

**Q.1** In the “Index of Eight Core Industries”, which of the following industries has the highest weightage?

- (a) Steel Industry
- (b) Coal Industry
- (c) Electricity Industry
- (d) Refinery Products Industry

[ANS] d

[SOL] In News- India’s eight core industry sectors shrank just 0.8% in September 2020 on a year-on-year basis, recording their lowest contraction since March 2020.

**Option D is correct:** The eight-core sector industries include **coal, crude oil, natural gas, refinery products, fertiliser, steel, cement and electricity**. The Eight Core Industries in decreasing order of their weightage: Refinery Products> Electricity> Steel> Coal> Crude Oil> Natural Gas> Cement> Fertilizers. The eight core industries comprise **40.27%** of the weight of items included in the Index of **Industrial Production (IIP)**. These core industries are considered as main or key industries of the economy and serve as the backbone of all other industries.

Growth Rates (in per cent)

Sector	Weight	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	Apr-Sep 2019-20	Apr-Sep 2020-21
Coal	10.3335	3.2	1.0	8.0	4.8	3.2	2.6	7.4	-0.4	-3.5	-6.1
Crude Oil	8.9833	-0.6	-0.2	-0.9	-1.4	-2.5	-0.9	-4.1	-5.9	-6.0	-6.1
Natural Gas	6.8768	-14.4	-12.9	-5.3	-4.7	-1.0	2.9	0.8	-5.6	-2.0	-13.2
Refinery Products	28.0376	7.2	1.4	0.2	4.9	4.9	4.6	3.1	0.2	-2.0	-16.3
Fertilizers	2.6276	-3.3	1.5	1.3	7.0	0.2	0.03	0.3	2.7	1.1	3.7
Steel	17.9166	7.9	7.3	5.1	-1.3	10.7	5.6	5.1	3.4	7.9	-26.7
Cement	5.3720	7.5	3.7	5.9	4.6	-1.2	6.3	13.3	-0.9	0.7	-25.1
Electricity	19.8530	4.0	6.1	14.8	5.7	5.8	5.3	5.2	0.9	3.9	-8.2
Overall Growth	100.0000	3.8	2.6	4.9	3.0	4.8	4.3	4.4	0.4	1.3	-14.9

**Q.2** Consider the following statements:

1. Ramsar Convention is an intergovernmental treaty related to wetland protection.
2. India has the highest Ramsar sites in the South Asia region.
3. Mansar Lake and Asan Conservation Reserve are the Ramsar sites.

Which of the statements given above are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

[ANS] d

**[SOL] In News-** In a move to increase tourism in the Jammu & Kashmir, the **Ministry of Development of North Eastern Region** inaugurated the **Mansar Lake Development Plan. Mansar Lake is Ramsar designated site.**

**All the statements are correct:** The Ramsar Convention was signed on February 2, 1971, in the Iranian city of Ramsar and it is also called Convention on Wetlands of International Importance. It is the only global treaty to focus on a single ecosystem. It is one of the oldest inter-governmental accord signed by members countries to preserve the ecological character of their wetlands of international importance. The aim of the Ramsar list is to develop and maintain an international network of wetlands which are important for the conservation of global biological diversity and for sustaining human life through the maintenance of their ecosystem components, processes and benefits. Wetlands declared as Ramsar sites are protected under strict guidelines of the convention. India has a total of 39 Ramsar sites, highest in South Asia. Recently, Kabartal Wetland (Bihar) and Asan Conservation Reserve (Uttarakhand) have been designated as Ramsar sites.

**Causes of Degradation of Wetlands-** Major changes in land use for agriculture and grazing, water diversion for dams and canals and infrastructure development are considered to be some of the main causes of loss and degradation of wetlands.

**Q.3** Consider the following statements:

1. Syngas is a mixture of carbon monoxide and nitrogen gas.
  2. It is produced when biomass is heated at low temperature and absence of oxygen.
- Consider the following statements:

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

**[ANS] d**

**[SOL] In News-** Recently, the IISc and the Research and Development Centre of Indian Oil Corporation Limited signed an MoU to develop and demonstrate biomass gasification-based hydrogen generation technology.

**Statement 1 is not correct:** The Hydrogen Generation Technology first produces hydrogen-rich syngas (synthetic gas) from biomass and then separates hydrogen from the syngas. Syngas is an abbreviation for synthesis gas. It is a mixture of carbon monoxide, carbon dioxide, and hydrogen.

**Statement 2 is not correct:** It is produced by pyrolysis of biomass at high temperature and absence of oxygen.

**Q.4** “16 Psyche” was in the news recently, it is a-

- (a) Software used in Dark Web
- (b) Newly discovered Exoplanet
- (c) Rare metallic asteroid
- (d) Mission to study Venus planet

**[ANS] c**

**[SOL] In News-** The National Aeronautics and Space Administration's (Nasa) Hubble Space Telescope discovered a **metal-rich asteroid '16 Psyche'**.

**Option C is correct:** It is one of the most massive objects in the solar system's main asteroid belt. It orbits between **Mars and Jupiter**, could be made entirely of metal and is worth an estimated

**\$10,000 quadrillion** which is more than the entire economy of Earth. It is located roughly 370 million kilometres (230 million miles) from the Earth and measures 226 kilometres across (140 miles). It was first discovered on **March 17, 1853**, by the Italian astronomer Annibale de Gasparis and was named after the ancient Greek goddess of the soul, Psyche. It is one of the most massive objects in the asteroid belt in our solar system. Psyche is a **dense** and **largely metallic** object thought to be the core of an earlier planet that failed in formation.

**Q.5** With reference to the Olive Ridley Turtles, consider the following statements:

1. They are endemic to most tropical regions of the Indian Subcontinent.
2. They are herbivores and mostly feed on seaweeds and algae.
3. They exhibit arribadas phenomenon.

Which of the statements given above is/are **not correct**?

- (a) 1 only
- (b) 1 and 2 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

[ANS] **b**

[SOL] **In News-** The Odisha government has requested the Wildlife Institute of India (WII) to conduct a fresh study for identifying the movement of endangered Olive Ridley sea turtles.

**Statement 1 is not correct:** Their **scientific name** is **Lepidochelys olivacea** and they are also known as the **Pacific ridley sea turtle**. They are the **smallest** and **most abundant** of all sea turtles found in the world. They are found in warm waters of the Pacific, Atlantic and Indian oceans. They are vulnerable according to the IUCN Red List.

**Statement 2 is not correct:** They are not herbivores, these are carnivores and feed mainly on jellyfish, shrimp, snails, crabs etc.

**Statement 3 is correct:** These are best known for their unique mass nesting called Arribada, where thousands of females come together on the same beach to lay eggs. One unique feature about females is that they return to the very same beach from where they first hatched, to lay their eggs. The eggs **hatch in 45 to 60 days**, depending on the temperature of the sand and atmosphere during the incubation period.

**Q.6** Consider the following statements:

1. Army Aviation Corps (AAC) is the oldest Corps of the Indian Army.
2. The Corps draws its officers and men from all arms of the defence forces.

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

[ANS] **d**

[SOL] **In News-** Recently, Army Aviation Corps (AAC) celebrated its 35th Corps Day on November 1.

**Both the statements are not correct:** The Army Aviation Corps (AAC) celebrated its 35th Corps Day on November 1. It is the youngest corps of the Indian Army. Its origin can be traced back to the Army Aviation wing of the Royal Air Force raised in India in 1942, and the formation of the first Indian Air Observation Post in August 1947. It was raised as a separate formation on

November 1 in 1986. It draws officers and men from all arms of the Army and includes a significant number from the artillery. It plays a cardinal role in reconnaissance, observation, casualty evacuation, essential load drops, combat search and rescue. It also participates in Humanitarian Aid and Disaster Relief (HADR) operations in peace times.

**Q.7** Which of the following is/are the favourable conditions for the formation of cyclones?

1. Presence of the Coriolis force
2. Calm sea surface
3. High Temperature

Choose the correct answer using the codes given below:

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

**[ANS] d**

**[SOL] In News-** Recently typhoon Goni (locally called Rolly) made landfall in the eastern Philippines.

**All the conditions are correct:** Tropical cyclones are violent storms that originate over oceans in tropical areas and move over to the coastal areas bringing about large scale destruction due to violent winds (squalls), very heavy rainfall (torrential rainfall) and storm surge.

They are irregular wind movements involving the closed circulation of air around a low-pressure center. This closed air circulation (whirling motion) is a result of rapid upward movement of the hot air which is subjected to Coriolis force. The low pressure at the centre is responsible for the wind speeds.

- Favourable conditions for the formation of cyclones:
  - A large and calm sea surface with a temperature higher than 27° C.
  - Presence of the Coriolis force and a distance from the Equator is necessary.
  - Small differences in the vertical wind speed.
  - A pre-existing weak- low-pressure area or low-level-cyclonic circulation
  - Upper divergence above the sea level system.
- Presence of anticyclonic circulation at the height of 9 to 15km above the surface.

**Q.8** With reference to the Travancore Tortoise, Consider the following statements:

1. It is a large forest tortoise and endemic to only Indian subcontinent.
2. It is declared Critically Endangered under the IUCN Red List.

