mental or physical health than continuing with the pregnancy would cause. Abortion is considered in relation to the '**Doctrine of double effect**'.

The doctrine of double effect: The doctrine says that if performing something morally good has a morally bad side-effect it's ethically righteous behaviour to do it provided the bad side-effect wasn't foreseeable. It holds even if you can anticipate that the bad effect would probably come off.

Arguments Against abortion:

- **'Future like ours' argument:** Abortion is wrong because it deprives the foetus of a potential '*future like ours*'. It suggests that death is a bad thing because it deprives people of all the experiences, enjoyments, opportunities that would make up their future personal life. So, the foetus has an intrinsic potential future value and killing a foetus is wrong as killing an adult is wrong.
- **Killing people is wrong:** Killing an innocent human being is a moral wrong. Those who are against abortions believe that human life begins at conception, and by drawing the same analogy, the foetus is an innocent human being. So, killing the foetus is wrong and abortion is always wrong.

It's her right whether to bring the pregnancy to term or abort it:

- Abortion concerns the autonomy and dignity of the pregnant woman herself. "Autonomy" derives from Greek and means, literally, "self-rule". If

a woman who is pregnant wishes to stop being pregnant, it cannot be taken away from her.

- Attitudes to pregnancy are, however, intertwined with how society views sex, women, and the fertile woman specifically. Pregnancy and birth are not trivial inconveniences, such as having a headache. They constitute a major life event, which even when are desired causes immense discomfort and disruption to many women.
- While pregnancy increases the personal responsibilities of a woman it does not plummet her prerogative to decide whether or not to undergo medical treatment. **Her right is not diminished merely because her decision to exercise it may appear morally contrary to the existing or imposed beliefs of the society.**

◎ CONCLUSION:

- The decision of whether or not to bear a child is central to a woman's life, to her well-being and dignity. She ought to be the one deciding it for herself. When Government superintends that decision for her, she is being treated as less than a fully adult human accountable for her own choices. We need to bestow much greater support to women who may want to conceive and raise their children, but opting out of it for financial, psychological, health, or relationship reasons. Criminalising abortion does not stop abortions, it just makes abortion more unsafe.

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HARI SINGH NALWA

◎ **CONTEXT:** Hari Singh Nalwa, a legendary Sikh commander, earned the reputation of the most fearless Sikh warrior in Afghanistan.

Key facts on Hari Singh Nalwa

- Hari Singh Nalwa was one of the main and most trustworthy commanders of **Maharaja Ranjit Singh's** force.
- He remained **Governor of Kashmir, Hazara and Peshawar**.
- He defeated various Afghans and established control over various regions along the boundary of Afghanistan and prevented Afghans from entering Punjab through **Khyber Pass**.
 - Khyber Pass was the main route to enter India by the foreign invaders from **1000 AD till early 19th century**.
- Hari Singh Nalwa was the biggest strength of **Maharaja Ranjit Singh**.
- The government of India released a stamp on the name of Nalwa in 2013, for his bravery and ferocity.

Important Battles

- Most of the important battles were fought under the command of **Hari Singh Nalwa**.
- Hari Singh Nalwa participated in various battles against Afghans because of which Afghans lost their control over various Afghan-held territories.
- **Battle of Kasur:** In 1807, at the age of 16, he participated in the **Battle of Kasur (now in Pakistan)** and defeated Afghani ruler Kutab-ud-din Khan.
- **Battle of Peshawar:** In 1818, Sikh army under Nalwa won the Battle of Peshawar and
- The Battle of **Multan, Hazara, Manekera, Kashmir** etc. also expanded Sikh empire by defeating Afghans.
- Such victories over Afghans created huge fear of Nalwa among the Afghans because of which his name is used to take in front of unruly children by their mothers.
- Nalwa remained stationed at Peshawar to keep an eye on the **Afghan-Punjab border**.

