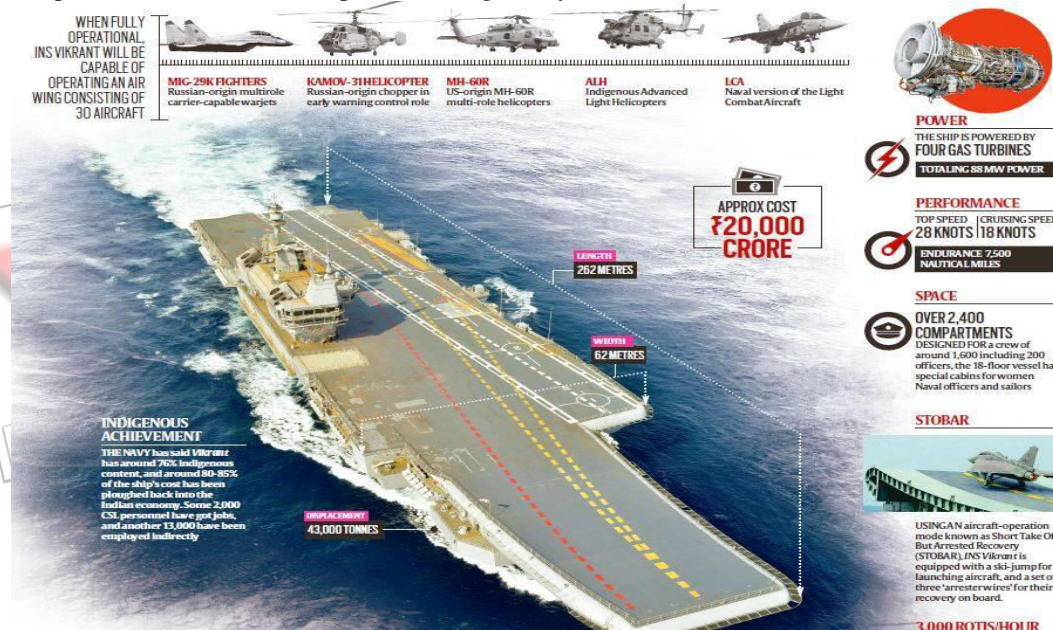


**DEFENCE**

- ❖ **The complete story of INS Vikrant, and why India already wants to build another aircraft carrier**
- ❖ **CONTEXT:** The commissioning of India's first Indigenous Aircraft Carrier (IAC-1) into the Navy as INS Vikrant marks a defining moment. The first ever aircraft carrier to be indigenously designed and constructed, INS Vikrant will strengthen the country's standing as a 'Blue Water Navy' — a maritime force with global reach and capability to operate over deep seas. With it, India also joins the elite group of nations – the US, Russia, France, the UK and China – who are capable of designing and constructing aircraft carriers. Also, with a displacement of 43,000 tonnes when fully loaded, INS Vikrant is set to be the seventh largest among the carriers or carrier classes in the world.
- ❖ **The R11 legacy**
  - INS Vikrant, with pennant number R11, was the first-ever aircraft carrier that was operated by the Indian Navy.
  - The ship was officially laid down in 1943, and was being built for the Royal Navy as HMS (Her Majesty's Ship) Hercules when the constitution was put on hold after World War II ended.
  - Like many other ships at the time, the under-construction HMS Hercules was put up for sale by the United Kingdom, and was purchased by India in 1957. The construction work was completed and the ship was commissioned in the Indian Navy as INS Vikrant in 1961.
  - The ship operated its aircraft fleet with a catapult assisted system and ski-jump during its service.
  - Compared to the new INS Vikrant, the old one had less than half its displacement and was over 210 metres in length against 260 metres of the present one.
  - R11 saw significant action during the 1971 war with Pakistan when it led the Naval blockade of East Pakistan. The ship was decommissioned in 1997 after 36 years of service. Over the next 15 years, it was preserved as a museum ship before being finally sold to be dismantled.