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

**[ANS] d**

**[SOL] In News-** It was in the news, it was mentioned in the article of TH ‘The rise of the Travancore tortoise’.

**Both the statements are not correct:** The Travancore tortoise is a large forest tortoise growing up to 330 millimetres (13 in) in length. The species was first described by George Albert Boulenger in 1907. It primarily feeds on grasses and herbs. It also feeds on molluscs, insects, animal carcass,

fungi and fruits. It is restricted to the Western Ghats, in the Indian states of Kerala, Karnataka and Tamil Nadu. It is Vulnerable under the IUCN Red list and comes under the Indian Wildlife (Protection) Act: Schedule IV.

**Q.9** 'D614G mutation' was mentioned in the news, it is seen in which of the following?

- (a) Microbes like bacteria
- (b) Novel coronavirus
- (c) Cancerous cells in Human being
- (d) None of the above

**[ANS] b**

**[SOL] In News-** D614G mutation has become the dominant variant in the global COVID-19 pandemic. The mutation was seen in 78% of genomes sequenced from April 1 to May 18.

**Option B is correct:** The novel coronavirus is undergoing many mutations, one particular mutation called D614G. Sars-Cov-2 is the official name of the virus that causes the disease Covid-19 and D614G is a mutation of Sars-Cov-2. D614G is situated within the protein making up the virus's "spike" it uses to break into our cells. This mutation changes the amino acid at position 614, from D (aspartic acid) to G (glycine) — so, D-614-G. It was first detected in February in Europe and since then has become the dominant variant of SARS-CoV-2, found in swab samples across the world. This mutated form of the virus was first identified in China and then in Europe. Later it spread to other countries like the U.S. and Canada and was eventually reported in India.

**Q.10** With reference to the Multisystem Inflammatory Syndrome in Children (MIS-C), consider the following statements:

1. It is an illness that causes blood vessels to become inflamed.
2. It primarily affects old people.

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

**[ANS] a**

**[SOL] In News-** Kawasaki disease in children post-COVID has been reported in India.

**Statement 1 is correct:** Kawasaki disease is also called Multisystem Inflammatory Syndrome in Children (MIS-C). It causes inflammation in the coronary arteries that are responsible for supplying blood to the heart results in enlargement or the formation of aneurysms (swelling of the wall of an artery), leading to heart attacks.

**Statement 2 is not correct:** It primarily affects children younger than 5 years of age. The disease was first described in Japan by Tomisaku Kawasaki in 1967, and the first cases outside of Japan were reported in Hawaii in 1976.

**Q.11** With reference to the pardoning powers of the Governor, consider the following statements:

1. Article 161 deals with the Pardoning Power of the Governor.
2. The pardoning powers extend to any law relating to a matter to which the executive power of the state, as well as centre, extends.

3. The pardoning powers of the Governor have wider aspects as compared to those of the President.

Choose the correct answer using the codes given below:

- (a) 1 only
- (b) 2 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

**[ANS] a**

**[SOL] In News-** Recently, the Supreme Court conveyed its unhappiness over the pendency of the file **seeking remission** of sentence of one of the convicts in the Rajiv Gandhi assassination case.

**Option A is correct:** Article 161 deals with the Pardoning Power of the Governor. The Governor can grant pardons, reprieves, respites and remissions of punishments or suspend, remit and commute the sentence of any person convicted of any offence against any law relating to a matter to which the executive power of the state extends. The pardoning powers of the governor are narrower than those of the President.

**Q.12** Which of the following falls under the term ‘Capital Account’?

- 1. Portfolio investment
- 2. External Assistance
- 3. Transfer payments
- 4. Commercial borrowings

Select the correct answer using the code given below:

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

**[ANS] c**

**[SOL] Option C is correct:** The balance of payments (BoP) records the transactions in goods, services and assets between residents of a country with the rest of the world for a specified time period typically a year. There are two main accounts in the BoP - the current account and the capital account. Capital Account Includes:

External Assistance, Commercial Borrowings, Foreign Investment, Portfolio, FII, Non-Resident Deposits, Banking Capital. The current account records exports and imports in goods and services and transfer payments.

**Q.13** With reference to the Gorumara National Park, consider the following statements:

- 1. It is located in the Eastern Himalayas' submontane Terai belt in the state of Arunachal Pradesh.
- 2. It is located on the flood plains of the Murti River and Raidak River.
- 3. The park is rich in large herbivores including Indian Rhinoceros and Indian gaur.

Which of the statements given is/are **not** correct?

- (a) 1 only
- (b) 2 only
- (c) 1 and 2 only
- (d) 2 and 3 only

[ANS] a

[SOL] **Statement 1 is not correct:** Recently, Indian bison killed for aphrodisiac in Gorumara National Park. The park is located in the Eastern Himalayas' submontane Terai belt. This region has rolling forests and riverine grasslands and is known as the Dooars in West Bengal.

**Statement 2 is correct:** The park is located on the floodplains of the Murti River and Raidak River. The major river of the park is the Jaldhaka River, a tributary of the Brahmaputra river system. In this regard, Gorumara is a significant watershed area between the Ganges and Brahmaputra river systems.

**Q.14** Consider the following pairs of military exercises between India and other countries:

**Exercises — Countries with**

1. Sahyog- Kaijin — South Korea
2. Vajra Prahar — US
3. Harimau Shakti — Indonesia

Which of the pairs given is/are correctly matched?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 2 only

[ANS] d

[SOL] **Statement 1 is not correct:** Sahyog- Kaijin is the joint exercise being conducted between the Coast Guards of India and Japan. The exercise is aimed at enhancing interoperability in communications, search and rescue procedures and sharing of best practices.

**Statement 2 is correct:** "Vajra Prahar" is the Indo-US joint military exercise, it is conducted alternately in India and the US. Will enable the sharing of best practices and experience in areas such as joint mission planning capabilities and operational tactics.

**Statement 3 is not correct:** It is a military exercise between India and Malaysia and it is meant to create greater synergy and interoperability between the two armed forces.

**Q.15** Which of the following countries borders Syria?

1. Turkey
2. Iran
3. Jordan
4. Saudi Arabia
5. Lebanon

Select the correct answer using the code given below:

- (a) 1, 2, 3 and 4
- (b) 1, 3, 4 and 5
- (c) 1, 3 and 5
- (d) 3, 4 and 5

[ANS] c

[SOL] **Option C is correct:** It is a map-based question. As, Syria is located in Western Asia, north of the Arabian Peninsula and at the eastern end of the Mediterranean Sea. It is bordered by Turkey to the north, Lebanon and Israel to the west and southwest, Iraq to the east, and Jordan to the south.

**Q.16** With reference to the Contempt of Court, consider the following statements:

1. The expression 'contempt of court' has been defined under Article 129 of the Indian Constitution.
2. The Criminal contempt is willful disobedience to any judgment, writ or other processes of a court.
3. The Supreme Court has the power to punish for contempt not only of itself but also of any court in India.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 2 only
- (d) 3 only

**[ANS] d**

**[SOL] In News-** Recently, Attorney General of India declined to consent to initiate contempt proceedings against Andhra Pradesh Chief Minister and his principal advisor.

**Statement 1 & 2 are not correct:** As per the Contempt of Courts Act 1971, contempt refers to the offence of showing disrespect to the dignity or authority of a court. It divides contempt into civil and criminal contempt. Civil contempt is the willful disobedience to any judgment, decree, direction, order, writ or other processes of a court or wilful breach of an undertaking given to the court. Criminal contempt is an act which may result in scandalising the court by lowering its authority, interference in the due course of a judicial proceeding, an obstruction in the administration of justice. However, the expression 'contempt of court' has not been defined by the Constitution.

**Statement 3 is not correct:** The Supreme Court and High Courts have the power to punish for contempt of court, either with simple imprisonment for a term up to six months or with fine up to Rs. 2,000 or with both. The Supreme Court in the year 1991 ruled that it has the power to punish for contempt not only of itself but also of high courts, subordinate courts and tribunals functioning in the entire country. The High Courts have been given special powers to punish contempt of subordinate courts, as per Section 10 of The Contempt of Courts Act of 1971.

**Q.17** With reference to the Central Bureau of Investigation (CBI), consider the following statements:

1. It is a statutory body under the Delhi Special Police Establishment (DSPE) Act.
2. It can take any case suo-moto in the Union Territories but not in states.
3. Superintendence of CBI rests with CVC in all the corruption and administrative cases.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 2 only
- (d) 2 only

**[ANS] d**

**[SOL] In News-** Recently the Kerala Government decided to withdraw the general consent accorded to the Central Bureau of Investigation (CBI) to probe cases in the state.

**Statement 1 is not correct:** CBI is the main investigation agency of the central government for cases relating to corruption and major criminal probes. It has its origin in Special Police



Establishment set up in 1941 to probe bribery and corruption during World War II. Although the DSPE Act gives legal power to CBI, CBI is not a statutory body as the word 'CBI' is not mentioned in the DSPE act.

**Statement 2 is correct:** It can begin a probe under certain circumstances if a state government makes a request and the Union government agrees to it if the Supreme Court or any High Court order the CBI to take up such investigations. It can take a case suo-moto only in the Union Territories.

**Statement 3 is not correct:** Superintendence of CBI rests with CVC in corruption cases and with the Department of personnel and training in other matters. Presently it acts as an attached office under DOPT.

