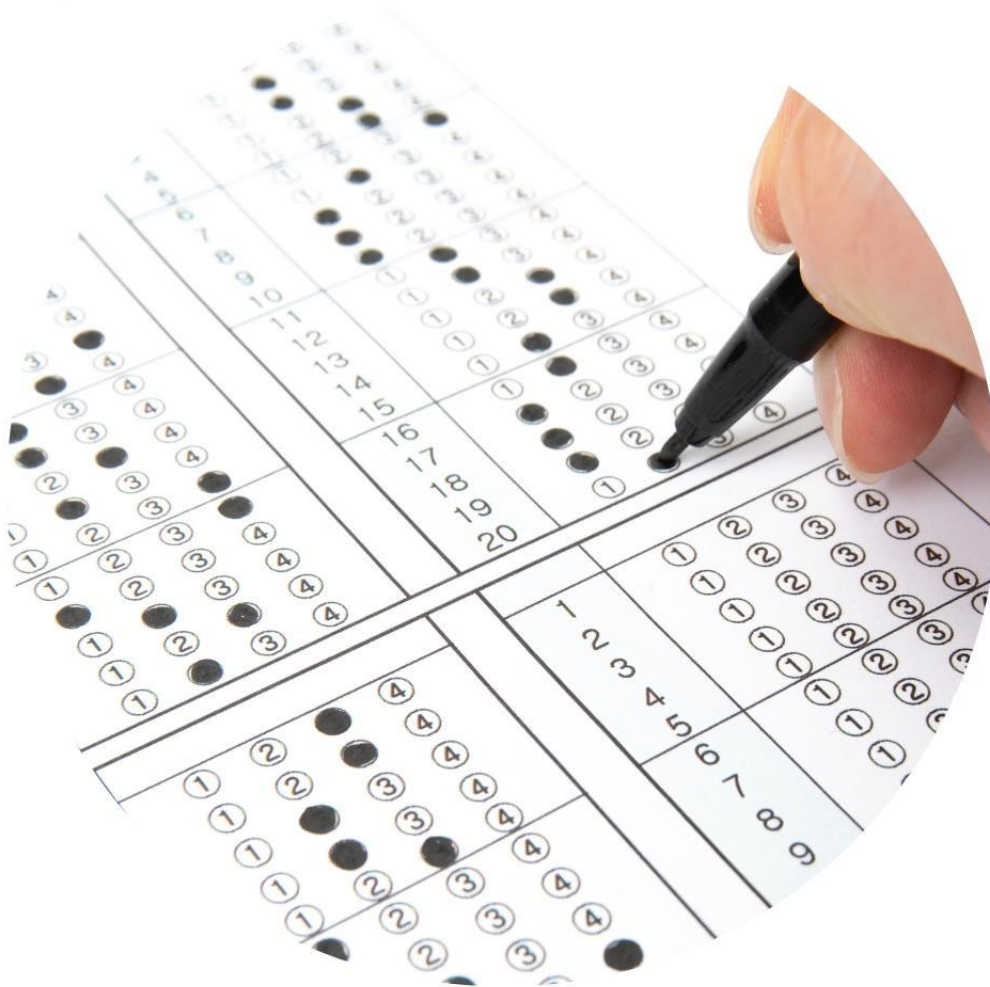




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**OCTOBER
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01-10-2021

1) With respect to Mundapota Kela', consider the following statements:

1. Mundapota Kela is a denotified tribal community belongs to the State of Odisha.
2. They are known for their street performance of burying their heads in a hole dug in the ground.

Which of the statement(s) given above is/are correct?

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

2) Which one of the following is the possible reason for Mars having no liquid water on its surface?

- a. Mars may be just too small to hold on to large amounts of water
- b. Mars has a thick atmosphere which distort the stability of water on Mars
- c. Mars has extreme temperatures which enables evaporation of water molecules
- d. None of the above

3) Blue Dot Network which certifies infrastructure projects that meet international quality standards is a joint initiative of?

1. Japan
2. Australia
3. United Kingdom
4. United States of America

Select the correct answer using the codes given below:

- a. All except 1
- b. All except 3
- c. All except 1 and 2
- d. All except 3 and 4

4) C.K. Mishra Committee sometimes seen in the news recently, was constituted for?

- a. To recommend an approach towards development of a Sustainable Finance Hub
- b. To inquire hardships faced by journalists and to improve their condition of services
- c. To study the impact of journalism in daily lives and recommend a foundation for ethical journalism
- d. None of the above

5) Protocol on Trans-boundary Elephant Conservation was signed in December, 2020 between India and?

- a. China
- b. Bhutan
- c. Myanmar
- d. Bangladesh

Answers

1. c

Mundapota Kela

- It is a denotified tribal community belongs to the State of Odisha.
- The population of Mundapota Kela is scattered across the State.
- The community is believed to have migrated to Odisha from Rayalaseema area of Andhra Pradesh decades ago.
- Being street performers, they travel from one village to another and bury their heads in soil for several minutes.
- They collect rice, vegetables and money from villagers for putting up the show.
- The community is extremely poor. Not all members have their own houses.
- Till the 2001 Census, they were not enumerated as a Scheduled Caste.

2. a

Mars

- Water is essential for life, on Earth and other planets but Mars has no liquid water on its surface now.

- New research from Washington University in St. Louis suggests a fundamental reason that, Mars may be just too small to hold on to large amounts of water.
- Mars was always doomed and headed towards deterioration.

3. b

Blue Dot Network (BDN)

- In 2019, the Blue Dot Network (BDN) was announced as a joint initiative of the US, Japan and Australia to certify infrastructure projects that meet international quality standards.
- It brings together governments, the private sector and civil society to promote principles of global sustainable infrastructure development.
- It will help attract private capital to infrastructure projects in developing and emerging economies.
- It is seen as a direct counter to China's Belt and Road Initiative (BRI).
- BDN certification will serve as a globally recognized symbol of market-driven, Paris Agreement-aligned, and financially, socially, and environmentally sustainable infrastructure projects.
- But, unlike the BRI, the BDN would not offer public funds or loans for the project.

4. a

C.K. Mishra Committee

- International Financial Services Centres Authority (IFSCA) has been established as a unified regulator to develop and regulate financial products, financial services, and financial institutions in the International Financial Services Centres (IFSCs) in India.
- IFSCA, in its endeavour to develop the required eco-system has constituted an Expert Committee to recommend approach towards development of Sustainable Finance Hub and provide road map for the same.
- The expert committee is being chaired by Shri C.K. Mishra, Former Secretary to Government of India, Ministry of Environment, Forest & Climate Change.

- The committee consists of leaders across the sustainable finance spectrum, including international agencies, standard setting bodies, funds, academia, and consultancies.

5. d

Protocol on Trans-boundary Elephant Conservation

- In order to mitigate the Human Elephant Conflicts in the trans-boundary areas, the Government of India entered in to series of dialogue with Bangladesh which resulted in Protocol on Trans-boundary Elephant Conservation between Republic of Bangladesh and Republic of India.
- The protocol was signed between two countries in the India- Bangladesh virtual summit in December 2020 to facilitate smooth movement of elephants between India and Bangladesh and vice versa.

04-10-2021

1) Which one of the following statements regarding DigiSaksham Initiative is incorrect?

- It aims to provide a variety of employment related services like career counselling, vocational guidance, information on skill development courses, apprenticeship, internships etc.
- It is a joint initiative of Ministry of Labour & Employment and Microsoft India.
- The initiative will be implemented in the field by Aga Khan Rural Support Programme India.
- The initiative gives priority to the job-seekers of semi urban areas belonging to disadvantaged communities, including those who have lost their jobs due to Covid-19 pandemic.

2) When you travel to the sea, your cruise will take you through territorial areas that have been claimed by Britain, Argentina and Chile. Most of the sea is covered in dense sea ice all year around and only the north-western part can be visited by ships.

Identify the sea which correctly matches with the above description:

- Bering Sea
- Weddell Sea



- c. Chukchi Sea
- d. Sargasso Sea

3) Which one of the following statements regarding Convention for the Conservation of Antarctic Marine Living Resources (CCAMLR)?

- a. It is an International treaty to manage Antarctic fisheries to preserve species diversity and stability of the entire Antarctic marine ecosystem.
- b. India has acceded to the treaty in 1985 and became a permanent member.
- c. Work pertaining to the CCAMLR is coordinated in India by the Ministry of Science & Technology.
- d. The Convention applies to all Antarctic populations of finfish, molluscs, crustacean and sea birds found south of the Antarctic Convergence and specifically exclude whales and seals.

4) Consider the following statements with respect to Battle of Saraighat

- 1. It was fought between the Mughal Empire and the Ahom Kingdom in 1671.
- 2. It was regarded as the greatest naval battle ever fought in a river.
- 3. In the battle, Mughals defeated the Ahoms and extend their empire into Assam for the first time.

Which of the statements given above are correct?

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

5) The Indian Astronomical Observatory (IAO) located in the Trans- Himalayan region near Ladakh is becoming one of the promising sites globally for the next generation of astronomical observatories. It is due to which of the following reasons?

- 1. More clear nights
- 2. Minimal light pollution
- 3. Uninterrupted by monsoon
- 4. Background aerosol concentration

- 5. Extremely dry atmospheric condition

Select the correct answer using the codes given below:

- a. 2 and 3 only
- b. 1, 2 and 3 only
- c. 1, 2, 3 and 5 only
- d. 1, 2, 3, 4 and 5

Answers

1. a

- Minister for Labour and Employment has recently launched DigiSaksham Initiative.

DigiSaksham Initiative

- It is a digital skills programme to enhance the employability of youth by imparting digital skills that are required in an increasingly technology driven era.
- It is a joint initiative launched by the Minister for Labour and Employment with Microsoft India.
- Through DigiSaksham initiative, free of cost training in digital skills including basic skills as well as advance computing, will be provided to more than 3 lakh youths in the first year.
- The Jobseekers can access the training through National Career Service (NCS) Portal.
- The initiative gives priority to the job-seekers of semi urban areas belonging to disadvantaged communities, including those who have lost their jobs due to Covid-19 pandemic.
- Under the DigiSaksham initiative, there will be basically three types of training viz. Digital Skills
 - 1. Self paced learning
 - 2. VILT mode training (Virtual Instructor led) and
 - 3. ILT mode training (Instructor led).
- The ILT training which is in person training would be conducted at the Model Career Centres (MCCs) and National Career Service Centres (NCSC) for SCs/STs across the country.

- DigiSaksham will be implemented in the field by Aga Khan Rural Support Programme India (AKRSP-I).

2. b

- India has extended support for protecting the Antarctic environment and for co-sponsoring the proposal of the European Union for designating East Antarctica and the Weddell Sea as Marine Protected Areas (MPAs) at a high-level ministerial meeting conducted recently.



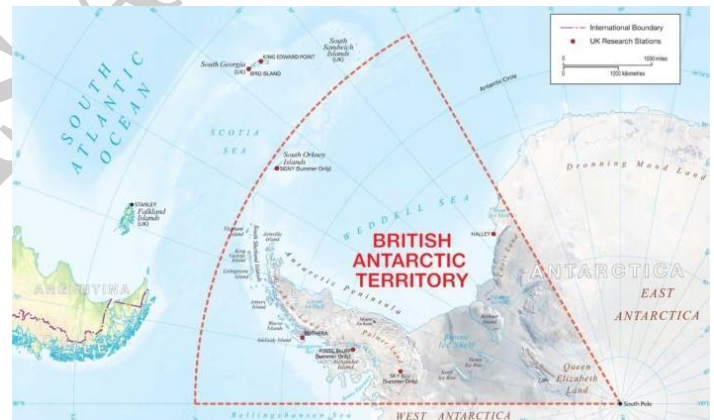
Marine Protected Area (MPA)

- An MPA is a marine protected area that provides protection for all or part of its natural resources.
- Certain activities within an MPA are limited or prohibited to meet specific conservation, habitat protection, ecosystem monitoring, or fisheries management objectives.
- Since 2009, CCAMLR members have developed proposals for MPAs for various regions of the Southern Ocean.
- The proposal to designate East Antarctica and the Weddell Sea as MPAs was first put forth to the CCAMLR in 2020 but could not reach a consensus at that time.

- This is the first time India is considering co-sponsoring an MPA proposal at the CCAMLR and getting aligned with countries such as Argentina, Brazil, Chile, Korea, New Zealand, South Africa and the USA, which are also proactively considering supporting the MPA proposals.
- CCAMLR is an international treaty to manage Antarctic fisheries to preserve species diversity and stability of the entire Antarctic marine ecosystem.

British Antarctic Territory

- It is a sector of Antarctica claimed by the United Kingdom as one of its 14 British Overseas Territories, of which it is by far the largest by area.
- It forms a wedge shape that extends to the South Pole, overlapping the Antarctic claims of Argentina (Argentine Antarctica) and Chile (Chilean Antarctic Territory).



3. c

Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR)

- CCAMLR is an international treaty to manage Antarctic fisheries to preserve species diversity and stability of the entire Antarctic marine ecosystem.
- It was adopted at the Conference on the Conservation of Antarctic Marine Living Resources which met at Canberra, Australia, 7–20 May 1980.
- The treaty came into force in April 1982.
- The Convention applies to all Antarctic populations of finfish, molluscs, crustacean

and sea birds found south of the Antarctic Convergence (the Convention Area).

- The marine resources managed by CCAMLR specifically exclude whales and seals, which are the subject of other conventions namely, the International Convention for the Regulation of Whaling and the Convention for the Conservation of Antarctic Seals.

India & the Convention

- India has acceded to the CCAMLR treaty in 1985 and become a permanent member along with 24 other nations.
- Work pertaining to the CCAMLR is coordinated in India by the Ministry of Earth Sciences through its attached office, the Centre for Marine Living Resources and Ecology (CMLRE) in Kochi, Kerala.

4. a

- Indian Vice-President has recently inaugurated the Mahabahu Brahmaputra River Heritage Centre on Guwahati's Barphukanar Tila, meaning Barphukan's Hillock.
- This British-era bungalow on a hillock used to be the 17th century military office of the Ahom rulers.
- Barpukhan was a post equivalent to Governor General created by Ahom king Pratap Simha or Susengpha (1603-1641).
- The hillock by the Brahmaputra, mentioned in ancient scriptures as Mandrachal, was from where Ahom General Lachit Barpukhan launched the Battle of Saraighat in March 1671 to inflict the most crushing defeat on the Mughals.

Battle of Saraighat

- It is a naval battle fought in 1671 between the Mughal Empire (led by the Kachwaha king, Raja Ram Singh I), and the Ahom Kingdom (led by Lachit Borphukan) on the Brahmaputra river at Saraighat.
- Saraighat is regarded as the greatest naval battle ever fought in a river.
- Although weaker, the Ahom Army defeated the Mughal Army.

- The Battle of Saraighat was the last battle in the last major attempt by the Mughals to extend their empire into Assam.

5. d

Indian Astronomical Observatory (IAO), Ladakh

- A recent study has said that the Indian Astronomical Observatory (IAO) located at Hanle near Leh in Ladakh is becoming one of the promising sites globally for the next generation of astronomical observatories.
- This is due to its advantages of more clear nights, minimal light pollution, background aerosol concentration, extremely dry atmospheric condition, and uninterrupted by monsoon.
- The study found that the Hanle site which is as dry as Atacama Desert in Chile and is also one of the emerging sites for infrared and sub-mm optical astronomy.
- This is because water vapour absorbs electromagnetic signals and reduces their strength.

05-10-2021

1) With respect to Petrichor Process, consider the following statements:

1. Petrichor is an earthy smell that permeates the air before a rain event.
2. Actinobacteria which decomposes dead or decaying organic matter into simple chemical compounds is the main contributor of this process.
3. Geosmin is a type of alcohol which contributes to the petrichor scent.

Which of the statement(s) given above is/are correct?

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

2) Which of the following deals with the specification, reservation, choice and allotment of symbols at



elections in Parliamentary and Assembly Constituencies?

- Conduct of Elections Rules, 1961
- Article 324 of Indian Constitution
- Representation of the People Act, 1951
- Election Symbols (Reservation and Allotment) Order, 1968

3) Consider the following statements with respect to Uronema Africanum Borge, sometimes seen in the news recently

- It is an algal species commonly found in Africa, Asia and Europe.
- It has the potential to digest low density plastic sheets.

Which of the statement(s) given above is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

4) Least Developed Countries Report is an annual report published by?

- World Trade Organisation
- UN Development Programme
- UN Conference on Trade and Development
- UN Industrial Development Organization

5) This country recently commemorates the First ever National Day for Truth and Reconciliation to honour the lost children and survivors of the country's indigenous residential schools, their families and communities. All citizens were encouraged to wear the colour orange to highlight how indigenous children were robbed of their culture and freedoms.

The above paragraph refers to which of the following countries?

- Bolivia
- Canada
- Australia
- New Zealand

Answers

1. d

Petrichor Process

- Rain has no scent but moments before a rain event, an “earthy” smell known as petrichor does permeate the air.
- This smell actually comes from the moistening of the ground.
- Petrichor is a combination of fragrant chemical compounds of which some are from oils made by plants.
- The main contributor to petrichor is **actinobacteria**, a tiny microorganism which can be found in rural and urban areas as well as in marine environments.
- They decompose dead or decaying organic matter into simple chemical compounds which can then become nutrients for developing plants and other organisms.
- A byproduct of their activity is an organic compound called **geosmin**, a type of alcohol, like rubbing alcohol, which contributes to the petrichor scent.

The Process

- During a prolonged period of dryness when it has not rained for several days, the decomposition activity rate of the actinobacteria slows down.
- Just before a rain event, the air becomes more humid and the ground begins to moisten.
- This process helps to speed up the activity of the actinobacteria and more geosmin is formed.
- When raindrops fall on the ground, especially porous surfaces such as loose soil or rough concrete, they will splatter and eject tiny particles called aerosols.
- The geosmin and other petrichor compounds are released in aerosol form and carried by the wind to surrounding areas.
- If the rainfall is heavy enough, the petrichor scent can travel rapidly downwind and alert people that rain is soon on the way.

2. d

Election Symbols (Reservation and Allotment) Order, 1968

- It is an order that provides for specification, reservation, choice and allotment of symbols at elections in Parliamentary and Assembly Constituencies, for the recognition of political parties in relation thereto and for matters connected therewith.

Allocation of Symbols after a party splits

- When the Commission is satisfied on information in its possession that there are rival sections or groups of a recognised political party each of whom claims to be that party, the Commission may, after taking into account all the available facts and hearing such representatives of the sections or groups, decide that one such rival section or group or none of such rival sections or groups is that recognised political party.
- The decision of the Commission shall be binding on all such rival sections or groups.
- This applies to disputes in recognised national and state parties.
- For splits in registered but unrecognised parties, the EC usually advises the warring factions to resolve their differences internally or to approach the court.

3. c

- Researchers from University of Madras and Presidency College, Chennai, have isolated an alga species that shows promise as an agent of biodegradation of plastic sheets.

Uronema africanum Borge

- This is a species of microalgae that has the potential to digest low density plastic sheets.
- The species produced enzymes, hormones, and some polysaccharides which slowly degrade the sheets, and the structural integrity of the polymer and disintegrates into monomers.
- It is commonly found in Africa, Asia and Europe.
- In Rangoon, Burma, it was noted to be an epiphyte, attaching itself to other algae and plants.

Background

- According to the Central Pollution Control Board's annual report for the year 2011-12, the plastic waste generated in a year amounted to 5.6 million metric tonnes.
- Only 60% of the plastic used in India was collected and recycled.
- The metros alone contributed some 21.2% of the total waste, led by Delhi, followed by Chennai, Kolkata and Mumbai.
- The usual means of disposal of plastic waste involves incineration, land-filling and recycling.
- These methods have limitations and also sometimes produce side-effects that are hazardous to the environment.
- Hence, researchers are on the lookout for biodegradation methods that are safe and environment friendly.

4. c

Least Developed Countries Report, 2021

- The Least Developed Countries Report 2021 was released recently by the United Nations Conference on Trade and Development (UNCTAD).
- This annual report provides a comprehensive and authoritative source of socio-economic analysis and data on the world's most impoverished countries.

Highlights of the Report

- The growth performance of LDCs over the past 50 years has been characterized by an overall sluggish and uneven record.
- Real GDP for the LDC group increased 5-fold since the LDC category was created in 1971.
- The Gross Domestic Product (GDP) per capita for LDC group is less than 10% of the world average (2019).
- Major shortcomings of the development experience of the LDCs over the past 50 years have been laid bare by the outbreak of the COVID-19 crisis.

Least Developed Countries

- There are 46 countries are designated by the United Nations as LDCs.

- The list of LDCs is reviewed every 3 years by the Committee for Development Policy (CDP), a group of independent experts that report to the United Nations Economic and Social Council (ECOSOC).
- After a triennial review of the list, the CDP recommends to ECOSOC, countries for addition to the list or graduation from LDC status.

Criteria for LDC category

1. Per capita income
2. Human Assets Index
3. Economic and Environmental Vulnerability Index

5. b

National Day for Truth and Reconciliation

- Canada marked its first ever National Day for Truth and Reconciliation on September 30, 2021.
- The day honours victims and survivors of Canada's residential schools, which sought to forcefully assimilate indigenous children.
- The aim of the holiday is to educate and remind the citizens of the history of indigenous children and remember their suffering.
- All citizens were encouraged to wear the colour orange to highlight how indigenous children were robbed of their culture and freedoms.
- Orange was the colour worn by First Nations residential school survivor Phyllis Webstad on her first day; later, her clothing would be taken from her and her hair cut off.

06-10-2021

1) How is the Domain Name System (DNS) different from the Border-Gateway Protocol (BGP), which are responsible for the massive outage of Facebook recently?

1. DNS is the tool that converts a web domain into the actual Internet Protocol (IP) address whereas BGP enables the internet to exchange routing information between autonomous systems.

2. If BGP is the internet's phone book which tells you where you're going, DNS is its postal service that tells you how to get there.

Which of the statement(s) given above is/are correct?

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

2) Which one of the following statements regarding Asteroids is incorrect?

- a. Although asteroids orbit the Sun like planets, they are much smaller than planets.
- b. Asteroids that actually cross Earth's orbital path are known as Near-Earth Asteroids.
- c. The total mass of all the asteroids in the main asteroid belt combined is less than that of Earth's Moon.
- d. The orbits of asteroids can be changed by Jupiter's massive gravity and by occasional close encounters with Mars or other objects.

3) State of the World's Children Report, 2021 was published recently by?

- a. UNICEF
- b. World Bank
- c. Global Child Forum
- d. UN Development Programme

4) Thenneri Inscription of Tamil Nadu deals with which of the following?

- a. Description about Manikramam, the ancient merchant guilds
- b. Kudavolai murai, a system to elect members to annual committees
- c. Donation of villages to the temple for the service of the presiding deity
- d. Donation of villages to the temple for the service of the presiding deity

5) Consider the following statements with respect to National Road Safety Board

1. It shall consist of the Chairman and not less than 3, but not exceeding seven Members, to be appointed by the Central Government.
2. The Board shall promote road safety, innovation and adoption of new technology, and regulate traffic and motor vehicles.

Which of the statement(s) given above is/are correct?

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

Answers

1. a

Facebook Outage

- Facebook Inc.'s services suffered a massive outage recently for as long as six hours.
- It kept several users from accessing the company's core platforms like WhatsApp, Instagram and Messenger apps.
- An update to the BGP removed the online properties from being available to world's computers.
- This means the social network's Domain Name System (DNS) was not accessible to other networks, and the Internet.

What is Domain Name System (DNS)?

- DNS is like a phone book for the internet.
- It's the tool that converts a web domain, like Facebook.com, into the actual internet protocol, or IP, address where the site resides.
- Think of Facebook.com as the person one might look up in the white pages, and the IP address as the physical address they'll find.

What is Border Gateway Protocol (BGP)?

- The problem at Facebook Inc. appeared to have its origins in the Border Gateway Protocol or BGP.

- BGP refers to a gateway protocol that enables the internet to exchange routing information between autonomous systems (AS).
- Internet is a network of networks. As networks interact with each other, they need a way to communicate. This is accomplished through peering. BGP makes peering possible.
- If DNS is the internet's phone book, BGP is its postal service.
- When a user enters data on the internet, BGP determines the best available paths that data could travel.
- Without it, networks would not be able to send and receive information with each other.

2. b

- The United Arab Emirates has recently announced plans to send a probe to land on an asteroid between Mars and Jupiter to collect data on the origins of the universe.
- The project targets a 2028 launch with a landing in 2033, a five-year journey in which the spacecraft will travel some 3.6 billion kilometers.

Asteroids

- Asteroids, sometimes called minor planets, are rocky remnants left over from the early formation of our solar system about 4.6 billion years ago.
- Although asteroids orbit the Sun like planets, they are much smaller than planets.
- Most of this ancient space rubble can be found orbiting our Sun between Mars and Jupiter within the main asteroid belt.
- Asteroids range in size from Vesta – the largest at about 329 miles (530 kilometers) in diameter – to bodies that are less than 33 feet (10 meters) across.
- The total mass of all the asteroids combined is less than that of Earth's Moon.
- Most asteroids are irregularly shaped, though a few are nearly spherical, and they are often pitted or cratered.
- As they revolve around the Sun in elliptical orbits, the asteroids also rotate, sometimes quite erratically, tumbling as they go.

- More than 150 asteroids are known to have a small companion moon (some have two moons).
- There are also binary (double) asteroids, in which two rocky bodies of roughly equal size orbit each other, as well as triple asteroid systems.

Asteroid Classifications

- **Main Asteroid Belt** - The majority of known asteroids orbit within the asteroid belt between Mars and Jupiter, generally with not very elongated orbits.
- **Trojans** - These asteroids share an orbit with a larger planet, but do not collide with it because they gather around two special places in the orbit (called the L4 and L5 Lagrangian points).
- There, the gravitational pull from the Sun and the planet are balanced by a trojan's tendency to otherwise fly out of orbit.
- It is thought that they are as numerous as the asteroids in the asteroid belt.
- There are Mars and Neptune trojans, and NASA announced the discovery of an Earth trojan in 2011.
- **Near-Earth Asteroids** - These objects have orbits that pass close by that of Earth.
- Asteroids that actually cross Earth's orbital path are known as Earth-crossers.

3. a

State of the World's Children Report 2021

- The UNICEF released its global flagship report titled, 'The State of the World's Children 2021'.
- This UNICEF report is the most comprehensive analysis of global trends affecting children.
- **Purpose** - The 2021 report details the impact of COVID-19 pandemic on the mental health of children, adolescents and caregivers.
- It examines how risk and protective factors in the home, school and community shape mental health outcomes.
- It urges global commitment, communication and action to promote good mental health for every child and young people.

- **Findings** - Globally, 1 in 5 young people of 15 to 24-years of age are feeling depressed or having little interest in doing things.
- In India, 1 in 7 young people (14% of 15 to 24-years of age) are reported often feeling depressed or having little interest in doing things.
- Children have not only been living an emotional tragedy, many are also at a higher risk of neglect and abuse.

4. d

Thenneri Inscriptions

- It is a Cholan-era inscription at Thenneri village in Kancheepuram district of Tamil Nadu.
- These inscriptions are on the walls of the Kanthaleeswarar temple.
- It describes the qualifications required for members of the village administrative council.
- It lays down qualifications for candidates to village administrative committees called 'Perumkuri Sabai'.
- It also sheds light on how farm produce was taxed.
- The Kanthaleeswarar temple and the Abathsaheswarar temple were constructed by Sembian Mahadevi, the grandmother of Chola King Rajaraja, in memory of her son Uthama Chola.

Uthiramerur Inscriptions

- It is also located in the Kancheepuram district of Tamil Nadu.
- It dwells upon 'Kudavolai murai' — a system to elect members to annual committee ('variya'), garden committee, tank committee and other committees for 30 wards.

5. c

National Road Safety Board

- Ministry of Road Transport & Highways has notified constitution of the National Road Safety Board, along with Rules thereof.
- It shall consist of the Chairman and not less than 3, but not exceeding seven Members, to be appointed by the Central Government.



- The Head Office of the Board shall be in the National Capital Region and the Board may establish offices at other places in India.
- The Board shall promote road safety, innovation and adoption of new technology, and regulate traffic and motor vehicles.
- For this purposes, inter alia, the Board shall formulate specific standards for road safety;
- guidelines for capacity building and development of skills, etc for consideration by the Central Government.
- The Board shall provide technical advice and assistance to the Central Government, State Governments and local authorities on road safety and traffic management.