- ❖ **Onward: The name, the motto, pennant number and the spirit**
  - The Sanskrit word Vikrant, which means courageous, finds its origins in various scriptures including the Bhagwad Gita. The sixth shloka in the first chapter of the Gita, while describing the valour of some Generals from the army of Pandavas, uses the adjective 'Vikrant'.
  - As far as the origin of the word goes, the 'Vi' prefix in the Sanskrit word denotes something that is distinctive or extraordinary, and the 'krant' suffix means to move or advance in a direction.
  - The word Viraat which means magnanimous, can also be found in the same chapter of Gita in a later verse and is the name of the now decommissioned and dismantled British-origin Centaur-class aircraft carrier of the Indian Navy.
  - "The induction and reincarnation of Vikrant is not only another step towards strengthening our defence preparedness, but also our humble tribute to the sacrifices made by our freedom fighters for the Independence of the nation and our brave soldiers during the 1971 war.
  - Along with the pennant number R11, the newly commissioned INS Vikrant also carries forward the motto of its predecessor – "Jayema Sam Yudhi Sprudhah" – from the Rigveda which means: "I conquer those who fight against me".

- When fully operational the mighty aircraft carrier will not just be a strong deterrent but also act as a floating airbase on blue waters and will be a sovereign territory of India in the middle of the oceans.
- ❖ **Indigenous design and construction**
- The plan for building an indigenous aircraft carrier started taking shape as the old INS Vikrant neared its decommissioning in the late 1990s.
- After it was retired, India relied on INS Viraat, which had then been serving the Indian Navy for over 10 years, after its earlier 25 year stint with the Royal Navy as HMS Hermes.
- Meantime, the design and construction of the Indigenous Aircraft Carrier-I (IAC-I) was sanctioned in January 2003. Cochin Shipyard Ltd (CSL), a public sector shipbuilding entity under the Ministry of Shipping, was tasked to build the ship. This was the first warship construction project for the CSL.
- ❖ **Milestones along the way**
- The first major milestone for IAC – also referred to as Project 71 (P71) — was ceremonial steel cutting in April 2005. Other ceremonial events followed soon.
- In any ship's life there are four key ceremonial occasions – keel laying, launching, commissioning and decommissioning.
- Keel laying ceremony originates from the tradition of laying one central timber that forms the backbone of the ship. For modern ships, keel laying is marked by placing the first of the modular components of the ship being placed in the dock. The keel of the IAC-I was laid on February 28, 2009.
- Launching is when the ship is transferred from the building site into the waters. The IAC was launched on August 12 in 2013 and by that time, 80% of its structure had been fabricated and all the major machinery including turbines, alternators and gearboxes were installed.
- The IAC was launched out into the Ernakulam Channel in a pontoon assisted precision manoeuvre. It was moved out of the building dock to be positioned in the refitting dock where the next phase of outfitting was completed. On June 10, 2015, the IAC was undocked.
- ❖ **The trials and pandemic-induced delays**
- The readiness of IAC's propulsion and power generation equipment and related systems was tested in harbour as part of basin trials in November 2020.
- The sea trials were delayed because of the second COVID-19 wave.
- Finally on August 4 2021, the first phase of sea trials kicked off with the IAC sailing on its first open sea voyage from Kochi, and returning four days later.
- This was followed by second and third phases of sea trials in October 2021 and January 2022, respectively.
- These three phases tested the propulsion machinery, electrical and electronic suites, deck machinery, life-saving appliances, ship's navigation and communication systems.
- Fourth and final phase of sea trials for the IAC was completed on July 10 2022 after conducting integrated testing of the majority of the equipment and systems onboard, including some of the Aviation Facilities Complex equipment. The ship was delivered to the Navy on July 28.
- The INS Vikrant is 262 metres long and 62 metres wide, making its flight deck bigger than two football fields. The aircraft carrier displaces around 4,3000 tonnes when fully loaded, with a maximum designed speed of 28 knots with endurance of 7,500 nautical miles, which is equivalent to around 14,000 km.
- The 18-floor high ship has close to 2,400 compartments, designed to house 1,600-strong crew. It also has specialised cabins to accommodate women officers and sailors. The aviation hangar is as big as two Olympic-size pools that can accommodate around 20 aircraft. There is a well-equipped kitchen that can serve a diverse menu. It also has a unit that makes 3,000 rotis per hour.
- Its medical complex has a 16-bed hospital along with modular emergency operation theatre, physiotherapy clinic, Intensive Care Unit, pathology set up, radiology wing with a CT scanner and X-Ray machines, a dental complex, isolation ward and telemedicine facilities.
- In its fully operational mode, the carrier will have an air wing consisting of 30 aircraft comprising of Russian-origin, carrier-capable MiG-29K fighter jets and airborne early warning control helicopter Kamov-31 helicopters, US origin MH-60R multi-role helicopters, in addition to homegrown Advanced Light Helicopters (ALH) and Light Combat Aircraft (LCA) (Navy). Vikrant uses the Short Take Off but Arrested Recovery (STOVAR) model with a ski-jump for launching aircraft, and a set of three arrestor wires for their recovery onboard.
- ❖ **The path ahead after commissioning**
- Vikrant has been built at an approximate cost of Rs 20,000 crore.
- According to Navy around 80 to 85% has been ploughed back into the Indian economy with complete indigenous construction, 76% indigenous content and with employment given to 2,000 CSL personnel with another 13,000 being employed indirectly.

