

**HISTORY**

- ❖ **The Ashoka Vijaya Dashami controversy**
- ❖ **CONTEXT:** Recently Mission Jai Bhim and The Buddhist Society of India organised a public meeting in Delhi to commemorate Buddhist Conversion Day. Every year Dussehra is also celebrated as Ashoka Vijaya Dashami to commemorate Buddhist Conversion day. On October 14, 1956, B. R. Ambedkar along with more than half a million followers had embraced Buddhism in Nagpur, Maharashtra.
- This year, a Minister in the Aam Aadmi government in Delhi, Rajendra Pal Gautam, participated in the event in his personal capacity. Along with the thousands of people assembled, he recited the 22 vows, which is part of the ritual. The Bharatiya Janata Party (BJP) objected to Mr. Gautam's presence at the event and his recitation of the vows. He was accused of spreading anti-Hindu sentiments. The BJP sought the resignation of Chief Minister Arvind Kejriwal and following the uproar, Mr. Gautam resigned on October 9.
- ❖ **Are the 22 vows controversial?**
- Modern history has admired Ambedkar as a revolutionary social reformer. His writings on social questions offer deep intellectual and critical inquiry about the problems of an exploitative Hindu caste order. He wanted to end the inhuman practice of untouchability.
- His academic work is well-known for the scrutiny of Hindu philosophical texts. Though several nationalist leaders, including Gandhi, disagreed with Ambedkar, they accepted him as a committed leader who wanted to liberate socially marginalised communities from the stranglehold of caste.
- Ambedkar opted for Buddhism for its rational and progressive values that challenge some of the fundamental beliefs of Hinduism.
- The 22 vows he delivered during the conversion ceremony initiated a radical escape for the convert from Hindu caste and cultural folds. The vows are divided into three major sections.
- In the first part, it pledges to refuse to worship the Hindu pantheon or to follow Hindu religious dogmas (vows no. 1, 2, 3, 5 and 21). Second, it challenges the authority of the Brahmin priest (vows no. 4, 6, 8 and 19). The rest promises to follow Buddhist principles.
- ❖ **What is Navayana Buddhism?**
- On October 13, 1935, Ambedkar, as president of the 'Yeola Conversion Conference' near Nasik, announced his decision to renounce Hinduism, as a path to contest the Hindu caste order. He asked the assembled members from the depressed castes to abandon struggles such as the temple-entry agitations and advised them to leave Hinduism entirely and embrace another religion.
- However, the decision to adopt Buddhism was not announced then. For the next two decades, Ambedkar was engaged in social and political deliberation to draft policies and find avenues for the emancipation of the socially marginalised communities.
- The decision to embrace Buddhism arrived after a detailed contemplation on various religions to understand the suitability of each to liberate socially marginalised communities. He reached the conclusion that Buddhism is an appropriate choice as it had challenged the Brahmanical caste-based social hierarchies in the past; it focused on modern ethical values and a scientific temperament and preached peace and compassion for social coexistence. Ambedkar embraced Buddhism in a grand ceremony at Nagpur's Deekshabhoomi, where more than five lakh followers had assembled to follow his decision. Under the presence of monk Chandramani, Ambedkar and his wife took the Buddhist vows.
- He then recited the three jewels (Trisharan), five precepts (Panchsheel), pronounced the self-crafted 22 vows for the assembled people and renounced Hinduism. The event is marked as the renaissance of Buddhism in India.
- In the post-event deliberation, Ambedkar called his version of Buddhism Navayana (followers are called neo-Buddhists), differentiating it with the Mahayana and Vajrayana traditions of Buddhism.
- Every year in October, lakhs of people assemble at Nagpur's Deekshabhoomi to pay homage to Ambedkar and to celebrate the historic day.
- ❖ **What is the demographic status of neo-Buddhists in India today?**
- The Buddhist population is a mere 0.70%, of which 87% are neo-Buddhists.
- Further, a large majority of it (around 80%) reside in Maharashtra (5.8% of the total population).
- The rest are traditional Buddhists and are scattered mainly in north-eastern States like Sikkim, Arunachal Pradesh, Mizoram and Tripura, etc. There has been a decline in the growth rate of Buddhists in India in recent years.

**SCIENCE and TECHNOLOGY**

- ❖ **CONTEXT:** Recently, acclaimed comic artist, Kim Jung Gi, died after experiencing chest pain while traveling to the New York Comic Con. He was 47. Within days of his passing, a Twitter user

claimed they had trained a deep learning model to draw in the style of the South Korean illustrator, and had shared alleged images created with the model. The backlash was swift and stormy as artists and art lovers expressed their feelings regarding the advance of AI art - and what it could do to human artists.