It will promote:

- Good practices in road safety and traffic management; new vehicle technology in the field of vehicular engineering;
- Co-ordination with international organizations; and
- Consistency between international technical standards and domestic technical standards, conduct research to improve road safety, traffic management, crash investigation.

07-10-2021

1) In a landmark announcement, the World Health Organization (WHO) has recently endorsed the Mosquirix Vaccine. It is the World's first vaccine for?

- Malaria
- Dengue
- Zika Virus
- West Nile virus

2) Consider the following statements with respect to Malaria Elimination

1. Countries that have achieved at least 3 consecutive years of zero indigenous cases of malaria are eligible to apply for the WHO certification of malaria elimination.

2. No country in the African region has been certified by the World Health Organization as malaria-free so far.

Which of the statement(s) given above is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

3) India is facing a severe coal shortage recently. Which of the following is/are the reason for coal shortage?

1. Decreased buying from Coal India
2. Sharp rise in imports of high priced coal
3. Continuous rainfall in coal bearing areas

Select the correct answer using the codes given below:

- 3 only
- 1 and 3 only
- 2 and 3 only
- 1, 2 and 3

4) Consider the following:

1. Sitabhog
2. Mihidana
3. Jaynagarer Moa

These are GI tagged products of which of the following states?

- Odisha
- Mizoram
- West Bengal
- Madhya Pradesh

5) With respect to Deep Brain Stimulation, consider the following statements:

1. It is a surgical procedure that involves implanting electrodes in the brain, which deliver electrical impulses that block or change the abnormal activity.

2. Depression can be treated using this Deep Brain Stimulation surgery.

Which of the statement(s) given above is/are correct?

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

Answers

1. a

Mosquirix

- In a historic move, the World Health Organization (WHO) has recently endorsed the use of the first-ever malaria vaccine RTS, S/AS01 malaria or Mosquirix.
- It recommends the widespread application of the vaccine among children in sub-Saharan Africa and other regions with moderate to high malaria transmission.
- The vaccine was developed by the British drugmaker GlaxoSmithKline (GSK).
- Many vaccines exist against viruses and bacteria but this was the first time that the WHO recommended broad use of a vaccine against a human parasite.

Newer vaccines

- In May this year, a malaria vaccine candidate undergoing phase two trials reported an efficacy of 77 per cent.
- This vaccine, R21/Matrix M, is a modified version of Mosquirix, and has been developed by researchers at the University of Oxford.
- Lead researchers had believed this vaccine was the first to reach WHO's goal of at least 75 per cent efficacy.

2. a

Malaria

- It is a life-threatening disease caused by parasites that are transmitted to people through the bites of infected female Anopheles mosquitoes.
- It is preventable and curable.

Global burden of Malaria

- Children aged under 5 years are the most vulnerable group affected by malaria.
- In 2019, they accounted for 67% (274,000) of all malaria deaths worldwide.
- In 2019, India had an estimated 5.6 million cases of malaria compared to about 20 million cases in 2020, according to WHO.

Malaria Elimination

- Globally, the elimination net is widening, with more countries moving towards the goal of zero malaria.
- In 2019, 27 countries reported fewer than 100 indigenous cases of the disease, up from 6 countries in 2000.
- Countries that have achieved at least 3 consecutive years of zero indigenous cases of malaria are eligible to apply for the WHO certification of malaria elimination.
- Over the last two decades, 11 countries have been certified by the WHO Director-General as malaria-free: United Arab Emirates (2007), **Morocco (2010)**, Turkmenistan (2010), Armenia (2011), Sri Lanka (2016), Kyrgyzstan (2016), Paraguay (2018), Uzbekistan (2018), Algeria (2019), Argentina (2019), and El Salvador (2021).

3. a

- A sharp uptick in power demand as the economy recovers from the Covid-19 pandemic coupled with supply issues have led to the current coal shortage.
- India consumed 124 billion units of power in August 2021 compared to 106 billion units of power in August 2019 which was not impacted by the pandemic.
- Coal fired thermal power plants have also supplied a higher proportion of the increase in demand leading the share of thermal power in India's power mix increasing to 66.4% from 61.9% in 2019.

The key reasons for the supply crunch include:

- Lower than normal stock accumulation by thermal power plants in the April-June period

2. Continuous rainfall in coal bearing areas in August and September which led to lower production
3. Lower imports coupled with high international prices of coal

4. c

- Odisha Rasagola is a GI tagged product belongs to the state of Odisha.

5. c

- Physicians at the University of California, San Francisco have successfully treated a patient with severe depression by recognising and tapping into the brain circuits linked with depressive brain patterns.
- The physicians have tried to reset these patterns, which they have said is the equivalent of using a pacemaker for the heart.
- The doctors used an existing technique called Deep Brain Stimulation (DBS), customising it for this patient's case.
- Conditions that are traditionally treated using DBS include dystonia, epilepsy, essential tumour, obsessive-compulsive disorder and Parkinson's disease.

Deep brain stimulation (DBS)

- It is a surgical procedure that involves implanting electrodes in the brain, which deliver electrical impulses that block or change the abnormal activity.

A DBS system has three components:

1. The electrode, or lead. This is a thin, insulated wire inserted through a small opening in the skull and implanted into a specific brain area.
2. The extension wire. This too is insulated, and is passed under the skin of the head, neck and shoulder, connecting the electrode to the third component of the system.
3. The internal pulse generator (IPG) is the third component. It is usually implanted under the skin in the upper chest.

08-10-2021

1) Consider the following statements with respect to PM MITRA Yojana

1. Under the Scheme, Integrated Textile Region and Apparel Parks will be setup at Greenfield sites only.
2. The scheme also provides insurance cover to handloom weavers in case of natural and accidental death.

Which of the statement(s) given above is/are correct?

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

2) Ecological Threat Report (ETR) will be published by?

- a. World Wide Fund for Nature
- b. UN Environment Programme
- c. Institute for Economics and Peace
- d. International Union for Conservation of Nature

3) Consider the following statements:

1. The world lost about 14% of its coral reefs in the decade after 2009, mainly because of climate change.
2. Despite covering less than 0.1% of the ocean floor, reefs host more than one quarter of all marine fish species.

Which of the statement(s) given above is/are correct?

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

4) Guru Ghasidas National Park and Tamor Pingla Wildlife Sanctuary is located in?

- a. Jharkhand
 - b. Chhattisgarh
 - c. Uttar Pradesh
 - d. Madhya Pradesh
- jn

5) Consider the following statements with respect to Central Asian Flyway (CAF)

1. It covers a large continental area of Asia between the Pacific and Indian Ocean and the associated island chains.
2. There are 30 countries under the Central Asian Flyway including India.

Which of the statement(s) given above is/are correct?

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

Answers

1. d

- The Government has recently approved the setting up of 7 PM MITRA parks as announced in Union Budget for 2021-22.
- The Scheme aims to realise the vision of building an Aatmanirbhar Bharat and to position India strongly on the Global textiles map.
- PM MITRA is inspired by the 5F vision of Hon'ble Prime Minister.
- The '5F' Formula encompasses - Farm to fibre; fibre to factory; factory to fashion; fashion to foreign.
- This integrated vision will help furthering the growth of textile sector in the economy.
- No other competing nation has a complete textile ecosystem like us. India is strong in all five Fs.
- The 7 Mega Integrated Textile Region and Apparel Parks (PM MITRA) will be setup at Greenfield / Brownfield sites located in different willing States.

2. c

Ecological Threat Report (ETR)

- The Institute of Economics and Peace (IEP) has recently released the Ecological Threat Report (ETR).

- This is the second edition of the Ecological Threat Report (ETR), which covers 178 independent states and territories.
- The ETR is unique in that it combines measures of resilience with the most comprehensive ecological data available to shed light on the countries least likely to cope with extreme ecological shocks, now and into the future.
- It analyses risk from population growth, water stress, food insecurity, droughts, floods, cyclones, rising temperatures and sea levels.
- The Institute for Economics & Peace (IEP), a leading international think-tank, also produces indexes such as the Global Peace Index and Global Terrorism Index.

3. c

- The world lost about 14% of its coral reefs in the decade after 2009, mainly because of climate change.
- Coral reefs harbour the highest biodiversity of any ecosystem globally.
- The first global bleaching event occurred in 1998, but many reefs bounced back. That no longer appears to be the case.
- Despite covering less than 0.1% of the ocean floor, reefs host more than one quarter of all marine fish species, in addition to many other marine animals.
- Additionally, reefs provide a wide variety of ecosystem services such as subsistence food, protection from flooding and sustaining the fishing and tourism industries.
- Their disappearance will therefore have economic, social and health consequences.

4. b

- National Tiger Conservation Authority (NTCA) has recently approved the Chhattisgarh's proposal to declare the combined areas of the Guru Ghasidas National Park & Tamor Pingla Wildlife Sanctuary as a Tiger Reserve.
- The 11th Technical Committee of the NTCA approved the proposal under the Section 38V (1) of the Wildlife (Protection) Act, 1972.
- [Section 38V (1) of WPA, 1972 (Tiger Conservation Plan) - The State Government



shall, on the recommendation of the NTCA, notify an area as a tiger reserve.]

- The new tiger reserve is located in the northern part of Chhattisgarh, bordering Madhya Pradesh and Jharkhand.
- Both Tamor Pingla Wildlife Sanctuary and Guru Ghasidas National Park were identified as **reserve forests**.
- Turning Guru Ghasidas into a Tiger Reserve is important as it provides a corridor for tigers to move between Bandhavgarh Tiger Reserve (Madhya Pradesh) and Palamau Tiger Reserve (Jharkhand).

5. b

- The Indian sub-continent is part of the Central Asian Flyway (CAF) that covers a large area of Eurasia between the Arctic and Indian Oceans.
- This flyway comprises several important migration routes of birds.
- Including India, there are 30 countries under the Central Asian Flyway.
- It covers at least 279 populations of 182 migratory water bird species, including 29 globally threatened species.

09-10-2021

1) Consider the following statements with respect to High Ambition Coalition (HAC) for Nature and People

1. It is an intergovernmental group co-chaired by Costa Rica and France.
2. The coalition encourages the adoption of global goal to protect at least 30% of the world's land and ocean by 2030.
3. India is a member of this coalition.

Which of the statements given above is/are correct?

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

2) 2021: State of Climate Services Report was published by?

- a. UN Water
- b. Food & Agricultural Organization
- c. World Meteorological Organization
- d. Intergovernmental Panel on Climate Change

3) Consider the following pairs:

1. JIMEX – Japan
2. Mitra Shakti – Bangladesh
3. Ajeya Warrior – United Kingdom

Which of the pairs given above is/are **incorrectly** matched?

- a. 2 only
- b. 1 and 2 only
- c. 1 and 3 only
- d. 2 and 3 only

4) The system of legal responsibility of minister is not a feature of Indian Parliamentary System because?

- a. A person who is not a member of parliament can also be appointed as minister.
- b. The prime minister may be a member of any of the two houses of parliament.
- c. The ministers are not required to counter sign the official act of the head of the state.
- d. The ministers are collectively responsible to the parliament.

5) Arrange the following North East Indian states in the order from South to North direction based on their geographical location.

1. Manipur
2. Nagaland
3. Mizoram
4. Arunachal Pradesh

Select the correct answer using the codes given below.

- a. 4 – 2 – 1 – 3
- b. 3 – 1 – 2 – 4
- c. 1 – 2 – 3 – 4



d. 1 – 3 – 2 – 4

Answers

1. d

- **India has officially joined** the High Ambition Coalition for Nature and People group recently.
- India is the first of the BRICS bloc of major emerging economies (Brazil, Russia, India, China and South Africa) to join the HAC.

High Ambition Coalition (HAC) for Nature and People

- The High Ambition Coalition (HAC) for Nature and People is an intergovernmental group of 70 countries co-chaired by Costa Rica and France and by the United Kingdom as Ocean co-chair.
- It champions a global deal for nature and people with the central goal of protecting at least 30 percent of world's land and ocean by 2030.
- The 30x30 target is a global target which aims to halt the accelerating loss of species, and protect vital ecosystems that are the source of our economic security.

2. c

State of Climate Services Report

- Terrestrial water storage (TWS) dropped at a rate of 1 cm per year in 20 years (2002-2021), according to a new report 2021: State of Climate Services released by the World Meteorological Organization (WMO).
- TWS is the sum of all water on the land surface and in the subsurface, i.e. surface water, soil moisture, snow and ice and ground water. Water is a key prerequisite for human development. But only 0.5 per cent of water on Earth is usable and available as freshwater.
- The biggest losses have occurred in Antarctica and Greenland. But many highly populated, lower latitude locations have also experienced TWS losses, according to the report.
- This includes India, where the TWS has been lost at a rate of at least 3 cm per year. In some regions, the loss has been over 4 cm per year

too. India has recorded the highest loss in terrestrial water storage if the loss of water storage in Antarctica and Greenland is excluded.

- India is, therefore, the 'topmost hotspot of TWS loss', according to the WMO analysis. The northern part of India has experienced the maximum loss within the country.

3. a

- The eighth edition of Mitra Shakti exercise between India and Sri Lanka will be conducted at Combat Training School in Sri Lanka's Ampara from October 4-15, 2021.

4. c

- Britain has the system of legal responsibility of the minister while India has no such system.
- Unlike in Britain, the ministers in India are not required to countersign the official acts of the Head of the State.

5. b

11-10-2021

1) Consider the following statements with respect to a Right to clean, healthy and sustainable environment

1. Right to clean, healthy and sustainable environment was recognised as a human right by UN Human Rights Council.
2. India abstains from voting on the resolution which favours right to a clean, healthy and sustainable environment as Human right.
3. The right to a clean environment was rooted in the 1972 Stockholm Declaration.

Which of the statement(s) given above is/are correct?

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

2) Consider the following statements with respect to Indian Space Association (ISpA)

1. It is a private industry body to help boost space technology in India by engaging with all stakeholders in the Indian space domain.

2. Indian Space Research Organization, Antrix Corporation and NewSpace India Limited are the founding members of the Indian Space Association.

Which of the statement(s) given above is/are correct?

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

3) With respect to the Two Pillar Solution, sometimes seen in the news recently, consider the following statements:

- 1. It is an implemental plan of World Trade Organization to reform international taxation rules.
- 2. It aims to reallocate taxing rights over MNEs from their home countries to markets, regardless of whether firms have a physical presence there.
- 3. It seeks to put a floor on competition over corporate income tax, through a global minimum corporate tax rate.
- 4. India is one of the members of the OECD/G20 Inclusive Framework on BEPS.

Which of the statements given above are correct?

- a. 3 and 4 only
- b. 1, 2 and 3 only
- c. 2, 3 and 4 only
- d. 1, 2, 3 and 4

4) With respect to Bridgmanite, consider the following statements:

- 1. It is the dominant material in the lower mantle.
- 2. It is probably the most abundant mineral in the Earth.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2

- d. Neither 1 nor 2

5) Which of the statements regarding Minerals is **incorrect**?

- a. A mineral can be solid, liquid or gas.
- b. It can be found either on earth or in extraterrestrial bodies.
- c. Anthropogenic substances are not regarded as minerals.
- d. The International Mineralogical Association was responsible for controlling the introduction of new minerals and mineral names.

Answers

1. d

Right to clean, healthy and sustainable environment

- In a landmark decision, the UN Human Rights Council has recently recognised, for the first time, that having a clean, healthy and sustainable environment is a human right.
- The Council called on States to work together, and with other partners, to implement this newly recognized right.
- The resolution on the Human right to a safe, clean, healthy and sustainable environment was adopted by a vote of 43 in favour, none against and 4 abstentions.
- China, India, Japan and Russian Federation, abstained from voting on the resolution.
- The resolution was proposed by five members comprises Costa Rica, the Maldives, Morocco, Slovenia and Switzerland.
- The resolution emphasises the rights to life, liberty and security of human rights defenders working in environmental matters, referred to as environmental human rights defenders.
- The right to a clean environment was rooted in the 1972 Stockholm Declaration.

2. a

Indian Space Association (ISpA)

- It is a **private industry body** to help boost space technology in India.

- It will be represented by leading homegrown and global corporations with advanced capabilities in space and satellite technologies.
- ISpA will participate and work with ISRO and others on the issue of policy around space technology and domain.
- It will focus on capacity building and space economic hubs and incubators in India.
- Its founding members include Larson & Toubro, Nelco (Tata Group), OneWeb, Bharti Airtel, Mapmyindia, Walchandnagar Industries and Ananth Technology Limited.
- Other core members include Godrej, Hughes India, Azista-BST Aerospace Private Limited, BEL, Centum Electronics, Maxar India.

3. c

Two pillar solution

- The **OECD/G20** Inclusive Framework on Base Erosion and Profit Shifting (IF) has agreed a two-pillar solution to address the tax challenges arising from the digitalisation of the economy.
- 136 countries including **India** have **signed** this historic pact to enforce a minimum corporate tax.
- **Pillar One** aims to ensure a fairer distribution of profits and taxing rights among countries with respect to the largest MNEs, including digital companies.
- This would entail reallocation of some taxing rights over MNEs from their home countries to markets where they have business and earn profits, regardless of whether firms have a physical presence there.
- **Pillar Two** seeks to put a floor on competition over corporate income tax, through a global minimum corporate tax rate that countries can use to protect their tax bases.
- Pillar Two which was initially proposed to be brought into effect from 2023 has now been deferred to 2024.

Background

- The US loses nearly \$50 billion a year to tax cheats, according to the Tax Justice Network report, with Germany and France also among the top losers.

- India's annual loss due to corporate tax abuse is estimated at over \$10 billion.



A look at how the global minimum tax will work

that go untaxed or lightly taxed in one of the world's tax havens, their home country will impose a top-up tax that will bring the rate to 15%

- Out of the 140 countries involved, 136 supported the deal. Kenya, Nigeria, Pakistan and Sri Lanka have abstained for now
- According to some developing countries and advocacy groups, the 15% rate is too low and leaves far too much potential tax revenue on the table

SOURCE: AP

- Countries will legislate a global minimum corporate tax rate of at least 15% for companies with annual revenues more than \$864 billion
- If companies have earnings

4. c

- On May 22, 2012, a large meteor shower occurred near the town of Katol in Nagpur.
- The International team of scientists examined a section of the highly-shocked meteorite from Katol.
- The paper published this month in PNAS reports the first natural occurrence of a mineral called bridgmanite.
- The mineral was named in 2014 after Prof. Percy W. Bridgman, recipient of the 1946 Nobel Prize in Physics.
- Prior to its naming in 2014, it was referred to as perovskite because according to rules set down by the International Mineralogical Association, a mineral cannot be given a formal name until a specimen has been found that can be examined first hand.
- Various computational and experimental studies have shown that about 80% of the Earth's lower mantle is made up of bridgmanite.

5. a

Mineral Species

- **Naturally formed** - A mineral substance is a naturally occurring solid that has been formed by geological processes.



- **Source** - It can be found either on earth or in extraterrestrial bodies.
- A mineral cannot be given a formal name until a specimen has been found that can be examined first hand.
- Anthropogenic substances, i.e. those made by Man, are not regarded as minerals.
- **Authority** - The International Mineralogical Association was responsible for controlling the introduction of new minerals and mineral names.
- **Mineraloid** - A mineraloid is a substance that satisfies some, but not all of the parts of the definition.
- For example, opal, does not have a characteristic crystalline structure, so it is considered a mineraloid.
- Note also that the "minerals" as used in the nutritional sense are not minerals as defined geologically.

5. Molasses

6. Selenium

Select the correct answer using the codes given below:

- a. 3, 4 and 5 only
- b. 2, 3, 4 and 6 only
- c. 1, 2, 3, 4 and 6 only
- d. All of the above

3) Consider the following statements with respect to Kongka La

- 1. It is a pass that marks the Line of Actual Control between India and China.
- 2. It lies on a spur of the Pir Panjal Range that intrudes into the Chang Chenmo River Valley.

Which of the statement(s) given above is/are correct?

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

12-10-2021

1) Consider the following statements with respect to Bid Rigging

- 1. It is the sale of goods at a cost which is lower than the production cost of goods with a view to reduce competition or eliminate competitors.
- 2. Bid Rigging was defined and prohibited under the Prohibition of Insider Trading Regulations, 2015.

Which of the statement(s) given above is/are correct?

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

2) Paddy straw consists of which of the following?

- 1. Urea
- 2. Silica
- 3. Lignin
- 4. Oxalates

4) Which of the following are the consequences of Artificial Lights?

- 1. It alters the predator-prey relationships
- 2. It deters sea turtles from moving to the beach at night to lay eggs.
- 3. It repels newborn turtle hatchlings towards ocean, leading to their death.
- 4. It causes migratory birds to migrate too early or too late and miss ideal climate conditions for nesting, foraging and other behaviours.

Which of the statements given above are correct?

- a. 2 and 3 only
- b. 1, 2 and 4 only
- c. 2, 3 and 4 only
- d. 1, 2, 3 and 4

5) Consider the following statements with respect to BepiColombo mission

1. It is the first ever mission to orbit Mercury, the smallest and least explored terrestrial planet in our Solar System.
2. It is a joint mission by the European Space Agency and the Japan Aerospace Exploration Agency.

Which of the statement(s) given above is/are correct?

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

Answers

1. d

Bid Rigging

- It means any agreement, between enterprises or persons engaged in similar production or trading of goods, which has the effect of eliminating or reducing competition for bids or adversely affecting or manipulating the process for bidding.
- The Competition Act, 2002 prohibits anti-competitive agreements including Bid Rigging.
- **Predatory Price** means the sale of goods or provision of services, at a price which is below the cost, as may be determined by regulations, of production of the goods or provision of services, with a view to reduce competition or eliminate the competitors.
- Prohibition of Insider Trading Regulations, 2015 is associated with Securities & Exchange Board of India (SEBI).

2. b

Paddy Straw

- Punjab Government has recently proposed to use the paddy crop residue as fodder for animals, especially cattle.

Background

- Producing over 20 million tonnes of paddy straw every year, most of which is burnt in fields by farmers, leading to widespread air pollution that even spreads to neighbouring states.

Challenges

- High silica and lignin content reduces its digestive properties.
- Higher selenium content in paddy straw also limits its use as fodder in animals as compared to wheat straw.
- However, if given in moderate quantities (up to 5 kg per animal per day), selenium poses no health hazard to the animal.
- Paddy straw also contains oxalates (2-2.5%) which leads to calcium deficiency so mineral mixture should always be fed along with the straw.

Treatment

There are two methods that have been recommended to overcome the challenges of using paddy straw as cattle fodder:

1. Urea-only treatment
2. Urea plus molasses treatment
3. a

Background

- Along the Line of Actual Control (LAC) between India in China, Indian Army has been given certain locations that its troops have to access to patrol the area under its control.
- These points are known as patrolling points, or PPs, and are decided by the China Study Group (CSG).
- CSG was set-up in 1976, when Indira Gandhi was the prime minister, and is the apex decision-making body on China.
- Barring certain areas, like Depsang Plains, these patrolling points are on the LAC, and troops access these points to assert their control over the territory.
- It is an important exercise since the boundary between India and China is not yet officially demarcated.
- PP15 and PP17A are two of the 65 patrolling points in Ladakh along the LAC.
- PP15 is located in an area known as the Hot Springs, while PP17A is near an area called the Gogra post.

Kongka La

- Hot Springs lies in the Chang Chenmo river valley, close to Kongka La.
- Kongka La is a low mountain pass on the Line of Actual Control between India and China in eastern Ladakh.
- It lies on a spur of the Karakoram range that intrudes into the Chang Chenmo Valley adjacent to the disputed Aksai Chin region.
- Both of these are close to the Chang Chenmo river in the Galwan sub-sector of the LAC in eastern Ladakh.

4. b

Artificial Light & its effects

- Cities are no safe havens for avian life.
- Birds collide into buildings very often because windows reflect the surrounding environment or offer avenues that look open.
- Birds that have nocturnal migratory patterns (i.e. migrate by the night) are particularly adversely affected by night lights of the city.
- Artificial lights can cause them to migrate too early or too late and miss ideal climate conditions for nesting, foraging and other behaviours.

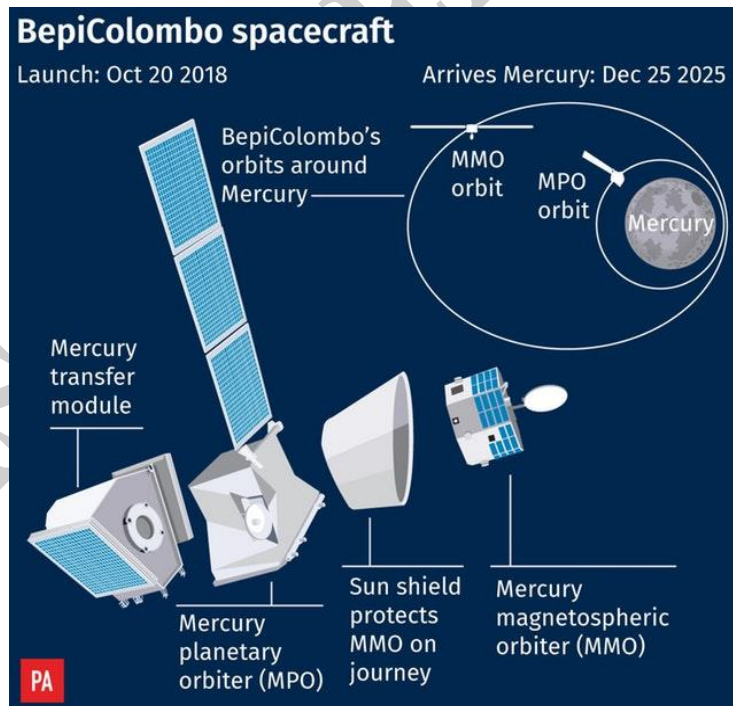
India and light pollution

- Light pollution and other 'by-products' of rapid urbanisation threaten birds and other animals in the Indian subcontinent as well.
- Some migratory birds that are particularly vulnerable are those whose migratory routes pass through India, include common crane, bar-headed goose, falcon, northern wheatear, Amur falcon etc.
- Adverse effects of artificial lights on nocturnal ecology are observed on other species like bats, loris and insects.
- Light also deters sea turtles from moving to the beach at night to lay eggs.
- **Hatchlings use light-cues from the horizon to move towards the ocean.**
- **Horizon is the line at which the earth's surface and the sky appear to meet.**

- **However, artificial sources draw them away from the ocean, leading to their death.**
- Like birds, species of migratory fish too bear the brunt of the untoward consequences of anthropogenic lights.
- Artificial lighting has also altered predator-prey relations.

5. b

BepiColombo Mission



- It is Europe's first mission to Mercury.
- Launched on 20 October 2018, it is on a seven year journey to the smallest and least explored terrestrial planet in our Solar System.
- BepiColombo is a joint mission between ESA and the Japan Aerospace Exploration Agency (JAXA), executed under ESA leadership.
- The mission comprises two spacecraft: the Mercury Planetary Orbiter (MPO) and the Mercury Magnetospheric Orbiter (Mio).
- ESA's Mercury Planetary Orbiter (MPO) will study the planet's surface and interior.
- JAXA's Mercury Magnetospheric Orbiter (MIO) will study the planet's magnetic field.

- When it arrives at Mercury in late 2025, it will endure temperatures in excess of 350 °C and gather data during its one-year nominal mission, with a possible one-year extension.
- Bepi Colombo is the first Mercury mission for the ESA and Japan.
- Only two other spacecraft have visited Mercury: NASA's Mariner 10 and MESSENGER.

13-10-2021

1) Which of the following conducts are commonly identified as an activity of Cartel?

1. Bid-Rigging
2. Output Restrictions
3. Harmony in Price-Fixing
4. Market sharing by territory

Select the correct answer using the codes given below:

- a. 2 and 4 only
- b. 3 and 4 only
- c. 1, 3 and 4 only
- d. 1, 2, 3 and 4

2) Match the following:

Types of Plastics – Applications

1. Polypropylene – a. Bottles, Carry bags, Recycling bins
2. Polyethylene Terephthalate – b. CD covers, cassette boxes
3. Polystyrene – c. Bottle caps, Auto parts and Industrial fibres
4. Poly-Vinyl Chloride – d. Pipes, Hoses, Wire cable insulations

Select the correct answer using the codes given below:

- a. 1-d; 2-b; 3-c; 4-a
- b. 1-a; 2-b; 3-c; 4-d
- c. 1-c; 2-a; 3-b; 4-d
- d. 1-c; 2-d; 3-b; 4-a

3) Which of the following best describes the term Circular Economy?