**Q.18** With reference to Organization of the Petroleum Exporting Countries (OPEC), consider the following statements:

1. It is a permanent intergovernmental organization of oil-exporting developing nations.
2. It is the outcome of the 1960 Riyadh Conference.
3. Ecuador has recently withdrawn from the organisation.
4. OPEC+ countries include non-OPEC oil-producing countries.

Which of the statements given above are correct?

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

[ANS] c

**[SOL] Statement 1 is correct:** The year 2020 marks the 60 Year Anniversary since the founding of OPEC in Baghdad in 1960. The Organization of the Petroleum Exporting Countries (OPEC) is a permanent group consisting of 14 of the world's major oil-exporting nations.

**Statement 2 is not correct:** OPEC was founded in 1960 Baghdad Conference with Iran, Iraq, Kuwait, Saudi Arabia and Venezuela as founding members to coordinate the petroleum policies of its members and to provide member states with technical and economic aid.

**Statement 3 is correct:** Ecuador has withdrawn its membership of OPEC. In January 2019, Qatar withdrew its membership from the organisation.

**Statement 4 is correct:** The OPEC plus countries are the non-OPEC countries which export crude oil. OPEC plus countries include Azerbaijan, Bahrain, Brunei, Kazakhstan, Malaysia, Mexico, Oman, Russia, South Sudan and Sudan.

**Q.19** 'Char-Chaporis culture' was in the news recently, it is related to which of the following states?

- (a) Orissa
- (b) Nagaland
- (c) Assam
- (d) West Bengal

[ANS] c

**[SOL] In News-** A proposed "Miya museum" reflecting the "culture and heritage of the people living in char-chaporis" has stirred up a controversy in Assam.

**Option C is correct:** Recently, a proposed Miya museum reflecting the culture and heritage of the people living in char-chaporis has stirred up a controversy in Assam. The 'Miya' community

comprises descendants of Muslim migrants from East Bengal (now Bangladesh) to Assam. They came to be referred to as ‘Miyas’, often in a derogatory manner. The community migrated in several waves — starting with the British annexation of Assam in 1826, and continuing into Partition and the 1971 Bangladesh Liberation War. Their Migration has resulted in changes in the demographic composition of the region. Years of discontent among the indigenous people led to the six-year-long (1979-85) anti-foreigner Assam Agitation to weed out the “illegal immigrant”, who was perceived as trying to take over jobs, language and culture of the indigenous population.

**Q.20** With reference to the Aditya- L1 mission, consider the following statements:

1. It is India’s first solar mission.
2. Under the mission, the study the Sun’s corona, solar emissions, solar winds and flares, and Coronal Mass Ejections (CMEs) are to be conducted.

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

[ANS] c

**[SOL] Option C is correct:** Aditya - L1 First Indian mission to study the Sun. It was meant to observe only the solar corona. The outer layers of the Sun, extending to thousands of km above the disc (photosphere) is termed as the corona. A Satellite placed in the halo orbit around the Lagrangian point 1 (L1) of the Sun-Earth system has the major advantage of continuously viewing the Sun without any occultation/ eclipses.

**Q.21** With reference to the Fast Radio Bursts (FRBs), related to space, consider the following statements:

1. They are the bright bursts of radio waves of milliseconds from astronomical objects.
2. No Fast Radio Bursts (FRBs) have been seen in the Milky Way Galaxy so far.

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

[ANS] a

**[SOL] In News-** Recently, Astronomers have detected a bright fast radio burst, which lasted for a millisecond, from Milky Way galaxy for the first time ever.

**Statement 1 is correct:** Fast radio bursts are bright bursts of radio waves from astronomical objects across galaxies. Essentially, FRBs are bright bursts of radio waves (radio waves can be produced by astronomical objects with changing magnetic fields) whose durations lie in the millisecond-scale, because of which it is difficult to detect them and determine their position in the sky.

**Statement 2 is not correct:** The first FRB was discovered in 2007, since when scientists have been working towards finding the source of their origin. The source of the FRB detected in April in the Milky Way is a very powerful magnetic neutron star, referred to as a magnetar, called SGR 1935+2154 or SGR 1935, which is located in the constellation Vulpecula and is estimated to be

between 14,000-41,000 light-years away. According to NASA, a Magnetar is a neutron star, “the crushed, city-size remains of a star many times more massive than our Sun.”

**Q.22** Which of the following statements is/are correct with respect to the Brown Carbon ‘Tarballs’?

1. They are small carbonaceous particles formed due to burning of fossil fuel.
2. The brown carbon has strong light-absorbing capacity throughout the spectra.

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

**[ANS] a**

**[SOL] In News-** Recently, the study was published in ACS’ Environmental Science & Technology Letters November 4, 2020, related to the impact of Brown carbon ‘tarballs’ on the Himalayan ecosystem.

**Option A is correct:** A recent study has found that nearly 28 per cent of particles collected from the air samples from a research station in the Himalaya-Tibetan Plateau were tarballs. Tarballs are small light-absorbing, carbonaceous particles formed due to burning of biomass or fossil fuels that deposit on snow and ice. They hasten glacial melt. Brown carbon (BrC) is brown in colour and its absorption is limited to UV and lower visible wavelengths. Aerosol absorption depends on the mass, mixing state, chemical composition and the refractive index of the species present in the atmosphere.

**Q.23** With reference to the ‘Gurdwara Kartarpur Sahib’, consider the following statements:

1. It is located on the bank of the river Chenab.
2. It is the final resting place of Sikh faith’s founder Guru Nanak Dev.

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

**[ANS] b**

**[SOL] In News-** Recently, Pakistan transferred the management of the **Kartarpur Sahib gurudwara** from a Sikh body to a separate trust.

**Option B is correct:** The corridor was built to commemorate 550th birth anniversary celebrations of Guru Nanak Dev in 2019. It is the final resting place of Sikh faith’s founder Guru Nanak Dev, who had spent the last 18 years of his life in Kartarpur until his death in 1539.

The Kartarpur Sahib corridor was first proposed in 1999 when Prime Minister Atal Bihari Vajpayee took a bus ride to Lahore. It connects the Darbar Sahib Gurdwara in Narowal district of Pakistan with the Dera Baba Nanak shrine in Gurdaspur district in India’s Punjab province.

The gurdwara in Kartarpur is located on the bank of river Ravi in Pakistan. The Kartarpur corridor was thrown open amid heightened tension between India and Pakistan over the Kashmir issue. The corridor was shut in March given the coronavirus pandemic.

**Q.24** Which of the following countries are the part of the ‘Five Eyes Alliance’, often seen in the news?

1. Australia
2. United States
3. Japan
4. Canada
5. India

Select the correct answer using the code given below:

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

**[ANS] b**

**[SOL] In News-** India has recently joined the intelligence alliance Five Eyes.

**Option B is correct:** It is an anglophone intelligence alliance comprising Australia, Canada, New Zealand, the United Kingdom and the United States. It began in 1946 when the United States and the United Kingdom agreed to an open exchange of intelligence on the communications of foreign nations. It was expanded when Canada joined the alliance in 1948, followed by Australia and New Zealand in 1956. Five Eyes allowed the national agencies to share monitoring infrastructure, and to track nuclear-armed Soviet submarines during the Cold War. The surveillance partnership strengthened following the 9/11 attacks on the United States, and monitoring of internet communications has since expanded exponentially.

**Q.25** Match the following pairs with respect to the cyclone names with different regions of the world:

**Name — Region**

1. Typhoons — Southern USA
2. Willy-willies — Australia
3. Hurricanes — Pacific Ocean

Select the correct answer using the code given below:

- (a) 1 and 2 only
- (b) 2 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

**[ANS] b**

**[SOL] In News-** Recently, The Hurricane Eta moved ashore in **Nicaragua** with devastating winds and rains.

**Option B is correct:** Depending on where they occur, hurricanes may be called typhoons or cyclones. They are given many names in different regions of the world:

- Typhoons: tropical cyclones are known as Typhoons in the China Sea and the Pa-cific Ocean.
- Hurricanes: In the West Indian islands in the Caribbean Sea and the Atlantic Ocean.
- Tornados: In the Guinea lands of West Africa and southern USA.
- Willy-willies: In north-western Australia and
- Tropical Cyclones: In the Indian Ocean Region.

**Q.26** Consider the following statements:

1. The Saffron flowers cultivation is done throughout the year across the Karewa region of Jammu and Kashmir.
2. It is referred to as 'Bahukam' in ancient Sanskrit literature.
3. Pampore Saffron Heritage of Kashmir is a Globally Important Agricultural Heritage Systems (GIAHS) recognised sites in India.

Which of the statements given above are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

[ANS] b

[SOL] **In News-** A pilot project has yielded successful results in Yangyang village of South Sikkim, which produced its first crop of saffron this September.

**Statement 1 is not correct:** The cultivation of saffron flowers is not done throughout the year. In Jammu and Kashmir, saffron is normally sown in August and till the 15th of September. The flowers are plucked in October and November. During harvesting or plucking of flowers, the atmosphere must not be hot.