❖ **How AI creates art?**

- Machine learning and deep learning models are now available for people to create art work. Stable Diffusion, released in August 2022 by StabilityAI, is one of the models that can be used as its source code has been made available.
- Several AI-based art generators use Stable Diffusion to help people create their own images. Many of them ask users to enter a text-based prompt or even an image, which is then used to redraw, mimic, sketch, paint, synthesise, adapt, or alter images to create the desired result.
- In other words, even a person with no art experience can enter a prompt such as “a parent and one child standing on the beach and watching the pink sunset together” to produce an image on an AI art generator, using the Stable Diffusion model.



**An AI art piece showing a parent and a child admiring the sunset on a beach**

- With additional keywords, image prompts, or even pre-built filters, this image can be edited infinitely to deliver a certain style (such as photorealism or anime) and show specific details (such as a dolphin in the background, or even an asteroid crashing into Earth).

❖ **Why are some artists against AI art?**

- While art created with Stable Diffusion can get the job done quickly, the result can also range from slightly unnatural to downright ghoulish. In order to learn how to produce passable images complying with the prompts typed in by the users, deep learning models are fed millions of works of art for analysis. These artistic data sets also include the copyrighted products of artists who are still living today. In the process, the artists’ names can become prompts for the AI art generator to imitate their style or aesthetic when producing pictures using Stable Diffusion. Non-artists can now freely use these produced images, and even monetise their art work.
- Greg Rutkowski is a digital artist who was caught in this drag net. His name is one of the top prompts on AI art generators, despite his discomfort with the idea. Many published pieces on AI art platforms are eerily similar to his own extravagant projects featuring dragons and epic fantasy landscapes.
- Critics have claimed this is a violation of copyright law and that artists should have the freedom to remove their work from the data sets used to train AI models.
- The Twitter user who claimed they trained a model to imitate the late Kim Jung Gi’s lush, ink-based style of drawing characters was also criticised for treating the illustrator’s lifetime of work as a generic end product that could be replicated by a machine.

❖ **Could “AI art” replace human artists?**

- Freely available AI art generators could make it possible for almost anyone to carry out this task in just a few minutes, at far lower costs. These models could also eliminate the need to pay for licensed art by making it possible to choose a subject, copy an artist’s style, and create a customisable result - all for free. This has the potential to completely restructure fields such as fashion design, architecture, cinema, book publishing, and more.
- Artists are also concerned that any work they upload or share online could be used without their permission to train deep learning models. This could let others create derivative works of art and profit from them without having to give any credit to the original artists whose efforts made the AI art generator possible.
- In September, this very scenario came true when American designer Jason Allen won the first prize in an art competition for his piece ‘Theatre D’Opera Spatial’ which was created with the help of an AI program.

- As deep learning tools reach more users by the day, artists are waiting to see how different sectors will embrace or reject the rise of AI art.

**PRELIMS****1. Open Network for Digital Commerce beta testing likely in Delhi**

❖ **CONTEXT:** The Open Network for Digital Commerce (ONDC), which is a government-backed project aimed at enabling small merchants and mom-and-pop stores in parts of the country to access processes and technologies that are typically deployed by large e-commerce platforms such as Amazon and Flipkart, is expected to extend beta testing in Delhi after having commenced services in Bengaluru.

❖ **What is ONDC?**

- It is an initiative aimed at promoting open networks for all aspects of exchange of goods and services over digital or electronic networks. ONDC is to be based on open-sourced methodology, using open specifications and open network protocols independent of any specific platform.
- It is being developed as a counter to the current stranglehold of two big players in the Indian e-commerce market, which is largely dictated by Amazon and Walmart-owned Flipkart.
- In May 2022, the Department for Promotion of Industry and Internal Trade (DPIIT) went live with a test run of ONDC in cities like Delhi-NCR, Bengaluru, Coimbatore, Bhopal, and Shillong where it plans to onboard 150 sellers. On September 30 2022, the services launched across 16 pin codes in Bengaluru.

❖ **What are the plans for Delhi?**

- ONDC is expected to expand beta testing into areas with strong delivery and logistics footprint of its network participants, as well as the capacities of these logistics players that can be deployed. Further, the segments to be launched initially are expected to be electronics, home decoration and fashion.

