SOCIAL ISSUE

Transgender Persons Can Avail Existing Quota.

In Context: The Union government has told the Supreme Court that transgender persons can avail of any of the existing 50% reservation in admissions and government jobs already available to Scheduled Caste, Scheduled Tribe and Socially and Educationally Backward Communities (SEBC) across the country.

About reservation for Transgender:
- ✓ Transgender persons are those whose gender identity or expression does not match their assigned sex at birth.
  - They face discrimination, stigma, violence and exclusion from various spheres of life.
- ✓ To address these issues and ensure their rights and dignity, some countries have introduced reservation policies for transgender persons in education, employment, health care and political representation.
- ✓ In India, reservation is granted to certain castes, tribes, and religious minorities that are classified as socially and educationally backward classes (SEBCs).
  - One such group that has been recognized as SEBCs by the Supreme Court of India is the transgender community.

Demand for horizontal reservation for transgender community:
- Transgender individuals have faced long-term marginalization in society, warranting specific provisions and recognition of their social identity.
- The NALSA judgment has been interpreted as directing reservations for transgender individuals in the OBC category due to their identification as a socially and educationally backward class.
- The demand for horizontal reservation raises concerns that Dalit, Bahujan, and Adivasi transgender individuals may have to choose between availing reservation based on caste and gender identities, leading to competition and exclusion.

NALSA judgement:
- A study conducted by the National Human Rights Commission revealed that in 2017, only 6% of transgender people were formally employed.
- In the National Legal Services Authority of India (NALSA) vs Union of India (2014) case, the Supreme Court ruled that transgender persons have a right to reservation.
- It also directed the Centre and the State Governments to take steps to treat them as socially and educationally backward classes of citizens and extend all kinds of reservation in education and employment.

Horizontal and Vertical Reservations in India
- Reservation in education and employment can be divided into two broad categories, namely, vertical and horizontal.
- Vertical reservations are provisions aimed at addressing social asymmetry arising out of caste hierarchy, and in the case of OBCs, social and educational "backwardness".
  - ✓ These include reservations for Scheduled Castes (SC), Scheduled Tribes (ST) and Other Backward Classes (OBC).
- Horizontal reservation, on the other hand, cuts across all vertical groups to provide affirmative policies for disadvantaged groups within categories.
  - ✓ For example, disabled persons are guaranteed horizontal reservation in all the aforementioned vertical categories, general and reserved (vertical) alike, by the Central government.

Challenges faced by Transgender Community
- Social Stigma: They often face difficulty in property inheritance or child adoption.
  - ✓ Because of being socially ostracized, they are compelled to take up menial jobs despite good qualifications or forced into sex work.
- Identity crisis: They are often forced to identify with a gender with which they are not associated at the workplace despite the government passing the Transgender Persons (Protection of Rights) Act, 2019 that allows the community the right to self-perceived gender identity.
- Discrimination and ostracisation: They face discrimination in employment, educational institutes, and within families which severely affects their overall wellbeing.
- Unemployment: The community has limited avenues of employment and faces severe discrimination at work because of the associated social stigma.
- Lack of public amenities: They face issues with the accessibility of public toilets and public spaces.
  - ✓ They often face problems in prisons, hospitals and schools.

Transgender initiatives in India
- Transgender (Protection of Rights) Act 2019: The Act, passed by Parliament, aims to end discrimination against Transgender people in access to education, employment and healthcare and to recognize the right to their self-perceived gender identity.
- Transgender Persons (Protection of Rights) Rules, 2020: To carry out the provisions of the Transgender Persons (Protection of Rights) Act, 2019 of the Government.

- National Transgender Council: The Transgender (Protection of Rights) Act, 2019 established the National Transgender Council to advise the Central Government on the formulation and evaluation of policies, programmes, legislation and projects for the welfare of the Transgender community.
- National Transgender Portal: It is a portal of the Ministry of Social Justice and Empowerment that helps transgender people to apply for certificates and identity cards digitally from anywhere in the country.
- Garima Greh: The aim of the scheme is to provide refuge to Transgender people with basic amenities like shelter, food, medical care and recreational facilities.