**Statement 2 is correct:** Saffron cultivation is believed to have been introduced in Kashmir by Central Asian immigrants around the 1st Century BCE. In ancient Sanskrit literature, saffron is referred to as 'bahukam'. The saffron available in Kashmir is of three types — 'Lachha Saffron', with stigmas just separated from the flowers and dried without further processing; 'Mongra Saffron', in which stigmas are detached from the flower, dried in the sun and processed traditionally; and 'Guchhi Saffron', which is the same as Lachha, except that the latter's dried stigmas are packed loosely in air-tight containers while the former has stigmas joined together in a bundle tied with a cloth thread.

**Statement 3 is correct:** Saffron cultivation has long been restricted to a limited geographical area in J&K, mainly Pampore, followed by Budgam, Srinagar and Kishtwar districts. Pampore is called Saffron bowl of Kashmir, it is one of the Globally Important Agricultural Heritage Systems (GIAHS) recognised sites in India. Recently, the Kashmir saffron got a Geographical Indication (GI) tag status.

**Q.27** 'Farzad-B Gas Field' was often mentioned in the news, it is located in which of the following countries?

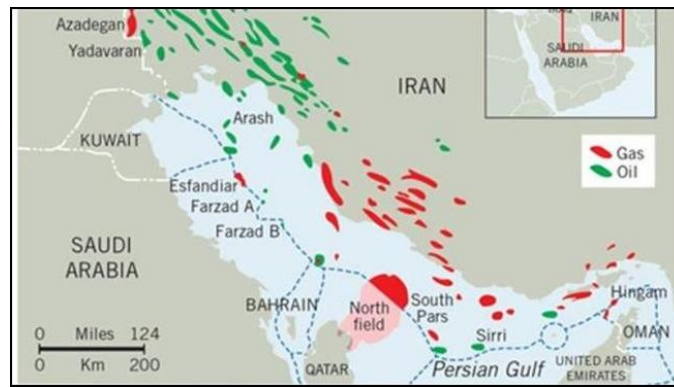
- (a) Russia
- (b) Kuwait
- (c) Iran
- (d) UAE

[ANS] c

[SOL] **In News-** Recently, Iran's Port and Maritime Organisation (PMO) has conveyed to India a request for locomotives and signalling equipment for the **Chabahar-Zahedan railway line**. Delays due to US sanctions have taken a toll on the Indian interest in developing the Farzad-B gas field.

**Option C is correct:** Farzad B gas field is an offshore natural gas field located in the Persian Gulf under the control of Iranian sovereignty. It was opened in 2008 and India had been negotiating the rights to oil and gas from the field till the US sanctions on Iran jeopardised India's plans.

Government of India cited policy changes by the Iranian government, Iran's precarious finances, and the U.S. sanctions situation as the reasons for the decisions on Indian infrastructure projects in Iran, which would be undertaken through local companies instead.



**Q.28** Consider the following statements:

1. Warli art is a traditional painting art form that belongs to the Warli Tribes of Maharashtra.
2. The figures in this art are created out of geometrical shapes like two triangles, stick-like hands etc.
3. The theme of the art depicts mythological characters as well as the social life of tribals.

Which of the statements given above are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

**[ANS] a**

**[SOL] In News:** Artists in the **city of Hyderabad** are using the **traditional Warli art** form to not just **beautify the city** but also **to create awareness on important issues**.

**Option A is correct:** The art is a traditional art form and originally belongs to the Warli Tribes of Maharashtra. It was first discovered in the early seventies. While there are no records of the exact origins of this art, its roots may be traced to as early as the 10th century A.D. The art is the vivid expression of daily and social events of the Warli tribe of Maharashtra. Simplicity is the key in Warli and the figures are created out of geometrical shapes like two triangles, stick-like hands and legs, a circle (representing face), a smaller circle (only for female form to indicate a hair bun) and square. These paintings do not depict mythological characters or images of deities, but they depict social life. Images of human beings and animals, along with scenes from daily life are created in a loose rhythmic pattern. Women are mainly engaged in the creation of these paintings and they are painted on an austere mud base using one colour, white, with occasional dots in red and yellow. This colour is obtained from grinding rice into a white powder.

**Q.29** With reference to the Convention of International Trade in Endangered Species (CITES), consider the following statements:

1. It is an international agreement for the protection of both wild flora and fauna.
2. It is not legally binding on the Parties.
3. India is a signatory to the convention.

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

[ANS] b

[SOL] **In News:** Recently, some **Non-Asian exotic animals were rescued** from smuggling in from Myanmar. **Exotic live species** shall be **construed to mean** only “the animals named under the **Appendices I, II and III of the Convention of International Trade in Endangered Species (CITES)** of Wild Fauna and Flora”.

Explanation:

**Option B is correct:** It stands for the **Convention on International Trade in Endangered Species of Wild Fauna and Flora**.

- It is an international agreement aimed at ensuring “that international trade in specimens of wild animals and plants does not threaten their survival”.
- It is legally binding on the Parties in the sense that they are committed to implementing it, however, it does not take the place of national laws.
- India is a signatory to this convention and has also ratified it in 1976.
- It has three appendices:
- Appendix I includes species threatened with extinction. Trade-in specimens of these species are permitted only in exceptional circumstances.
- Appendix II provides a lower level of protection.
- Appendix III contains species that are protected in at least one country, which has asked other CITES Parties for assistance in controlling.

**Q.30** ‘Dobra Chanti Bridge’ was recently in the news, it is located in which of the following states/UT?

- (a) Arunachal Pradesh
- (b) Jammu & Kashmir
- (c) Himachal Pradesh
- (d) Uttarakhand

[ANS] d

[SOL] **In News-** The Uttarakhand Chief Minister has inaugurated Dobra-Chanthi suspension bridge in Tehri-Garhwal district.

**Option D is correct:** Dobra-Chanthi suspension bridge is a country’s longest single-lane motorable suspension bridge in Tehri Garhwal district. It is built over Tehri Lake, it will cut travel time between Tehri and Pratapnagar districts from 5 5 to 1.5 hours.

**Q.31** ‘Yarkovsky effect’ was in the news recent time, consider the following statements in this regards:

1. It is a force acting on a rotating body in the space.
2. It is mostly seen in the Terrestrial planets.

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

[ANS] a

[SOL] **In News-** According to research, a large asteroid named Asteroid Apophis, which was expected to pass extremely close to Earth may now hit the blue planet in 2068 due to a phenomenon called Yarkovsky effect.

**Option B is correct:** The Asteroid Apophis was discovered in 2004 and since then it was revealed that the probability of a collision is almost negligible. It was earlier predicted to pass really close to Earth in 2068. But, according to the new calculations, the asteroid is drifting away from its original orbit now. The change in orbit is about 557 feet (170 metres) per year. The asteroid's orbit has been disturbed by the heat it is taking from the Sun.

This phenomenon is called the Yarkovsky effect as it celestial object's path changes due to heat energy being radiated asymmetrically. Basically, the heat that an asteroid radiates gives it a very tiny push. The warmer hemisphere [of the asteroid] would be pushing slightly more than the cooler hemisphere, and that causes the asteroid to drift away from what a purely gravitational orbit would predict.

**Q.32** 'Shadow zone' of an earthquake refers to the zone where-

- (a) Tendency of experiencing an earthquake is the maximum
- (b) The destruction is highest due to the hypocentre being below the zone
- (c) Earthquake waves reflect back due to the presence of large ocean beds
- (d) None of the above

[ANS] d

[SOL] **In News-** The scientists at Wadia Institute of Himalayan Geology have unearthed large concentrations of micro and moderate magnitude earthquakes in the Dharchula region.

**Option D is correct:** Earthquake waves get recorded in seismographs located at far off locations. However, there exist some specific areas where the waves are not reported. Such a zone is called the 'shadow zone'. It is due to the S wave. There are two types of body waves generated during an earthquake. They are called P and S-waves. An important fact about S-waves is that they can travel only through solid materials. This characteristic of the S-waves is quite important as it has helped scientists to understand the structure of the interior of the earth. Hence, none of the above options (a), (b) and (c) is correct.

**Q.33** Which of the following are depositional landforms formed by Glaciers?

- 1. Eskers
- 2. Moraines
- 3. Hanging Valley
- 4. Drumlins

Choose the correct answer using the codes given below

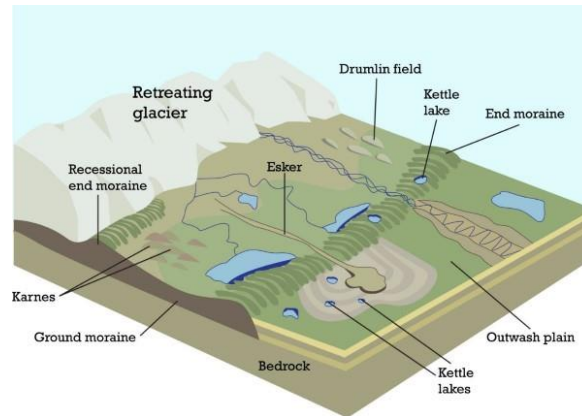
- (a) 1,2 and 3 only
- (b) 1, 3 and 4 only
- (c) 2, 3 and 4 only
- (d) 1,2 and 4 only

[ANS] d

[SOL] **In News-** Researchers from **Germany** have **mapped** the **evolution of Gya glacial lake** and have determined the cause of the flood using **remote sensing data**.