❖ **How does ONDC work?**

- The ONDC platform lies in the middle of the interfaces hosting the buyers and the sellers. So far, the buyer side interface is being hosted by Paytm, whereas the seller side interface is being hosted by other players like GoFrugal, etc.
- When a buyer searches for an item on the Paytm app, from where ONDC has gone live, the app will connect to the ONDC platform, which will connect it to seller side interfaces that will list all the companies from where you can buy the particular item.
- On ONDC, there will be several other backend partners such as logistics service providers, enterprise resource planners, e-commerce store hosting service providers, etc.

❖ **What are the challenges ONDC aims to address?**

- An ONDC strategy paper published earlier this year has flagged the rising dominance of global players in India's e-commerce ecosystem, pointing out that the large quantum of investment required to build competitors to the integrated solutions offered by the big players has become an entry barrier for digital marketplaces.
- It also flagged the inability of marketplace sellers to move out of the platform ecosystem, given that the value created by these small players is stored with the larger platforms.
- ONDC aims to transform the marketplace ecosystem from an operator-driven platform-centric model to a facilitator-driven interoperable decentralised network.
- The Bengaluru launch only saw 600 orders between ONDC launch on September 30 and October 6. Industry players also point to multiple gaps in the arrangement, including clarity over data handling, end to end linkages and supplier liability.

**2. Sanjeevani - Lifestyle Clinic**

- An integrated facility, aptly named the "Sanjeevani - Lifestyle Clinic" to provide advice on diet, exercise and behavioural counselling thereby rendering comprehensive preventive and curative care on lifestyle diseases to all serving & retired personnel and their dependents has been inaugurated at the Armed Forces Clinic, New Delhi.
- With increasing lifestyle changes, diseases such as obesity, hypertension, dyslipidemia and diabetes are on a rising trend among Indian population. Members of the Armed Forces are no exception, and show similar trends. These non-communicable diseases are preventable and can be managed by utilising multi-disciplinary & non-pharmacological approaches.
- The aim of "Sanjeevani - Lifestyle Clinic" is to sensitise Armed Forces personnel and dependents identified to be at risk, regarding lifestyle disorders, prevent and manage chronic disorders like diabetes, hypertension and obesity etc, without pharmacologic interventions by promoting a healthy lifestyle through dietary education, exercise and positive motivation. The lifestyle disease clinic team will consist of a Dietician, Physical Trainer and a Counsellor, having expertise in their respective fields.

- An automated device named “Health Kiosk” has also been installed in the clinic for recording anthropometric parameters at baseline and follow-up, to keep track of progress made over time.
- This novel initiative by the Indian Army, will promote healthy lifestyle as a method of preventive healthcare, and ensure safe and drug free therapy, for reversing various metabolic disorders. This initiative will bring a positive change to quality of life and self-confidence of affected serving soldiers, veterans and their families.

### 3. **WADA Athlete Biological Passport Symposium- 2022**

- The National Anti-Doping Agency (NADA) and National Dope Testing Laboratory (NDTL) are organizing the “WADA Athlete Biological Passport (ABP) Symposium- 2022” from 12<sup>th</sup> to 14th October, 2022 in New Delhi.
- The first WADA ABP Symposium was hosted by the Anti-Doping Lab Qatar (ADLQ) in November 2015, in Doha, Qatar.
- The second WADA ABP Symposium was organized by the Italian Federation of Sports Medicine (FMSI) in 2018, in Rome, Italy.
- This is the third WADA ABP Symposium and is being hosted in India for the first time.
- Two hundred plus participants from 56 Countries, WADA Officials, representatives and Experts from different National Anti-Doping Organizations, Athlete Passport Management Units (APMUs) and WADA Accredited Laboratories are participating in this Symposium.
- The main topic of discussion in this symposium will be recent trends, successes and challenges with the ABP, Managing confounding Factor affecting the steroidal Module, Evolving strategic testing for the ABP etc and will help WADA to work towards the detection and eradication doping in sports through APMUs.
- Since NDTL is in the process of setting up an APMU in India, this Symposium would help to create the necessary expertise in the country and will help the Indian Sports by strengthening the Anti-doping programme of India and also enable us to become a regional leader in anti-doping.
- Establishing an APMU would enable India to build our capabilities in sports and become a sporting power to support India's Vision of 'Atmanirbhar Bharat'.