Way Forward:

By implementing these measures, we can create a more inclusive and equitable society for transgender persons and other marginalized groups. The establishment of National Council for Transgender Persons has been a welcome step to mainstream the community in the society and increase sense of respect for transgender community. Reservation policies are not a panacea, but they are a necessary and effective tool to address the historical injustices and systemic barriers that transgender persons face.

ECONOMY

The hybrid EV imperative

In context: With their higher fuel economy and reduced carbon emissions, hybrid EVs offer an opportunity for economically developing countries to kick start the shift towards sustainable transportation while addressing infrastructure and cost challenges associated with full EV adoption.

Different types of EVs

- Any vehicle propelled by an electric drive train, taking electric power from a portable, electrical energy source, is called an Electric vehicle (EV).
- In a hybrid EV, an internal combustion engine (ICE) is used to produce electricity with an electrical generator. A small battery, typically 1-5kWh, is used in a hybrid EV as an energy buffer to store the electricity.
- A full EV – a.k.a. a battery EV or a plug-in EV – has no ICE and hence no tailpipe emissions. The battery typically is much larger at 20-120 kWh. And it can only be charged from the grid.
- A plug-in hybrid EV is still a hybrid EV with a much larger battery, typically 5-15 kWh. This larger battery can also be charged from the grid. This means a plug-in hybrid operates like a fully electric vehicle as long as there is energy in the battery.
- A fuel-cell EV uses a fuel cell to produce electricity for the drive train together with a small battery buffer to manage variations.

Fuel economy of hybrid and fully electric EVs

- The use of an ICE in combination with a generator and battery in a hybrid EV results in the fuel economy of these vehicles being 1.5-2x times higher than in conventional ICE vehicles for city driving and 1-1.5x times higher for highway driving.
- A plug-in hybrid EV combines the best of both hybrid and full EVs. Using a small battery (5-15kWh) that can be charged from the grid, it can cover 80-90% of all short, day-to-day commutes in a fully electric mode with 3-4x higher fuel economy than conventional vehicles.

Net emissions of hybrid EVs

- Apart from fuel economy, an important metric is the net emissions of a vehicle.
- Well-to-wheel emissions include both tailpipe emissions and emissions due to fuel production – electricity or fossil fuels.
- The life-cycle emissionsis a more comprehensive index that includes well-to-wheel emissions and emissions due to vehicle and battery production, maintenance, and end-of-life recycling.
- The grids of different countries are decarbonised to different extents at present
- In the case of full EVs: the lower the emissions from power production, the lower the vehicle's well-to-wheel and life-cycle emissions.

EVs' life-cycle emissions compared to ICE vehicles

- According to an analysis, switching to full EVs will result in 19-34% lower emissions by sedans and 38-49% by SUVs – even with the fossil-fuel-dominated energy mix in India.
- By 2030, when renewables account for a greater share in the grid, emissions are expected to be 30-56% lower.

Challenges to transitioning to electric mobility

1. Successful transition to full EVs requires fast-charging infrastructure along highways.
   - This is vital because people generally want to own one affordable car serving both short and long-distance travel needs over 5-15 years, and want to drive without range anxiety.
2. Second, many parts of the world, especially economically developing nations, don't yet have access to a grid or the grid isn't 100% reliable.
   - The relatively high charging power for slow-charging (<22kW) and fast-charging (<350kW) make the problem more prominent vis-à-vis generation and transmission capacities.
3. Third, mass-market price points of cars in the economically developing world are much lower, ~$12,000 – whereas EVs with a range of 300-400 km will reach at a price of $25,000-35,000 in the short term.

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- This is due to the high battery costs. Vs with higher range will need larger battery packs and thus be more expensive.

Help in decarbonising

- The current focus in the industry is on full EVs, which isn't practical for the immediate future, given grid reliability, state of highway charging infrastructure, and prohibitive vehicle costs.
- Hybrid EVs – either full or plug-in hybrids – present a big opportunity to lower emissions in the interim.
- The 1.5-2x higher fuel economy of hybrids and 3-4x higher fuel economy of plug-in hybrids in electric mode drastically reduces fuel costs, emissions, and oil imports.
- Regenerative braking **i**n hybrid EVs – i.e. recovering the kinetic energy of the vehicle while slowing down instead of dissipating it as heat in the braking system – can improve fuel economy esp. in urban areas with frequent stop-go conditions and in hilly conditions.