**Option D is correct:** The major depositional landforms made by glaciers are Esker, Outwash plains, Drumlins. Major erosional landforms by glaciers are Hanging valley, Cirque, Horns and Aretes.



**Q.34** With reference to the “Samagra Shiksha” Scheme, consider the following statements:

1. It is an integrated scheme for imparting professional technical skills in higher education in the STEM fields.
2. It is a Centrally Sponsored Scheme launched by Ministry of Skill Development And Entrepreneurship.

Select the correct answer using the code given below:

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

**[ANS] d**

**[SOL] Option D is correct:** Samagra Shiksha - an Integrated Scheme for School Education has been launched throughout the country as a Centrally Sponsored Scheme with effect from the year 2018-19. This programme subsumes the three erstwhile Centrally Sponsored Schemes of Sarva Shiksha Abhiyan (SSA), Rashtriya Madhyamik Shiksha Abhiyan (RMSA) and Teacher Education (TE). It is an overarching programme for the school education sector extending from pre-school to class XII and aims to ensure inclusive and equitable quality education at all levels of school education. It envisages the ‘school’ as a continuum from pre-school, primary, upper primary, secondary to senior secondary levels.

**Q.35** Which of the following type of Ultraviolet radiations are most effective in killing pathogens?

- (a) UV-A
- (b) UV-B
- (c) UV-C
- (d) UV-D

**[ANS] c**

**[SOL] Option C is correct:** UVC radiation is a known disinfectant for air, water, and nonporous surfaces. UVC radiation has effectively been used for decades to reduce the spread of bacteria, such as tuberculosis. For this reason, UVC lamps are often called "germicidal" lamps.

**Q.36** Consider the following statements:

1. News Broadcasting Standards Authority (NBSA) is a statutory body for the regulation of television news.
2. Central Board of Film Certification (CBFC) is the executive body under the Ministry of Information and Broadcasting.

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

[ANS] d

[SOL] **In News-** The government has brought video **streaming over-the-top (OTT) platforms** such as Netflix, Amazon's Prime Video, Hotstar, and others under the ambit of the **Ministry of Information and Broadcasting**.

**Option B is correct:** It is not a statutory body. The News Broadcasters Association (NBA) represents the private television news & current affairs broadcasters. It is the collective voice of the news & current affairs broadcasters in India. It is an organization funded entirely by its members. The NBA has presently 26 leading news and current affairs broadcasters (comprising 70 news and current affairs channels) as its members. The Central Board of Film Certification (CBFC) is a statutory film-certification body in the Ministry of Information and Broadcasting of the Government of India.

**Q.37** With reference to the Over-The-Top Platforms (OTT), consider the following statements:

1. OTT or over-the-top platforms are the content hosting platforms but they don't indulge in the production of content.
2. Presently, these platforms are regulated under the Cable Networks Regulation Act (2005).

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

[ANS] d

[SOL] **In News-** The government has brought video streaming over-the-top (OTT) platforms such as Netflix, Amazon's Prime Video, Hotstar, and others under the ambit of the Ministry of Information and Broadcasting.

**Statement 1 is not correct:** OTT, or over-the-top platforms, are audio and video hosting and streaming services which started out as content hosting platforms, but soon branched out into the production and release of short movies, feature films, documentaries and web-series themselves. These platforms offer a range of content and use artificial intelligence to suggest users the content they are likely to view based on their past viewership on the platform.

**Statement 2 is not correct:** So far in India, there are no laws or rules regulating OTT platforms as it is a relatively new medium of entertainment. Unlike television, print or radio, which follow guidelines released by governments, OTT platforms, classified as digital media or social media, had little to no regulation on the choice of content

**Q.38** With reference to the Foreign Contribution (Regulation) Act, 2010, consider the following statements:

1. Under the act, both individuals and organisations are required to register themselves every five years for accepting funds from foreign.
2. It is implemented by the Ministry of Home Affairs.

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

**[ANS] b**

**[SOL] In News-** The MHA notified new rules under the Foreign Contribution Regulation Act (FCRA), 2010 thereby amending the FCRA Rules, 2011.

**Option B is correct:** Individuals are permitted to accept foreign contributions without permission of MHA. However, the monetary limit for acceptance of such foreign contributions shall be less than Rs. 25,000 and organisations are required to register themselves every five years. The act is implemented by the Ministry of Home Affairs.

**Q.39** With reference to the International Fund for Agricultural Development (IFAD), consider the following statements:

1. The institution works towards removing poverty and hunger in rural areas all over the world.
2. It is an international financial institution different from the United Nation's Food and Agriculture Organisation.
3. India is not the member state of this.

Select the correct answer using the code given below:

- (a) 1 and 2 only
- (b) 1 only
- (c) 2 only
- (d) 1, 2 and 3

**[ANS] b**

**[SOL] Option B is correct:** IFAD works towards removing poverty and hunger in rural areas all over the world, especially in developing countries. It was set up in 1977 and is the 13th specialised agency of the United Nations. India is a founder member of IFAD and a key contributor among the member countries. Its goal is to empower poor rural men and women in developing countries to achieve higher incomes and improved food security. IFAD is managed by the two main governing bodies i.e. the Governing Council and the Executive Board. The Governing Council is the highest decision-making body of IFAD.

**Q.40** With reference to the Pradhan Mantri Bhartiya Janaushadhi Pariyojana, Consider the following statements:

1. The scheme provides generic drugs at a lesser price than branded drugs of equal quality and efficacy.
2. Bureau of Pharma PSUs of India (BPPI) under the Ministry of Health and Family Welfare is the implementing body.

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

[ANS] b

**[SOL] Option B is correct:** Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP) is a campaign launched by the Department of Pharmaceuticals to provide quality medicines at affordable prices to the masses. PMBJP stores have been set up to provide generic drugs, which are available at lesser prices but are equivalent in quality and efficacy as expensive branded drugs. It was launched by the Department of Pharmaceuticals in November 2008 under the name Jan Aushadi Campaign. Bureau of Pharma PSUs of India (BPPI) is the implementation agency for PMBJP.

**Q.41** Which of the following statements is/are **not correct** with respect to the Viability Gap Funding (VGF), often seen in the news?

1. It is a grant to support projects that are economically justified but not financially viable.
2. It is provided for only social infrastructure under the Public-Private Partnerships mode.

Select the correct answer using the code given below:

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

[ANS] b

**[SOL] In News-** The government has expanded the provision of financial support by means of viability gap funding for public-private partnerships (PPPs) in infrastructure projects to include critical social sector investments in sectors such as health, education.

**Option B is correct:** Viability Gap Finance means a grant to support projects that are economically justified but not financially viable. The scheme is designed as a Plan Scheme to be administered by the Ministry of Finance and amount in the budget are made on a year-to-year basis. Such a grant under VGF is provided as a capital subsidy to attract the private sector players to participate in PPP projects that are otherwise financially unviable.

Projects may not be commercially viable because of the long gestation period and small revenue flows in future. The VGF scheme was launched in 2004 to support projects that come under Public-Private Partnerships.

**Q.42** With reference to the Sarna tribals, consider the following statements:

1. They pray to the trees and hills and believe in protecting the forest areas.
2. They are included in separate religious code for tribals of Census 2011.

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

[ANS] a

**[SOL] In News-** The Jharkhand government convened a special Assembly session to pass a resolution to recognise Sarna religion and include it as a separate code in the Census of 2021.

**Option A is correct:** Tribal groups have long demanded that followers of their 'Sarna' religion be listed separately as they worship nature and have a distinct tradition and culture. Currently, the census classifies people under six religions - Hindu, Muslim, Christian, Sikh, Jain, and Buddhist - while those who do not subscribe to these are clubbed under the 'Other' category. Jharkhand has 32 tribal groups of which eight are from Particularly Vulnerable Tribal Groups.

**Q.43** With reference to the Income Tax Appellate Tribunal (ITAT), consider the following statements:

1. It was the first tribunal established by the executive resolution.
2. It is known as 'Mother Tribunal'.

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

**[ANS] b**

**[SOL] In News-** Recently, Prime Minister virtually inaugurated the Office-cum-Residential Complex of Cuttack Bench of Income Tax Appellate Tribunal (ITAT) in Odisha to provide modern tax services.

**Option B is correct:** Income Tax Appellate Tribunal (ITAT) is a statutory body in the field of direct taxes and its orders are accepted as final. Statutory bodies are established by acts which Parliament and State Legislatures can pass. ITAT was the first Tribunal to be created on 25th January 1941 and is also known as 'Mother Tribunal'.

**Q.44** With reference to Organization of the Petroleum Exporting Countries (OPEC), consider the following statements:

1. It is a permanent intergovernmental organization of oil-exporting developing nations.
2. It is the outcome of the 1960 Riyadh Conference.
3. Ecuador has recently withdrawn from the organisation.
4. OPEC+ countries include non-OPEC oil-producing countries.

Which of the statements given above are correct?

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

**[ANS] c**

**[SOL] In News-**Oil prices jumped by close to 10% for its biggest daily gain in almost six months after news of a highly effective vaccine against COVID-19 and Saudi Arabia's assurance that an **OPEC+ oil output deal** could be adjusted to balance the market.