- a. It is an alternative to a traditional linear type “take-make-waste” economy.
- b. It connects freelancers with customers to provide short term services using digital platforms
- c. It is a peer-to-peer based activity of acquiring, providing, or sharing access to goods and services
- d. None of the above

4) Match the following:

Types of Wastes – Classification

1. Glass bottles & Worn out shoes – Hazardous Household Waste
2. Paper & Old Clothes – Municipal Dry Waste
3. Used Sanitary napkins – Biomedical Waste
4. Kitchen & Uncooked waste – Biodegradable Municipal Waste

Which of the pairs given above are correct?

- a. 2 and 4 only
- b. 1, 2 and 3 only
- c. 2, 3 and 4 only
- d. 1, 2, 3 and 4

5) Consider the following statements with respect to the European Court of Justice (ECJ)

1. It is the supreme court of the European Union (EU) in matters of the EU law
2. It was founded in 1952 after the Treaty of Paris.
3. In terms of hierarchy, the national courts of member countries are below the ECJ in matters of EU law.

Which of the statements given above are correct?

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

Answers

1. d

According to ICN, four categories of conduct are commonly identified across jurisdictions.


1. Price-fixing
2. Output restrictions
3. Market allocation
4. Bid-rigging

WHAT IS A CARTEL?

According to the Competition Commission of India, a "Cartel includes an association of producers, sellers, distributors, traders or service providers who, by agreement amongst themselves, limit, control or attempt to control the production, distribution, sale or price of, or, trade in goods or provision of services".


The International Competition Network defines a cartel as "an agreement between competitors to restrict competition".

HOW DO THEY OPERATE?




PRICE FIXING

Companies agree to act in concert to raise or drop prices, fix prices according to a formula, introduce and withdraw discounts and withdraw low-priced products




MARKET SHARING

Companies divide markets by territory or customers among themselves. More restrictive than price-fixing as carving up markets leave no room for competition.



OUTPUT RESTRICTION

Companies agree to restrict output with the objective of creating a scarcity of a product and thus create an environment where prices can be raised



BID RIGGING

Also known as collusive tendering. Competing firms agree to restrict competition by bidding at the same price or in a manner that predetermined companies win in rotation.

2. c

Control Board (CPCB) has defined the numerous applications of these categories under Guidelines for Disposal of Plastic Waste, 2017.⁴



Figure 2 Types of plastics and their applications. Source: MoEFCC Rules on PWM

3. a

Background

- Since the second industrial revolution, our economy has been linear, working on take-make-use-dispose principles.
- On the one hand, this has resulted in increased economic benefits and prosperity, but on the other hand, it has also led to the overuse of resources by promoting a 'use-and-throw' approach.
- According to the Circular Gap Report 2021, 100 billion tonnes of different materials enter the Earth every year.
- This model not only leads to environment degradation and resource depletion, but it also increases the cost of products by disturbing the material supply system.
- This results from fluctuating raw material prices, low materials availability, geopolitical

dependence on different materials and increasing demand.

- To address this issue, we need to focus on resource efficiency by adopting a circular economy.

Circular Economy

- The circular economy is defined as an alternative to the linear 'take-make-waste' approach.
- It seeks to design out waste, regenerate natural ecosystems and keep materials and products in use for as long as possible.
- To this end, resources are not consumed and discarded, destroying their value.
- Rather, their value is retained by reusing, repairing, remanufacturing or recycling.
- Adopting a circular economy results in extended life of products and assets by recycling/ upcycling end-of -life products and closing the loop.



Figure 14 Plastic segregation representation. Source: CPCB Guidelines on Plastic Waste Management

4. a



Figure 4 Characterization of Municipal Solid Waste. Source: CPCB

5. d

Polexit

- A Polish court in its ruling rejected the primacy of EU law over Polish national legislation in certain matters.
- Ruling of the Poland's Constitutional Tribunal** - Some articles of one of the EU's primary treaties were not compatible with the Polish Law.
- EU law should not have primacy over every national legislation in Poland.
- Polish Judges should not use EU law to question their peers.

European Court of Justice (ECJ)

- The ECJ is the supreme court of the European Union (EU) in matters of the EU law.
- It is a part of the Court of Justice of the European Union (CJEU).
- The Luxembourg-based court was found in 1952 after the Treaty of Paris.
- It ensures that EU law is interpreted and applied the same in every EU country, and that the countries and EU institutions abide by the EU law.
- It settles the legal disputes between national governments and EU institutions.



- In terms of hierarchy, the national courts of member countries are below the ECJ in matters of EU law.

14-10-2021

1) Consider the following statements with respect to ePLI bond

1. Both the Postal Life Insurance (PLI) as well as the Rural Postal Life Insurance (RPLI) policy bonds is available in the electronic form.
2. It is made available in collaboration with Digilocker, National eGovernance Division (NeGD).

Which of the statement(s) given above is/are correct?

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

2) Consider the following statements with respect to Climate Resilience Information System and Planning (CRISP-M)

1. It is a tool which embeds climate information in the GIS based planning and implementation of Mahatma Gandhi National Rural Employment Guarantee Scheme.
2. It was launched by the Ministry of Earth Sciences (MoES).

Which of the statement(s) given above is/are correct?

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

3) Consider the following statements

1. Agriculture contributes about 16.5% to India's GDP and employs 42.3% of the workforce during 2019-20.
2. In India, the period from 1991 to 2015, saw the diversification of agriculture beyond field crops focussing on horticulture, dairy, animal husbandry and fishery sectors.

Which of the statement(s) given above is/are correct?

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

4) Henley Passport Index 2021 was prepared and released by?

- a. World Economic Forum
- b. International Air Transport Association
- c. International Civil Aviation Organization
- d. None of the above

5) With respect to the geographical location of the state of Assam, Consider the following statements.

1. It is the only state from where one can directly reach all the six Sister states of the North East India.
2. It is the only state from where one can directly reach both Bhutan and Bangladesh.

Which of the statements given above is/are correct?

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

Answers

1. c

- India Post has recently launched the e-PLI bon, digital version of PLI policy bonds.

ePLI bond

- It is made available in collaboration with Digilocker, National eGovernance Division (NeGD), Ministry of Electronics & IT (MeitY) Government of India.
- DigiLocker has been providing a secure cloud-based platform for storage, sharing and verification of documents & certificates for various organisations.

- By securely logging in to the Digilocker, the user can download the digital copy of the Policy bond on their mobile phone.
- Both the Postal Life Insurance (PLI) as well as the Rural Postal Life Insurance (RPLI) policy bonds are available in the 'electronic form'.

2. a

- Ministry of Rural Development has recently launched the Climate Resilience Information System and Planning (CRISP-M) tool.
- It aims for integration of climate information in Geographic Information System (GIS) based watershed planning under Mahatma Gandhi NREGA.

3. c

- The period from 1991 to 2015, saw the diversification of agriculture beyond field crops focussing on horticulture, dairy, animal husbandry and fishery sectors.
- Agriculture contributes about 16.5% to India's GDP and employs 42.3% of the workforce (2019-20)

4. d

Henley Passport Index 2021

- Henley Passport Index 2021 was prepared and released by the Henley and Partners, a London-based global citizenship and residence advisory firm.
- The index ranks the passports of countries according to the number of destinations their holders can visit without a prior visa.
- Created in 2006, the index ranks passports based on their power and mobility based on the analysis of exclusive data from the International Air Transport Association (IATA).
- IATA maintains the world's largest and most accurate database of travel information.
- **Findings** - India's rank has slipped by 6 places from the year 2020 to 90th position on the Henley Passport Index.
- For the third consecutive year, Japan has secured the top position. The first position is shared by both Japan and Singapore.

- Meanwhile, Afghanistan, Iraq, Syria, Pakistan, and Yemen are among the least powerful.

5. a



18-10-2021

1) Consider the following statements:

1. She was an educator, a surgeon, a lawmaker and a social reformer.
2. She was the first woman legislator in British India.
3. She builds Avvai Home in Madras in 1930 to give free education, clothes and proper diet to orphans.
4. She wrote a book titled, My Experience as a Legislator.

Identify the personality who correctly matches with the above description:

- a. Sarojini Naidu
- b. Aruna Asaf Ali
- c. Matangini Hazra
- d. Muthulakshmi Reddy

2) In dengue, there is a drop in platelet count. Which of the following is/are the reasons for the drop in platelet count?

1. Platelet count in dengue decreases as it suppresses bone marrow, which is the platelet-producing area.
2. The dengue virus binds with platelets and replicates which tends to destroy normal platelets.



3. Antibodies that are produced during this period destroy the normal platelets thinking that they are foreign bodies.

Which of the statement(s) given above is/are correct?

- 1 only
- 1 and 3 only
- 2 and 3 only
- 1, 2 and 3

3) Which of the following is/are the goals of COP-26 of UN Framework Convention on Climate Change (UNFCCC)?

- To finalise the Paris Rulebook
- Adapt to protect communities and natural habitats
- To mobilise at least \$100bn in climate finance per year by 2020
- Secure global net-zero by mid-century and keep 1.5 degrees within reach

Select the correct answer using the codes given below:

- 2 and 4 only
- 1 and 3 only
- 1, 2 and 4 only
- 1, 2, 3 and 4

4) Consider the following statements with respect to Giloy or Guduchi herb

- It is a climbing shrub used as an essential herb in Ayurvedic medicine.
- It is safe to use and has a well established hepato-protective properties.
- Hepatoprotection is the ability of a chemical substance to prevent damage to the brain and neurons.

Which of the statement(s) given above is/are correct?

- 1 only
- 1 and 2 only
- 1 and 3 only
- 1, 2 and 3

5) Consider the following statements with respect to Nihangs

- It is an order of Sikh Warriors, who does not follow any restrictions on the colour of their dress.
- The word Nihang occurs in a hymn in the Guru Granth Sahib.
- The power of Nihangs came to an end after the fall of Sikh Empire in 1849.

Which of the statements given above are correct?

- 1 and 2 only
- 1 and 3 only
- 2 and 3 only
- 1, 2 and 3

Answers

1. d

Dr. Muthulakshmi Reddy

- She was an educator, a surgeon, a lawmaker and a social reformer.
- Muthulakshmi's life came under a great influence of Mahatma Gandhi and Dr Annie Besant who changed her viewpoint on life.
- In the year 1926, she attended the Paris International Congress of Women as a delegate.
- In the coming years, she gave up her practice in response to a request from the Women's Indian Association (WIA) to enter the Madras Legislative Council.
- With serving poor women and children, she developed an interest in orphan children, which led her to build Avvai Home in Madras in 1930, under which she used to give free education, clothes and proper diet to orphans.
- Her book, My Experience as a Legislator, has recorded all of her services in the Legislature.
- It was due to her persistent efforts that despite opposition, she brought in the Anti-Polygamy Bill.
- With this, the bill for the suppression of brothels and immoral trafficking of women

and children was piloted by her and was passed in 1930.

- She set up a separate hostel for Muslim girls and provided scholarships for Harijan girl's institute.
- She also recommended the then government to make the minimum age of marriage to at least 21.
- Under the Women's Indian Association, Muthulakshmi started the Cancer Relief Fund.
- At the age of 68, Muthulakshmi became the first Chairperson of the State Social Welfare Board.
- She has brought about many improvements and additions to the Children's Aid Society for which she was honoured with the first active Honorary Secretary and Organiser.

Muthulakshmi had many firsts to her credits:

- She was the first woman to get into a total men's college, Maharajas College
- She was the first and the only woman candidate in the Medical College 1907.
- She was the first woman house surgeon in the Government Maternity and Ophthalmic Hospital.
- She was the first woman legislator in British India.
- She became the first Alderwoman of the Madras Corporation in 1937
- She was the first woman Chairperson of the State Social Welfare Advisory Board in 1954
- She was the first woman Deputy President of the Legislative Council.

2. d

Dengue & Platelet Count decrease

- When an infected mosquito bites a human, the dengue virus enters the bloodstream, it binds to platelets and replicates leading to multiplication of infectious virus.
- The infected platelet cells tend to destroy normal platelets, which is one of the major causes for the drop in the platelet count in dengue fever.

- Meanwhile, disease fighting cells is our body's natural defense system against dengue virus.
- Antibodies produced during this time destroy normal platelets thinking that they are foreign bodies.
- Also, bone marrow suppression by dengue virus results in reduced platelet count since bone marrow is the center for the production of all blood cells including platelets.

3. d

Goals of COP-26 of UNFCCC

1. Secure global net zero by mid-century and keep 1.5 degrees within reach

- Countries are being asked to come forward with ambitious 2030 emissions reductions targets that align with reaching net zero by the middle of the century.

To deliver on these stretching targets, countries will need to:

- accelerate the phase-out of coal
- curtail deforestation
- speed up the switch to electric vehicles
- encourage investment in renewables.

2. Adapt to protect communities and natural habitats

- The climate is already changing and it will continue to change even as we reduce emissions, with devastating effects.

At COP26 we need to work together to enable and encourage countries affected by climate change to:

- protect and restore ecosystems
- build defences, warning systems and resilient infrastructure and agriculture to avoid loss of homes, livelihoods and even lives

3. Mobilise finance

- To deliver on our first two goals, developed countries must make good on their promise to mobilise at least \$100bn in climate finance per year by 2020.
- International financial institutions must play their part and we need work towards unleashing the trillions in private and public



sector finance required to secure global net zero.

4. Work together to deliver

- We can only rise to the challenges of the climate crisis by working together.

At COP26 we must:

- **finalise the Paris Rulebook** (the detailed rules that make the Paris Agreement operational)
- accelerate action to tackle the climate crisis through collaboration between governments, businesses and civil society.

4. b

Giloy Herb

- Ministry of Ayush said that the Giloy or Guduchi herb (*Tinospora cordifolia*) is safe to use but similar looking plants in circulation such as *T. crispa* can be harmful.
- Giloy is a climbing shrub and an essential herb in Ayurvedic medicine.
- People have long used it to treat a wide range of issues, including fever, infections, diarrhoea and diabetes.
- Guduchi has well established hepato-protective properties.

Hepatoprotection

- (Antihepatotoxicity - opposite to hepatotoxicity) is the ability of a chemical substance to prevent damage to the liver.
- Hepatoprotection offered by the plant extracts was primarily attributed to its anti-hepatotoxic and antioxidant properties.
- The Ministry had a well-established system of Pharmacovigilance (for reporting of suspected adverse drug reactions from Ayush medication), with its network spreading across all over India.

5. c

Nihang

- It is an order of Sikh warriors, characterised by blue robes, antiquated arms such as swords and spears, and decorated turbans surmounted by steel quoits.

- The word Nihang, he adds, also occurs in a hymn in the Guru Granth Sahib, where it alludes to a fearless and unrestrained person.
- As per an account by the East India Company's Colonel James Skinner (1778-1841), Khalsa Sikhs were divided into two groups:
- Those who put on blue attire which Guru Gobind Singh used to wear at the time of battle and those who do not follow any restrictions on the colour of their dress.
- Nihangs observe the Khalsa code of conduct in its strictest sense.
- They do not profess any allegiance to an earthly master.
- Instead of saffron they hoist a blue Nishan Sahib (flag) atop their shrines.
- Nihangs had a major role in defending the Sikh panth after the fall of the first Sikh rule (1710-15) when Mughal governors were killing Sikhs, and during the onslaught of Afghan invader Ahmed Shah Durrani (1748-65).
- Their clout came to an end after the fall of Sikh Empire in 1849 when the British authorities of Punjab appointed a manager (sarbrah) for the administration of the Golden Temple in 1859.

19-10-2021

1) Consider the following statements with respect to Border Security Force (BSF)

1. It is a central armed police force that functions under the Ministry of Home Affairs.
2. The BSF does not have police powers and it has to hand over a seized consignment or the suspect to the local police within 24 hours.
3. The BSF can arrest, search and seize within 50 km from the international boundary in Assam, West Bengal and Punjab.

Which of the statement(s) given above is/are correct?

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

2) Which of the following can reduce the Urban Heat Island Effect?

1. Planting gardens on urban rooftops
2. Increasing tree and vegetation cover
3. Darkening the streets to absorb more heat
4. Using impermeable materials for construction

Select the correct answer using the codes given below:

- a. 1 and 2 only
- b. 1, 2 and 3 only
- c. 1, 2 and 4 only
- d. 1, 2, 3 and 4

3) Consider the following statements:

1. He established a University which was called by the Indian Prime Minister Narendra Modi as "Mini-India".
2. He forbade the Muslims to join Congress and put more stress on acquiring modern and political education before getting into politics.
3. He wrote a magazine Rasala-e-Asbab-e-Baghawat-e-Hind which tries to revive Muslims relations with British Government.
4. He said that the nations' progress depends on education and training and stressed for a national system of education to educate people in science and technology.

Identify the personality who correctly matches with the above description:

- a. Ashfaqulla Khan
- b. Abdul Ghaffar Khan
- c. Sir Syed Ahmed Khan
- d. Maulana Abul Kalam Azad

4) Which of the following is/are derived from sea weeds?

1. Alginate
2. Agar-agar
3. Carrageenan

Select the correct answer using the codes given below:

- a. 1 and 2 only

b. 1 and 3 only

c. 2 and 3 only

d. 1, 2 and 3

5) Consider the following statements:

1. India extracts more groundwater than China and the US.
2. Half of total clean water needed in our country is met from groundwater.
3. In India, around 90% of groundwater extracted is used for irrigation, making it the highest category of ground water user in the country.

Which of the statements given above are correct?

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

6) "It is granted for a special purpose and forms no part of the current service of any financial year". The above statement is about?

- a. Excess grant
- b. Supplementary grant
- c. Exceptional grant
- d. Additional grant

7) Arrange the following in the sequence of 'order of events' with respect to the Crypto currency transaction process:

1. New Transaction entered.
2. Transaction is clustered into blocks.
3. Transaction transmitted to network of peer to peer computers.
4. Validation of the transaction.
5. Blocks are chained to form long history of transactions.
6. Transaction is complete.

Select the correct answer using the codes given below:

- a. 1-2-3-4-5-6
- b. 1-3-4-2-5-6
- c. 1-3-2-5-4-6
- d. 1-2-5-3-4-6

8) With respect to International Monetary Fund (IMF) Tranche, consider the following statements:

- 1. IMF reserve tranche can be accessed only with prior permission and on the payment of service fee.
- 2. A reserve tranche can be tapped into, after taking the credit tranche from the IMF.

Which of the following statement is correct?

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

9) Which of the following rivers flows into the Arctic Ocean?

- 1. Alatna river
- 2. Mackenzie river
- 3. Ob river
- 4. Irtysh river
- 5. Lena river

Select the correct answer using the codes given below:

- a. 1, 2, and 4 only
- b. 2, 3 and 5 only
- c. 1, 3 and 5 only
- d. 1, 4 and 5 only

10) Consider the following statements regarding Jupiter

- 1. Trojans around the Jupiter travel in its own orbit.
- 2. NASA has launched the Lucy spacecraft to probe the Jupiter's Trojans.
- 3. Trojans are closer to Jupiter than to the Sun.

Which of the statements is **incorrect**?

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

Answers

1. d

- The Ministry of Home Affairs (MHA), through a notification recently, enhanced the "arrest, search and seize" powers of the Border Security Force (BSF) up to 50 km from the international boundary within Assam, West Bengal and Punjab.
- In Gujarat, the limit was reduced from the existing 80 km to 50 km. In Rajasthan, the 50-km limit remains unchanged.
- The recent notification also specifically mentions the two newly created Union Territories-J&K and Ladakh.
- The two Opposition ruled border States-Punjab and West Bengal, have termed the MHA's move an attack on federalism.

Background

- India is a Union of States and under One Border One Force policy, the BSF is deployed along the Pakistan and Bangladesh borders.
- It is also deployed in areas affected by Left Wing Extremism (LWE) and is routinely deployed for election and other law and order duties on the request of State governments.
- BSF Act, 1968, which also empowered the BSF to conduct counter-insurgency operations in the States of Manipur, Mizoram, Tripura, Nagaland, Meghalaya, Jammu and Kashmir and Ladakh.

Border Security Force (BSF)

- BSF is a Central Armed Police Force (CAPF) that functions under the Ministry of Home Affairs.
- It was raised in 1965 in the aftermath of the India-Pakistan war.

- The BSF Act was passed by Parliament in 1968 and the rules governing the Act were framed in 1969.
- The violations against which the BSF carries out search and seizure include smuggling of narcotics, prohibited items, illegal entry of foreigners and offences punishable under any other Central Act.
- The BSF does not have police powers; after apprehending a suspect it can only conduct “preliminary questioning” and has to hand over a seized consignment or the suspect to the local police within 24 hours.
- It does not have powers to prosecute crime suspects. Police is a State subject under the Constitution.

2. a

Heat Islands

- These are urbanized areas that experience higher temperatures than outlying areas.
- Structures such as buildings, roads, and other infrastructure absorb and re-emit the sun's heat more than natural landscapes such as forests and water bodies.
- Urban areas, where these structures are highly concentrated and greenery is limited, become “islands” of higher temperatures relative to outlying areas.

Causes

- **Natural landscapes** - Natural landscapes which tend to cool the air by providing shade, transpiring water from plant leaves, and evaporating surface water are very low in urban areas.
- **Urban Material Properties** - Conventional human-made materials used in urban environments such as pavements or roofing tend to reflect less solar energy, and absorb and emit more of the sun's heat.
- **Urban Geometry** - In heavily developed areas, surfaces and structures obstructed by neighbouring buildings become large thermal masses that cannot release their heat readily.
- Cities with many narrow streets and tall buildings become urban canyons, which can block natural wind flow that would bring cooling effects.

- **Anthropogenic activities** - Vehicles, air-conditioning units, buildings, and industrial facilities all emit heat into the urban environment.
- **Weather and Geography** - Calm and clear weather conditions result in more severe heat islands by maximizing the amount of solar energy reaching urban surfaces and minimizing the amount of heat that can be carried away.

Measures to reduce Urban Island Effect

- Increasing tree and vegetation cover
- Growing plants, shrubs, grasses, and/or trees on a rooftop
- Installing a cool roof made of materials or coatings that significantly reflect sunlight and heat away from a building
- Using paving materials on sidewalks, parking lots, and streets that remain cooler than conventional pavements
- Smart growth practices which cover a range of development and conservation strategies that help protect the natural environment.

3. c

Sir Syed Ahmad Khan

- He is an iconic social reformer and founder of the Aligarh Muslim University (AMU).
- He was born on 17th October 1817 in Delhi.
- When the war of independence broke out in 1857 Sir Syed was working as a chief judge Bijnaur and is said to have saved the lives of many women and children during the fighting.
- He started a movement in order to give respectable position to Muslims in society as they had in past, this movement is known as Aligarh Movement.

The main focus of the Aligarh movement was:

1. Loyalty to British Government.
 2. Modern western education for the Muslims to compete with Hindus.
 3. To keep away the Muslims from politics.
- In 1859, Sir Syed Ahmad Khan set up the first school for Muslims in Muradabad where

English, Persian, Islamiat, Arabic, Urdu were compulsory subjects.

- In 1875, Sir Syed established Mohammedan Anglo Oriental School at Aligarh.
- The main characteristic of this college was that it offered both Western and Eastern educations.
- He forbade the Muslims to join Congress since he knew that Hindus will never be of the same interests as that of Muslims.
- He put stress on acquiring modern and political education before getting into politics.
- He wrote a magazine "Rasala-e-Asbab-e-Baghawat-e-Hind to revive muslim relations with British Government.
- He also wrote "Loyal Muhammadans of India" a detailed article accounted for the services which were rendered by loyal Muslims to British Government.

4. d

Seaweeds

- They have long been sourced by the food industry for its stabilising properties.
- When processed, it loses its pungency, and seaweed products such as agar gel can withstand high temperatures.
- **Agar gel** can be used as a stabiliser and thickener in pie fillings, icings and meringues.
- As it is tasteless, it does not interfere with the flavour of the food, and in ice creams it is used to inhibit the crystallisation of ice.
- **Agar-agar**, the main ingredient in falooda and jigarthanda, is a seaweed-based product.
- **Kappaphycus alvarezii** is a species of seaweed that yields **carrageenan**.
- Carrageenan is an additive used to thicken, emulsify, and preserve food and drinks and it is a commercially viable venture.
- **Alginate**, another extract, is used in restructured and reformed food products such as chicken nuggets.
- As a binder and emulsifier, it helps meat retain its shape.

Fertilizer of Future

- **Sagarika** - Seeing the nutrient value of this sea vegetable and encouraged by the Indian Farmers Fertiliser Cooperative, AquAgri manufactures a product called Sagarika.
- It was derived from the sap of red and brown algae, which acts as a bioenhancer and stimulates the internal growth of plants.
- Researchers say that an extract from seaweed also helps in the faster germination of seeds, and this was successfully tested on cotton seeds.
- As organic farming becomes the buzzword, seaweed is becoming the fertiliser of the future.

5. d

Ground water in India

- India is the biggest user of groundwater.
- According to a report India extracts more groundwater than China and the US the next two biggest pullers of groundwater combined.
- Half of total clean water needed in our country is met from groundwater.
- About 89 percent of groundwater extracted in India is used for irrigation making it the highest category user in the country.
- Household use comes second with 9 percent share of the extracted groundwater followed by industry that uses only 2 percent of it.
- Similarly, the Central Ground Water Board (CGWB) has stated in Lok Sabha that 50 percent of urban water requirement and 85 percent of rural domestic water needs are fulfilled by groundwater.

6. c

- **Excess Grant:** It is granted when money has been spent on any service during a financial year in excess of the amount granted for that service in the budget for that year. It is voted by the Lok Sabha after the financial year. Before the demands for excess grants are submitted to the Lok Sabha for voting, they must be approved by the Public Accounts Committee of Parliament.
- **Supplementary Grant:** It is granted when the amount authorised by the Parliament through the appropriation act for a particular

service for the current financial year is found to be insufficient for that year.

- **Additional Grant:** It is granted when a need has arisen during the current financial year for additional expenditure upon some new service not contemplated in the budget for that year.

7. b

Order of Transaction Process in Crypto Currency

1. New Transaction is entered.
2. Transaction is then transmitted to network of peer to peer computers scattered across the world.
3. Network of computers then solve the equation to confirm the validation of the transaction.
4. Once confirmed as legitimate transactions, they are clustered into blocks.
5. These blocks are then chained together creating a long history of all transactions that are permanent.
6. Transaction is complete.

8. d

IMF Tranche

- A reserve tranche is a portion of the required quota of currency each member country must provide to the International Monetary Fund (IMF) that can be utilized for its own purposes.
- The reserve tranche is basically an emergency account that IMF members can access at any time without agreeing to conditions or paying a service fee.
- The reserve tranches that countries hold with the IMF are considered their facilities of first resort, meaning they will tap into the reserve tranche before seeking a formal credit tranche.
- In theory, members can borrow over 100% of their quota.
- However, if the amount being sought by the member nation exceeds its reserve tranche position (RTP), then it becomes a credit tranche that must be repaid in three years with interest.

9. c



Rivers that flow into Arctic Ocean:

- Yukon and Mackenzie in North America
- The rivers in Asia, the Ob, Yenisey and Lena Rivers.
- The Alatna and the Irtysh Rivers flow in Alaska, United States.