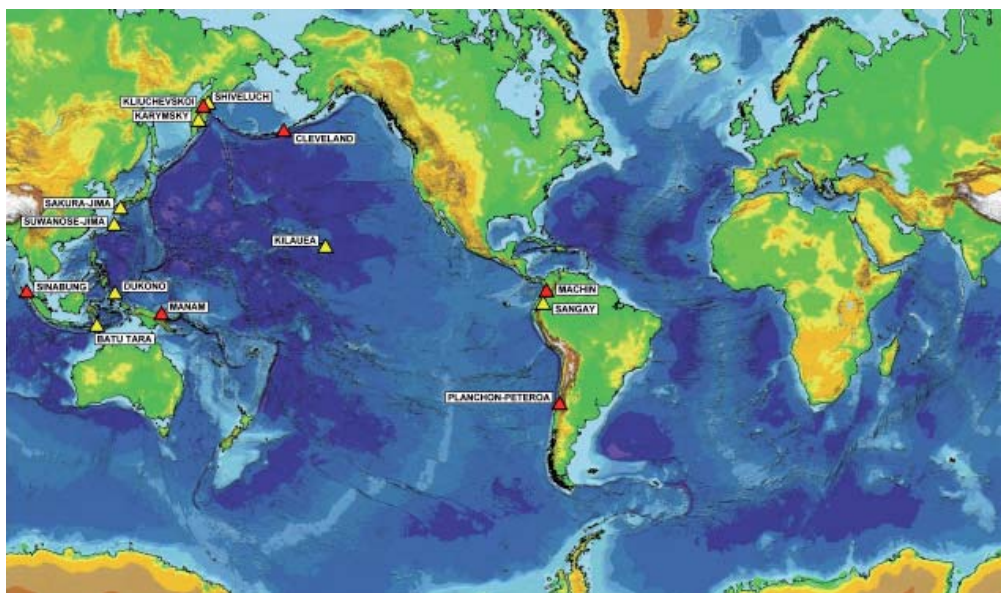
FUKUTOKU-OKANOBA SUBMARINE VOLCANO

◎ **CONTEXT:** Recently, Fukutoku-Okanoba Submarine Volcano exploded in the Pacific Ocean, off Japan that may poses a risk to the passage of planes and ships.

About Fukutoku-Okanoba volcano:

- The Fukutoku-Okanoba volcano is situated about 25 metres (80 feet) below the sea five kilometres north of **Japan's South Iwo Jima Island**.
- The plume reached a height of 16 kilometres above the surface, posing a risk to the passage of planes and ships.
 - The eruption could have happened in shallow water due to which the ash plume had reached such a height.
 - The normal cruising altitude of aircraft is about 10 kilometres.
- Plume went straight from being a submarine event to an eruption cloud reaching the lower boundary of the **Stratosphere**, this is not very common for this type of volcano.
 - Normally lower-level plumes are seen from submarine eruptions.

- Eruption and submarine hydrothermal activities often cause water discoloration in the area, and during eruption, the volcano has built several temporary new islands.



Submarine volcanoes

- Submarine volcanoes are erupting **basaltic lavas** and **new crust material** is actively formed with substantial piles of pillow lavas.
- Submarine volcanoes are underwater vents or fissures in the Earth's surface from which magma can erupt.
- Many submarine volcanoes are located near areas of **tectonic plate formation, known as mid-ocean ridges**.
- The volcanoes at mid-ocean ridges alone are estimated to account for 75% of the magma output on Earth.

8TH MEETING OF AGRICULTURE EXPERTS OF BIMSTEC

◎ CONTEXT:

8th Meeting of Agriculture Experts of Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) Countries was hosted by India through video conferencing.

Key-highlight of the meeting

- The UN Food System Summit 2021 and transformational aspects that are happening across agriculture and food systems globally were highlighted.
- It was to enhance the engagement and deepen the cooperation in agriculture and allied sectors amongst the BIMSTEC Member States.
- The BIMSTEC Member States also **appreciated the greater engagement of India** in offering six slots of scholarships for Master and PhD programmes in agriculture and other initiatives for capacity development & training.

What is BIMSTEC?

- BIMSTEC is an economic bloc that came into being on 6 June 1997 through the Bangkok Declaration.