- On operationalising INS Vikrant, In line with the prevailing practices being followed by other advanced countries having experience of building aircraft carriers, the deck integration trials of fixed wing aircraft and exploitation of Aviation Facility Complex will be carried out post commissioning of the ship when the operational command and control of the ship, including flight safety, is with the Navy.
- The flight trials of INS Vikrant are set to begin by November and the carrier is expected to be fully operational by mid-2023.
- ❖ **The demand for another aircraft carrier**
- Over the last few years, top commanders have been insisting for a third carrier apart from Russian-origin Kiev-class INS Vikramaditya and INS Vikrant. The Indigenous Aircraft Carrier-II will be named INS Vishal with a proposed displacement of around 65,000 tonnes, equalling the Queen Elizabeth-class of carriers of the UK. The idea is for India to have two carriers at any given point in time, if a third is in the refit.
- ❖ **The cost of building and operating aircraft carriers**
- Cost is always a key consideration as far as constructing and operating aircraft carriers is concerned.
- The carrier strike group — the operational formation of the aircraft carriers — consists of destroyers, frigates, submarines and service ships. In spite of the protective cover of these ships and its own defence systems, aircraft carriers remain a vulnerable target.
- The decision to give a nod to construct IAC-II not just has political, economic and strategic considerations, but also one of India's projected standing as a global maritime power. The decision also needs to be looked at from the standpoint of how China is rapidly pursuing its carrier programme with their third carrier already in the making and more in the pipeline.

### **PRELIMS**

#### **1. Open Network for Digital Commerce (ONDC)**

- ❖ **CONTEXT:** According to PIB, Union Minister for Commerce and Industry, Consumer Affairs, Food and Public Distribution and Textiles, **Shri Piyush Goyal** called for the integration of One District One Product (ODOP) initiative with Open Network for Digital Commerce (ONDC).

- Earlier, US firm Microsoft has become the first big tech company to join the Open Network for Digital Commerce (ONDC), a government-backed project which is 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.

- ❖ **What is Open Network for Digital Commerce (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 duopoly 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.

- ❖ **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. With this in mind, ONDC aims to transform the marketplace ecosystem from an operator-driven platform-centric model to a facilitator-driven interoperable decentralised network.