**Statement 1 is correct:** The Organization of the Petroleum Exporting Countries (OPEC) is a permanent group consisting of 14 of the world's major oil-exporting nations.

**Statement 2 is not correct:** OPEC was founded in 1960 Baghdad Conference with Iran, Iraq, Kuwait, Saudi Arabia and Venezuela as founding members to coordinate the petroleum policies of its members and to provide member states with technical and economic aid.

**Statement 3 is correct:** Ecuador has withdrawn its membership of OPEC. In January 2019, Qatar withdrew its membership from the organisation.

**Statement 4 is correct:** The OPEC plus countries are the non-OPEC countries which export crude oil. OPEC plus countries include Azerbaijan, Bahrain, Brunei, Kazakhstan, Malaysia, Mexico, Oman, Russia, South Sudan and Sudan.

**Q.45** With reference to the Inter-State Council, consider the following statements:

1. It is a permanent constitutional body established under Article 263 of the Indian constitution.
2. It is established by the President of India.
3. The Union Home Minister is the chairman of the council.

Which of the statements given above is/are correct?

- (a) 1 and 2 only
- (b) 1 and 3 only
- (c) 2 only
- (d) 2 and 3 only

[ANS] c

[SOL] **Statement 1 is not correct:** The Inter-State Council is a non-permanent constitutional body set up by a presidential order on the basis of provisions in Article 263 of the Constitution of India. The Council is formed to discuss or investigate policies, subjects of common interest, and disputes among states.

**Statement 2 is correct:** The Inter-State Council was set up in 1990 following the recommendations of the Sarkaria Commission. Article 263 empowers the President of India to set up an inter-state council to deal with federal issues.

**Statement 3 is not correct:** The council is chaired by the Prime Minister and includes six Union ministers and all chief ministers as members.

**Q.46** With reference to the Thirty Meter Telescope (TMT), consider the following statements:

1. It is an international project of NASA for deep exploration into space.
2. It is installed at Maunakea in Hawaii.

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

[ANS] b

[SOL] **In News-** Indian astronomers collaborated with Nobel laureate on Thirty Meter Telescope Project.

**Option B is correct:** The Thirty-meter telescope (TMT) project is an international partnership between CalTech, Universities of California, Canada, Japan, China, and India. This can help in the understanding of the universe and the enigmas in it. The Thirty Meter Telescope (TMT) project being installed at Maunakea in Hawaii. India, a partner in the construction of one of the largest telescopes in the world, TMT, has said it wants the project to be moved out of the proposed site at Mauna Kea, a dormant volcano in Hawaii.

**Q.47** With reference to the Border Area Development Programme (BADP), consider the following statements:

1. It was launched by the Ministry of Home Affairs during Tenth Five Year Plan.
2. It is a centrally sponsored scheme.

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

[ANS] b

[SOL] **In News-** Recent reports have suggested that Beijing has officially begun work on a strategically significant railway line in Tibet which will link Sichuan province with Nyingchi, which lies on the Indo-China border in Arunachal Pradesh.

**Option B is correct:** The Border Area Development Programme (BADP) was launched by the Ministry of Home Affairs in 1986-87 as part of a comprehensive approach to Border Management. BADP was initiated in the border areas of the western region during the Seventh Five Year Plan (1985-90), for ensuring balanced development of border areas through development of infrastructure and promotion of a sense of security among the border population. It is a centrally sponsored scheme. Funds are provided to the states as a non-lapsable special central assistance for the execution of projects relating to infrastructure, livelihood, education, health, agriculture and allied sectors.

**Q.48** With reference to Dedicated Freight Corridor Corporation of India Limited (DFCCIL), consider the following statements:

1. It is the statutory body for establishing the freight corridors under the Freight Corridor Act of 2016.
2. It is administered by the Ministry of Road Transport and Highways.

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

[ANS] d

[SOL] **Option D is correct:** Dedicated Freight Corridor Corporation of India (DFCCIL) is a Special Purpose Vehicle set up under the administrative control of Ministry of Railways to undertake planning & development, mobilization of financial resources and construction, maintenance and operation of the Dedicated Freight Corridors. DFCCIL has been set up with 100% equity by Ministry of Railways. The Ministry of Railways, under the direction of the Indian Government, had taken up the dedicated freight corridor (DFC) project. The project involves the construction of six freight corridors traversing the entire country. The purpose of the project is to provide a safe and efficient freight transportation system.

**Q.49** Consider the following statements:

1. Sepsis is organ dysfunction caused by the body's immune system in response to an infection.
2. It is caused by viruses.

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

[ANS] a

[SOL] **Statement 1 is correct:** The sepsis is a common cause of death from coronavirus. Sepsis is a life-threatening organ dysfunction caused by the body's immune system overreacting in response to an infection. This overactive, toxic response can lead to tissue damage, multiple organ failure and death.

**Statement 2 is not correct:** Viruses, bacteria, fungi or parasites — sepsis can be triggered by a variety of pathogens. The causes of sepsis are usually pneumonia, wound infections, urinary tract infections or infections in the abdominal cavity.

**Q.50** Consider the following statements:

1. Ramsar Convention is an intergovernmental body on preservation of on Wetlands.
2. The Montreux Record is a register of wetland sites on the List of Ramsar wetlands of international importance.
3. Lonar Lake is under the Ramsar sites.

Which of the statements given above is/are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

[ANS] d

[SOL] **In News-** Recently, the Meteor lake at Lonar of Maharashtra and the Soor Sarovar at Agra have been declared Ramsar sites.

**Option D is correct:** Ramsar Convention on Wetlands is an intergovernmental treaty adopted in 1971 in the Iranian city of Ramsar, on the southern shore of the Caspian Sea.

It came into force for India on 1st February, 1982. Those wetlands which are of international importance are declared as Ramsar sites. The Convention's mission is "the conservation and wise use of all wetlands through local and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world. The Montreux Record is a register of wetland sites on the List of Ramsar wetlands of international importance where changes in ecological character have occurred, are occurring, or are likely to occur as a result of technological developments, pollution or other human interference. At present, two wetlands of India are in Montreux Record that are- Keoladeo National Park (Rajasthan) and Loktak Lake (Manipur).

**Q.51** Which of the following country has recently approved the issuance of 'Golden Card Visa' for certain professions?

- (a) Japan
- (b) United Kingdom
- (c) United Arab Emirate
- (d) South Africa

[ANS] c

[SOL] **In News-** Recently, UAE has approved a 'golden' visa grant allowing 10-year residency for certain professions including specialised degree-holders and others.

**Option C is correct:** The United Arab Emirates (UAE) has approved the issuance of a 10-year golden card visa for more professionals, including PhD holders, physicians, engineers as well as graduates from certain universities. Golden Visa is citizenship by investment or residency by



investment program. It is directed to wealthy foreign nationals who want to acquire residency in a certain country by investing a substantial amount of money or by purchasing a property. It is a long-term residency programme announced by the Prime Minister and Ruler of Dubai, in May 2019.

**Q.52** Which of the following countries comprises the “Horn of Africa”, often seen in the news?

1. Eritrea
2. Kenya
3. Ethiopia
4. Somalia

Choose the correct answers using the codes given below:

- (a) 1, 2 and 3 only
- (b) 2, 3 and 4 only
- (c) 1, 3 and 4 only
- (d) All of the above

[ANS] c

[SOL] **In News-** Recently, the observers had feared that military operation in the Tigray region of Ethiopia would have ramifications in the Horn of Africa region at large.

**Option C is correct:** The **North-Eastern region of the African continent** including the countries of Sudan, Eritrea, Ethiopia, Djibouti and Somalia is known as the Horn of Africa since the group of countries form a horn-like landmass over the peninsula.



**Q.53** Consider the following statements:

1. Registrar General of India comes under the Ministry of Statistics and Programme Implementation.
2. It conducts and analyses the results of the demographic surveys published in India.

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

[ANS] b

**[SOL] In News-** According to the 2018 report on “vital statistics of India based on the Civil Registration System”, Arunachal Pradesh recorded the best sex ratio at birth in the country while Manipur recorded the worst sex ratio at birth.

**Option B is correct:** The Registrar General and Census Commissioner of India, founded in 1961 by Government of India Ministry of Home Affairs, for arranging, conducting and analysing the results of the demographic surveys of India including Census of India and Linguistic Survey of India.

**Q.54** Consider the following statements:

1. “Patient Zero” is the first human who will get the world’s first human trial of a vaccine of newly emerged disease.
2. Herd immunity is when a large number of people are vaccinated against a disease and lowering the chances of others being infected by it.

Select the correct answer using the code given below:

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

**[ANS] b**

**[SOL] Statement 1 is not correct:** The “patient zero” is a term used to describe the first human infected by a viral or bacterial disease in an outbreak.

**Statement 2 is correct:** Herd immunity is when a large number of people are vaccinated against a disease, lowering the chances of others being infected by it. When a sufficient percentage of a population is vaccinated, it slows the spread of disease. It is also referred to as community immunity or herd protection.

**Q.55** Which among the following is/are correct with respect to the Reserve Bank of India’s Open Market Operations?

1. It is the rate at which the banks are able to borrow overnight funds from RBI against the approved government securities.
2. It is one of the qualitative tools of RBI under his monetary policy.