- BIMSTEC headquarters is located in Dhaka, Bangladesh.
- Sectors were later expanded to 14 areas of cooperation.
 - Agriculture is one among the 14 sectors.
- **Out of the 7 members,**
 - Five are from South Asia: Bangladesh, Bhutan, India, Nepal, Sri Lanka
 - Two are from Southeast Asia: Myanmar, Thailand
- BIMSTEC not only connects South and Southeast Asia, but also the ecologies of the Great Himalayas and the Bay of Bengal.
- BIMSTEC has emerged as the "preferred platform" for regional cooperation in South Asia.
- It mainly aims to create an enabling environment for
 - Rapid economic development
 - Accelerate social progress
 - Promote collaboration on matters of common interest in the region

BIMSTEC Importance to India: It provides a new platform for India to engage with its neighbours with the **South Asian Association for Regional Cooperation (SAARC)** becoming dysfunctional because of differences between India and Pakistan.

- BIMSTEC allows India to pursue three core policies-
 - **Neighbourhood First** – primacy to the country's immediate periphery;
 - **Act East** – connect India with Southeast Asia; and
 - **Economic development of India's north-eastern states** – by linking them to the Bay of Bengal region via Bangladesh and Myanmar.
- Allows India to counter China's creeping influence in countries around the Bay of Bengal due to the spread of its **One Belt and One Road** Initiative.
- It is of utmost significance to India as it is a major support in implementing its Act East Policy and the development of its ambitious '**Sagar Mala**' project.

ZAPAD 2021

◎ CONTEXT:

India is going to participate in a two-week multinational military exercise named 'ZAPAD 2021' at Nizhny in Russia.

Key- highlights of 'ZAPAD 2021' exercise

- **ZAPAD 2021** is one of the theatre level exercises of the Russian Armed Forces and will focus primarily on operations against terrorists.
- **The** exercise begins at Nizhny in Russia where the Indian contingent will participate.
- **Over a dozen countries** from **Eurasian** and **South Asian** Region will participate in this signature event.
 - **Nine are Participating countries** which include Mongolia, Armenia, Kazakhstan, Tajikistan, Kyrgyzstan, Serbia, Russia, India and Belarus.
 - The **other eight countries are Observing countries** which include Pakistan, China, Vietnam, Malaysia, Bangladesh, Myanmar, Uzbekistan and Sri Lanka.
- India will be participating in Zapad with a strength of **250 troops**.
- The **NAGA Battalion** group participating in the exercise will feature an all Arms combined task force.
 - The Naga Regiment is an **infantry regiment** of the Indian Army.

- The exercise aims to enhance military and strategic ties amongst the participating nations while they plan & execute this exercise.
- India also participated in the **exercise TSENTR**, which is part of the annual series of large scale exercises that form part of the **Russian Armed Forces'** annual training cycle.

POSHAN 2.0

◎ CONTEXT:

The National Nutrition Week from September 1 to 7 is celebrated in India, to generate mass awareness about the need for pursuing nutrition and inculcate habits of healthy eating.

National Nutrition Week 2021: Theme

- This year's theme for National Nutrition Week is 'Feeding Smart Right from Start'.
- The union government has launched a programme for disseminating accurate information to generate public awareness by tapping into seminars and workshops.

National Nutrition: The Approach

- The problem of malnutrition in the country, including the stunting and wasting in the children of age group under 5 years of age.
- The government implements several schemes and programmes such as
 - Anganwadi Services
 - Scheme for Adolescent Girls
 - Pradhan Mantri MatruVandanaYojana under the Umbrella Integrated Child Development Services Scheme as direct targeted interventions.
 - The government also set up POSHAN Abhiyaan which aims to prevent and reduce the prevalence of stunting, underweight and anaemia among children (0-6 years).
 - Reduction in the prevalence of low birth weight in the country through 'Jan Andolan' involving Panchayati raj institutions/village organizations, among others.

Focus of the Poshan 2.0

- The POSHAN Abhiyaan aims to make India a malnutrition-free country by 2022.
- The mission POSHAN 2.0 focuses on strengthening nutritional content, outreach, delivery, and outcomes by developing practices that improve health, wellness, and immune response to disease and malnutrition.

GOVERNMENT LAUNCHES E-SHRAM PORTAL

◎ CONTEXT:

The government of India unveiled the e-SHRAM portal for better execution of various social security schemes for the unorganised sector workers.

Key facts about e-SHRAM

- The government will provide e-SHRAM cards to workers with the help of which they can register on the e-SHRAM portal.
- All the e-SHRAM cards will have a unique Universal Account Number (UAN) and the workers can avail various benefits of the social security schemes via this card anytime, anywhere.