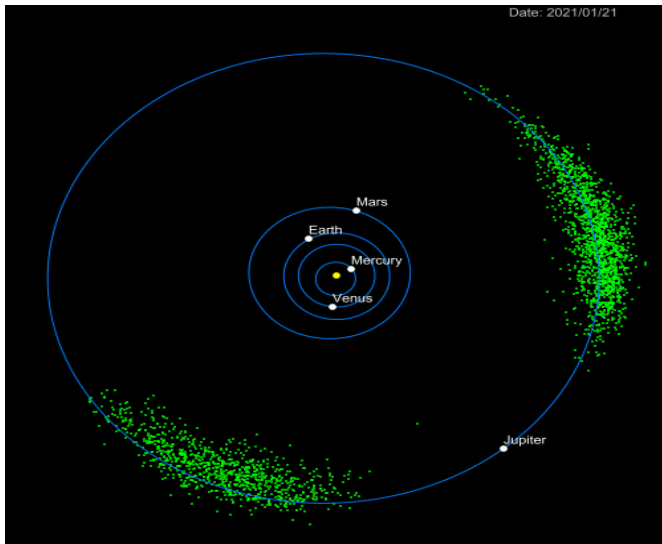
10. c

Lucy Mission of NASA

- It aims to look back into the origins of the solar system through Trojans.
- Jupiter Trojan asteroids are large group of asteroids that share the Jupiter's orbit around the Sun.
- The United States National Aeronautics and Space Administration (NASA) launched Lucy, the spacecraft, October 16, 2021, on a 12-year cruise to the swarms of these Trojans.
- Lucy will fly by eight asteroids—seven Trojans and one main-belt asteroid — over the next 12 years. It is the agency's first single spacecraft mission in history to explore so many different asteroids.
- Lucy's Trojan destinations are trapped near Jupiter's Lagrange (L) points, which are gravitationally stable locations — it is where the gravity from the Sun and from Jupiter cancels each other out.



- This also means that the Asteroids are as far away from Jupiter as they are from the Sun.



20-10-2021

1) Consider the following statements with respect to Phyto-pharmaceutical Mission

1. It is envisaged to bring transformative change in the medicinal plants sector through captive cultivation of selected medicinal plants.
2. It was launched by the Council of Scientific & Industrial Research (CSIR).

Which of the statement(s) given above is/are correct?

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

2) "Varshavaas" or "Vassa" in Buddhism refers to?

- a. Three-month rainy retreat
- b. Endless cycle of repeated rebirth
- c. One who is on the path to buddhahood
- d. Undistracted and concentrated state of consciousness

3) Assertion (A): Venus is unlikely to have harboured any ocean anytime in the past.

Reason (R): The temperature in Venus never got low enough for the water in its atmosphere to form raindrops that could fall on its surface.

Select the correct answer using the codes given below:

- a. Both A and R are correct and R is the correct explanation of A
- b. Both A and R are correct and R is not the correct explanation of A
- c. A is correct but R is incorrect
- d. A is incorrect but R is correct

4) Consider the following statements with respect to Martand Sun Temple

1. It is one of the earliest known sun temples much older than Konark and Modhera.
2. It is located in the State of Gujarat.
3. It was built during the 8th century by the King Lalitaditya.

Which of the statement(s) given above is/are correct?

- a. 3 only
- b. 1 and 3 only
- c. 1, 2 and 3
- d. None of the above

5) Padya Natakam is a theatre form of which of the following states?

- a. Kerala
- b. Odisha
- c. Karnataka
- d. Andhra Pradesh

6) Consider the following statements regarding Idukki Wildlife Sanctuary.

1. Anamudi, the highest peak in Western Ghats, is present in this national park.
2. It is surrounded by three dams, namely Cheruthoni, Idukki and Kulamanu.
3. It consists of Moist Deciduous Forests.



4. Chinnar and Pambar are the two rivers that run through this wildlife sanctuary.

Identify the correct statements:

- 1 and 3 only
- 1 and 4 only
- 2 and 3 only
- 2 and 4 only

7) Consider the following statements regarding El-Nino and La-Nina.

- El-Nino happening in two consecutive years is called Double Dip.
- La-Nina causes decrease in precipitation and drought like condition in India.
- El-Nino causes an increase in precipitation and cause for excessive rain falls in India.
- Both La Nina and El Nino are part of the El Nino Southern Oscillation (ENSO) cycle.

Identify the incorrect statements.

- 1, 3 and 4 only
- 1, 2 and 4 only
- 2, 3 and 4 only
- 1, 2 and 3 only

8) With respect to 'Nebra Sky Disc' consider the following statements.

- It is the world's oldest concrete depiction of stars.
- It belongs to the Iron Age.

Identify the Correct Statements:

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

9) Consider the following statements regarding Financial Action Task Force (FATF).

- It was founded by United Nations permanent members in Geneva.

- The founding objective of FATF was to combat terror financing.

- India is an observer at FATF.

Choose the correct statements:

- 1 only
- 2 only
- 3 only
- None of the above

10) Consider the following statements regarding World Trade Organization (WTO)

- The WTO's agreements have been ratified in all members' parliaments.
- WTO trade rules apply only to Goods and Services.
- System of Majority voting has never been used in WTO.
- WTO's ministerial Conference meets twice in a year.

Identify the correct statement:

- 1 and 3 only
- 2 and 3 only
- 1 and 4 only
- 2 and 4 only

Answers

1. c

CSIR Phytopharmaceutical Mission

- The Mission is envisaged to bring transformative change in the medicinal plants sector through captive cultivation of selected medicinal plants, including rare, engendered and threatened species, production of quality planting material and development of region specific agro technologies; technology packages for production of GMP grade medicinal plant extracts; and phytopharmaceutical development from important medicinal plants.
- This mission aims to improve the availability (through captive cultivation) of such medicinal plants which are in high demand by global and

domestic phytopharmaceutical drug industry involved in the preparation of medicines of Indian traditional systems.

- It will also help in the conservation of endangered and threatened medicinal plants and discovery of new botanical drugs for unmet medical needs.

2. a

- Prime Minister Shri Narendra Modi will participate in an event marking Abhidhamma Day at Mahaparinirvana Temple.

Abhidhamma Day at Mahaparinirvana Temple

- The day symbolises the end of three-month rainy retreat – Varshavaas or Vassa – for the Buddhist Monks.
- During which the Buddhist monks stay at one place in vihara & monastery and pray.
- The event will also be attended by eminent Monks from Sri Lanka, Thailand, Myanmar, South Korea, Nepal, Bhutan and Cambodia, as well as Ambassadors of various countries.

3. a

Venus & its Oceans

- While, earlier studies have suggested that Venus may have its own liquid water oceans, a new study suggested that this is not the case.
- The study was conducted by a team of astrophysicists led by the University of Geneva (UNIGE) and the National Centre of Competence in Research (NCCR) PlanetS, Switzerland.
- They investigated whether Earth's twin did indeed have milder periods.
- According to the study, the climatic conditions did not allow water vapour to condense in the atmosphere of Venus.
- This means that the temperature in Venus never got low enough for the water in its atmosphere to form raindrops that could fall on its surface.
- Instead, water remained as a gas in the atmosphere and oceans never formed.
- One of the main reasons for this is the clouds that form preferentially on the night side of the planet.

- These clouds cause a very powerful greenhouse effect that prevented Venus from cooling as quickly as previously thought.

4. b

Martand Sun Temple

- It is also known as Pandou Laidan Temple.
- It is a Hindu temple dedicated to Sun God or Bhaskar.
- It was built during the 8th century CE.
- Martand is another Sanskrit synonym for Surya.
- The temple is located in the Indian union territory of Jammu and Kashmir.
- This temple has been built with strong and square limestones and exhibits pillars in Greek pattern.
- It is believed to be the only sun temple in the entire north India.
- The other sun temples are at Konark in Odisha and at Modhera in Gujarat.
- Of the three Sun temples in India, Martand is the oldest, whereas, Konark temple, a colossal structure stands majestic on the sea shore on a vast stretch of sandy soil built in 13th century by King Narasimhadeva and the third one is at Modhera, built in 1026 by King Bhimdev.
- Officially, Martand temple is regarded as one of the many sites of national importance in Jammu and Kashmir and is listed as a centrally protected monument.

5. d

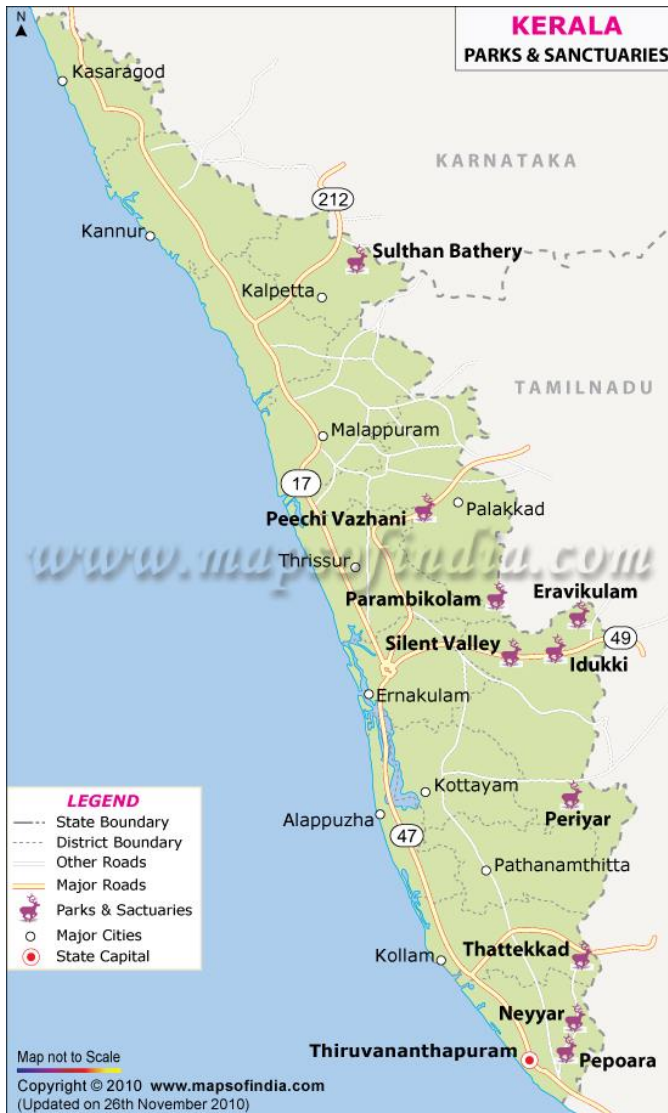
Padya Natakam

- It can be described as a poetic dramatisation of religious and mythological stories.
- This form of theatre is unique to **Andhra Pradesh**.
- It combines poetry and prose with music and theatre.
- Some of the most well-known Padya Natakam plays are Kurukshetram, Satya Harischandra and Gayopaakyanam.

6. d

Idukki Wildlife Sanctuary

- The sanctuary, situated at an altitude of 450 to 748 meters above the sea level, has a tropical green cover sprawling over 77 sq. km covering Idukki and Thodupuzha taluks of Idukki district.



- The reservoir, located in the sanctuary, is the prime water source and is formed by three dams, namely Cheruthoni, Idukki and Kulamanu.
- The sanctuary is home to wild animals such as Indian bison, boar, wild dog, jungle cat, elephant, deer and bear. It is also inhabited by various poisonous and non-poisonous snakes and a number of birds like woodpecker, laughing thrush, black-bulbul, myna, jungle fowl, kingfisher and peafowl.

- This sanctuary is surrounded by dense tropical evergreen forests, leaf shedding forests, tropical semi-evergreen forests and meadows.
- White-pine, kuntherekkapine, cheeni, rosewood, vayana, bhadraksham, pali and meadows of rolling grass are also found in the sanctuary.
- Anamudi is the highest peak in the Eravikulam wildlife sanctuary.
- Chinnar and Pambar are the two rivers that run through this wildlife sanctuary.

Idukki Dam



- Idukki dam in kerala is constructed across the Periyar river, the longest river in kerala.
- It is one of the highest arch dams in the continent, measuring 550ft in height.

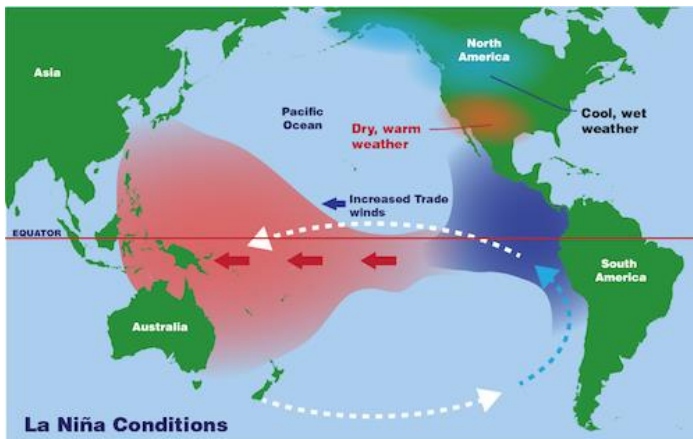
- It was commissioned in the year 1973 with financial aid from Canada.
- It is built between two granite hills such as Kuravanmala and kuravathimala.
- It is owned by the Kerala State Electricity Board.
- It supports a hydroelectric power station in Moolamattom.
- The hydel project is receiving water from two other dams at Cheruthoni and Kulamavu.
- It will be opened after 3 years due to heavy rains in the region.

7. d

El Nino and La Nina

La Nina

- La Nina means The Little Girl in Spanish.
- La Nina events represent periods of below-average sea surface temperatures across the east-central Equatorial Pacific.



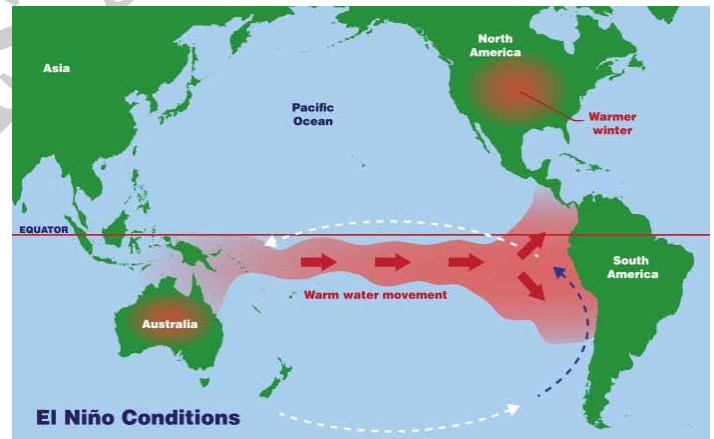
- La Nina happening in two consecutive years is called 'Double Dip'.
- La Nina event is observed when the water temperature in the Eastern Pacific gets comparatively colder than normal, as a consequence of which, there is a strong high pressure over the eastern equatorial Pacific.
- La Nina events are also associated with rainier-than-normal conditions over south-eastern Africa and northern Brazil.
- In the 'La Nina year', rainfall associated with the summer monsoon in Southeast Asia tends

to be greater than normal, especially in northwest India and Bangladesh.

- This generally benefits the Indian economy, which depends on the monsoon for agriculture and industry.

El Nino

- El Nino, meaning "the little boy" in Spanish.
- El Nino soon came to describe irregular and intense climate changes rather than just the warming of coastal surface waters.
- The El Nino event is not a regular cycle; they are not predictable and occur irregularly at two- to seven-year intervals.
- Normally, strong trade winds blow westward across the tropical Pacific, the region of the Pacific Ocean located between the Tropic of Cancer and the Tropic of Capricorn.
- El Nino causes drought like conditions in India.



8. a

Nebra Sky Disc

- The British Museum in London will display an ancient object called the Nebra Sky Disc.
- It is thought to be the world's oldest concrete depiction of stars.
- It was loaned by the German State Museum to the British Museum.
- About 3,600 years ago, the disc was ritually buried along with two swords, axes, two spiral arm-rings and one bronze chisel near Nebra in Germany.

- The burial of these objects is thought to be made as a dedication to gods and the disc belongs to the Bronze Age.
- Hypotheses about its existence have imagined it as an astronomical clock.
- The disc has a value of about \$11 million and is thought by some to be one part of a pair, with the other part still out there, waiting to be discovered.
- The raw materials to make the disc were imported from as far as Cornwall in England.
- The knowledge required to create the object was “entirely local” and was drawn from observing the heavens from atop the Mittelberg Mountain, which is near the modern village of Nebra.
- The bronze disc, which depicts the world’s oldest representation of “specific astronomical phenomenon”, had five phases over its history.
- In the first phase, the disc illustrated the night sky with 32 gold stars, including the Pleiades, a
- hold orb representing the sun or a full moon and a crescent moon.
- This illustration served as a reminder of when it was necessary to synchronise the lunar and solar years by inserting a leap month.

9. d

Financial Action Task Force (FATF)

- The Financial Action Task Force (FATF) was established in July 1989 by a Group of Seven (G-7) Summit in Paris, initially to examine and develop measures to combat money laundering.
- In October 2001, the FATF expanded its mandate to incorporate efforts to combat terrorist financing, in addition to money laundering.
- In April 2012, it added efforts to counter the financing of proliferation of weapons of mass destruction.
- The objectives of the FATF are to set standards and promote effective implementation of legal, regulatory and operational measures for combating money laundering, terrorist financing and other related threats to the integrity of the international financial system.

- More than 200 countries and jurisdictions are committed to implementing them.
- The FATF's decision making body, the FATF Plenary, meets three times per year.
- The FATF currently comprises 37 member jurisdictions and 2 regional organisations, representing most major financial centres in all parts of the globe.
- When the FATF places a jurisdiction under increased monitoring, it means the country has committed to resolve swiftly the identified strategic deficiencies within agreed timeframes and is subject to increased monitoring. This list is often externally referred to as the “grey list”.
- India is member of FATF. Indonesia has been given the observer status.

10. a

World Trade Organization (WTO)

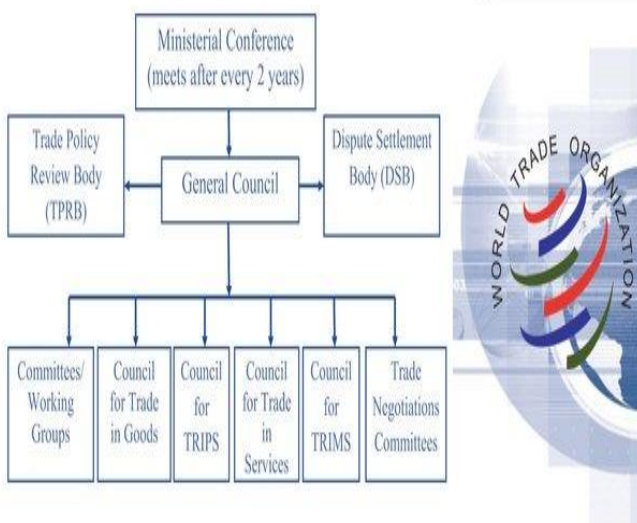
- The World Trade Organization came into being in 1995.
- WTO is the successor to the General Agreement on Tariffs and Trade (GATT) established in the wake of the Second World War.
- The WTO’s rules – the agreements – are the result of negotiations between the members.
- The current set is largely the outcome of the 1986- 94 Uruguay Round negotiations, which included a major revision of the original General Agreement on Tariffs and Trade (GATT).
- The Uruguay Round created new rules for dealing with trade in services and intellectual property and new procedures for dispute settlement.
- WTO rules apply to Goods, Services, Intellectual Property, Dispute settlement, and Trade monitoring.
- The WTO has 164 members, accounting for 98% of world trade. A total of 25 countries are negotiating membership.
- Decisions are made by the entire membership. This is typically by consensus.

- A majority vote is also possible but it has never been used in the WTO.
- The WTO's agreements have been ratified in all members' parliaments.
- The WTO's top level decision-making body is the Ministerial Conference, which meets usually every two years.

Structure of WTO

- The top level decision making body is called the 'Ministerial Conference'.
- Below it is the 'General Council'.
- The General Council also meets as the Trade Policy Review Body and the Dispute Settlement Body.
- At the next level, the Goods Council, Services Council and Intellectual Property (TRIPS) Council report to the General Council.
 - Numerous specialized committees, working groups and working parties deal with the individual agreements and other areas, such as the environment, development, membership applications and regional trade agreements.

Structure of the WTO



2

21-10-2021

1) Consider the following statements with respect to Secured Overnight Financing Rate (SOFR)

1. It is a benchmark interest rate that financial institutions use to price U.S. dollar-denominated derivatives and loans.
2. It is one of the alternatives to London Interbank Offered Rate (Libor).
3. SOFOR is based on completed financial transactions whereas Libor is self-reported and may not accurately represent the true cost of borrowing.

Which of the statement(s) given above is/are correct?

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

2) Consider the following statements with respect to Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS)

1. They are human-made chemicals made up of carbon-fluorine bond.
2. They do not break down easily and therefore stay in the environment for a very long time.

Which of the statement(s) given above is/are correct?

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

3) Which of the following products contains Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS)?

1. Cosmetics
2. Non-stick cookware
3. Water resistant clothing
4. Paints, varnishes and sealants
5. Stain-resistant carpets and fabrics

Select the correct answer using the codes given below:

- a. 3 and 5 only

- b. 3, 4 and 5 only
- c. 1, 3, 4 and 5 only
- d. 1, 2, 3, 4 and 5

4) Consider the following statements with respect to Central Industrial Relations Machinery (CIRM)

1. It is an apex organization in India responsible for maintaining harmonious industrial relations mainly in the sphere of central Government.
2. It was established, in 1945, based on the recommendations of the Royal Commission on Labour in India.
3. It is an attached office of the Ministry of Labour and Employment.

Which of the statements given above are correct?

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

5) With respect to Symmetry in Biology, consider the following statements:

1. An organism is said to have bilateral symmetry when it is cut through its central axis, it separates into identical pieces.
2. Jellyfish is said to have radial symmetry which allows it to sense and respond to food and danger from all sides.

Which of the statement(s) given above is/are correct?

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

6) Consider the following statements:

1. The Metaverse combines elements of the physical world and merges them with virtual spaces.
2. Decentraland is the virtual world where one can perform day to day activities.

Which of the above statements is correct?

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

7) Consider the following statements regarding Andaman and Nicobar Islands:

1. The Andaman and Nicobar Islands is the continuation of the Arakan Yoma Range.
2. Saddle peak in North Andaman is the highest peak in the island.
3. Among the Nicobar Islands the Car Nicobar Island is the largest and the Great Nicobar Island is the South most.
4. The Barren Island is the only dormant volcanic island of India and Narcondam Island is the only active volcanic island of India.

Identify the correct statements.

- a. 1 and 2 only
- b. 1 and 3 only
- c. 2 and 3 only
- d. 2 and 4 only

8) With respect to Genetically Modified Crops, consider the following statements:

1. The cultivation of genetically modified rice is not banned in India.
2. Cotton, brinjal and mustard are also genetically modified in India.
3. Genetic Engineering Appraisal Committee is the apex regulating body.

Identify the correct statement.

- a. 1 and 2 only
- b. 3 only
- c. 1 and 3 only
- d. 2 and 3 only

9) Consider the following statements regarding African Elephants:

1. African elephants are smaller in size compared to the Asian elephants.
2. African elephants are patriarchal and are led by a male elephant.
3. African elephants acts as ecosystem engineers.

Identify the **Incorrect** statements.

- a. 1 only
- b. 1 and 2 only
- c. 2 only
- d. 2 and 3 only

10) With respect to Poshan Abhiyaan, consider the following statements:

1. The national nutrition mission covers only children, pregnant woman and breastfeeding mothers.
2. NITI Aayog is entrusted with monitoring and evaluating the scheme.
3. Identification of Severe Acute Malnutrition (SAM) children and distribution of nutritious food is one the themes of POSHAN MAHA.

Identify the **Incorrect** Statement.

- a. 1 only
- b. 2 only
- c. 3 only
- d. None of the above

Answers

1. d

- In a first for any NBFC in India, Rural Electrification Corporation Limited (REC) has successfully raised a USD 75 million, 5-year Secured Overnight Financing Rate (SOFR) linked Syndicated Term Loan with Sumitomo Mitsui Banking Corporation (SMBC), Singapore Branch appointed as the sole Mandated Lead Arranger and Bookrunner.
- Along with the loan, REC has also entered into interest rate swap referencing SOFR to hedge

the interest rate risk on this facility, which is the first such deal by any Corporate in India.

Background

- Once upon a time, Libor—the London Interbank Offered Rate—was among the most important benchmarks in the world for setting interest rates on commercial and consumer loans.
- But multiple scandals, plus a starring role in the financial meltdown of the Great Recession, have inspired efforts to replace Libor worldwide.

Secured Overnight Financing Rate (SOFR)

- SOFR is a benchmark that financial institutions use to price loans for businesses and consumers.
- The overnight financing part of its name references how SOFR sets rates for lenders: It is based on the rates that large financial institutions pay each other for overnight loans.
- SOFR is an alternative risk-free rate that will serve as the successor to Libor in many U.S. dollar borrowing agreements.

Libor Vs SOFR

LIBOR

- Libor is simply based on the rates that financial institutions say they would offer each other for short-term loans.
- With fewer transactions, Libor began reflecting quoted rates, rather than actual rates from transactions.
- And this self-reported Libor rate may not accurately represent the true cost of borrowing.

SOFR

- By taking into account actual lending transactions between institutions, SOFR will be more reliable than Libor, which was subject to insider manipulation.
- It means there is much more real transaction data to rely on, rather than self-reported hypothetical rates.

Other differences



- Libor is forward-looking while SOFR is backward-looking.
- It means the bank knows what the borrowing rate is at the beginning of the period. Since SOFR is backward-looking, the borrower won't know exactly what they owe until the end of the loan.
- Libor is unsecured and doesn't use collateral, so it includes a credit risk premium.
- SOFR is a secured rate, based on transactions that involve collateral, in the form of Treasuries, so there's no credit risk premium baked into the rates.

Other Alternatives to Libor

1. Sterling Overnight Index Average (SONIA)
2. Federal Funds Overnight Index
3. Ameribor
4. U.S. prime rate

2. c

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS)

- PFAS are a large, complex, and ever-expanding group of manufactured chemicals that are widely used to make various types of everyday products.
- PFAS chemicals include PFOA (perfluorooctanoic acid) and PFOS (perfluorooctane sulfonic acid).
- PFAS molecules are made up of a chain of linked carbon and fluorine atoms.
- Because the carbon-fluorine bond is one of the strongest, these chemicals do not degrade in the environment.
- In other words, these are long lasting chemicals which break down very slowly over time.
- In fact, scientists are unable to estimate an environmental half-life for PFAS, which is the amount of time it takes 50% of the chemical to disappear.
- PFAS are found in people, wildlife and fish all over the world.
- Some PFAS can stay in people's bodies for a long time.

3. d

Applications of Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS)

- Food packaging materials
- Nonstick cookware
- Stain-resistant carpets and fabrics
- Water resistant clothing
- Cleaning products
- Paints, varnishes and sealants
- Firefighting foam
- Cosmetics

4. d

Central Industrial Relations Machinery (CIRM)

- The organization of the Chief Labour Commissioner (Central) is also known as Central Industrial Relations Machinery (CIRM).
- It is an apex organization in the country responsible for maintaining harmonious industrial relations mainly in the central sphere, viz Defence Establishments, Railways, Central Works Departments, etc.
- It is an attached office of the Ministry of Labour and Employment.
- In pursuance of the recommendation of the Royal Commission on Labour in India, the organization was set up in April, 1945.
- It was established by combining the former organizations of the Conciliation Officer (Railways), Supervisor of Railway Labour and the Labour Welfare Advisor.
- It was then charged mainly with duties of prevention and settlement of industrial disputes, enforcement of labour laws and to promote welfare of workers in the industrial establishments falling within the sphere of the Central Government.
- The CIRM is headed by the Chief Labour Commissioner (Central).
- The offices of the CIRM are spread over different parts of the country with Regional and unit level formations.

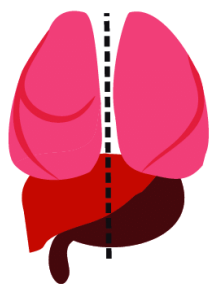
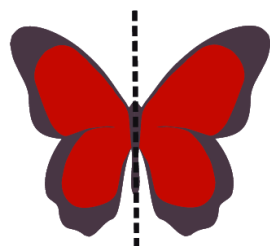
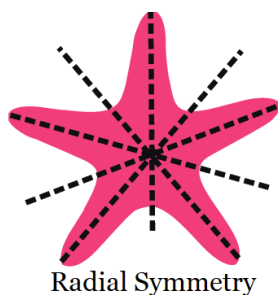
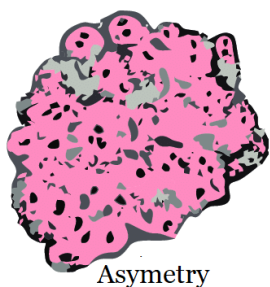
5. b

Radial Symmetry

- An organism is said to have radial symmetry when it shows a repeating pattern around a central axis, such that when it is cut through that point, it separates into identical pieces.
- Jellyfish have radial symmetry.
- This is ecologically important as it allows the jellyfish to sense and respond to food and danger from all sides.