### 4. **Flexi-Fuel Strong Hybrid Electric Vehicles (FFV-SHEV)**

#### ❖ **CONTEXT: Union Minister for Road Transport and Highways Shri Nitin Gadkari Launched Toyota's first of its kind pilot project on Flexi-Fuel Strong Hybrid Electric Vehicles (FFV-SHEV) in India**

- When FFV is integrated along with strong hybrid electric technology, it is referred to as FFV-SHEVs.
- Flexible fuel vehicles (FFVs) have an internal combustion engine and are capable of operating on gasoline and any blend of gasoline and ethanol.
- FFVs are capable of running on 100 percent petrol or 100 percent bio-ethanol or a combination of both.
- Strong hybrid is another term for full hybrid vehicles, which can run solely on either electric or petrol modes. In contrast, mild hybrids cannot run purely on one of these modes and use the secondary mode merely as a supplement to the main mode of propulsion.

#### ❖ **Ethanol blending**

- E10 is a low-level blend composed of 10% ethanol and 90% gasoline
- E15 is a low-level blend composed of 10.5% to 15% ethanol and gasoline.
- E85 (or flex fuel) is an ethanol-gasoline blend containing 51% to 83% ethanol,
- All vehicles manufactured in India are tuned for E10.

#### ❖ **To what extent will FFVs help in cutting emissions?**

- According to a report by the expert committee formed by the Ministry of Petroleum and Natural Gas, by just hitting E20, carbon monoxide emissions were observed to be 50 percent lower in two-wheelers and 30 percent lower in four-wheelers compared to petrol.
- Hydrocarbons were lower by 20 percent. The report also mentioned that E20 blending will result in a drop in fuel efficiency by nearly 6-7 percent in 4 wheelers designed for E0 and calibrated to E10.

#### ❖ **What has been the auto industry's reaction to FFV?**

- The higher blending of ethanol will mean higher manufacturing costs which translate to pricier vehicles.
- Certain auto parts, especially those that come in contact with higher ethanol content, will have to be replaced with a compatible product to avoid corrosion.
- Automotive companies say that they are ready to move with government regulations on ethanol blending of E20 by 2025.

#### ❖ **Why is the government of India pushing for Flex Fuel Vehicles?**

- India's oil import bill stood at \$62.7 billion in FY21, which was matched in just the first seven months (April-October) of this year.

- To pile on the stress, the rupee is at its weakest level in the last three financial years. Hence, the government is desperate to bring down the oil import bill by creating fuel substitutes like ethanol, hydrogen, and electricity.
- This is possible only if flex-fuel vehicles are made available in the market. Also, FFVs will also help the government meet its commitments when it comes to reducing emissions.
- A litre of petrol sold in India has an average of 8 percent ethanol content even though oil marketing companies have clearance to do even 10 percent (E10) blending.
- To accelerate the introduction of FFVs, the PLI scheme has included automobile and auto components of flex-fuel engines.
- The use of ethanol or methanol as fuel will lead to the creation of an additional revenue stream for farmers. This will provide direct benefits to farmers and help in doubling their income.
- It is also in line with the Prime Minister's vision of Atma Nirbhar Bharat and the government's policy on promoting ethanol as a transport fuel.
- Adopting this will help to reduce greenhouse gas emissions from vehicles on a well-to-wheel basis hence helping India to comply with its commitment made at COP26 to reduce the total projected carbon emissions by one billion tonnes by 2030.

### ANSWER WRITTING

**Q. Despite Hydrogen fuel cells (HFCs) having many advantages, there are some concerns as well. Discuss. Introduction**

Hydrogen fuel cells are a clean, reliable, quiet, and efficient source of high-quality electric power.

They use hydrogen as a fuel to drive an electrochemical process that produces electricity, with water and heat as the only by-products.

Hydrogen is one of the most abundant elements on earth for a cleaner alternative fuel option.

The National Hydrogen Energy Mission (NHM) was launched in the Union Budget for 2021-22 to promote hydrogen production and its uses.

#### Significance of Hydrogen fuel cells

- **Best Zero Emission Solutions:** It is one of the best Zero Emission solutions. It is completely environment friendly with no tailpipe emissions other than water.
- **Quiet operation:** The fact that the fuel cells make little noise means that they can be used in challenging contexts, such as in hospital buildings.
- **Easier scaling:** Operation times of fuel cells are longer than those of batteries, with fuel cells, only the amount of fuel needs to be doubled to double the operation time, while batteries require the capacity of the components to be doubled to achieve the same.