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

**[ANS] d**

**[SOL] Statement 1 is not correct:** Open market operations is the sale and purchase of government securities and treasury bills by RBI or the central bank of the country. And Marginal Standing Facility is a new Liquidity Adjustment Facility (LAF) window created by Reserve Bank of India in its credit policy of May 2011. MSF is the rate at which the banks are able to borrow overnight funds from RBI against the approved government securities.

**Statement 2 is not correct:** The quantitative instruments are Open Market Operations, Liquidity Adjustment Facility (Repo and Reverse Repo), Marginal Standing Facility, SLR, CRR, Bank Rate, Credit Ceiling etc. On the other hand, qualitative instruments are credit rationing, moral suasion and direct action (by RBI on banks).

**Q.56** ‘Anakkayam Hydel Project’ was often seen in the news, it is proposed by which of the following states?

- (a) Kerala
- (b) Tamil Nadu
- (c) Karnataka
- (d) Maharashtra

**[ANS] a**

**[SOL] In News-** Recently, Environmentalists and tribal communities have come together to protest against the Anakkayam Small Hydro Electric Project in Kerala.

**Option A is correct:** In June 2020, the Kerala government approved the Athirapally Hydro Electric Project (AHEP) on the Chalakudy river in Thrissur district of Kerala. Chalakudy River originates in the Anamalai region of Tamil Nadu and is joined by its major tributaries Parambikulam, Kuriyarkutti, Sholayar, Karapara and Anakayam in Kerala. It flows through Palakkad, Thrissur and Ernakulam districts of Kerala.

**Q.57** With reference to the UNESCO Global Geopark, Consider the following statements:

1. They are the designated geographical areas of international geological importance recognised for sustainable development.
2. Udupi is one of the areas under the list of UNESCO Global Geoparks in India.

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

**[ANS] a**

**[SOL] In News-** The Indian National Trust for Art and Cultural Heritage (INTACH) is making efforts to get recognition of a geopark for Visakhapatnam (Andhra Pradesh) consisting of Erra Matti Dibbalu (red sand dunes).

**Option A is correct:** On November 17 2015, the United Nations Educational Scientific and Cultural Organization or UNESCO approved a new label of Geoparks. UNESCO defines Geoparks as single, unified geographical areas where sites and landscapes of international geological significance are managed with a holistic concept of protection, education and sustainable development. Currently, India does not have any Geopark under the list of UNESCO Global Geoparks. According to reports, India has not formulated a law for the construction of Geoparks and to protect the sites sustainably. The US and countries like Spain, China, etc. already have such laws since the 1920s.

**Q.58** With reference to BRICS, consider the following statements:

1. BRICS nations have adopted the Brasilia Declaration.
2. New Development Bank (NDB) and Contingent Reserve Arrangement (CRA) are the outcomes of the Johannesburg Declaration.
3. The first summit of BRICS took place in Brazil in 2009.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 2 only

(d) 2 only

[ANS] a

[SOL] **Statement 1 is correct:** The 11th BRICS Summit took place from 13th-14th November 2019 in Brasilia, Brazil. The theme of the 2019 BRICS summit is "Economic Growth for an Innovative Future." BRICS countries adopted the Brasilia Declaration. BRICS is an acronym for the grouping of the world's leading emerging economies, namely Brazil, Russia, India, China and South Africa. In 2001, the British economist, Jim O'Neill, coined the term BRIC to describe the four emerging economies of Brazil, Russia, India and China.

**Statement 2 is not correct:** BRICS's New Development Bank and BRICS Contingent Reserve Arrangement agreements signed in Fortaleza in 2014.

**Statement 3 is not correct:** The BRICS was officially formed in 2006, originally including Brazil, Russia, India and China. Its first summit took place in Russia in 2009.

**Q.59** With reference to the Infrastructure Investment Trusts (InvITs), consider the following statements:

1. They enable the direct investment of money from individual/institutional investors in infrastructure.
2. They are regulated and oversight by the Reserve Bank of India.

Which of the statement given above is/are correct?

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

[ANS] a

[SOL] **In News-** The Cabinet Committee on Economic Affairs approved monetisation of assets of POWERGRID through the Infrastructure Investment Trust (InvIT) model.

**Statement 1 is correct:** An Infrastructure Investment Trust (InvITs) is like a mutual fund, which enables direct investment of small amounts of money from possible individual/institutional investors in infrastructure to earn a small portion of the income as a return. InvITs work like mutual funds or real estate investment trusts (REITs) in features. InvITs can be treated as the modified version of REITs designed to suit the specific circumstances of the infrastructure sector.

**Statement 2 is not correct:** They are regulated by the Securities and Exchange Board of India. Their units are listed on different trading platforms like stock exchanges and are a wholesome combination of both equity and debt instruments. InvITs can be established as a trust and registered with Sebi. An InvIT consists of four elements: 1) Trustee, 2) Sponsor(s), 3) Investment Manager and 4) Project Manager.

**Q.60** With reference to the Central Bureau of Investigation(CBI), consider the following statements:

1. It is a statutory body established under the Special Police Establishment (Amendment) Act.
2. It is the nodal agency in India which coordinates investigation on behalf of Interpol Member countries.
3. CBI can suo motto take investigation only of offences in the Union Territories.

Which of the statements given above are correct?

(a) 1 and 2 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

[ANS] b

[SOL] **In News-** Recently, the Maharashtra government withdrew its general consent to the Central Bureau of Investigation (CBI) to probe cases in the State.

**Statement 1 is not correct:** CBI is the main investigation agency of the central government for cases relating to corruption and major criminal probes. It has its origin in Special Police Establishment set up in 1941 to probe bribery and corruption during World War II. CBI was set up by a resolution of Ministry of Home Affairs in 1963 after Santhanam committee recommendation. Presently it acts as an attached office under DOPT. Although the DSPE Act gives legal power to CBI, CBI is not a statutory body as:

- Word 'CBI' is not mentioned in the DSPE act.

- The executive order of MHA did not mention CBI to be constituted under the DSPE Act.

**Statement 2 is correct:** CBI can suo-moto take up investigation of offences only in the Union Territories. The Central Government can authorize CBI to investigate a crime in a State but only with the consent of the concerned State Government. The Supreme Court and High Courts, however, can order CBI to investigate a crime anywhere in the country without the consent of the State.

**Q.61** "Param Siddhi" was in the news recently, it is a type of -

(a) Celestial Telescope made by ISRO

(b) Newly discovered Star

(c) Super Computer

(d) None of the above

[ANS] c

[SOL] **In News-** Param Siddhi bags 63rd rank in the list of most powerful supercomputers in the world.

**Option C is correct:** Param Siddhi, the supercomputer established under the National Supercomputing Mission (NSM), has achieved 63rd rank in the list of 500 most powerful supercomputers in the world. India has one of the largest supercomputer infrastructures in the world.

**Q.62** Recently "Tristan da Cunha" was in the news. Which of the following statement/(s) are correct in this regard?

1. It is a group of volcanic islands.

2. It is an overseas territory of the UK located in the South Atlantic Ocean.

Choose the correct answer using the codes given below:

(a) 1 only

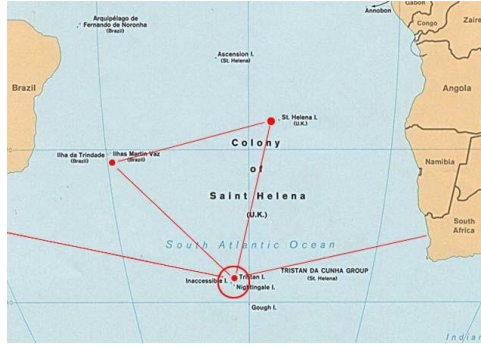
(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

[ANS] c

[SOL]



Tristan da Cunha is a remote group of volcanic islands in the south Atlantic Ocean. It is a British Overseas Territory located in the south Atlantic Ocean.

**Q.63** Which of the following genetic diseases is sex-linked?

- (a) Royal haemophilia
- (b) Tay- Sachs disease
- (c) Cystic fibrosis
- (d) Hypertension

**[ANS] a**

**[SOL] Option A is correct:** Royal haemophilia is a sex-linked disease. Clotting of blood is abnormally delayed even small cut will result in non-stop bleeding in the affected individual. Queen Victoria was a carrier of this disease and produced haemophilic descendants.

**Q.64** Which one of the following is not an instrument of selective credit control in India?

- (a) Regulation of consumer credit
- (b) Rationing of credit
- (c) Margin requirements
- (d) Variable cash reserve ratios

**[ANS] d**

**[SOL] Option D is correct:** Variable Reserve Ratio (Cash Reserve Ratio) is aimed to control only the volume of credit (quantitative method) not both volume and purpose of credit for which banks give loans. Qualitative method and the selective control method are used for purposes. It has a number of limitations.

**Q.65** Which of the following statement(s) is/are correct with respect to the Organization of Islamic Cooperation (OIC)?

1. The Organization of Islamic Cooperation (OIC) is the second-largest intergovernmental organization after the United Nations.
2. Its headquarters is in Jeddah, Saudi Arabia.
3. India is a member of the OIC.