Bilateral Symmetry

- Organisms with bilateral symmetry contain a single plane of symmetry, the sagittal plane, which divides the organism into two roughly mirror image left and right halves – approximate reflectional symmetry.



6. c

Metaverse

- The term metaverse is used to describe the vision in which the internet evolves into a virtual world.
- This idea was for the first time conceptualised in 1992 by American novelist Neal Stephenson.
- It has been made by blending the words “meta,” that means beyond, and “universe”.

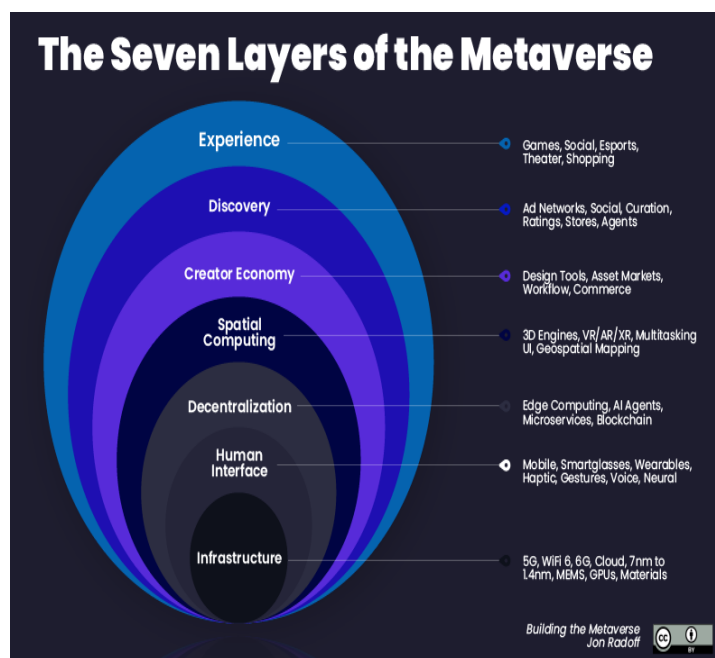
- The Metaverse combines elements of the physical world and merges them with virtual spaces.
- In Metaverse technology, internet is seen as a 3D space, where individuals can go in and out and interact with each other.
- This would mean you can talk to your co workers even without attending office in the real world, but would be present near them virtually.
- Face book is evolving into a metaverse company from a mere social media network.

Decentraland

- It is a virtual world where the visitors can perform various activities like watching concerts, visiting art galleries and gambling in casinos.
- The plots of lands are also being sold which are worth 100s of thousands of dollars in MANA (crypto currency).

Examples of Metaverse

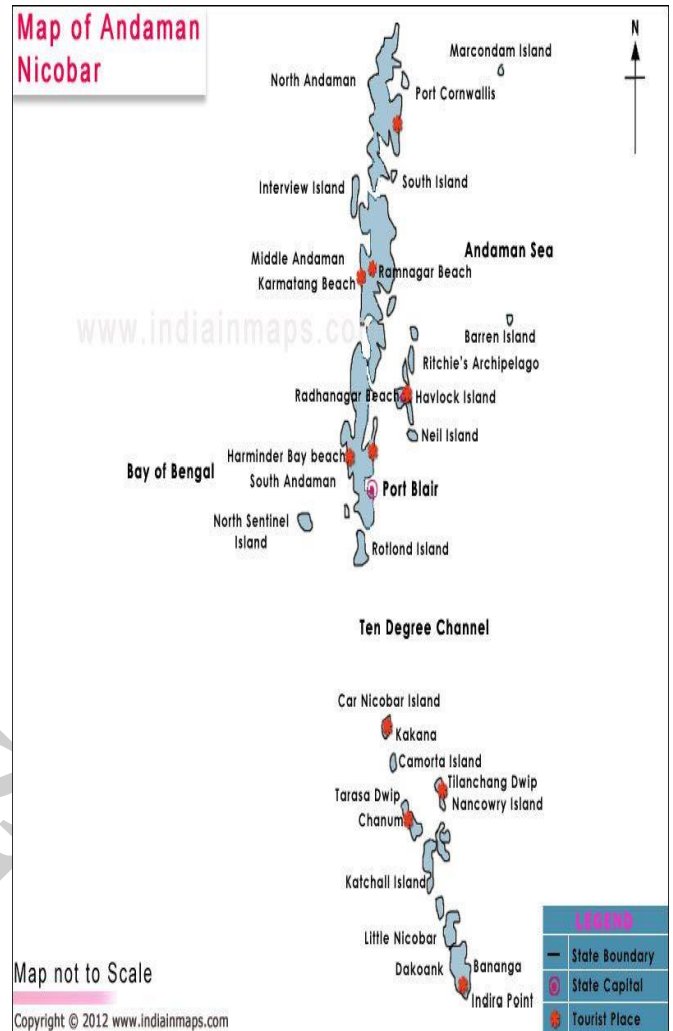
- Crypto currency is an example of metaverse.
- Non Fungible tokens (NFT - A non-fungible token is a unique and non-interchangeable unit of data stored on a digital ledger) can also be considered an example of metaverse.



7. a

Andaman and Nicobar Islands

- Andaman and Nicobar Islands were formed due to collision between Indian Plate and Burma Minor Plate.
- Andaman and Nicobar Islands are southward extension of Arakan Yoma range.
- Arakan Yoma in itself is an extension of Purvanchal Hills.
- This archipelago is composed of 265 big and small islands.
- The Andaman and Nicobar islands extend from $6^{\circ} 45' N$ to $13^{\circ} 45' N$ and from $92^{\circ} 10' E$ to $94^{\circ} 15' E$.
- The Andaman Islands are divided into three main islands i.e. North, Middle and South.
- Duncan passage separates Little Andaman from South Andaman.
- The Great Andaman group of islands in the north is separated by the Ten Degree Channel from the Nicobar group in the south.
- Port Blair, the capital of Andaman Nicobar Islands lies in the South Andaman.
- Among the Nicobar Islands, the Great Nicobar is the largest. It is the southernmost island and is very close to Sumatra island of Indonesia. The Car Nicobar is the northernmost.
- The Barren and Narcondam Islands, north of Port Blair, are volcanic islands.
- Barren Island is the only active volcano in India while Narcondam Island is a dormant volcano.
- There are no active volcanoes in main land India.
- Saddle peak (737 m) in North Andaman is the highest peak.



8. b

Genetically Modified Crops in India

- Genetically modified crops (GM crops) are plants used in agriculture, the DNA of which has been modified using genetic engineering techniques. More than 10% of the world's croplands are planted with GM crops.
- The aim is to introduce a new trait to the plant which does not occur naturally in the species like resistance to certain pests, diseases, environmental conditions, herbicides etc.
- Genetic Modification is also done to increase nutritional value, bioremediation and for other purposes like production of pharmaceutical agents, bio fuels etc.
- India does not export genetically modified (GM) rice as there is no commercial variety of

such crop in the country and its cultivation is also banned here.

- Cotton is the only crop cultivated in India using this method.

STEP 1: Identify a trait of interest

Agricultural Need



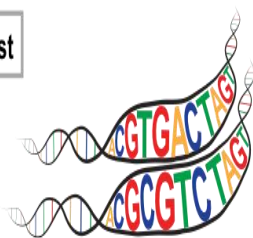
Search appropriate environment



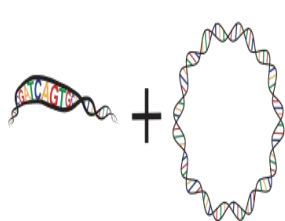
Screen list of chosen plants

STEP 2: Isolate the genetic trait of interest

Comparative analysis of genomes to identify trait

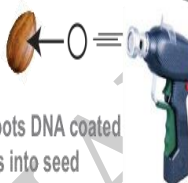


STEP 3: Inset the desired trait into the new genome

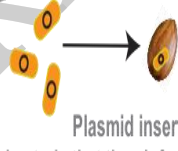


Genetic trait is cut and pasted into a plasmid using enzymes

Gene Gun shoots DNA coated metal particles into seed



Plasmid inserted into bacteria that then infects cells



STEP 4: Growing the GMO



Carefully controlled growth chambers are monitored to ensure that the new GMO grows and replicates. Ultimate growth conditions are determined at this stage.

Genetic Engineering Appraisal Committee (GEAC)

- The Committee shall function as a Statutory Body under the Ministry of Environment & Forests.
- The Committee shall also be responsible for approval of proposal relating to release of genetically engineered organisms and products into the environment.
- One third members of the GEAC will constitute the quorum for convening the meeting.
- The members of the GEAC will be required to sign a 'Statement of Declaration of Independence' and 'Statement of Confidentiality'.
- The Committee shall function for a period of three year from the date of issue of this notification.

9. b

African Elephants

- African elephants are the largest land animals on Earth.
- They are slightly larger than Asian Elephants and can be identified by their larger ears (Asian elephants have smaller, rounded ears.)
- Elephants in general are matriarchal, suggesting they live in female-led groups.
- African elephants are keystone species meaning they play a critical role in their ecosystem. They are also known as "ecosystem engineers" as they shape their habitat in many ways.
- There are two subspecies of African elephants - African Savannah (or bush) elephant and African Forest Elephants.
- International Union for Conservation of Nature (IUCN) has enlisted the African forest elephants as 'critically endangered' and Savannah elephants as 'endangered'.
- Previously IUCN listed both African elephants as "vulnerable". But now it has opted to list them separately. It is after genetic evidence proved that both are different species.

10. d

Poshan Abhiyaan

- Scheme for Holistic Nourishment (POSHAN Abhiyaan), or the National Nutrition Mission, is the Government of India's flagship programme to improve nutritional outcomes for children, pregnant women and lactating mothers.
- Launched by Honourable Prime Minister on the occasion of International Women's Day 2018.
- NITI Aayog has played a critical role in shaping the POSHAN Abhiyaan.
- NITI Aayog was entrusted with closely monitoring the scheme and undertaking periodic evaluations.
- NITI Aayog submits implementation status reports of POSHAN Abhiyaan to the Prime Minister's Office (PMO).
- This is carried out through the Technical Support Unit (TSU) established at NITI Aayog, which, in addition to monitoring, also provides research, policy and technical support to the Abhiyaan.
- To date, NITI Aayog has submitted three POSHAN Abhiyaan-monitoring reports to the PMO.
- Every year September is celebrated as POSHAN MAHA.
- This year the themes include Plantation activity as "POSHAN VATIKA"; Yoga and AYUSH for nutrition; Distribution of 'Regional Nutrition Kit' to Anganwadi beneficiaries of High Burdened Districts; Identification of Severe Acute Malnutrition (SAM) children and distribution of nutritious food.

22-10-2021

1) Consider the following statements with respect to Internet Governance Forum (IGF)

1. It was convened by the United Nations Secretary General as a multilateral, multistakeholder forum for discussions on Internet governance issues.
2. It was mandated to adopt resolutions and the resolutions adopted are binding on its member countries.

3. The forum is being financed through the extra-budgetary Trust Fund managed by UN Department of Economic and Social Affairs (UN DESA).

Which of the statement(s) given above is/are correct?

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

2) Consider the following statements with respect to Bio-Enzymes

1. They are organic solutions produced through fermentation of organic wastes by mixing in sugar, jaggery/molasses and water.
2. It takes 60-100 days to ferment organic waste and to fasten the fermentation, yeast can be used.

Which of the statement(s) given above is/are correct?

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

3) How is mRNA Vaccine different from DNA Vaccine?

1. Plasmid DNA has to enter the nucleus of a cell whereas the mRNA only needs to be present in the cytoplasm.
2. mRNA vaccines are fragile and require storage and transportation at cold temperatures whereas DNA vaccines have greater stability and are easier to store and transport.

Select the correct answer using the codes given below.

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



4) With respect to Sadir Attam, consider the following statements:

1. It is a precursor to the classical dance form, Bharatanatyam.
2. It was performed by devadasis which refers to the girls who were dedicated to a temple at a very young age.

Which of the statement(s) given above is/are correct?

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

5) The Right to Protest involves the exercise of which of the following fundamental rights?

1. Equality before Law
2. Freedom of Resistance
3. Freedom to assemble peacefully
4. Freedom of speech and expression

Select the correct answer using the codes given below.

- a. 3 only
- b. 3 and 4 only
- c. 2, 3 and 4 only
- d. 1, 2, 3 and 4

6) With respect to Dakshineswar Kali Temple, consider the following statements:

1. The temple is built on the basis of Ratna style architecture.
2. It consists of 'Ath Chala', a eight-sided pyramid roof structure.
3. This temple is situated at the western banks of river Ganges.

Identify the correct statements.

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

7) With regards to Dengue fever, consider the following statements:

1. Dengue fever is common in tropical and dry climatic regions of the world.
2. Aedes aegypti is the only species responsible for the spread of the virus.
3. The vectors causing Dengue are also responsible for the cause of Chikungunya, Yellow fever and Zika virus.

Which of the following statement(s) is/are correct?

- a. 1 only
- b. 1 and 3 only
- c. 2 and 4 only
- d. 3 only

8) Consider the following statements with respect to United Nations Framework Convention on Climate Change (UNFCCC):

1. It is the parent treaty of Kyoto protocol and Paris Agreement.
2. It publishes the Nationally Determined Contributions (NDC) Synthesis report.

Which of the above statement(s) is/are correct?

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

9) Which of the following rivers originate from the Hindukush mountain range?

1. Ganges
2. Yuva Xiang
3. Brahmaputra
4. Bassac
5. Salween
6. Tarim

Choose the correct options.

- a. 1, 2, 3, 4 only
- b. 1, 3, 5, 6 only

- c. 2, 3, 4, 5 only
- d. 2, 3, 5, 6 only

10) Consider the following statements with respect to Chilika Lake

1. It is the second largest lagoon in Asia.
2. It was designated the first Indian wetland of international importance under the Ramsar Convention.
3. Satpada Island in Chilika Lake is a bird sanctuary.
4. It is located at the mouth of the river Mahanadi.

Which of the above statement(s) is/are **Incorrect**?

- a. 1, 2 and 3 only
- b. 1, 3 and 4 only
- c. 2, 3 and 4 only
- d. All of the above are correct

Answers

1. c

India Internet Governance Forum (IIGF)

- IIGF will be conducted jointly by Ministry of Electronics and IT, NIXI and Multistakeholder Group from 8th to 11th of November, 2021.
- The theme of IIGF 2021 is 'Empower India through Power of Internet'.
- IIGF is an initiative associated with the UN Internet Governance Forum (UN-IGF).

Background

Internet Governance Forum (IGF)

- It was convened by the United Nations Secretary-General – is the global multistakeholder forum for dialogue on Internet governance issues.
- The convening of the IGF was announced by the Secretary-General of the United Nations in 2006.
- It brings various people and stakeholder groups to the table as equals to exchange information and share good policies.

- The IGF does not adopt resolutions or create any binding treaties.
- As an open forum, rather than a membership forum, the IGF is for all people with a stake in the Internet.
- The IGF mandate was renewed for 5 years in 2010 (2011-2015) and again in 2015 during the WSIS+10 review for another 10 years (2016-2025).

Multistakeholder Advisory Group (MAG)

- Every year, the UN Secretary-General appoints the MAG to advise on the programme and schedule of the annual meetings of IGF.
- MAG is a group of experts and practitioners representing all stakeholder groups.
- The MAG comprises of 50-55 Members from governments, the private sector, civil society, academic and technical communities, from all five UN regional groups.
- Each year one-third of the MAG is renewed by the Secretary-General, following a nomination process across the IGF stakeholder communities.
- In addition, each year the Secretary-General appoints a Chair of the Multistakeholder Advisory Group (MAG).
- The IGF Secretariat is based in Geneva and is sustained financially through the extra-budgetary Trust Fund Account managed by UN Department of Economic and Social Affairs (UN-DESA).

2. c

- Punjab farmers, especially in kinnow belt, have started making bio-enzymes (BEs) from falling kinnow fruits, which, if not would become a total waste.
- Farmers can collect these dropped fruits from their kinnow fields and prepare bio-enzymes (BEs) at a low cost.
- Horticulture department experts say nearly 15-20% of the total kinnow production falls from the tree before and during the harvesting period.
- The fallen fruit is a major challenge for kinnow farmers in the state as one needs to dig up small pits to bury them, otherwise the fallen

fruit rot and invite a fly attack on the healthy fruit still on the plants.

- But now, some farmers are using this fallen fruit to improve the pH level and soil fertility of their land by making BEs from this waste fruit.
- This waste kinnow can prove a boon to improve soil, water, air, depleting ground water, water contamination and overall ecology.
- Not only can plant health be improved, it also helps prevent indiscriminate usage of chemical sprays of fungicides and bacterial diseases on crops, especially vegetables, tuber crops and cereals.
- BEs can be used for a whole year in the form of spray on vegetables and mixing it with field irrigation.

Bio-enzymes

- They are organic solutions produced through fermentation of organic waste including various fruits, vegetable peels and flowers, by mixing in sugar, jaggery/molasses and water.
- It takes 60-100 days to ferment organic waste.
- To fasten the fermentation, yeast can be used as culture to prepare it in 45-50 days.

Kinnow

- Often pronounced as Kinoo or Kinu, this fruit is a high yield mandarin and is a hybrid of 2 citrus cultivators 'King' & 'Willow Leaf'.
- While an orange is a hybrid of citrus reticulata and citrus maxima, kinnow is a hybrid of citrus deliciosa and citrus nobilis.
- Developed by HB Frost in 1935, Kinnow is a year-long duration crop and it's juicier than oranges.
- It is majorly grown in Punjab, Himachal Pradesh, Jammu & Kashmir, Rajasthan and even Haryana.
- The main harvesting period is from November-end to March, but some varieties of citrus fruit start coming into the markets in October.

3. c

- India may see the roll-out of the world's first DNA vaccine, ZyCov-D.

- Produced by pharmaceutical company Zydus Cadila, the vaccine has received Emergency Use Authorisation and is also the first in the country to be approved for children above the age of 12.
- The vaccine is produced on a DNA platform, and introduces a specific antigen-coding DNA sequence into the cells of an organism to induce an immune response.

DNA Vaccines Vs mRNA Vaccines

- For DNA vaccines to be effective, the plasmid DNA must cross the cell membrane, enter the cytoplasm, and then reach the cell nucleus by crossing the nucleus membrane.
- In contrast, an RNA vaccine only needs to cross the cell membrane to enter the cytoplasm.
- Because DNA vaccines need to go through the extra step of entering the cell nucleus, they produce a much lower immune response than mRNA vaccines.
- mRNA vaccines are fragile and require storage and transportation at cold or ultra-cold temperatures.
- In contrast, DNA vaccines have greater stability and are easier to store and transport than mRNA vaccines.

4. c

Sadir Attam

- Most classical dance forms of India which are strictly based on the Natya Shastra, originated from within the temple complexes.
- One such example is the Sadir Attam of Tamil Nadu, today known as Bharatanatyam.
- It was performed by the devadasis.
- Devadasis meaning Deva (deity) and Dasis (devotee) were the temple dancers of South India.
- The devadasi system was such that girls at a very young age were dedicated to the temple and were often considered to be married to the deity.
- Once a girl became a devadasi, she started training in the dance form called Sadir Attam also known as Dasi Attam under the guidance

of dance teachers called Nattuvanar or Koothiliar.

- Bharatanatyam traces its lineage to the ancient dance of Sadir Attam.
- The transition from Sadir to Bharatanatyam is unknown but it is a classical dance form that was once on the verge of dying, and has managed to survive over the years.

5. b

The right to protest involves the exercise of two fundamental rights

1. Freedom of speech and expression under Article 19 (1) (a)
2. Freedom to assemble peacefully under Article 19 (1) (b)

6. a

Dakshineswar Kali Temple

- Situated at the eastern banks of river Hooghly in West Bengal.
- It is built on the basis of Ratna Style Architecture.
- Ratna style architecture is the amalgamation of the Bangla and the North Indian (Sikhara) styles.
- The construction period is from 1847-1855.
- Presiding Deity: Bhavatarini, a form of Parashati Adya Kali, standing on the chest of a supine Shiva.
- A gabled roof with an eight-sided pyramid structured roof is called "ath chala" or eight faced roof, which resembles a dome.
- Due to lack of suitable stones in this alluvial delta, architects resorted to engineering other materials, giving rise to the use of burnt bricks and terracotta for temple construction.
- Almost every square inch of the temple is covered in intricate details with terracotta.
- This ornamentation is composed of rows of burnt-brick panels, each with a figure or geometric patterns.
- Idols in garbha griha are Kali and Shiva.
- Goddess kali appeared in the dream of Rani Rasmani and told her to construct the temple.

- Ramakrishna Paramhans, the guru of Swami Vivekananda, worked as the priest in this temple.

7. d

Dengue Fever

- Dengue is a mosquito-borne viral infection, found in tropical and sub-tropical climates worldwide, mostly in urban and semi-urban areas.
- The virus responsible for causing dengue is called dengue virus (DENV).
- There are four DENV serotypes, meaning that it is possible to be infected four times (DENV-1, DENV-2, DENV-3 and DENV-4).
- While many DENV infections produce only mild illness, DENV can cause an acute flu-like illness. Occasionally this develops into a potentially lethal complication, called severe dengue.
- Severe dengue is a leading cause of serious illness and death in some Asian and Latin American countries.
- There is no specific treatment for dengue/severe dengue. Early detection of disease progression associated with severe dengue, and access to proper medical care lowers fatality rates of severe dengue to below 1%.
- The global incidence of dengue has grown dramatically in recent decades.
- Dengue prevention and control depends on effective vector control measures.
- Dengue virus is transmitted by female mosquitoes mainly of the species *Aedes aegypti* and, to a lesser extent, *Aedes albopictus*.
- These mosquitoes are also vectors of chikungunya, yellow fever and Zika viruses.

8. c

United Nations Framework Convention on Climate Change (UNFCCC)

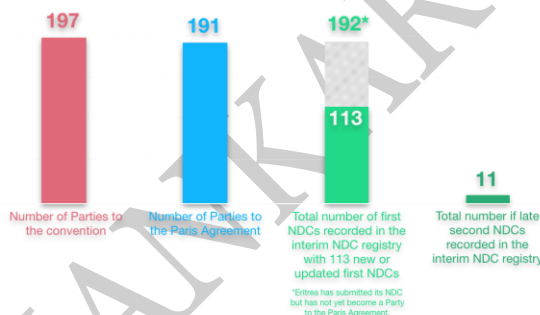
- The UNFCCC secretariat (UN Climate Change) is the United Nations entity tasked with supporting the global response to the threat of climate change.



- The Convention has near universal membership (197 Parties) and is the parent treaty of the 2015 Paris Agreement. The UNFCCC is also the parent treaty of the 1997 Kyoto Protocol.
- The UNFCCC secretariat is located in Bonn, Germany.
- The ultimate objective of all three agreements under the UNFCCC is to stabilize greenhouse gas concentrations in the atmosphere at a level that will prevent dangerous human interference with the climate system, in a time frame which allows ecosystems to adapt naturally and enables sustainable development.

Nationally Determined Contributions

- Nationally Determined Contributions – or NDCs – form the basis for countries to achieve the objectives of the Paris Agreement.
- NDCs embody efforts by each country to reduce national emissions and adapt to the impacts of climate change.
- The Paris Agreement requests each country to outline and communicate their post-2020 climate actions, known as their NDCs.



India's Nationally Determined Contributions

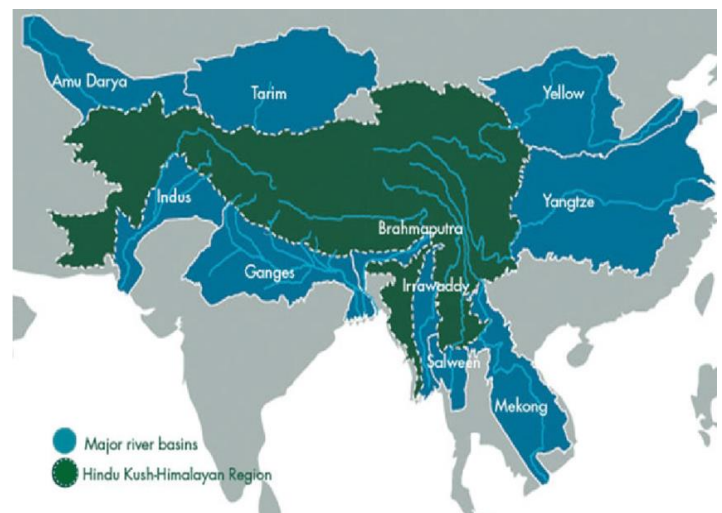
- To be achieved by 2030.
- To reduce the emissions intensity of the GDP by about a third.
- A total of 40% of the installed capacity for electricity will be from non-fossil fuel sources.

- India also promised an additional carbon sink (a means to absorb carbon dioxide from the atmosphere) of 2.5 to 3 billion tonnes of carbon dioxide equivalent through additional forest and tree cover by the year 2030.

9. b

Hindukush Mountain Range

- The Hindu Kush Himalayan (HKH) region extends 3,500 km over all or part of eight countries from Afghanistan in the west to Myanmar in the east.
- It is the source of ten large Asian river systems – the Amu Darya, Indus, Ganges, Brahmaputra, Irrawaddy, Salween (Nu), Mekong, Yangtze, Yellow River, and Tarim (Dayan).
- It provides water, ecosystem services, and the basis for livelihoods to a population of around 210.53 million people in the region.
- The basins of these rivers provide water to 1.3 billion people, a fifth of the world's population.
- The Himalayan range alone has the total snow and ice cover of 35,110 sq.km containing 3,735 cu.km of eternal snow and ice.
- The two lakes – Chibzhang Co and Dorsoidong Co – in the Hindu Kush Himalaya region grew larger between October 1987 and 2021
- Yuvan Xiang is the tributary of the Yangtze River.
- Bassac is the tributary of Mekong.





10. b

Chilika Lake

- Chilika Lake is the largest brackish water (mixture of saline and fresh water) lagoon of India, spread over the Puri, Khurda and Ganjam districts of Odisha State on the east coast of India.
- It is the largest coastal lagoon in India, located at the mouth of the Daya River, which is flowing into the Bay of Bengal, covering an area of over 1,100 km.
- It is designated as 'wetland of international importance under the Ramsar convention.
- With the opening of new mouths, a lot of sea water is entering Chilika Lake and, thereby increasing salinity of Chilika lagoon, increasing salinity may alter Chilika's ecosystem.
- Generally, if sea water ingression goes up, fish migration will increase and the biodiversity will get richer.

23-10-2021

1) Consider the following statements regarding Xenotransplantation:

1. It involves the transplantation, implantation or infusion into a human recipient from a non-human animal source.
2. Only organs can be transplanted or implanted using this process.

Choose the correct statement(s).

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

2) Consider the following statements regarding the Pacific Islands:

1. The great arc of islands located north and east of Australia and South of Equator is called Polynesia.
2. North of Equator and east of the Philippines are the islands of Melanesia.

3. In the far east are the many islands of Micronesia.

Which of the following statement(s) is/are **incorrect**?

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

3) With respect to 'Particulate Matter', consider the following statements:

1. Particulate Matter is the combination only solid and gaseous particles in the atmosphere.
2. Particulate Matter includes both organic and inorganic substances such as smoke, pollens, etc.

Choose the correct option.

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

4) With respect to Fundamental Rights, consider the following statements:

1. Constitutionality of a provision of law can be challenged by a foreign commercial entity on the ground of it being violative of Article 19.
2. All fundamental rights are not available to Indian companies.

Choose the correct statement(s).

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

5) Consider the following statements regarding Gati Shakti:

1. It aims to have two defense corridors one in Tamil Nadu and Maharashtra.
2. Extending 4g connectivity to all villages is another aim.

3. It will help in fulfilling the ambitious targets set by the government for expanding the length of the national highway network to 2 lakh kms.

Identify the correct statement(s).