Conclusion

In an ideal future, all our electricity comes from renewable sources and we power our EVs using solar energy during the day and with wind energy at night. For countries that can already work towards this goal now, our priority must be to realise this vision. In places where transitioning to renewables for power and building fast-charging infrastructure will take a decade or more, we need to switch to hybrid EVs as a short-term solution due to the fuel-economy and emissions benefits.

PRELIM FACTS

1. ULLAS Initiative

In Context: Recently, the Union Minister of Education launched the logo, slogan-Jan Jan Sakshar and mobile application of ULLAS in New Delhi.

About ULLAS Initiative:

- The Understanding Lifelong Learning for All in Society (ULLAS) initiative is poised to revolutionise education and literacy across the nation.
- It is done by fostering a learning ecosystem that reaches every individual, bridging the gaps in basic literacy and critical life skills.
- It imparts basic education, digital and financial literacy and critical life skills to citizens aged 15 and above who lost on the opportunity to go to school. It is being implemented through volunteerism.
- Slogan of the Initiative: ULLAS: Nav Bharat Saksharta Karyakram.
- For this purpose ULLAS app was launched which is user-friendly and interactive app available both on android and ios.
- It will serve as a digital gateway for learners to engage in diverse learning resources through the DIKSHA portal of NCERT.
- The ULLAS app can be used for registration of learners and volunteers either through self-registration or by surveyors.

Significance

- This app will focus on promoting functional literacy, vocational skills, and many important life skills like financial literacy, legal literacy, digital literacy, and empowerment of citizens to involve in nation-building of the country.
- It also fosters a culture of continuous learning and knowledge-sharing in communities across India.

2. Worldcoin Project

IN CONTEXT: Recently, the OpenAI CEO Sam Altman took to Twitter to formally re-introduce Worldcoin, a project of his that was eclipsed by the popularity of ChatGPT.

Background: Altman previously introduced the beta version of Worldcoin in October 2021. In December 2022, Altman launched OpenAI's chatbot ChatGPT. This project captured global attention and Altman has since become a person of note in the booming artificial intelligence industry.

What is Worldcoin?

- It is an initiative to create a digital network in which everyone can claim some kind of stake, and join the digital economy.
- Using a device called "Orb," Worldcoin volunteers known as 'Orb operators' scan a person's iris pattern to collect their biometric data and help them get a World ID through the World app.
- With the app, scanned participants can collect a cryptocurrency called Worldcoin [WLD] at regular intervals or make transactions with their World ID where possible. This process is called "proof of personhood".

How does Worldcoin work?

- Worldcoin relies on volunteers called "Orb operators" who use a device called "Orb" to scan people's iris patterns and collect their biometric data.
- Participants receive a World ID through the World app after getting their irises scanned. This unique ID allows them to claim Worldcoin cryptocurrency and conduct transactions.
- Scanning irises ensures that people cannot sign up multiple times to receive more crypto rewards.
- Users can collect WLD at regular intervals or use it for transactions, similar to a standard digital currency.

Risks Involved

- The legality of [Worldcoin's data] collection seems questionable, as do the conditions for storing biometric data.

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➢ Reports indicated that Worldcoin scanned underprivileged people's irises in emerging economies during the COVID-19 pandemic, raising ethical questions about informed consent and rewards for scans.

Worldcoin in India

➢ Worldcoin lists 18 locations — largely in Delhi, Noida, and Bangalore — where Orb operators are scanning people's eyes. Some locations include popular malls and metro stations in these cities.

➢ In 2009, Government of India launched Aadhar Card to provide a unique identity to the citizens of the country. It was meant to help the government fund a number of social welfare schemes and programs that are focused on the poor and most vulnerable sections of society and to streamline delivery mechanisms under welfare schemes, thereby ensuring transparency and efficiency. WorldCoin's goal is pretty much similar to that but on a global level. It aims to give back the wealth generated by AI back to society.