#### Issues associated with Hydrogen fuel cells

- **High Cost:** Green hydrogen makes up only 0.03% of global hydrogen production and it is up to five times more expensive than 'grey' hydrogen produced from natural gas or worse, 'brown' hydrogen produced from coal.
- **Hydrogen Storage:** Storage and transportation of hydrogen is more complex than that required for fossil fuels. This implies additional costs to consider for hydrogen fuel cells as a source of energy.
- **Hydrogen Extraction:** Despite being the most abundant element in the Universe, hydrogen does not exist on its own so needs to be extracted from water via electrolysis or separated from carbon fossil fuels.
- Both of these processes require a significant amount of energy to achieve. This energy can be more than that gained from the hydrogen itself as well as being expensive.
- In addition, this extraction typically requires the use of fossil fuels, which in the absence of carbon capture and storage (CCS) undermines the green credentials of hydrogen.

#### Way Forward

- Another alternative that many hydrogen councils across the world are pushing for is 'blue' hydrogen, which is grey hydrogen coupled with additional installations for carbon capture and storage incorporated into the production facility.
- This way, up to 90% of the CO<sub>2</sub> emitted during hydrogen production can be captured for reuse or storage and prevented from escaping into the atmosphere.

### MCQs

1. With reference to the Global Partnership for Artificial Intelligence (GPAI), which of the following statements is/are correct?
  1. It was first officially proposed by the US and Canada at the Biarritz G7 Summit.
  2. It is supported by the Organization for Economic Cooperation and Development (OECD), Paris.
 Choose the correct answer using the codes given below  
 a) 1 only                      b) 2 only                      c) Both 1 and 2                      d) Neither 1 nor 2

2. Choose the most appropriate option about Artificial Intelligence?
- Playing a game on Computer
  - Making a machine Intelligent**
  - Programming on Machine with your Own Intelligence
  - Putting your intelligence in Machine
3. With the present state of development, Artificial Intelligence can effectively do which of the following?
- Bring down electricity consumption in industrial units.
  - Create meaningful short stories and songs.
  - Disease diagnosis.
  - Text-to-Speech Conversion.
  - Wireless transmission of electrical energy.
  - Painting
- Select the correct answer using the code given below:
- 1, 2, 3 and 5 only
  - 1, 3, 4 and 6 only
  - 2, 4, 5 and 6 only
  - 1, 2, 3, 4, 5 and 6**
4. Who advocated 'Neo-Buddhism'?
- Radhakrishnan
  - Tagore
  - Vivekananda
  - Ambedkar**
5. Consider the following statements about the Flex-Fuel Vehicles
- They are capable of operating on a mixture of fuels
  - Flex fuel vehicles, reduce the emissions of sulphur dioxide in the atmosphere
- Which of the above statement/s is/are correct?
- 1 only
  - 2 only
  - Both 1 and 2**
  - Neither 1 nor 2
6. Consider the following statements with reference to World Anti Doping Agency (WADA)
- The World Anti-Doping Agency (WADA) was established in late 1990s to implement Athlete Biological Passport Operating Guidelines (ABP Guidelines) framed by International Olympic Committee.
  - The WADA ABP Symposium 2022 is being hosted in India for the first time
- Choose the correct statement/s using the codes given below
- 1 only
  - 2 only**
  - Both 1 and 2
  - Neither 1 nor 2
7. "Sanjeevani - Lifestyle Clinic" often mentioned in news is associated with which of the following ministry?
- Ministry of Defense**
  - Ministry of Health and Family Welfare
  - Ministry of Women and Child Development
  - Ministry of Environment, Forest and Climate Change
8. With reference to foreign-owned e-commerce firms operating in India, which of the following statements is/are correct?
- They can sell their own goods in addition to offering their platforms as market-places.
  - The degree to which they can own big sellers on their platforms is limited.
- Select the correct answer using the code given below:
- 1 only
  - 2 only**
  - Both 1 and 2
  - Neither 1 nor 2
9. With reference to Open Network for Digital Commerce (ONDC), consider the following statements
- It is an aggregator application and a hosting platform for all existing digital commerce applications.
  - ONDC was incubated by the Department for Promotion of Industry and Internal Trade (DPIIT) at the Quality Council of India.
- Select the correct statement.
- 1 only
  - 2 only**
  - Both 1 and 2
  - Neither 1 nor 2
10. With reference to 'Quality Council of India (QCI)', consider the following statements: (2017)
- QCI was set up jointly by the Government of India and the Indian Industry.
  - Chairman of QCI is appointed by the Prime Minister on the recommendations of the industry to the Government.
- Which of the above statements is/are correct?
- 1 only
  - 2 only
  - Both 1 and 2**
  - Neither 1 nor 2