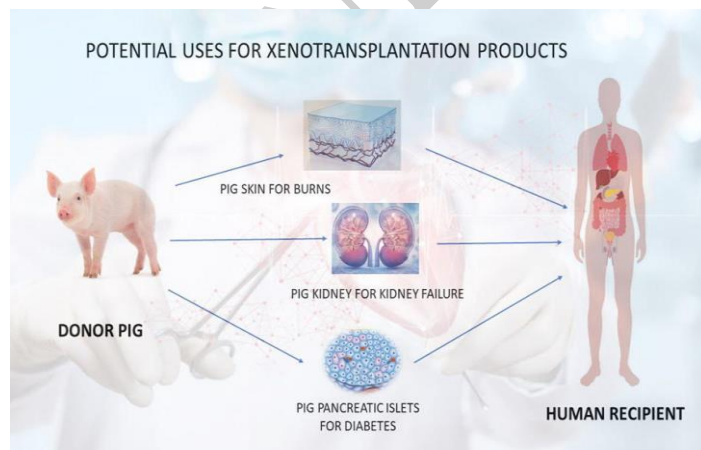
- a. 1 only
- b. 1 and 2 only
- c. 1 and 3 only
- d. 2 and 3 only

Answers

1. a

Xenotransplantation

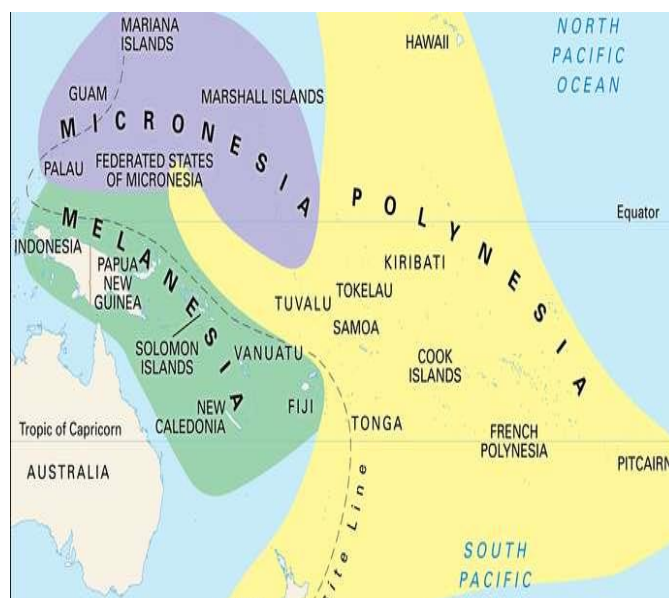
- It involves the transplantation, implantation or infusion into a human recipient of either live cells, tissues or organs from a nonhuman animal source or human body fluids, cells, tissues or organs that have had ex vivo (the samples to be tested have been extracted from the organism) contact with live nonhuman animal cells, tissues or organs.
- Transplantation of cells and tissues may be therapeutic for certain diseases such as neurodegenerative disorders and diabetes, where, again human materials are not usually available.
- The use of xenotransplantation raises concerns regarding the potential infection of recipients with both recognized and unrecognized infectious agents and the possible subsequent transmission to their close contacts and into the general human population.

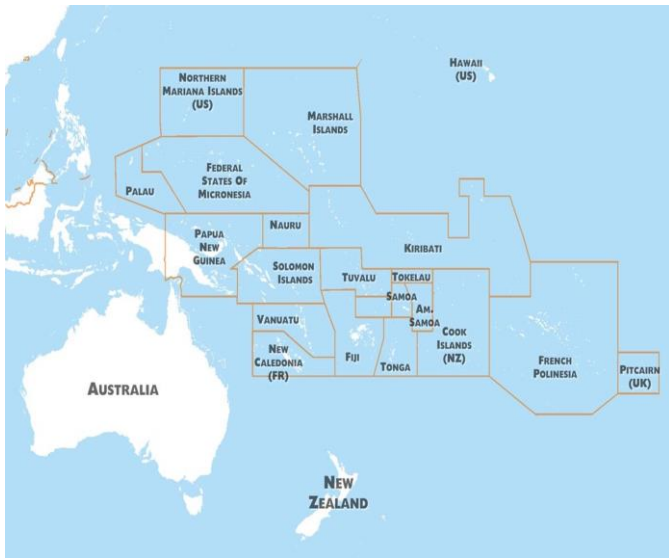


2. d

Pacific Islands

- Pacific Islands, island geographic region of the Pacific Ocean.
- It comprises three ethnogeographic groupings—Melanesia, Micronesia, and Polynesia—but conventionally excludes the neighbouring island continent of Australia, the Asia-related Indonesian, Philippine, and Japanese archipelagoes, and the Ryukyu, Bonin, Volcano, and Kuril Island arcs that project seaward from Japan.
- The Pacific Island region covers more than 300,000 square miles (800,000 square km) of land—of which New Zealand and the island of New Guinea make up approximately nine-tenths—and millions of square miles of ocean.
- It is a mixture of independent states, associated states, integral parts of non-Pacific Island countries, and dependent states.
- The great arc of islands located north and east of Australia and south of the Equator is called Melanesia
- North of the Equator and east of the Philippines are the islands of Micronesia
- In far to the east, are the many ("poly") islands of Polynesia.

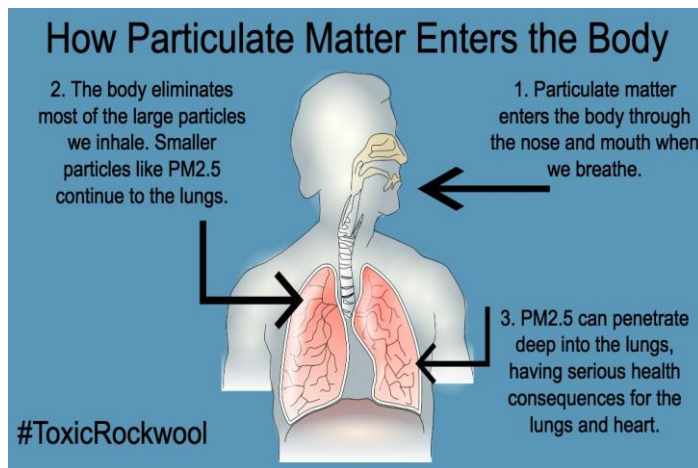




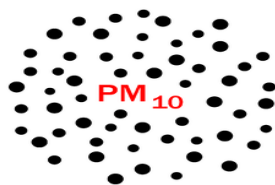
3. b

Particulate Matter

- Particulate matter is the sum of all solid and liquid particles suspended in air many of which are hazardous.



Air pollution
particulate matter (PM)



Coarse particulate matter



Fine particulate matter

- This complex mixture includes both organic and inorganic particles, such as dust, pollen, soot, smoke, and liquid droplets.
- These particles vary greatly in size, composition, and origin.
 - It includes PM 10: Inhalable particles, with diameters that are generally 10 micrometres and smaller. PM 2.5: fine inhalable particles, with diameters that are generally 2.5 micrometres and smaller.
- Sources of PM: Some are emitted directly from a source, such as construction sites, unpaved roads, fields, smokestacks or fires.

How are particles formed?

- Coarse particles are produced by the mechanical break-up of larger solid particles.
- The coarse fraction can include dust from roads, agricultural processes, uncovered soil or mining operations, as well as non-combustible materials released when burning fossil fuels.
- Pollen grains, mold spores, and plant and insect parts can also contribute to the coarse fraction.
- Evaporation of sea spray can produce large particles near coasts.
- Fine particles are largely formed from gases.

4. b

Fundamental Rights

- Constitutionality of a provision of law cannot be challenged by a foreign commercial entity on the ground of it being violative of Article 19.
- All fundamental rights are not available to both Indian and foreign companies.
- Whats app has filed a lawsuit in the High court asking the Indian government, seeking to block the traceability clause of the Information Technology Rules, 2021 that requires social media platforms with more than 5 million users to locate the first originator of the information, if required by the local authorities.



FR available to both citizens and foreigners (except enemy aliens)	FR available only to citizens and not to foreigners
1. Equality before the law and equal protection of laws (Article 14).	1. Prohibition of discrimination on grounds of religion, race, Sex, castes or place of birth (Article 15).
2. Protection in respect of conviction for offences (Article 20).	2. Equality of opportunity in matters of public employment (Article 16).
3. Protection of life and personal liberty (Article 21).	3. Protection of six rights regarding freedom (Article 19).
4. Right to elementary education (Article 21A).	4. Protection of language, script and culture of minorities (Article 29).
5. Protection against arrest and detention in certain cases (Article 22).	5. Right of minorities to establish and administer educational institutions (Article 30).

5. d

Gati Scheme

- The plan aims to transfer India into a hub of world class infrastructure by providing integrated and seamless connectivity for movement of people, goods and services.
- A digital platform will be created to bring 16 ministries including rail and roadways together for integrated planning and coordinated implementation of infrastructure projects.
- Comprehensiveness: It will incorporate the existing infrastructure schemes of different departments and state governments like Bharatmala, Sagarmala, inland waterways, UDAN etc.

- Analytical -It will offer 200 layers of geospatial data, including on existing infrastructure as well as geographic information about forests, rivers and district boundaries.
- Dynamic: The portal will allow various government departments to track the progress of various projects in real time and at one centralised place.
- Prioritization: Different Departments will be able to prioritize their projects through cross-sectoral interactions.
- Optimization- For the transportation of goods from one place to another, the plan will help in selecting the most optimum route in terms of time and cost.

25-10-2021

1) With respect to white dwarf, consider the following statements:

- The faintest main sequence star is called the white dwarf.
- This is the last stage in the life cycle of a star, like the Sun.
- They are the remains of normal stars, whose nuclear energy supplies have been used up.
- Proxima Centauri is the nearest white dwarf.

Choose the correct statement(s).

- 1 and 3 only
- 2 and 3 only
- 1 and 2 only
- 2 and 4 only

2) Consider the following statements with respect to Small Islands Developing States (SIDS):

- They were recognized as a special case in the Rio Summit 1992.
- They are located over these geographical locations, namely The Caribbean, Indian Ocean, Pacific, Antarctic, South China Sea, and Arctic.
- Bahamas, Maldives, Singapore and Sri Lanka are part of the SIDS grouping.

Identify the **incorrect** statement(s).



- a. 1 only 2 only
- b. 2 and 3 only
- c. 2 only
- d. 1 and 3 only

3) With respect to Initial Public Offering (IPO), consider the following statements:

1. Companies must meet requirements by exchanges and the Securities and Exchange Commission (SEC) to hold an initial public offering (IPO).
2. Initial Public Offering and Post Marketing Strategy are the two steps involved in an IPO process.

Which of the above statement(s) is/are correct?

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

4) Which of the following School of Buddhism is being headed by Dalai Lama?

- a. Sakya
- b. Gelug
- c. Kagyu
- d. Nyingma

5) With respect to the Drone Rules, 2021, consider the following statements:

1. No permission required to fly drones in green and yellow zones.
2. No pilot license required for micro drones of commercial use.

Identify the **incorrect** statement(s).

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

6) Consider the following statements with respect to Banni Buffaloes

1. They can tolerate water scarcity and harsh climatic conditions, while thriving on the natural grasses growing in the area.
2. They have a unique quality of night grazing.

Which of the statement(s) given above is/are correct?

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

7) With respect to Production Linked Incentive (PLI) Scheme for Speciality Steel, consider the following statements:

1. Steel is a de-regulated sector in India.
2. Speciality Steel refers to value-added steel where the normal finished steel is worked upon by way of coating, plating and heat treatment.
3. It can be used in various strategic applications such as defence, space, power apart from automobile sector and specialised capital goods.

Which of the statements given above are correct?

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

8) Consider the following statements with respect to ABHYAS

1. It is an air vehicle launched using twin under-slung boosters.
2. It is powered by a Scramjet engine to sustain a long endurance flight at subsonic speed.
3. It is designed & developed by the Defence Research and Development Organisation (DRDO).

Which of the statements given above are correct?

- a. 1 and 2 only

- b. 1 and 3 only
- c. 2 and 3 only
- d. 1, 2 and 3

9) In which of the following place, the flag of Indian National Army (INA) was hoisted for the first time on Indian soil?

- a. Agartala, Tripura
- b. Moirang in Manipur
- c. Dimapur, Nagaland
- d. Malda, West Bengal

10) Hoisting National Flag is a fundamental right under which of the following?

- a. Equality before Law
- b. Prohibition of Discrimination
- c. Freedom of Speech and Expression
- d. Freedom of Conscience, Profession, Practice and Propagation

Answers

1. b

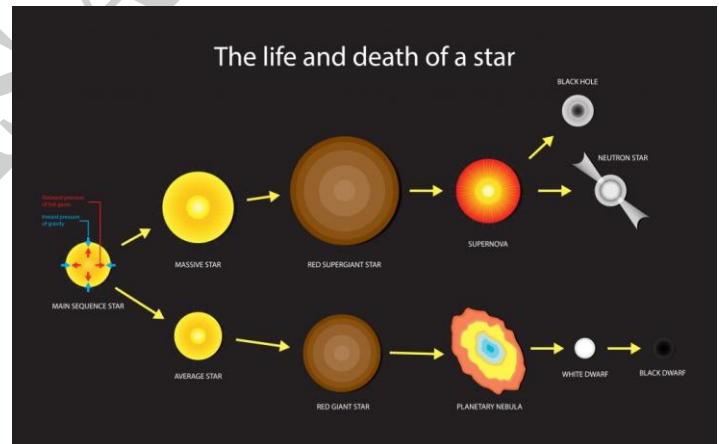
White Dwarf

- A white dwarf is very small, hot star, the last stage in the life cycle of a star like the Sun.
- White dwarfs are the remains of normal stars, whose nuclear energy supplies have been used up.
- White dwarf consists of degenerate matter with a very high density due to gravitational effects.
- A typical white dwarf is half the size of our Sun and has a surface gravity 100,000 times that of Earth.
- Using the Hubble Space telescope and Transiting Exoplanet Survey Satellite (TESS), astronomers have identified several white dwarfs over the years.
- An international team has reported a unique phenomenon in a white dwarf about 1,400 light years from Earth.

- They saw the white dwarf lose its brightness in 30 minutes. These gaps in brightness have been previously reported but the process usually takes place over a period of several days to months.

Red Dwarf

- The faintest (less than 1/1000th the brightness of the Sun) main sequence stars are called the red dwarfs.
- Because of their low luminosity, they are not visible to the naked eye.
- They are quite small compared to the sun and have a surface temperature of about 4000 degree Celsius.
- According to some estimates, red dwarfs make up three-quarters of the stars in the Milky Way.
- Proxima Centauri, the nearest star to the Sun, is a red dwarf.



2. b

Small Islands Developing States (SIDS)

- There are 52 countries classified as SIDS out of which 38 are United Nations members while 14 are non-UN members or Associate Members of the Regional Commissions.
- SIDS is a distinct group of developing countries that face specific economic, social and environmental vulnerabilities or challenges.
- SIDS countries were recognized as a special case for the first time at the Rio Summit 1992.

- SIDS is located over these geographical regions. They are all island territories in anyone of the following three regions, namely Caribbean, Pacific, Atlantic, Indian Ocean, Mediterranean and South China Sea (AIMS).
- Sri Lanka is not a member of SIDS.
- Along with Australia, the UK and Small Island developing states (SIDS) will be launching a new grouping of infrastructure for Resilient Island States (IRIS) on the sidelines of the upcoming Conference of Parties (COP26).
- This platform is aimed at creating a coalition for putting in place infrastructure that can withstand natural disasters and lessen economic losses in island nations.
- Australia, India and the UK have committed an initial funding of \$10 million for IRIS.
- For SIDS, losses from disaster, including infrastructure, is the highest as a percentage of gross domestic product (GDP).
- Mediterranean and South China Sea regions, are among the most vulnerable to geophysical and hydro-meteorological hazards.
- The impact of climate change in the form of tsunamis, cyclones, earthquakes and heavy rains are more frequent and intense in many of these countries.
- Susceptibility to very high relative economic losses due to disasters averages 1-10 per cent of GDP annually.
- SIDS accounts for two-thirds of the countries that suffer the highest relative losses due to disasters.



3. a

Initial Public Offering (IPO)

- An initial public offering (IPO) refers to the process of offering shares of a private corporation to the public in a new stock issuance.
- IPO allows a company to raise capital from public investors.
- Before an IPO, a company is considered private.
- An IPO is a big step for a company as it provides the company with access to raising a lot of money.
- Companies must meet requirements by exchanges and the Securities and Exchange Commission (SEC) to hold an initial public offering (IPO).
- In IPO process, the first step is the pre-marketing phase of the offering, while the second is the initial public offering itself.

4. b

Dalai Lama

- The Dalai is the head monk of the Gelug school of Tibetan Buddhism.
- Tibetan Buddhism has four major schools, namely Nyingma (c. 8th century), Kagyu (11th century), Sakya (1073), and Gelug (1409).
- He is considered to be the successor in a line of tulkus who are believed to be incarnations of Avalokitesvara, the Bodhisattva of Compassion.
- Avalokiteshvara is the earthly manifestation of the self-born eternal Buddha Amitabha, whose figure is represented in his headdress, and he guards the world in the interval between the departure of the historical Buddha, Gautama, and the appearance of the future buddha, Maitreya.
- Until the 1950s, the Dalai Lamas headed the Tibetan government.
- As per the tradition, indications about the next Dalai Lama would be left behind by the present one.
- Panchen Lama, second only to The Dalai Lama is traditionally recognized by the Dalai Lama



and the Panchen Lama is part of the process by which each new Dalai Lama is chosen.

- The Chinese have already installed their own Panchen Lama.

5. c

Drone Rules 2021

- “Drone” means an aircraft that can operate autonomously or can be operated remotely without a pilot on board.
- In March 2021, the Ministry of Civil Aviation (MoCA) published the UAS Rules, 2021.
- Unmanned Aircraft Systems (UAS), commonly known as drones, offer tremendous benefits to almost all sectors of the economy like – agriculture, mining, infrastructure, surveillance, emergency response, transportation, geo-spatial mapping, defense, and law enforcement etc.

GREEN ZONE: Airspace up to a vertical distance of 400 feet that is not designated as red or yellow zone

No Permission Required

YELLOW ZONE: Airspace above 400ft in green zone, and air space above 200ft within 8 to 12km from an airport. These are restricted, and need ATC permit

Needs Permit

RED ZONE: Airspace where UAVs only allowed by Centre are permitted

Not allowed

- India has the potential to be global drone hub by 2030.
- No permission required for operating drones in green zones.
- Green zone means the airspace up to a vertical distance of 400 feet or 120 meter that has not been designated as a red zone or yellow zone in the airspace map.
- Yellow zone is the airspace above 400 feet in a designated green zone, and above 200 feet in the area located between 8-12 km from the perimeter of an airport, and above ground in the area located between 5-8 km from the perimeter of an airport.

- Red zone is the 'no-drone zone' within which drones can be operated only after permission from the Central government.
- No pilot licence required for micro drones of non commercial use, nano drones of Research and development organisations.

6. c

- India's first IVF (in-vitro fertilisation) calf of Banni breed of buffaloes was born at a farmer's house in Gir Somnath district of Gujarat.

Banni Buffaloes

- The Banni buffalo, unlike common breeds such as Murrah or Jaffarabadi, can tolerate water scarcity and harsh climatic conditions, while thriving on the natural grasses growing in the area.
- It can cover long distances during drought and is disease resistant.
- The Banni buffalo is adapted to the Banni grasslands.
- The Maldharis, 90 per cent Muslim and the rest mainly Meghwal Dalit Hindus, leave these animals to graze during the night.
- They are trained to return to their vandh (hamlet) in the morning.
- The grasses, in turn, are well adapted to withstand dry weather, containing up to 5 per cent crude protein and 40 per cent fibre.

7. d

- Union Cabinet has recently approved Production-Linked Incentive Scheme for Specialty Steel.

PLI Scheme for Speciality Steel

- Steel is a de-regulated sector, and the role of the Ministry is that of a facilitator to the steel industry.
- Specialty steel is value added steel wherein normal finished steel is worked upon by way of coating, plating, heat treatment, etc to convert it into high value added steel.
- It can be used in various strategic applications like Defence, Space, Power, apart from automobile sector, specialized capital goods etc.



- Speciality Steel was chosen as the target segment because out of the production of 102 million tonnes of steel in India in 2020-21, value-added steel/specialty steel produced in the country is only 18 million tonne.

The five categories of specialty steel which have been chosen in the PLI Scheme are:

1. Coated/Plated Steel Products
2. High Strength/Wear resistant Steel
3. Specialty Rails
4. Alloy Steel Products and Steel wires
5. Electrical Steel

8. b

- ABHYAS - the High-speed Expendable Aerial Target (HEAT) was successfully flight-tested recently by the Defence Research and Development Organisation (DRDO) from the Integrated Test Range (ITR), Chandipur off the coast of Bay of Bengal in Odisha.



ABHYAS

- It is designed & developed by DRDO's Aeronautical Development Establishment (ADE), Bengaluru.
- The air vehicle is launched using twin under-slung boosters which provide the initial acceleration to the vehicle.
- It is powered by a gas turbine engine to sustain a long endurance flight at subsonic speed.
- The target aircraft is equipped with MEMS based Inertial Navigation System (INS) for navigation along with the Flight Control Computer (FCC) for guidance and control.

- The vehicle is programmed for fully autonomous flight.
- The check-out of air vehicle is done using laptop-based Ground Control Station (GCS).

9. b

Indian National Army (INA)

- On April 14, 1944, the flag of the INA was hoisted for the first time on the Indian soil at Moirang, Manipur.
- Moirang, which about 45 km from the state capital Imphal, was chosen as the headquarters of the INA led by Netaji Subhas Chandra Bose, after they liberated a part of Manipur from the British rule and established the provincial independent government.
- Subsequently, on April 14 1944, Colonel Shaikat Ali Malik hoisted the flag of the provincial government in Moirang. The INA flag comprises yellow, white and green. The image of a springing tiger was in the middle of the flag.

10. c

- **Article 19(1) (a)** of Indian Constitution which granted the fundamental right to Freedom of Speech & Expression granted every citizens the fundamental right to fly the national flag on their premises throughout the year, provided the premises do not undermine the dignity of the national flag.

26-10-2021

1) Consider the following statements:

1. The increase in CO₂ from 2019 to 2020 was slightly lower than that observed from 2018 to 2019.
2. The increase in methane from 2019 to 2020 was higher than that observed from 2018 to 2019.

Which of the statement(s) given above is/are correct?

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



2) Consider the following statements with respect to Qutb Shahi Tombs Complex

1. It is a UNESCO World Heritage Site.
2. It is a ceremonial Gateway built to celebrate the foundation of Hyderabad, a new Millennial City, in 1591 A.D.
3. The tombs belong to the rulers of the Qutb Shahi Dynasty, their queens and children and the nobles who faithfully served them.

Which of the statement(s) given above is/are correct?

- a. 1 and 3 only
- b. 3 only
- c. 1 and 2 only
- d. None of the above

3) Silver Forget-Me-Not (FMN), sometimes seen in the news recently, refers to?

- a. A butterfly Species
- b. A form of Pesticide
- c. A shadow foreign policy followed in Japan
- d. A substance produced in the digestive system of sperm whales

4) Consider the following statements with respect to Green Day Ahead Market (GDAM)

1. It is a new market segment for trading in renewable energy following the Central Electricity Regulatory Commission (CERC) approval.
2. India is the only large electricity market in the world to implement a GDAM exclusively for renewable energy.

Which of the statement(s) given above is/are correct?

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

5) Consider the following statements with respect to National Fund to Control Drug Abuse (NFCDA)

1. The fund was created in accordance with a provision of the Narcotic Drugs and Psychotropic Substances Act (NDPS Act), 1985.
2. The funds can also be utilized to educate public against drug abuse.

Which of the statement(s) given above is/are correct?

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

6) You are now at Barnadi Wildlife Sanctuary your next destination is Koudinya wildlife Sanctuary. What is the minimum number of states you need to cross your destination? (Source and destination included).

- a. Two
- b. Four
- c. Three
- d. Five

7) Consider the following statements with respect to Non Banking Financial Companies (NBFC):

1. NBFCs are allowed to take traditional demand deposits i.e. readily available funds, such as those in savings accounts from the public.
2. NBFCs are subject to banking regulations and are overseen by federal and state authorities.

Identify the **Incorrect** statement(s).

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

8) Consider the following statements with respect to Ayushman Bharat Health Infrastructure Mission:

1. Aims to establish an IT-enabled disease surveillance system through a network of surveillance laboratories at the state level only.



2. All the public health labs will be connected through the Integrated Health Information Portal.
3. The mission will also set up a regional research platform for WHO's South East Asia region.

- a. 1 and 3 only
- b. 1 and 2 only
- c. 2 and 4 only
- d. 3 and 4 only

Which of the above statement(s) is/are correct?

- a. 1 and 2 only
- b. 2 only
- c. 2 and 3 only
- d. 1 and 3 only

9) The Earth System Science Organisation (ESSO) and the India Meteorological Department (IMD) take into consideration which of the following for South West Monsoon prediction:

1. Sea Surface Temperature (SST) gradient between the north Atlantic and the north Pacific.
2. SST of the equatorial south Indian Ocean.
3. Mean Sea Level pressure in East Asia.
4. The surface air temperature over northwest Europe.
5. The warm water volume of the equatorial Pacific Ocean.

Which of the above statement(s) is/are correct?

- a. 1, 3, 4 and 5 only
- b. 3, 4 and 5 only
- c. 1, 2, 3, 4 and 5
- d. 2, 4 and 5 only

10) Consider the following statements:

1. 'Iconic Tourist Site' is an initiative of ministry of Jal Shakthi.
2. 'Swachh Iconic Places' is an initiative of ministry of Tourism.
3. Colva, Dholavira, Hampi, Mahabodhi temple are all part of Iconic Tourist Site initiative.
4. Golkonda fort, Dal Lake, Sun Temple, Sanchi Stupa are all part of Swachh Iconic Place initiative.

Choose the correct statement(s).

Answers

1. c

State of the Climate in Asia Report, 2020

- This report was launched by the World Meteorological Organisation (WMO).

Carbon dioxide

- The report highlighted that the increase in CO₂ from 2019 to 2020 was slightly lower than that observed from 2018 to 2019 but higher than the average annual growth rate over the last decade.
- This is despite the approximately 5.6% drop in fossil fuel CO₂ emissions in 2020 due to restrictions related to the pandemic.

Methane

- For methane, the increase from 2019 to 2020 was higher than that observed from 2018 to 2019 and also higher than the average annual growth rate over the last decade.

Nitrous Oxides

- For nitrous oxides also, the increase was higher and also than the average annual growth rate over the past 10 years.
- The National Oceanic and Atmospheric Administration (NOAA) Annual Greenhouse Gas Index (AGGI) shows that from 1990 to 2020, radiative forcing by long-lived greenhouse gases (LLGHGs) increased by 47%, with CO₂ accounting for about 80% of this increase.
- Concentration of CO₂, the most significant greenhouse gas, reached 413.2 parts per million in 2020 and is 149% of the pre-industrial level.
- Methane (CH₄) is 262% and nitrous oxide (N₂O) is 123% of the levels in 1750 when human activities started disrupting earth's natural equilibrium.

2. b

- The Qutb Shahi tombs complex has been on the tentative list of World Heritage Sites since 2010

The Qutb Shahi Monuments of Hyderabad Golconda Fort, Qutb Shahi Tombs, Charminar

- Located in the city of Hyderabad, capital of the state of Andhra Pradesh, Golconda Fort, Qutb Shahi Tombs and Charminar are the landmarks that symbolize the Qutb Shahi Dynasty.
- The monuments of the Qutb Shahi period represent different building typologies; Golconda is a fortified citadel and an early capital city of the Qutb Shahi dynasty.
- It is an ensemble of military structures, ramparts, gates, bastions, armoury; religious structures such as mosques, temples; residential structures such as palaces; water systems such as canals, fountains and landscaped gardens.
- The tombs of Qutb Shahis are a mausoleum complex, a royal necropolis which comprises the tombs of the Royal family and the officials who faithfully served them and also mortuary bath and mosques.
- Charminar on the other hand, is a ceremonial Gateway built to celebrate the foundation of Hyderabad, a new Millennial City, in 1591 A.D.

3. a

- A rare butterfly species, called the Silver Forget-Me-Not (FMN), has been spotted twice inside the Sriyilliputhur-Meghamalai Tiger Reserve in Tamil Nadu.