3. Sikkim aims to go 'carbon negative'

In Context: Recently, Sikkim's relentless pursuit of becoming a carbon negative state has grabbed media attention.

About:

➢ It is part of the state's 'Mero Rukh Mero Santati' program which entails planting 100 saplings every time a new baby is born.

➢ The goal is to become carbon negative.

➢ It is part of the initiative to make Sikkim a green state with India's target of Net Zero by 2070.

What is carbon negativity?

➢ Carbon negative is a term that goes beyond merely reducing carbon missions.

➢ It signifies an active commitment to remove more carbon dioxide from the atmosphere than is produced.

➢ This endeavour aims to reverse the adverse effects of greenhouse gas accumulation and significantly contribute to combating climate change.

Ways to achieve carbon negativity:

➢ Afforestation and reforestation, and

➢ Capturing and storing carbon emissions from industries.

➢ Using bioenergy sources like biomass, which absorbs CO_2 or carbon dioxide as it grows, and then stores its emissions (BECCS).

➢ Spreading certain minerals in powder form can speed up carbon capture from the air through enhanced weathering.

➢ Better soil practices in agriculture can help absorb and store carbon in the ground, which is called Soil Carbon Sequestration

Benefits:

✓ **Health benefits**

➢ Sikkim sets a strong foundation for improved public health by embracing a carbon-negative stance.

➢ Reducing carbon emissions and air pollutants leads to cleaner air, resulting in decreased respiratory and cardiovascular diseases.

➢ This healthier environment positively impacts the well-being of residents, contributing to an increase in life expectancy and overall quality of life.

✓ **Tourism potential**

➢ Sikkim's carbon-negative status enhances its appeal as a nature-loving tourist destination and is a game-changer that fosters a greener and more sustainable society that creates a unique selling point for eco-tourism.

➢ This sustainable approach can attract environmentally conscious tourists, boosting the state's economy and creating employment opportunities in the tourism sector.

✓ **National inspiration**

➢ Sikkim demonstrates that ambitious environmental goals are attainable with political will, community involvement, and innovative programs.

➢ Other states can take inspiration from Sikkim's success and replicate or adapt similar eco-friendly initiatives to address their unique environmental challenges.

4. Biodiversity Heritage Sites

In Context: Government of Odisha has notified three Biodiversity Heritage Sites(BHS).

About:

These 3 sites are:

1. Mandasaru Hills
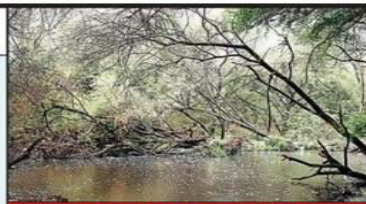2. Mahendragiri Hills
3. Gandhamardan Hills

About Biodiversity Heritage Sites:

➢ Biodiversity Heritage Sites are areas that are unique and ecologically fragile ecosystems (terrestrial, coastal, marine, inland waters).

➢ These areas have rich biodiversity comprising of any one or more of the following:

• Species richness

• High endemism

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- Presence of rare and threatened species, keystone species, and species of evolutionary significance
- Presence of wild ancestors of domestic/cultivated species
- Past pre-eminence of biological components represented by fossil beds
- Areas with significant cultural, ethical or aesthetic values important for the maintenance of cultural diversity

➢ Under the Biological Diversity Act, 2002, the State Government in consultation with local bodies may notify areas as Biodiversity Heritage Sites (BHS).