- The 12-digit UAN number in the e-SHRAM card is valid throughout the country.
- There are approximately 40 crore workers in the informal sector, including 2-3 crore migrant workers.
- e-SHRAM scheme covers almost all unorganised workers of the country, comprising construction workers, migrant workers, domestic workers, street vendors, truck drivers, fishermen, agricultural workers.
- All the unorganised workers registered under the scheme will be given accidental Insurance Coverage under Pradhan Mantri Suraksha Bima Yojana (PMSBY) for 365 days.
- It will build a comprehensive database of the unorganised workforce.
- It will also help in delivering social security schemes implemented by the Central and state governments.

CONSERVATION OF GROUNDWATER

◎ **CONTEXT:** In India around 70 percent of food production is done with the help of irrigation wells and India is entirely dependent on groundwater.

Groundwater conservation in India

- India constitutes 16 per cent of the world's population, but the country has only 4% of the world's freshwater resources.
 - With the changing weather patterns and recurring droughts, India is water stressed.
- 256 of 700 districts have reported 'critical' or 'over-exploited' groundwater levels.
- India's water supply but agriculture which consumes over 85 percent of water.
 - With only 40 per cent assured irrigation, farmers depend heavily either on rains or on groundwater for their needs.
- NITI Aayog estimates that 21 major cities, including Delhi, would run out of groundwater by 2030.
- 6% of economic GDP will be lost by 2050, while water demand will exceed the available supply by 2030.

NITI Aayog's report on water scarcity

- A NITI Aayog report in 2018 stated bluntly that-
 - 600 million people, or nearly half of India's population, face extreme water stress.
 - three-fourths of India's rural households do not have piped, potable water and rely on sources that pose a serious health risk.
 - India has become the world's largest extractor of groundwater, accounting for 25 per cent of the total.
 - 70 percent of water sources are contaminated and major rivers are dying because of pollution.
- Its conclusion: 'India is suffering from its worst water crisis in its history.'

ODISHA'S KENDRA PARA BECOMES ONLY DISTRICT IN INDIA TO HAVE ALL THREE CROCODILE SPECIES

◎ CONTEXT:

Odisha's Kendra Para district, has earned the distinction of being the only district in India where one can find all three species of crocodiles such as Salt-water, gharial, Mugger

Key-facts

- Odisha's Kendra Para district has already claimed fame for its successful conservation programme for salt-water or estuarine crocodiles at the Bhitarkanika National Park.
- The national park, having 1,768 estuarine crocodiles, is home to 70 per cent of India's such crocodiles, the conservation of which was started way back in 1975.
- It is the second largest mangrove forest in India after Sunder bans, hosts the largest population of saltwater crocodiles, including white albino crocodiles.
- It is listed as a Ramsar Site.
- The crocodilian family consists of 27 different species that are subdivided into three families: True crocodiles, alligators and caimans and gharials.
- All three species of crocodilians in the river systems of Odisha:
 - **Gharial (*Gavialis gangeticus*)**, listed as a Critically Endangered by IUCN.
 - **Mugger crocodile (*Crocodylus palustris*)**, listed as vulnerable by IUCN.
 - **Saltwater crocodile (*Crocodylus porosus*)**, listed as least concern by IUCN

ICGS 'VIGRAHA' COMMISSIONED INTO INDIAN COAST GUARD

◎ CONTEXT:

Recently, indigenously built 'Vigraha' ship has been commissioned into the Indian Coast Guard (ICG).

About the Vessel

- The 98 meters' offshore patrol vessel has been designed and built indigenously by Larsen & Toubro Ship Building Ltd.
- It is fitted with advanced technology Radars, Navigation and Communication Equipment, Sensor and Machinery capable of operating in tropical sea conditions.
- The vessel is armed with a 40/60 Bofors gun and fitted with two 12.7 mm Stabilised Remote Control Gun (SRCG) with Fire Control System.
- The ship is also equipped with-
 - Integrated Bridge System (IBS)
 - Integrated Platform Management System (IPMS)
 - Automated Power Management System (APMS)
 - High-Power External Firefighting (EFF) system
- The ship is designed to carry one Twin Engine Helicopter and four high-speed boats for Boarding Operation, Search and Rescue, Law Enforcement and Maritime Patrol.
- The ship will be based in Visakhapatnam in Andhra Pradesh.
- It will operate on the eastern seaboard under the operational and administrative control of the Commander, Coast Guard Region (East).