Silver Forget-Me-Not (FMN)

- The Silver FMN was earlier recorded in Chinnar, Kerala, in 2019; in Andaman & Nicobar Islands between 2015 and 2017 and in Sikkim, West Bengal and the Northeast States of Arunachal Pradesh, Assam, Meghalaya, Mizoram and Tripura between 2005 and 2020.
- The species is not known to be migratory in nature.
- Indigosa is its food plant and probably, the Silver FMN is overlooked due to its resemblance to the Common FMN.

Silver FMN Vs Common FMN

- Both are silver in colour with a spot on the forewing.
- The slight variation in the discal bands, colour of the Upper wing and position of the spot determines the species.
- The common FMN is bluish-silver with a spot in the middle of its two straight discal bands.
- The Silver FMN is pale silvery with slightly curved bands and the spot is near the upper band.



4. c

Green-Term Ahead Market (G-TAM)

- It is a new market segment for trading in renewable energy following the Central Electricity Regulatory Commission (CERC) approval on a day-ahead basis.
- The GDAM will enable electricity generation and distribution companies to buy or sell renewable energy through open access.
- The Green Day-ahead market will operate in an integrated way with the conventional day-ahead market.
- The Exchanges will offer the market participants to submit bids together for both conventional and renewable energy through the separate bidding windows.
- National Load Despatch Centre (NLDC), POSOCO, as the Nodal Agency, has set up the latest technologies and communication

infrastructure for facilitating the Green Day Ahead Market.

Day-Ahead-Market (DAM)

- It is a physical electricity trading market for deliveries for any/some/all 15 minute time blocks in 24 hours of next day starting from midnight.
- The prices and quantum of electricity to be traded are determined through a double sided closed auction bidding process

5. c

National Fund to Control Drug Abuse

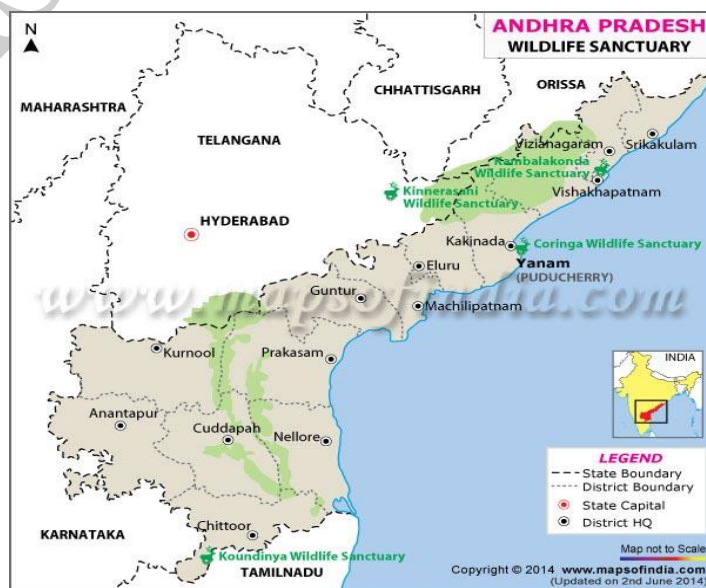
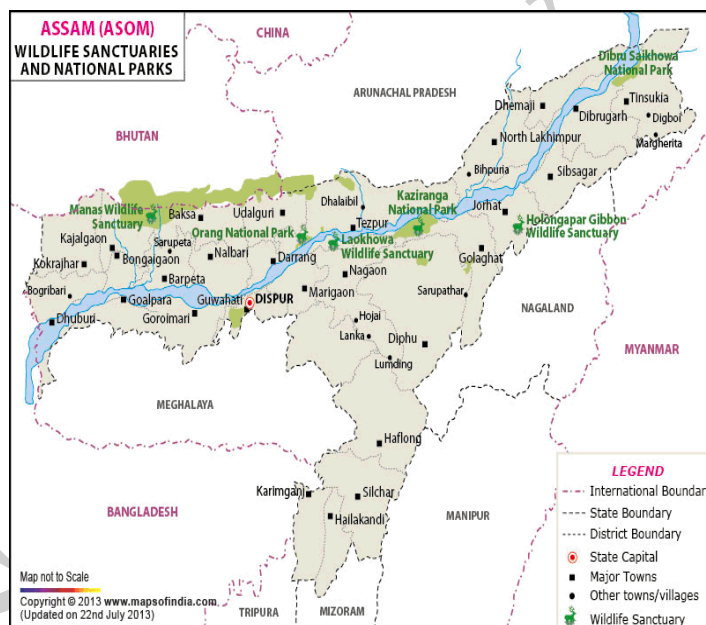
- Ministry of Social Justice and Empowerment has recommended that the National Fund to Control Drug Abuse (NFCDA) be used to carry out de-addiction programmes, rather than just policing activities.
- The World Health Organisation defines 'Drug Abuse' as the harmful or hazardous use of psychoactive substances, including alcohol and illicit drugs.
- The fund was created in accordance with a provision of the Narcotic Drugs and Psychotropic Substances Act (NDPS Act), 1985.
- Objectives - The funds can be utilized to meet the expenditure incurred in connection with the measures taken for,
 - Combating illicit traffic in narcotic drugs, psychotropic substances or controlled substances;
 - Controlling the abuse of narcotic drugs & psychotropic substances;
 - Identifying, treating, rehabilitating addicts;
 - Educating public against drug abuse; and
 - Supplying drugs to addicts where such supply is a medical necessity.

6. b

Barnadi Wildlife Sanctuary

- It is one of the smallest WS (Wildlife Sanctuary) of Assam.
- Barnadi Wildlife Sanctuary (BWS) is located in northern Assam's Baksa and Udalguri districts bordering Bhutan.

- The Sanctuary is bordered by the Barnadi river and Nalapara river to the west and east respectively.
- Barnadi was established specifically to protect the Pygmy Hog and Hispid Hare.



Koundinya Wildlife Sanctuary

- Koundinya Wildlife Sanctuary is the only sanctuary in Andhra Pradesh with a population of Asian elephants.
- The sanctuary is covered by southern tropical dry deciduous and thorn forests.

- Some of the important flora consists of Albizia amara, Acacia, Lagerstroemia, Ficus, bamboo, and a species which is a regeneration of Santalum album.
- Apart from Elephant, some of the animals found in the sanctuary are: sloth bear, panther, cheetal, chowsingha, sambar, porcupine, wild boar, jungle cat, jackal, jungle fowl, starred tortoise and slender loris.

7. c

Non Banking Financial Companies (NBFC)

- Nonbank financial companies (NBFCs), also known as nonbank financial institutions (NBFIs) are entities that provide certain bank-like and financial services but do not hold a banking license.
- NBFCs are not subject to the banking regulations and oversight by federal and state authorities adhered to by traditional banks.
- Investment banks, mortgage lenders, money market funds, insurance companies, hedge funds, private equity funds, and P2P lenders are all examples of NBFCs.
- Since the Great Recession, NBFCs have proliferated in number and type, playing a key role in meeting the credit demand unmet by traditional banks.
- Generally, these institutions are not allowed to take traditional demand deposits—readily available funds, such as those in checking or savings accounts—from the public.
- This limitation keeps them outside the scope of conventional oversight from federal and state financial regulators.
- Nonbank financial companies fall under the oversight of the Dodd-Frank Wall Street Reform and Consumer Protection Act, which describes them as companies "predominantly engaged in a financial activity" when more than 85% of their consolidated annual gross revenues or consolidated assets are financial in nature.

8. c

Ayushman Bharat Health Infrastructure Mission

- India's largest scheme to scale-up health infrastructure.

- The Ayushman Bharat Health Infrastructure Mission is aimed at ensuring a robust public health infrastructure in both urban and rural areas, capable of responding to public health emergencies or disease outbreak.
- In a bid to increase accessibility, the Ayushman Bharat Health Infrastructure Mission, an addition to the National Health Mission, will provide support to 17,788 rural Health and Wellness Centres in 10 'high focus' states and establish 11,024 urban Health and Wellness Centres across the country.
- It will ensure access to critical care services in all districts of the country with over five lakh population through 'Exclusive Critical Care Hospital Blocks'.
- The remaining districts will be covered through referral services.
- Integrated public health labs will also be set up in all districts, giving people access to "a full range of diagnostic services" through a network of laboratories across the country.
- The Ayushman Bharat Health Infrastructure Mission also aims to establish an IT-enabled disease surveillance system through a network of surveillance laboratories at block, district, regional and national levels.
- All the public health labs will be connected through the Integrated Health Information Portal, which will be expanded to all states and UTs.
- The mission will set up other infrastructure, including a national institution for one health, four national institutes for virology, a regional research platform for WHO's South East Asia region, nine bio safety level-III laboratories, and five regional centers for disease control.

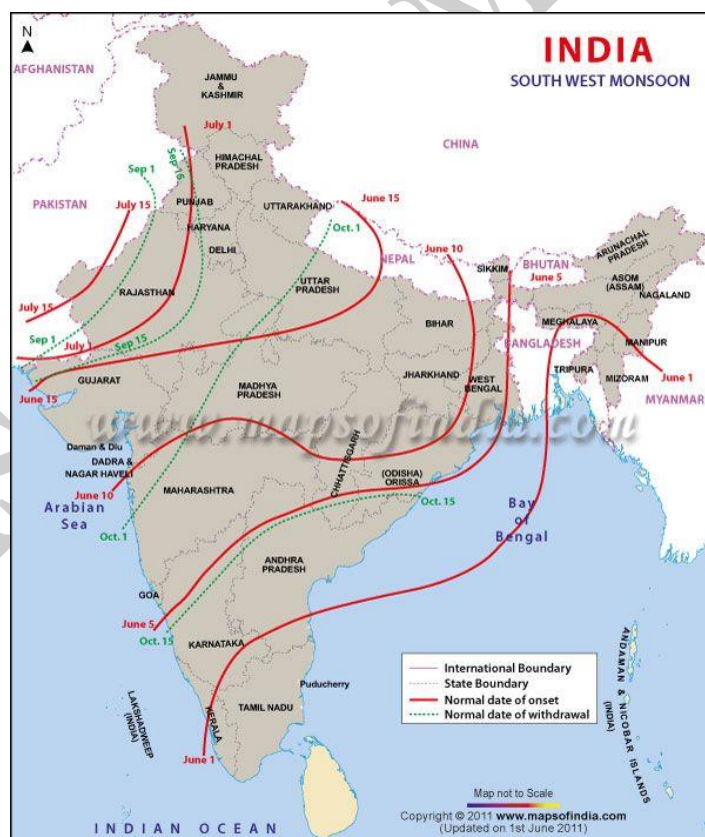
9. c

Monsoons in India

- The term monsoon has been derived from the Arabic word mausin or from the Malayan word monsin meaning 'season'.
- Monsoons are seasonal winds which reverse their direction with the change of season.

- The monsoon is a double system of seasonal winds – They flow from sea to land during the summer and from land to sea during winter.
- Monsoons are peculiar to Indian Subcontinent, South East Asia, parts of Central Western Africa etc..
- They are more pronounced in the Indian Subcontinent compared to any other region.
- Indian Monsoons are Convection cells on a very large scale.
- They are periodic or secondary winds which seasonal reversal in wind direction.
- India receives south-west monsoon winds in summer and north-east monsoon winds in winter.
- South-west monsoons are formed due to intense low pressure system formed over the Tibetan plateau.
- North-east monsoons are associated with high pressure cells over Tibetan and Siberian plateaus.
- South-west monsoons bring intense rainfall to most of the regions in India and north-east monsoons bring rainfall to mainly south-eastern coast of India (Southern coast of Seemandhra and the coast of Tamil Nadu.).
- Countries like India, Indonesia, Bangladesh, Myanmar etc. receive most of the annual rainfall during south-west monsoon season where as South East China, Japan etc., during north-east rainfall season.
- This year the South West monsoon has retrieved later than usual.
- The Earth System Science Organisation (ESSO) and the India Meteorological Department (IMD) take into account five conditions while making forecasts about the monsoon in April every year.
- The Sea Surface Temperature (SST) gradient between the north Atlantic and the north Pacific (conditions during December of the previous year and January of present year).
- SST of the equatorial south Indian Ocean (conditions during February and March of the present year).

- Mean Sea Level pressure in East Asia (conditions during February and March of the present year).
- The surface air temperature over northwest Europe (conditions during January of the present year).
- The warm water volume of the equatorial Pacific Ocean (conditions during February and March of the present year).



10. d

Iconic Tourist Site

- Ministry of Tourism has identified 20 sites as Iconic Tourist Sites in India.
- The Ministry shall be developing the sites in a holistic manner with focus on issues concerning connectivity to the destination, better facilities/experience for the tourists at the site, skill development, and involvement of local community, promotion & branding and by bringing private investment.

- The development of Iconic Tourist sites scheme is awaiting approval of the Ministry of Finance.
- The initiative is aimed at enhancing India's soft power.
- The monuments taken up for development under the initiative fall under the jurisdiction of Archaeological Survey of India (ASI) and State Archaeology Departments.
- The Ministry will carry out interventions at these monuments in collaboration with the ASI and State Government.
- All development plans will have elements of universal accessibility, cleanliness at the monuments, use of Green Technology and enhanced security for the tourists.
- The 20 sites identified include:
 - Taj Mahal and Fatehpur Sikri (Uttar Pradesh),
 - Ajanta and Ellora (Maharashtra),
 - Humayun's Tomb, Red Fort and Qutub Minar (Delhi),
 - Colva (Goa),
 - Amer Fort (Rajasthan),
 - Somnath and Dholavira (Gujarat),
 - Khajuraho (Madhya Pradesh),
 - Hampi (Karnataka),
 - Mahabalipuram (Tamil Nadu),
 - Kaziranga (Assam),
 - Kumarakom (Kerala) and
 - Mahabodhi Temple (Bihar)
 - Konark Sun Temple (Odisha)
 - Kevadia (Gujarat)
 - Golconda Fort (Telangana)

Swachh Iconic Places (SIP)

- The initiative aims at enhancing the experience of both domestic and foreign visitors by improving the sanitation and cleanliness standards at and around the sites.
- The objective of SIP is to achieve a distinctly higher level of Sanitation/Cleanliness at these

places, especially on the peripheries and in approach areas.

- This project is being coordinated by the Department of Drinking Water and Sanitation (DDWS), Ministry of Jal Shakti in association with the Ministry of Housing and Urban Affairs (MoHUA), Ministry of Tourism, Ministry of Culture and the concerned State/UT governments.
- Ministry of Jal Shakti has announced the selection of the following Twelve (12) iconic sites.
 - Ajanta Caves, Maharashtra
 - Sanchi Stupa, Madhya Pradesh
 - Kumbhalgarh Fort, Rajasthan
 - Jaisalmer Fort, Rajasthan
 - Ramdevra, Jaisalmer, Rajasthan
 - Golconda Fort, Hyderabad, Telangana
 - Sun Temple, Konark, Odisha
 - Rock Garden, Chandigarh
 - Dal Lake, Srinagar, Jammu & Kashmir
 - Banke Bihari Temple, Mathura, Uttar Pradesh
 - Agra Fort, Agra, Uttar Pradesh
 - Kalighat Temple, West Bengal



27-10-2021

1) Chief Justice of the Indian Supreme Court N.V. Ramana recently spoke of the need to 'Indianise' the justice system. Which of the following reasons is/are cited by him that makes ordinary Indian feels out of place in our courts?

1. Proceedings are in English
2. Proceedings are lengthy and expensive
3. Judgments are too technical and lengthy

Select the correct answer using the codes given below:

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

2) Consider the following statements:

1. Nigeria has the highest rates of cryptocurrency ownership in the world, followed by Malaysia and Australia.
2. Japan ranked lowest in the list of cryptocurrency ownership in the world.
3. Among all crypto assets, Ethereum emerged as the most popular with highest adoption rate.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 3 only
- c. 1 and 2 only
- d. None of the above

3) Consider the following statements with respect to Killer Whales (Orcas)

1. They can be found in all of the world's oceans except in Baltic and Black seas, and some areas of the Arctic Ocean.
2. Populations of orcas may drift through the warm waters of the equator to the glacier-filled seas of the Polar Regions.
3. They are a highly social animal that communicates through distinctive noises that only other members of the whale's pod will recognize.

Which of the statement(s) given above is/are correct?

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

4) Mahari is a ritualistic dance form belonged to?

- a. Bihar
- b. Odisha
- c. Karnataka
- d. Himachal Pradesh

5) Hybrid Immunity, sometimes seen in the news recently, refers to?

- a. Using cross species vaccines to boost immunity against a pandemic
- b. A condition where a large portion of a community becomes immune to a disease
- c. It is a breeding experiment between two organisms which are identical hybrids for two traits
- d. A combination of natural immunity from an infection and immunity provided by the vaccine

6) Consider the following statements regarding Carbon Budget:

1. Intergovernmental Panel on Climate Change released the Sixth Assessment Report (AR6) which estimates the carbon budget.
2. AR6 was developed on the basis of 'warming from non-CO₂ gases such as methane and nitrous oxide'.

Which of the above statement(s) is/are correct?

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

7) Consider the following statements:

1. The objective of Kyoto protocol is to 'stop the production and import of ozone depleting substances'.
2. Russia, United States and Australia were the first countries to ratify the Kyoto Protocol.
3. The Doha amendment to the Kyoto Protocol provides a revised list of Green House Gases (GHC) to be reported on by Parties in the second commitment period.

Identify the **incorrect** statement(s).

- a. 1 and 2 only
- b. 1 and 3 only
- c. 2 and 3 only
- d. All are correct

8) Consider the following statements with respect to Mullaiperiyar Dam:

1. The catchment area of the Mullaiperiyar Dam includes Cumbum in Tamil Nadu and Idukki in Kerala.
2. The dam is operated both by Kerala and Tamil Nadu.

Identify the correct statements.

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

9) With respect to 'Blue Langurs', consider the following statements:

1. Blue Langur is the species of monkeys found in the 'Golden Quadrilateral' region of India.
2. They are blue in colour due to the naturally occurring genetic changes.

Choose the **incorrect** options.

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

10) Consider the following statements with respect to Pradhan Mantri Swasthya Suraksha Yojana (PMSSY):

1. The scheme focuses on correcting regional imbalances in the availability of tertiary healthcare services.
2. It has been designed to provide financial risk protection against catastrophic health expenditure.

Which of the above statement(s) is/are correct?

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

Answers

1. d

Indianisation of Justice System

- Chief Justice of India N.V. Ramana has recently said the ordinary Indian feels out of place in our courts.
- This is mainly because proceedings are lengthy, expensive and in English.
- Besides, judgments are either too long or technical or manage to be both, the Chief Justice said.
- It is time for courts to wake up from their colonial stupor and face the practical realities of Indian society.
- The need of the hour is Indianisation of our legal system said the Chief Justice of India.

Suggestions

- Indianisation here means the need to adapt to the practical realities of our society and localise our justice delivery systems.
- Rules and procedures of justice delivery should be made simple.
- The ordinary, poor and rural Indian should not be scared of judges or the courts.

2. c

Cryptocurrency Adoption Rate

- Internet users in Nigeria have the highest rates of cryptocurrency ownership in the world, followed by Malaysia and Australia, according to data by comparison firm Finder.
- The firm surveyed over 41,000 individuals across 22 countries to measure the growth and adoption of cryptocurrencies.
- Japan ranked lowest in the list with only 4.6% of the population owning the virtual asset.
- India secured the seventh place with nearly 15.4% respondents saying they own at least one cryptocurrency.
- Among all crypto assets, Bitcoin emerged as most popular, with the highest adoption.
- Most recently, China declared all cryptocurrency transactions illegal, while U.S. lawmakers have urged tighter regulation.

3. d

Killer Whales (Orcas)

- They belong to a highly evolved group of toothed whales under the suborder Cetacean and dolphin family.
- The killer whale actually isn't a whale at all; it is the largest member of the dolphin family.



- They are widely distributed in temperate and tropical waters.

- They have long life spans and are highly social, feeding cooperatively, and with complex vocal behaviours.
- Populations of orcas may drift through the warm waters of the equator to the glacier-filled seas of the Polar Regions.
- Killer whales can be found in all of the world's oceans in a variety of marine environments, from Arctic and Antarctic regions to tropical seas.
- They are absent only from the Baltic and Black seas, and some areas of the Arctic Ocean.

4. b

Mahari

- It is a ritualistic dance form from the eastern Indian state of Odisha that used to be performed at the temple of Lord Jagannatha at Puri by devadasi dancers called maharis.
- The Mahari dance spurred the development of both Odissi and the Gotipua dance forms of Odisha.
- The Maharis have been among the foremost exponents of both traditional Odia dance and Odissi music.



Tahia

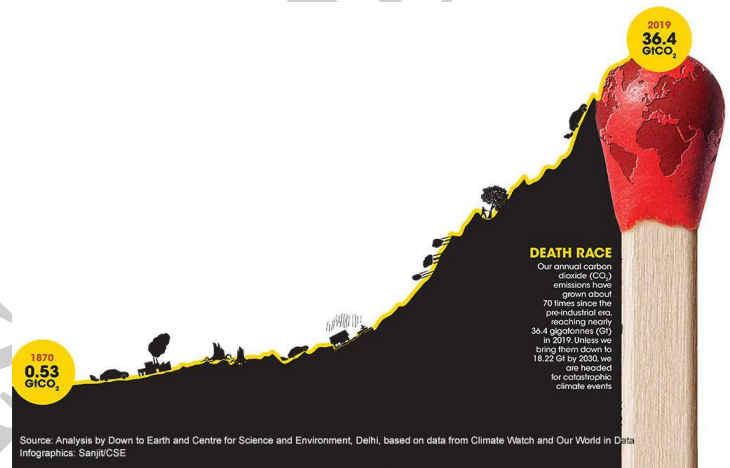
- It is an intricately-crafted head gear which replaces the use of fresh flowers as hair ornament during the performance of Odissi.
- It is also the most striking aspect of Lord Jagannath's annual Rath Yatra, when Jagannath and his two siblings, Subhadra and Balaram, don tahia as their crown.

5. d

Superiority of Hybrid Immunity

- Multiple studies have shown that the Hybrid Immunity had a higher neutralising antibody response than either natural infection without vaccination or full vaccination in infection-naïve individuals.
- Hybrid Immunity is the combination of natural immunity from an infection and immunity provided by the vaccine.**
- People without prior infection but fully vaccinated with a vaccine showed a decline in neutralising antibodies over a period of 3 to 7 months.
- But the decline was much less in vaccinated people with prior infection.
- Immunological advantage from hybrid immunity arises mostly from memory B cells.
- In general, the antibody levels after infection or vaccination decline after a short period.
- But, the memory B cells get triggered on subsequent infection or vaccination.
- So when people recovered from COVID-19 are re-exposed to the virus, the memory B cells are capable of churning out highly potent antibodies.

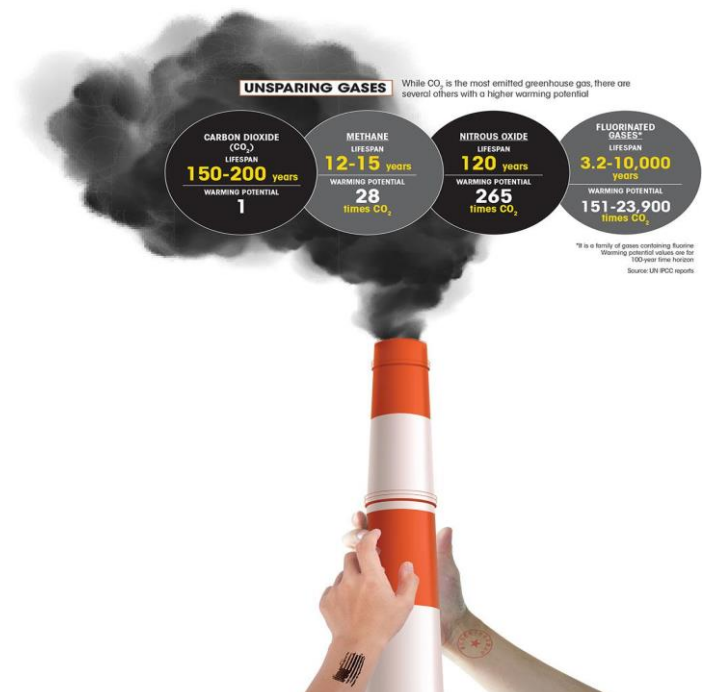
- Historical warming till date.
- Warming produced per tonne of CO₂, also known as transient climate response to cumulative emissions of CO₂ (TCRE).
- Warming that will occur once CO₂ emissions reach net-zero levels, known as the zero emissions commitment (ZEC).
- Warming from non-CO₂ gases such as methane and nitrous oxide.
- Earth system feedbacks such as thawing of permafrost.



6. c

Carbon Budget

- Carbon budgets tell us how much CO₂ we can still emit while keeping warming below specific limits.
- Intergovernmental Panel on Climate Change released the Sixth Assessment Report (AR6) which estimates the carbon budget.
- Carbon budgets are constructed on the premise that there is a near-linear relationship between rising global temperatures and the level of cumulative atmospheric CO₂.
- Carbon budgets are complex estimates and are typically subject to several uncertainties such as the effect of non-CO₂ greenhouse gases (GHG) [methane and nitrous oxide]
- The AR6 estimate of the remaining carbon budget from 2020 was developed on the basis of five components.



7. d

Kyoto Protocol

- The Kyoto Protocol signed in 1997, is an international treaty that commits state parties to reduce greenhouse gas emissions.
- Under the Kyoto Protocol, industrialized nations agreed to cut their greenhouse gas emissions below 1990 levels.
- It is operational since 2005.
- A group of rich and industrialized countries were assigned emission reduction targets with the first commitment period of 2005-2012.
- The Doha amendment was made to Kyoto protocol in 2012 to extend the obligations of the developed countries for the second commitment period of 2012-2020.
- It requires ratification from a total of 144 of the 192 parties of the Kyoto Protocol to become operational.
- As only 75 countries have so far ratified the Doha amendments it could not be enforced.
- China, Poland, Mexico, South Africa, Indonesia are some of the countries that ratified Doha amendments.
- In 2011, Canada withdrew from the Kyoto Protocol.
- Russia signed the Kyoto Protocol in 1999, but ratified it only in 2004.
- Australia ratifies the Kyoto Protocol in 2007.
- The United States hasn't become part of the agreement because it considers a problem the fact that several major developing nations, including India and China, are not required to reduce emissions under the agreement.
- India ratified the Kyoto Protocol in 2002.

Montreal Protocol

- It aims to protect the ozone layer by taking measures to control total global production and consumption of substances that deplete it.
- The protocol's objective is to eliminate Ozone Depleting Substances (ODS) on the basis of developments in scientific knowledge and technological information.

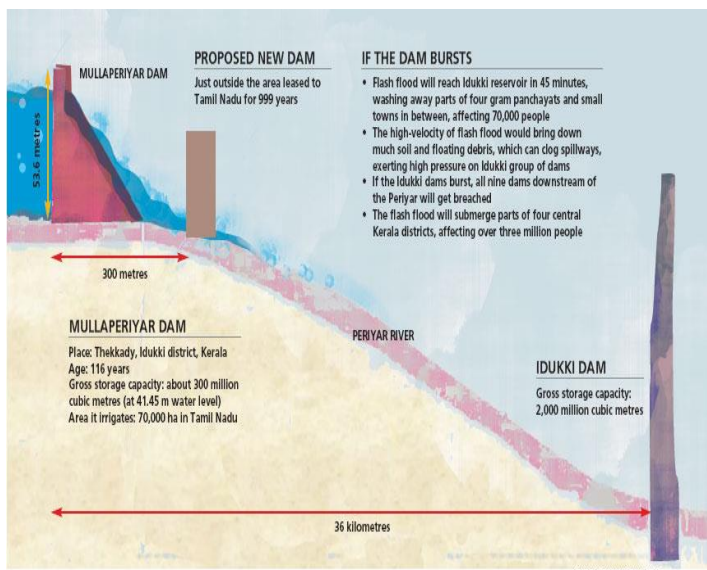
- It mandated the complete phase-out of CFCs and other ODSs, which it has successfully, did in the last 3 decades.
- Their phase-out has already avoided an estimated 135 billion tonnes of CO₂ equivalent emissions between 1990 and 2010.
- The UNEP estimates that, with Kigali Amendment, the avoided emissions could touch 420 billion tonnes of CO₂ equivalent by 2100.
- Despite being one of the main architects of the Kigali Amendment, India was the last major country to announce its decision to ratify it.
- Kigali Amendment, negotiated in Rwanda (2016), to the Montreal Protocol is for phasing out hydro fluorocarbons (HFCs) - A greenhouse gas.
- Under this amendment, countries agreed to include HFCs in the list of controlled substances under Montreal Protocol.
- Target - Under the Kigali Amendment, current HFC use has to be curtailed by 85% before 2050.
- India has to achieve this target by 2047 while the developed countries have to do it by 2036. China has a target of 2045.
- While the reductions for the rich countries have to begin immediately, India has to begin cutting their HFC use only from 2031.