➢ Declaration of an area as BHS does not put any restriction on the prevailing practices and usages of the local communities.
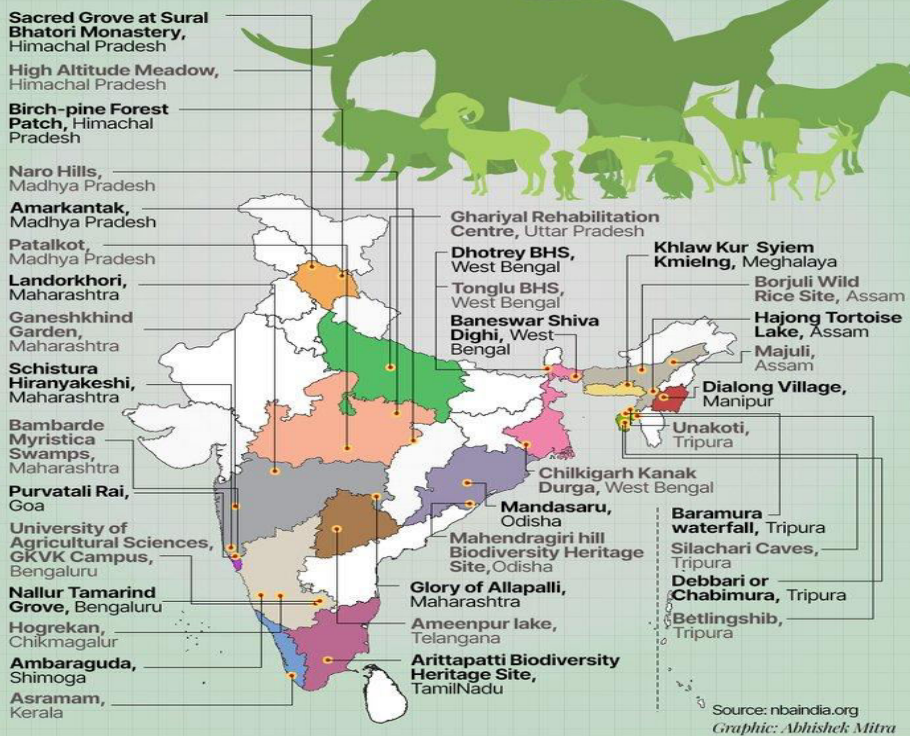

ABOUT BHS

➤ Biodiversity heritage sites (BHS) are areas that are unique, ecologically fragile ecosystems — terrestrial, coastal and inland waters and, marine having rich biodiversity with the richness of wild as well as domesticated species

➤ There is presence of rare and threatened species & species of evolutionary significance

➤ They are important for the maintenance of cultural diversity

WHY AMBAZARI FOREST?

➤ It contains natural, semi-natural, and man-made habitats, which together contain a significant diversity of life forms

➤ It provides habitats for seasonal migrant species for feeding and breeding

➤ It is an area including very small ones that offer refuge or corridors for threatened and endemic fauna and flora

Biodiversity heritage sites in India

Source: nbaindia.org
Graphic: Abhishek Mitra

ANSWER WRITTING

Q.“Indian society is more rhetorical than rational.” In the light of the statement, assess Indian society on the scales of rationality and scientific temper.

Introduction: Indian society is more emotional, reactionary and tolerant due to its socio-cultural background. In any event e.g. marriage or celebration, we tend to express our emotions in overwhelming way. Nowadays, whenever any big event or development happens, people immediately give their responses on social media.

This has acted as obstacle for rational thinking and has promoted many social evils. The Indian society has many social evils such as superstitions, dowry practice, domestic violence of women, religious obscurantism. These practices are deeply rooted in our society. Though with time, many social reformers such as Raja Ram Mohan Roy and rationalist in recent times such as Narendra Dabholkar and Kalaburgi has tried to promote scientific temper in our society.

Due to socio-cultural factors being tolerant is one such cause to corruption - society is tolerant because of soft nature. It is tolerant to both good things and bad things. It comes from belief in religion. There is no sense of rejection against bad practices. India is one major country which didn't experience revolution.

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A scientific temper refers to an open, questioning, seeking mind. A mind that seeks truth and accepts it when proven. A mind that is ready to consider that an alternative viewpoint could have merit. A mind that is curious to understand the 'whys' and 'hows' of life while accepting that all questions may not be fully answerable. The defining characteristics of a scientific mindset are curiosity, logical ability, objectivity, criticality, emphasis on empirical evidence, open-mindedness, the ability to discern fact from hypothesis, ability to recognize self-limitation, and an interest in new developments.