- ❖ **What is ODOP?**

According to the Ministry of Commerce & Industry



- One District One Product (ODOP) is an initiative which is seen as a transformational step forward towards realizing the true potential of a district, fuel economic growth and generates employment and rural entrepreneurship, taking us to the goal of AtmaNirbhar Bharat.
  - One District One Product (ODOP) initiative is operationally merged with 'Districts as Export Hub' initiative being implemented by DGFT, Department of Commerce, with Department for Promotion of Industry and Internal Trade (DPIIT) as a major stakeholder.
  - The Department of Commerce through DGFT is engaging with State and Central government agencies to promote the initiative of One District One Product.
  - The objective is to convert each District of the country into an Export Hub by identifying products with export potential in the District, addressing bottlenecks for exporting these products, supporting local exporters/manufacturers to scale up manufacturing, and find potential buyers outside India with the aim of promoting exports, promoting manufacturing & services industry in the District and generate employment in the District.
  - To increase exports and take export promotion to the District level, Department of Commerce through the Director General of Foreign Trade (DGFT) is engaging with State / UT Governments to implement the said initiative in all districts of the country in a phased manner, with the objective of mobilizing the potential of each district of the country to achieve its potential as an export hub.
2. **India's first indigenously developed vaccine for cervical cancer**
- ❖ **CONTEXT:** Union Minister of Science and Technology, announced the scientific completion of indigenously developed quadrivalent human papillomavirus (qHPV) vaccine for the prevention of cervical cancer.
  - **Despite being largely preventable, cervical cancer is the fourth most common Cervavac, India's first cancer among women globally, according to the WHO. In 2018, an estimated 570,00 women were diagnosed with the disease and it accounted for 311,000 deaths across the world.**
  - ❖ **How common is cervical cancer in India?**
  - India accounts for about a fifth of the global burden of cervical cancer, with 1.23 lakh cases and around 67,000 deaths per year.
  - Almost all cervical cancer cases are linked to certain strains of human papillomavirus (HPV), a common virus that is transmitted through sexual contact. While the body's immune system usually gets rid of the HPV infection naturally within two years, in a small percentage of people the virus can linger over time and turn some normal cells into abnormal cells and then cancer, according to the Centers for Disease Control and Prevention (CDC).
  - According to experts while cervical cancer is preventable if detected early and managed effectively, it kills one woman every 8 minutes in the country. Screening and vaccination are two powerful tools that are available for preventing cervical cancer. Still, there is little awareness among women about the prevention of this cancer and less than 10% of Indian women get screened. All women aged 30-49 must get screened for cervical cancer even if they have no symptoms and get their adolescent daughters vaccinated with the HPV vaccine.
  - ❖ **Who developed the new qHPV vaccine?**
  - Cervavac was developed by the Pune-based Serum Institute of India in coordination with the Government of India's Department of Biotechnology (DBT). The project to develop the vaccine was implemented by the then secretary of the DBT, Dr. M K Bhan in 2011. Since then, 30 meetings of scientific advisory groups and site visits conducted by DBT have helped review the scientific merit of the entire journey to develop the vaccine.
  - Cervavac received market authorisation approval from the Drug Controller General of India on July 12 2022.
  - ❖ **How effective is the new vaccine?**
  - HPV vaccines are given in two doses and data has shown that the antibodies that develop after both are administered can last up to six or seven years. Unlike Covid vaccines, booster shots may not be required for the cervical cancer vaccine.
  - Until now, the HPV vaccines available in India were produced by foreign manufacturers at an approximate cost of Rs 2,000 to Rs 3,500 per dose. Cervavac is likely to be significantly cheaper, slated to cost approximately Rs 200 to 400. It has also demonstrated a robust antibody response that is nearly 1,000 times higher than the baseline against all targeted HPV types and in all dose and age groups.
  - ❖ **What are the challenges?**
  - The biggest task will be in allocating adequate resources and manpower for vaccinating the massive demographic of adolescent girls aged between 9 and 15, to ensure that they are protected from HPV early on.

- According to experts, there is a huge need for stepping up awareness about the disease and the vaccine in the community. "Unlike Covid and the vaccination programme, there is very little awareness about cervical cancer. Overall awareness and screening is very low in the community and that is a concern. This is a preventable disease and hence a huge awareness programme is required.
- ❖ **What next?**
- Experts suggest that school-based vaccination programmes will work effectively. Currently, none exist and therefore planning will have to be done along those lines.
- Those accessing public health programmes will get the vaccine free of cost at government-aided schools. However concerted efforts will have to be made to ensure the involvement of private healthcare facilities and NGOs towards an effective rollout.

### ANSWER WRITING

**Q. 'Constitutional Morality' is rooted in the Constitution itself and is founded on its essential facets.**

**Explain the doctrine of 'Constitutional Morality' with the help of relevant judicial decisions.**

- Constitutional Morality is defined as the adherence to the principles of the constitutional values. It includes commitment to inclusive and democratic political process. According to Dr. Ambedkar, the concept of constitutional morality implied the harmonious interaction between the governing and governed.
- Though the term 'Constitutional Morality' is not found in the Constitution, nevertheless it is rooted in various facets of the Constitution, such as in:
  - Preamble (values like justice, liberty, equality and fraternity)
  - Fundamental Rights
  - Fundamental Duties
  - Directive Principles of State Policy
- The doctrine of constitutional morality safeguards and upholds the enforcement of rule of law in the country. It recognizes this distinction and non-homogeneity and promotes diversity, helping to make the society more inclusive. It also promotes people to be an active participant of the system and fight the inequalities and non-constitutional elements.