8. d

Mullaiperiyar Dam

- It is a masonry gravity dam.
- The 130-year old Mullaperiyar dam is located on the confluence of the Mullayar and Periyar River in Kerala's Idukki district.
- It is located on the Cardamom Hills of the Western Ghats in Thekkady, Idukki District.
- It was constructed between 1887 and 1895 by John Pennycuik and also reached in an agreement to divert water eastwards to the Madras Presidency area.
- It has a height of 53.6 m (176 ft) from the foundation, and a length of 365.7 m (1,200 ft).
- The dam is located in Kerala but is operated and maintained by Tamil Nadu.

- The catchment area of the Mullaperiyar Dam itself lies entirely in Kerala and thus not an inter-State river.
- For Tamil Nadu, the Mullaperiyar dam and the diverted Periyar waters act as a lifeline for Theni, Madurai, Sivaganga, Dindigul and Ramnad districts.
- Tamil Nadu has insisted on exercising the unfettered colonial rights to control the dam and its waters, based on the 1886 lease agreement.
- Institute for Water, Environment and Health of the United Nations University has said that the Mullaperiyar dam suffers from structural issues and the possibility of a dam-break.
- The dam is located in an earthquake-prone area.



9. b

Blue Langurs

- The Common, Gray or Hanuman Langur (*Semnopithecus entellus*) is found across south Asia.
- Its 16 subspecies' range extends from the Himalayas in the north to peninsular India in the south.
- It is found both in forests and near human habitations.
- Langur troops range between eight and 20 animals.

- A troop of langurs with their pelage coloured blue due to exposure to chemical-based dyes was spotted in an industrial neighbourhood of Ankleshwar in Gujarat recently.
- The stretch between Ahmedabad and the industrial city of Vapi in Gujarat is known as the 'Golden Quadrilateral'. It is among the largest industrial clusters in Asia.

10. a

Pradhan Mantri Swasthya Suraksha Yojana (PMSSY)

- The scheme aims to correct the regional imbalances in the availability of tertiary healthcare services.
- It also aims to augment facilities for quality medical education in the country.
- It involves two components: 1) Setting up of new AIIMS like institutes. 2) Upgradation of existing Govt. Medical Colleges.

Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PM-JAY)

- It is the largest government funded health assurance/insurance scheme in the world.
- It is a centrally sponsored scheme.
- PM-JAY is an entitlement based scheme.
- The households included are based on the deprivation and occupational criteria of Socio-Economic Caste Census 2011 (SECC 2011) for rural and urban areas respectively.
- PM-JAY has been designed to provide financial risk protection against catastrophic health expenditure that impoverishes an estimated 6 crore people every year.
- It provides a cover of Rs. 5 lakhs per family per year for secondary and tertiary care hospitalization across public and private empanelled hospitals in India.
- PM-JAY provides cashless access to health care services for the beneficiary at the point of service, that is, the hospital.



28-10-2021

1) Consider the following statements with respect to "Changing Wealth of Nations' Report":

1. International Monetary Fund releases, "The Changing Wealth of Nations' report.
2. Gross domestic product, human-produced capital, human capital and natural capital are the indices used in measuring the wealth.

Which of the statement(s) given above is/are correct?

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

2) Consider the following statements, with respect to Schools of Paintings:

1. Lepakshi School of painting derives its uniqueness from the fact that the entire painting is done in shades of blue colour.
2. The Deccani School of miniature painting is known for its rich colour scheme and depiction of palm trees, animals, men and women.
3. Kalamkari Painting depicts mythological figures, events with vegetable colours.

Which of the above statement(s) is/are correct?

- a. 1 only
- b. 1 and 2 only
- c. 2 and 3 only
- d. 2 only

3) Consider the following statements:

1. Ballistic missiles are guided missiles to combat terrestrial targets.
2. Ballistic missiles are self propelled till the end of its flight.
3. Cruise missiles leave the earth's atmosphere and re-enter it.
4. Cruise missiles are also known as Multiple Independently Targetable Re-entry vehicle.

Which of the above statement(s) is/are correct?

- a. 1, 2, 3 only
- b. 1, 2, 4 only
- c. All of the above
- d. None of the above

4) Arrange the following in the sequence of 'order of events', with respect to a cyber attack.

1. Scanning the environment information from social media.
2. Pairing malicious code.
3. Malware is triggered.
4. Transmission of malware to target.
5. A command channel for remote manipulation.
6. Malware runs through the system.
7. Successful hacking.

Which is the correct sequence of events?

- a. 1, 2, 4, 3, 6, 5, 7
- b. 1, 3, 4, 2, 6, 5, 7
- c. 1, 4, 5, 6, 2, 3, 7
- d. 1, 4, 5, 6, 2, 3, 7

5) Consider the following statements:

1. Rule of law gives freedom to the judiciary to control the executive who exceeds their jurisdiction.
2. Article 105 and Article 194 is an exception to rule of law.

Which of the following statement(s) is/are correct?

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

Answers

1. b

World Bank

- With 189 member countries, the World Bank Group is a unique global partnership.



- Five institutions working for sustainable solutions that reduce poverty and build shared prosperity in developing countries.
- The Changing Wealth of Nations 2021 report was published by the World Bank.
- The latest edition of this periodic report has measured wealth creation and distribution in 146 countries covering a 20-year period from 1995-2018.
- The World Bank included gross domestic product, human-produced capital, human capital and natural capital like renewable and non-renewable natural resources in its measurement of wealth.
- The Bank defines human capital as “earnings over a person’s lifetime.”
- The report found that air pollution was seemingly taking a toll on this significant wealth generator.
- South Asia as a region was the most severely affected by the estimated loss of human capital due to air pollution.
- The report did not quantify such a loss in human capital due to air pollution for any other region.

2. c

Lepakshi School of painting

- It is part of Anantapur district in Andhra Pradesh.
- It belongs to Vijayanagar period.
- It provides glimpses of contemporary dress like tall headwear (Kulavi), coloured and embroidered saree of both men and women in the paintings.
- Earth tones and complete absence of blue colour in Lepakshi painting.
- Costumes are outlined in black.

Deccani School of Miniature painting

- It denotes broadly the miniature painting from the 16th Century to the 19th Century at Bijapur, Ahmadnagar, Golkonda and Hyderabad.

- The rich colour scheme, the palm trees, animals and men and women are its characteristic features.
- Early Deccani painting absorbed influences of the northern tradition of the pre-Mughal painting which was flourishing in Malwa and of the southern tradition of the Vijayanagar murals as evident in the treatment of female types and costumes.
- Influence of the Persian painting is also observed in the handling of the horizon gold sky and landscape.

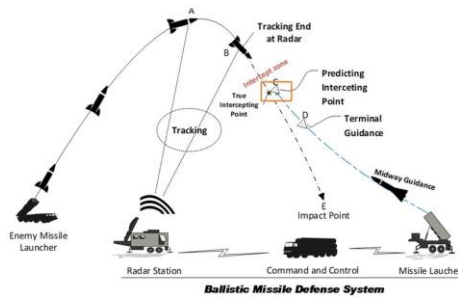
Kalamkari Painting

- It is done on the kalamkari fabric.
- The paintings of mythological figures and events are done with vegetable colours.
- It is widespread in Machilipatnam area of Andhra Pradesh.

3. d

Ballistic Missiles

- A ballistic missile follows a ballistic trajectory to deliver warheads on a predetermined target.
- A ballistic trajectory is the path of an object that is launched but has no active propulsion during its actual flight (these weapons are guided only during relatively brief periods of flight).
- The trajectory is fully determined by a given initial velocity, effects of gravity, air resistance, and motion of the earth (Coriolis force).
- Shorter range ballistic missiles stay within the Earth’s atmosphere.
- Longer-ranged intercontinental ballistic missiles (ICBMs) are launched on a sub-orbital flight trajectory and spend most of their flight out of the atmosphere.
- Long-range missiles leave the earth’s atmosphere and re-enter it.
- Low precision as it is unguided for most of its path and its trajectory depend on gravity.
- Heavy payload carrying capacity.
- Also known as Multiple Independently targetable Re-entry vehicle.

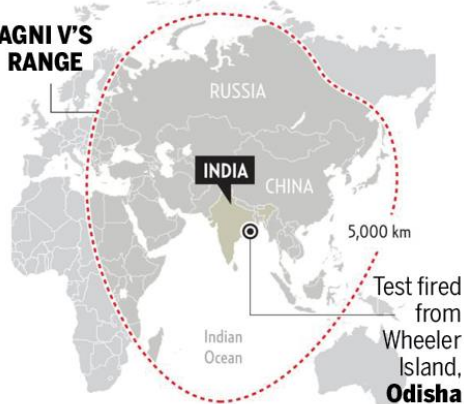


AGNI SERIES OF LONG RANGE BALLISTIC MISSILES

AGNI V

- Operational range: **5,000 km**
- Payload: **1360.78 kg**
- Height **17m**
- Future development possible for variant that could be launched from a submarine

AGNI V'S RANGE



Agni Missile Series	Agni I	Agni II	Agni III	Agni IV
Range (km)	700	2,500	3,000	4,000
Payload (kg)	1,000	1,000	1,500	1,000
Height (m)	15	20	16.3	20

Source: Reuters, PTI

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- Developed primarily to carry nuclear warheads.
- Agni V is India's first intercontinental ballistic missile.
- Example: Prithvi I, Prithvi II, Agni series and Dhanush missiles.

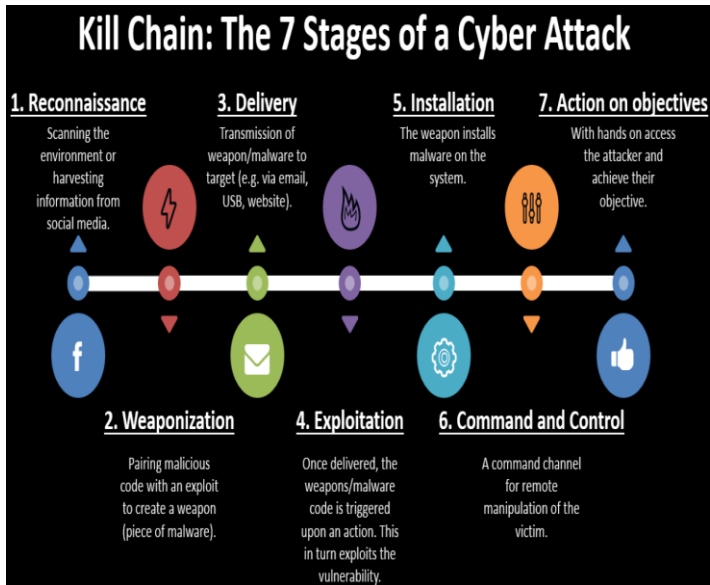
Cruise Missile

- A cruise missile is a guided missile (target has to be pre-set) used against terrestrial targets.
- It flies the major portion to its flight path at approximately constant speed.
- It remains in the atmosphere throughout its flight.
- They are designed to deliver a large warhead over long distances with high precision.
- Modern cruise missiles are capable of travelling at supersonic or high subsonic speeds, are self-navigating, and are capable to fly on a non-ballistic, extremely low altitude trajectory
- Self-propelled till the end of its flight.
- Similar to a jet engine.
- The flight path is within the earth's atmosphere.
- Hits targets with high precision as it is constantly propelled.
- Payload capacity is limited.
- Usually carries a single payload.
- Developed primarily to carry conventional warheads.
- Example: BrahMos missiles.

4. a

Cyber Attack and its Steps

- Cyber attack is an attempt by hackers to damage or destroy a computer network or system.
- The 7 steps of cyber attack include:



5. c

Rule of law

- Rule of law means is that all laws apply equally to all citizens of the country and no one can be above the law.
- Any crime or violation of law has a specific punishment as well as a process through which the guilt of the person has to be established.
- It also says that no person shall be subject to harsh, uncivilized or discriminatory treatment even for the sake of maintaining law and order.
- Foreign sovereigns, ambassadors and diplomats enjoy immunity from civil and criminal proceedings.
- UNO and its agencies enjoy diplomatic immunity.
- It puts legal barriers to governmental arbitrariness
- It gives freedom to the judiciary to control the executive who exceeds their jurisdiction

Exceptions to Rule of law

- Article 105: No member of Parliament shall be liable to any proceedings in any court in respect of anything said or any vote given by him in parliament or any committee thereof
- Article 194: No member of the legislature of a state shall be liable to any proceedings in any court in respect of anything said or any vote

given by him in the legislature or any committee thereof

- Article 361(1): The President or the Governor is not answerable to any court for the exercise and performance of the powers and duties of his office.
- Article 361(2): No criminal proceedings shall be instituted or continued against the President or the Governor in any court during his term of office.
- Article 361(3): No process for the arrest or imprisonment of the President or the Governor of a State, Shall issue from any court during his term of office.
- Article 361(4): No civil proceedings against the President or the Governor shall be instituted during his term of office in any court in respect of any act done by him in his personal capacity, whether before or after he entered upon his office, until the expiration of two months next after notice has been delivered to him.
- Article 31-C: Laws made by the state for implementing Directive Principles of State Policy (DPSPs) contained in clause (b) or (c) of Article 39 cannot be challenged on the ground that they are in violation of Article 14.
- Supreme Court held that “where Article 31-C comes in, Article 14 goes out”.

29-10-2021

1) Consider the following statements regarding ‘Blue Carbon’:

1. Blue carbon is organic carbon that is mainly obtained from decaying plant leaves, wood, roots and animals.
2. It is captured and stored by coastal and marine ecosystems.
3. Sundarbans National Park is one among the five sites that have the highest blue carbon stocks globally.

Which of the above statement(s) is/are correct?

- a. 1 and 3 only
- b. 1 and 2 only
- c. 1, 2 and 3



d. 2 and 3 only

2) With respect to G20 Nations, consider the following statements:

1. Troika ensures the continuity of the ambitions of the G20.
2. The G20 chair rotates annually and the presidency rotates between each group divided among the members.
3. The secretariat is located at Geneva.

Choose the **incorrect** statement(s).

- a. 2 only
- b. 3 only
- c. 1 only
- d. 1 and 2 only

3) Consider the following:

1. Kalbelia dance of Rajasthan is performed by moving in rounds and pulsating like a snake.
2. Santhali dance is performed during the karam festival marking the end of rainy season and is predominant in the states of West Bengal, Jharkhand, Orissa and Assam.

Which of the above statement(s) is **incorrect**?

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

4) Which of the following countries should a person cross 'minimum' to reach Port of Baku from Gwadar Port via land? (Source and destination included).

- a. Pakistan, Afghanistan, Turkmenistan
- b. Pakistan, Iran, Iraq
- c. Pakistan, Afghanistan, Uzbekistan
- d. Pakistan, Iran, Azerbaijan

5) Consider the following statements:

1. WTO introduced the negotiations on "fisheries subsidies" in the Doha ministerial meeting.
2. The sustainable goal on fisheries states that by 2020, certain forms of fisheries subsidies which contribute to overcapacity and overfishing should be eliminated.

Which of the above statement(s) is/are correct?

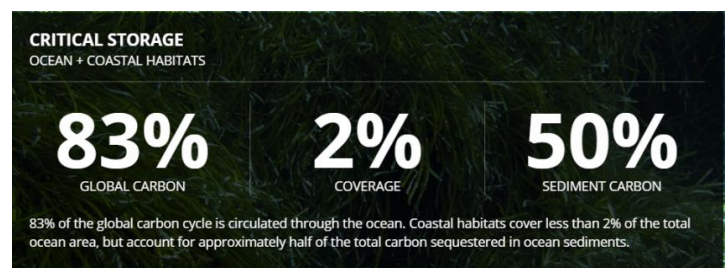
- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Answers

1. c

Blue Carbon

- The coastal ecosystems of mangroves, tidal marshes and sea grass meadows contain large stores of carbon deposited by vegetation and various natural processes over centuries.
- These ecosystems store more carbon – often referred to as 'blue carbon' – per unit area than terrestrial forests.
- The ability of these vegetated ecosystems to remove carbon dioxide (CO₂) from the atmosphere makes them significant net carbon sinks, and they are now being recognized for their role in mitigating climate change.
- If the ecosystems are degraded by human activities, their carbon sink capacity is lost, and the carbon stored in the soil is released, resulting in CO₂ emissions that contribute to climate change.
- India's Sundarbans National Park is among five sites that have the highest blue carbon stocks globally.



2. b

G20 Nations

- The G20 is an informal group of 19 countries and the European Union, with representatives of the International Monetary Fund and the World Bank.
- The G20 membership comprises a mix of the world's largest advanced and emerging economies, representing about two-thirds of the world's population, 85% of global gross domestic product, and 80% of global investment and over 75% of global trade.
- The members of the G20 are Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Republic of Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, the United Kingdom, the United States, and the European Union.
- The G20 Presidency rotates annually according to a system that ensures a regional balance over time.
- For the selection of presidency, the 19 countries are divided into 5 groups, each having no more than 4 countries.
- The presidency rotates between each group.
- Every year the G20 selects a country from another group to be president.
- India is in Group 2 which also has Russia, South Africa, and Turkey.
- The G20 does not have a permanent secretariat or Headquarters.
- Instead, the G20 president is responsible for bringing together the G20 agenda in consultation with other members and in response to developments in the global economy.
- TROIKA: Every year when a new country takes on the presidency, it works hand in hand with the previous presidency, it works hand in hand with the previous presidency and this is collectively known as TROIKA.
- This ensures continuity and consistency of the group's agenda.

- This year the G20 summit is scheduled to be held at Rome and Italy holds the present presidency.

3. d

Kalbelia Dance

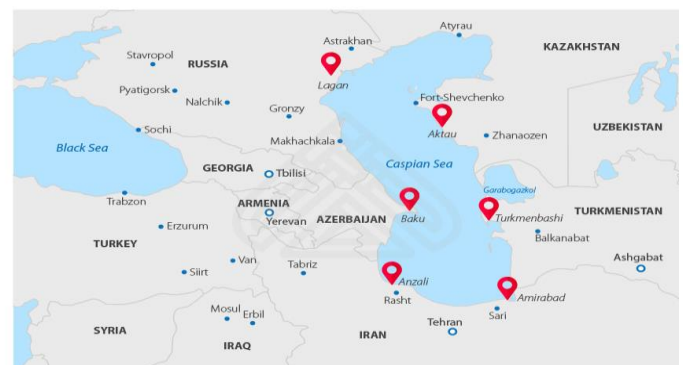
- Kalbelia Tribal Dance of Rajasthan is a very famous tribal dance, with dancers wearing gorgeous black ghagra choli and dancing in the tune of been.
- Moving in rounds and pulsating like a snake the dancers have a mesmerizing effect on the audience.
- Both men and women of Garasiya tribe also perform on various occasions like Holi festival, marriage etc. with accompanying musical instruments dhol and nagada.

Santhali Dance

- The most renowned are the dances of Santhals, the third largest tribe of India, found in West Bengal, Jharkhand, Orissa and Assam.
- Such is the rhythm of their Tamak, tumda drums that it is bound to touch the deep core of the heart. In the evening, with the flute Tirio playing, the women folk sing and dance in an arc, holding each other's hand, with a lead drummer at the center.
- They dance during Karam festival marking the end of rainy season and Disum sendra festival.
- The dancing has a boldness reflecting the nature of the Tudus, Murmus, Baskeys, Kore, Marandi, Soren and Hembroms.

4. d

Major Regional Caspian Sea Ports Servicing Russia, Azerbaijan, Iran, Turkmenistan & Kazakhstan



Graphic © Asia Briefing Ltd.



- Gwadar Port is in the country of Pakistan.
- Port of Baku is in the country of Azerbaijan.
- Baku is the capital of Azerbaijan.
- From Pakistan to Azerbaijan the minimum number of country to be crossed is Iran only.

5. c

WTO Fisheries Subsidies

- The World Trade Organization launched the negotiations on “fisheries subsidies” in the year 2001 during the Ministerial Conference at Doha.
- The negotiation was launched with an objective to improve and clarify the extant WTO guidelines on subsidies given in fisheries.
- The scope of Fisheries Negotiation was further widened during the Hong Kong Ministerial Conference in 2005, wherein some forms of fishing subsidies that leads to over fishing were prohibited.
- At the Ministerial Conference held at Buenos Aires in 2017, a Sustainable Development Goal with respect to Fisheries was adopted.
- The Sustainable Development Goal 14.6 states that by 2020, certain forms of fisheries subsidies which contribute to overcapacity and overfishing should be eliminated.

30-10-2021

1) Consider the following statements with respect to International Solar Alliance (ISA):

1. Denmark was the first country to ratify the ISA.
2. The sun shine countries are present at the equatorial line, since they receive the maximum sun rays.
3. One of the missions of ISA includes, ‘every house no matter how far away will have a light at home’.

Which of the above statement(s) is/are correct?

- a. 1 only
- b. 2 and 3 only
- c. 1 and 3 only
- d. 2 only

2) Consider the following statement with respect to ‘Trade Related Aspects of Intellectual Property Right (TRIPS):

1. TRIPS agreement was negotiated during the Uruguay Round of the General Agreement on Tariffs and Trade (GATT).
2. It is also described as a “Berne and Paris-plus” Agreement.
3. It frames the IP system based in terms of innovation, technology transfer and public welfare.

Which of the above statement(s) is/are correct?

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

3) Identify the Vaccines provided under Universal Immunization Programme:

1. BCG Vaccine
2. Hepatitis B Vaccine
3. Tetanus and Adult Diphtheria
4. Measles Vaccine



Choose the correct options.

- 1, 2 and 3 only
- 2, 3 and 4 only
- 1, 3 and 4 only
- 1, 2, 3 and 4

4) With respect to Samudrayan Project, consider the following statements:

- It is under the ministry of Science and Technology.
- It is India's first unmanned mission to the surface of the ocean.
- India now joins the elite club of nations such as USA, Russia, Japan, France and China to have such underwater vehicles.

Which of the above statement(s) is/are **incorrect**?

- 3 only
- 1 and 3 only
- 1 and 2 only
- 2 and 3 only

5) Which of the following comes under 'ground-nesting' species?

- Arctic Tern
- Chipmunks
- Ruddy Turnstone
- Grey Plover

Choose the correct answer from the codes given below.

- 1 and 4 only
- 2 and 3 only
- 1 and 2 only
- 3 and 4 only

Answers

1. c

International Solar Alliance

- It was launched at COP21 (2015), the UN climate meeting in Paris.

- This is a treaty-based intergovernmental organization.
- The Headquarters is in India with its Interim Secretariat being set up in Gurugram.
- The sunshine countries lie either completely or partly between the Tropic of Cancer and the Tropic of Capricorn.
- Denmark has become the first country to ratify International Solar Alliance Framework Agreement (ISA FA) after the ISA FA entered into force on January 8, 2021.
- The amendment was opening its Membership to all Member States of the United Nations.
- ISA was conceived as a coalition of solar-resource-rich countries.
- Vision: Let us together make the sun brighter.
- Mission: Every home no matter how far away will have a light at home.
- The Assembly is the apex decision-making body of the ISA. It meets annually at the Ministerial level at the seat of the ISA.
- ISA is set to launch the World Solar Bank in UNFCCC COP26 scheduled in 2021.

2. d

Trade Related Aspects of Intellectual Property Rights (TRIPS)

- TRIPS came into force in 1995, as part of the agreement that established the World Trade Organization (WTO).
- TRIPS establishes minimum standards for the availability, scope, and use of seven forms of intellectual property namely, trademarks, copyrights, geographical indications, patents, industrial designs, layout designs for integrated circuits, and undisclosed information or trade secrets.
- It is applicable to all WTO members.
- TRIPS Agreement lays down the permissible exceptions and limitations for balancing the interests of intellectual property with the interests of public health and economic development.
- It frames the IP system in terms of innovation, technology transfer and public welfare.

- The TRIPS Council is responsible for administering and monitoring the operation of the TRIPS Agreement.
- TRIPS agreement was negotiated during the Uruguay Round of the General Agreement on Tariffs and Trade (GATT) in 1986–1994.
- The TRIPS Agreement is also described as a “Berne and Paris-plus” Agreement.

3. d

Universal Immunization Programme

- Universal Immunization Programme (UIP) is one of the largest public health programmes targeting close to 26.7 million newborns and 29 million pregnant women annually.
- Under UIP, immunization is being provided free of cost against 12 vaccine preventable diseases.
- Nationally against 10 diseases - Diphtheria, Pertussis, Tetanus, Polio, Measles, Rubella, severe form of Childhood Tuberculosis, Rotavirus diarrhea, Hepatitis B and Meningitis & Pneumonia caused by Haemophilus Influenzae type B.
- Sub-nationally against 2 diseases - Pneumococcal Pneumonia and Japanese Encephalitis; of which Pneumococcal Conjugate vaccine is nationally expanded today, while JE vaccine is provided only in endemic districts.

4. c

Samudrayan Project

- India's First Manned Ocean Mission.
- India joins the elite club of nations such as USA, Russia, Japan, France and China to have such underwater vehicles for carrying out subsea activities.
- It comes under the 'Ministry of Earth Science'.
- It helps in carrying out deep ocean exploration of the non-living resources such as polymetallic manganese nodules, gas hydrates, hydro-thermal sulphides and cobalt crusts, located at a depth between 1000 and 5500 meters.
- It will be a part of the 'Deep Ocean Mission'.

- The preliminary design of the manned submersible MATSYA 6000 is completed and realization of vehicle is started with various organization including ISRO, IITM and DRDO.
- The indigenously developed vehicle is capable of crawling on the sea bed at a depth of six km for 72 hours.
- The manned submersible is designed to carry three persons in 2.1 meter diameter Titanium Alloy Personnel Sphere with an operational endurance of 12h and systems to support emergency endurance up to 96h.
- Pressure compensated batteries and propulsion system, control and communication systems and Launching and Recovery System.
- System design, concept of operation, subcomponents functionality and integrity, emergency rescue, failure mode analysis are reviewed and certified as per the rules of 'International Association of Classification and Certification Society' for man-rated usage of manned submersible at a depth of 6000 meters.
- The recent Fendouzhe manned submersible developed by China in 2020 has touched ~11000m water depths.

5. c

Arctic Tern

- It is a slender bird with narrow wings and short legs.
- The bird's coloration varies depending on age and season.
- When arctic terns hatch, they are gray or brown.
- As adults, their feathers are gray or white during the breeding season.
- Their beak and legs are red, and a black patch covers their head and forehead.
- In the non-breeding season, the bird's beak and legs are black, and the black patch of color on its head shrinks.
- Breeding grounds range in type and include boreal forests, islands, tundras, and rocky beaches.

- After migration, the birds spend their winter on pack ice.
- During this time, they undergo a molt and lose most of their feathers.
- In terms of distance, arctic terns are thought to have the longest yearly migration of any animal.
- Every year they travel from their Arctic breeding grounds to Antarctica and back.
- To breed, arctic terns often return to the same area in which they hatched.
- They are ground-nesting species, and both parents rear the young.
- Climate change may pose a threat because arctic terns rely on Arctic and Antarctic ecosystems, which are now changing.

Chipmunks

- Chipmunks are rodents that are a type of squirrel.
- These small, furry animals are identified by their stubby legs, bushy tails and the white, black and brown stripes that run down their backs.
- There are 25 species of chipmunk. Only one of those species, called the Siberian chipmunk, lives outside of North America.
- The Siberian chipmunk lives in Asia and is expanding into parts of Europe, according to the International Union for Conservation of Nature (IUCN).
- Chipmunks make homes for themselves by creating burrows that consist of an underground tunnel system.
- They are not social animals.
- They like to keep to themselves and only interact during mating season, which is in the spring.
- They are most active at dusk and dawn.