A person of scientific temper experiences indirectly an internal strength that orders life. Order results from internal strength than from external induction. Spiritualists call it Self-realisation. It is the Scientific Temper that helps in developing Secularism, Humanism & Spirit of enquiry and reform.

Scientific temper involves many parameters. It is characterized by healthy scepticism, universalism, freedom from prejudice or bias, objectivity, open mindedness and humility, willingness to suspend judgement without sufficient evidence, rationality, perseverance and last but not the least a positive approach to failure. The hallmark of all decision-making by a person with scientific temper is logic, rationality and verifiability.

Conclusion: Every person has the Constitutional Fundamental Duty to practice scientific temper and rationality. Role of educational institutions like schools and colleges and civil servants become important in inculcation of scientific temper among the children and common people in the country.

MCQ

1. Consider the following statements regarding direct methanol fuel cells:
1. It functions as a battery charger for laptops, digital cameras, and mobile phones.
2. It is highly effective and low in energy density.

Which of the above statements is/are correct?
a) Only 1   b) Only 2
c) Both1 and 2   d) Neither 1 nor 2

2. Consider the following statements regarding Digital Payments Index:
1. The Digital Payment Index, is published by the Ministry of Finance
2. Digital Payments Index (DPI) has been published on an annual basis from 2021 onwards without any time lag.
3. Demand-side factors and supply-side factors of Payment infrastructure are the parameters that enable measurement penetration of digital payments in the country.

Which of the statements given above is /are correct?
a) 2 only   **b) 3 only**
c) 2 and 3only   d) 1,2 and 3

3. Who among the following agencies launched the Voyager 2 spacecraft?
a) Indian Space Research Organisation (ISRO)
b) National Aeronautics and Space Administration (NASA)
c) Japan Aerospace Exploration Agency (JAXA)
d) European Space Agency(ESA)

4. Which one of the following statements reflects the objective of the ULLAS mobile application which was launched recently?
a) Incentivising a healthy lifestyle among the youths of the country.
b) Promoting cyber security hygiene among the citizens of the country.
c) Incentivising participation of girls to take STEM(Science, technology, engineering, and mathematics) as a career.
d) Promoting functional literacy, vocational skills, and many important life skills like financial literacy, legal literacy, digital literacy.

5. With reference to the Cell-free DNA (cfDNA), consider the following statements:
1. Cell Free DNA is found in the bloodstream and other fluids present in the body.
2. It exists in the form of a double helix structure.

Which of the statements given above is/are correct?
a) Only 1   b) Only 2
c) Both1 and 2   d) Neither 1 nor 2

6. Which of the following sums up INS Visakhapatnam the best?
a) A torpedo launch and recovery vessel
b) A guided-missile destroyer
c) The submarine is diesel-electric.
d) It is an aircraft carrier of the Kiev class

7. Consider the following statements regarding National Digital Nagrik Forum:
1. It is an online platform that aims to advance the rights of traders and consumers and shape policy to boost the digital trade economy.
2. It is an initiative of the Ministry of Commerce and Industry.

Which of the statements given above is/are correct?
Which of the statements given above is/are correct?
a) Only 1   b) Only 2
c) Both1 and 2   d) Neither 1 nor 2

8. Consider the following statements regarding Worldcoin project:
1. It is an initiative to create a digital network in which everyone can claim some kind of stake and join the digital economy.
2. It was launched by the United Nations.

Which of the statements given above is/are correct?
a) Only 1   b) Only 2
c) Both1 and 2   d) Neither 1 nor 2

9. Considered the following statement regarding Breastfeeding day.
1. Every year, from August 1 to August 7, people all across the world observe World Breastfeeding
2. The World Alliance for Breastfeeding Action (WABA) has set a theme for this year- "Enabling breastfeeding: making a difference for working parents".

Which of the statements given above is/are correct?
a) Only 1   b) Only 2
c) Both1 and 2   d) Neither 1 nor 2

10. Keeling Islands, recently seen in news is located in which of the following ocean of the world?
a) Indian Ocean   b) Arctic Ocean
c) Pacific Ocean   d) Atlantic Ocean