INDIAN RESEARCHERS DISCOVER COSMIC COLLISION

◎ **CONTEXT:** Indian researchers have discovered three supermassive black holes merging together to form a triple active galactic nucleus.

About the Discovery

- The rare occurrence of a known interacting galaxy pair, **NGC7733** and **NGC7734**.
- The researchers detected unusual emissions from the centre of **NGC7734** and a large, bright clump along the northern arm of **NGC7733**.
- The emission line analysis from the central regions of NGC 7733 and NGC 7734 shows **Seyfert** and low ionization nuclear emission-line regions type AGN activity.
- The galaxy pair NGC 7733–34 also shows evidence of a third component, which has Seyfert-like emission.
- The galaxy pair NGC 7733–34 forms a triple-AGN system. We also detected an extended narrow-line region associated with the nucleus of NGC 7733.
- As they dug deeper, they found that the clump is moving with a different velocity compared to the galaxy NGC7733 itself indicating that it was not part of the galaxy instead it was a small separate galaxy behind the arms.
- Interaction of galaxies and mergers are the major drivers of galaxy evolution leading to the growth of **supermassive black hole** bulges and massive galaxies.
- One of the most favourable environments for such activity are galaxy groups where galaxies are closely interacting, especially those that have significant reservoirs of cold gas that can be used to fuel star formation and **active galactic nuclear (AGN) activity**.
- Interaction of galaxies begins when they come close and exert tremendous gravitational forces on each other, during which, the respective supermassive black holes can get further close and the dual black holes start consuming gas from their surroundings and become dual AGN.

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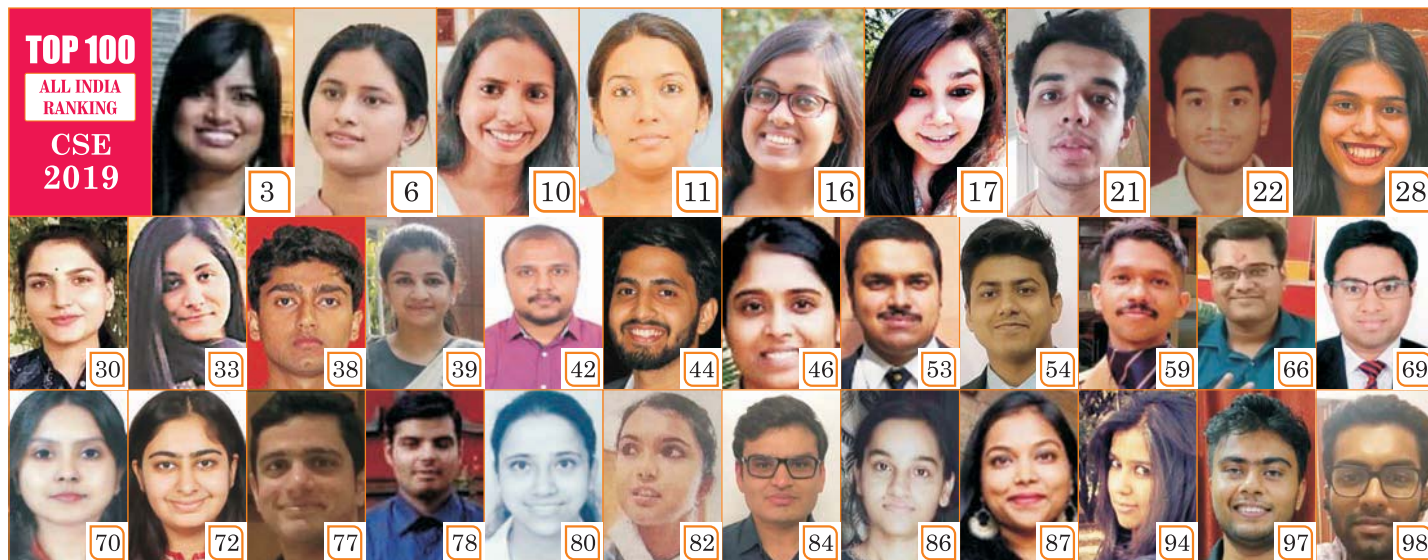
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