The Supreme Court has been vocal about constitutional morality. To illustrate:

- In the *Krishnamoorthy* case (2015), the Court held that democracy expects prevalence of genuine orderliness, positive propriety, dedicated discipline and sanguine sanctity by constant affirmation of constitutional morality which is the pillar stone of good governance.
- In *Justice K.S. Puttaswamy* case (2018), the SC held that constitutional morality ensures that courts must neutralise the excesses of power by the executive and strike down any legislation or even executive action if it is unconstitutional.
- In the *Government of NCT of Delhi* case (2018), the Court equated constitutional morality to a 'second basic structure doctrine'. It said that constitutional morality acts as a check on arbitrary use of power as it implies strict and complete adherence to the constitutional principles.
- In the *Indian Young Lawyer's Association* case (2018), commonly known as the *Sabrimala* case, the Supreme Court bypassed the doctrine of essentiality (the principle protecting the 'integral' religious practices of a community) to uphold the supremacy of constitutional morality.

Constitutional morality is crucial for constitutional laws to be effective. Without constitutional morality, the operation of the constitution tends to become arbitrary. However, the concept of constitutional morality need not be determined by the Supreme Court at every given instance. It is a sentiment that needs to be cultivated in the minds of citizens.

### MCQs

- Consider the following statements and answer the question below:
  - Open Network for Digital Commerce (ONDC) is an initiative aimed at promoting open networks for all aspects of the exchange of goods and services over digital or electronic networks.
  - 'Districts as Export Hub' has been replaced by One District One Product (ODOP) initiative.
  - US firm Microsoft has become the first big tech company to join the Open Network for Digital Commerce (ONDC).

Which of the following statements is/are correct?

- Only 1
- 1 and 2
- 1 and 3**
- 1, 2 and 3

- Consider the following pairs

Aircraft carrier	Country
1. Nimitz Class	France

2. Queen Elizabeth Class      UK
  3. Liaoning                      China
  4. INS Vikrant                  India.
  5. Charles De Gaulle          USA
- How many above pair/s is/are correct?
- a) Only one pair
  - b) Only three pairs**
  - c) Only four pairs
  - d) All of the above pairs
3. Consider the following statements
1. Long-lasting infection with certain types of human papillomavirus (HPV) is the main cause of cervical cancer.
  2. The HPV vaccine protects against the types of HPV that most often cause cervical, vaginal, and vulvar cancers.
  3. Recently India gets its first indigenously developed qHPV vaccine earlier India has been fully dependent on foreign manufacturers for the HPV vaccine.
- Which of the above statement/s is/are correct?
- a) 1 only                      b) 3 only                      c) 2 and 3 only                      **d) 1,2,3**
4. Ease of Doing Business (EDB) Index is a tool designed by the World Bank to rank economies across the world. Which of the following parameter is/are used by World Bank to rank countries?
1. Getting electricity
  2. Getting credit
  3. Protecting minority investors
  4. Paying taxes
- Choose the correct statement using the codes given below
- a) 1 and 2 only                      b) 2,3 and 4 only                      c) 3 and 4 only                      **d) All of the above**
5. Solomon island, recently seen in news, is located in which ocean?
- a) Indian Ocean                      **b) Pacific Ocean**                      c) Atlantic Ocean                      d) Southern Ocean
6. Consider the following diseases and vaccine
- |             |                 |
|-------------|-----------------|
| 1. CERVAVAC | Cervical Cancer |
| 2. MMR      | Rubella         |
| 3. DTP      | Tuberculosis    |
| 4. BCG      | Pertussis       |
- Which of the above is/are correctly matched?
- a) 1 and 2 only**                      b) 1 and 3 only                      c) 1 and 4 only                      d) 1 only
7. MAVEN mission recently seen in news is associated with which of the following?
- a) United Arab Emirates' Mars mission
  - b) NASA's Mars mission**
  - c) Space X's Mars mission
  - d) Russia's Moon mission
8. Uyghur communities recently mentioned in news can be relating to which of the following region?
- a) Central South American region
  - b) Congo basin
  - c) Sahel region
  - d) Central Asian region**
9. Consider the following with regards to "G33 grouping" recently seen in news can be associated which of the following?
- a) Agriculture**
  - b) GI products only
  - c) Single use plastic
  - d) Coastal conservation
10. Periodic Labour force survey recently seen in news was launched by which of the following organization?
- a) NITI Ayog
  - b) RBI
  - c) National Statistical Organization**
  - d) Ministry of labour and employment