Select the correct answer using the codes given below:

- (a) 1 and 2 only
- (b) 2 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

**[ANS] a**

**[SOL] Statement 1 is correct:** The Organisation of Islamic Cooperation (OIC) is the second-largest intergovernmental organization after the United Nations with a membership of 57 states.

**Statement 2 is correct:** It is headquartered in Jeddah, Saudi Arabia.

**Statement 3 is not correct:** India is not a member of the OIC. However, for the first time in five decades, the United Arab Emirates invited the foreign minister of India Sushma Swaraj to attend the inaugural plenary 46th meeting of OIC foreign ministers held in Abu Dhabi overruling strong objections by Pakistan.

**Q.66** With reference to the ‘Willow Warbler’, recently in the news, consider the following statements:

1. It is one of the longest migrating small bird.
2. It is endemic to the Indian subcontinent.
3. The Vellayani-Punchakkari paddy fields are the hotspot of these birds.

Which of the statements given above is/are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

**[ANS] c**

**[SOL] In News-** Willow Warbler (*Phylloscopus trochilus*), one of the longest migrating small birds that breed throughout northern and temperate Europe and the Palearctic.

**Option C is correct:** Willow Warbler (*Phylloscopus trochilus*), one of the longest migrating small birds that breeds throughout northern and temperate Europe and the Palearctic. The bird weighs around 10 g, its long wing feathers that help fly long distances makes it peculiar. Usually seen in European and the Palearctic regions, the birds migrate to sub-Saharan Africa during early winter. The Vellayani-Punchakkari paddy fields are a birding hotspot on the outskirts of Thiruvananthapuram.

**Q.67** With reference to the New Development Bank(NDB), consider the following statements about:

1. It is a multilateral bank founded by the BRICS members.
2. All the member countries have an equal shareholding in the bank.
3. It has been granted observer status in the UN General Assembly in 2018.

Choose the correct answers using the codes given below

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

**[ANS] d**

**[SOL] Option 1 is correct:** New Development Bank(NDB) is a multilateral bank jointly founded by the BRICS countries (Brazil, Russia, India, China and South Africa) at the 6th BRICS Summit in Brazil in 2014.

**Option 2 is correct:** All the members have an equal shareholding of 20percent respectively.

**Option 3 is correct:** The bank was granted an observer statue in the UN General Assembly in 2018.

**Q.68** Consider the following statements about the Regional Rapid Transit System (RRTS):

1. It is a semi-high speed rail corridor connecting Delhi-Ghaziabad-Meerut.
2. The high-speed trains will have a design speed of 180kmph and operational speed of 160kmph.
3. The Ministry of Housing and Urban Affairs (MoHUA) is the nodal agency for the development of the project.

Choose 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

**[ANS] d**

**[SOL] Option 1 is correct:** It is an 82 km long Delhi–Ghaziabad–Meerut Corridor is the first RRTS corridor being implemented in India.

**Option 2 is correct:** It is proposed to run high-speed trains which will have a design speed of 180kmph, but the operation speed will be kept at 160kmph.

**Option 3 is correct:** The Ministry of Housing and Urban Affairs (MoHUA) is the nodal agency for the development of the project.

**Q.69** With respect to Artemis Accords, sometimes seen in the news, consider the following statements:

1. It outlines the principles of future exploration of the Moon and beyond.
2. India is a founding member in the space coalition under Artemis Accords.

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

**[ANS] a**

**[SOL] Option A is correct:** Eight countries named in NASA's 'Artemis Accords' that aims to send humans back to Moon in 2024. It outlines the principles of future exploration of the Moon and beyond. It has emphasized the need for international partnerships in building up a sustainable presence on the Moon. The treaty paves the way for its founding members, Australia, Canada, Italy, Japan, Luxembourg, United Arab Emirates, Britain and the United States, to participate in NASA's Artemis program. It also aims to return humans to Earth's nearest neighbour, Moon.

India is not a founding member.

**Q.70** Consider the following statements:

1. Zonal Councils are the constitutional bodies established for the purpose of interstate cooperation and coordination.
2. The States Reorganisation Act of 1956 divided country into four zones and thus four Zonal councils were created
3. The Prime Minister is the chairman of all the councils.

Which of the statements given above is/are *incorrect*?

- (a) 1 and 2 only



- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

**[ANS] d**

**[SOL] Statement 1 is not correct:** Zonal Councils are the statutory bodies established under the States Reorganisation Act 1956 and not constitutional bodies. These are advisory bodies that make recommendations with regard to any matter of common interest in the field of economic and social planning. The purpose of the bodies is to promote interstate cooperation and coordination.

**Statement 2 is not correct:** The States Reorganisation Act 1956 divided the country into five zones- Northern, Central, Eastern, Western and Southern and provided a zonal council for each zone.

**Statement 3 is not correct:** The Union Home Minister is the Chairman of each of these Councils. The Chief Ministers of the States included in each zone act as Vice-Chairman of the Zonal Council for that zone by rotation, each holding office for a period of one year at a time.

**Q.71** With reference to the Indian Polity, consider the following statements:

1. The expression “office of profit” has been defined in the Representation of the People Act, 1951 but not in the Constitution.
2. Article 102 of the Constitution deals with the office of profit.

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

**[ANS] b**

**[SOL] In News-** The Joint Parliamentary Committee on Office of Profit is deliberating on whether an MP can continue to teach at a university and if this draws the provisions of “Office of Profit” rules.

**Option B is correct:** If an MLA or an MP holds a government office and receives benefits from it, then that office is termed as an “office of profit”. Under the provisions of Article 102 (1) and Article 191 (1) of the Constitution, an MP or an MLA (or an MLC) is barred from holding any office of profit under the central or state government. A person will be disqualified if he holds an office of profit under the central or state government, other than an office declared not to disqualify its holder by a law passed by Parliament or state legislature. The expression “office of profit” has not been defined in the Representation of the People Act, 1951 not in the Constitution.

**Q.72** Energy Technology Perspectives 2020 was released recently by which of the following organisations?

- (a) Bureau of Energy Efficiency
- (b) International Energy Agency
- (c) International Atomic Energy Agency
- (d) United Nations Development Programme

**[ANS] b**

**[SOL] Option B is correct:** Recently, the Environment, Forest and Climate Change Minister Prakash Javadekar addressed at the International Energy Agency's Energy Technology Perspectives 2020 about India's contribution in keeping with the Nationally Determined Contributions presented in Paris. Global Energy Review 2020 report is released by the International Energy Agency.

**Q.73** Which of the following statement(s) is/are **correct** with respect to the “Sustainable Alternative Towards Affordable Transportation (SATAT)” initiative?

1. It is mainly focused on the development of e-vehicles indigenously.
  2. It was launched in October 2018 by the Ministry of Heavy Industries and Public Enterprises.
- 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

**[ANS] d**

**[SOL] In News-** Under the Sustainable Alternative Towards Affordable Transportation initiative, the government is looking at setting up of 5,000 CBG plants by 2023-24 with a production target of 15 million tonnes.

**Option D is correct:** Sustainable Alternative Towards Affordable Transportation (SATAT) is an initiative aimed at setting up of Compressed Bio-Gas production plants and make it available in the market for use in automotive fuels by inviting Expression of Interest from potential entrepreneurs. The initiative was launched in October 2018 by the Ministry of Petroleum & Natural Gas in association with Public Sector Undertaking (PSU) Oil Marketing Companies (OMC) viz. Indian Oil Corporation Ltd., Bharat Petroleum Corporation Ltd. and Hindustan Petroleum Corporation Ltd.

**Q.74** With reference to the Arctic Council, consider the following statements:

1. It was established by the eight Arctic States through the Ottawa Declaration.
2. It is a treaty-based international legal entity for the allocation of resources to the member states.
3. India is one of the observer member states of the Council.

Which of the statements given above is/are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

**[ANS] c**

**[SOL] Statement 1 is correct:** The Arctic Council was established by the eight Arctic States — the countries whose territories fall in the Arctic region — through the Ottawa Declaration of 1996. The eight Arctic States — Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden and the United States — are the only members of the Arctic Council.

**Statement 2 is not correct:** The Arctic Council is not a treaty-based international legal entity like the UN bodies or trade, military or regional groupings like WTO, NATO or ASEAN. It is only an intergovernmental ‘forum’ to promote cooperation in regulating the activities in the Arctic region. It is a much more informal grouping.

**Statement 3 is correct:** India was given the Observer status in 2013, along with five other countries — China, Italy, Japan, South Korea, and Singapore. Prior to this, only France, Germany, the Netherlands, Poland, Spain and the United Kingdom were granted Observer status.

**Q.75** With reference to Earthquake waves, consider the following statements:

1. S-waves are like sound waves, they can travel through solids, liquids and gasses.
2. P-waves have a peculiar quality of travelling through solids only.
3. S-waves have larger shadow zone than P-waves.

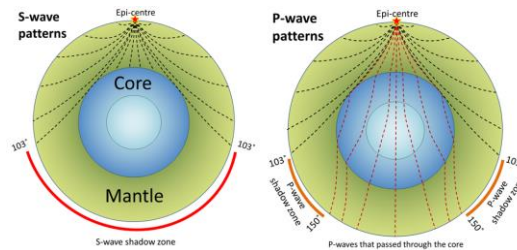
Which of the statements given above is/are correct?

- (a) 1 only
- (b) 1 and 2 only
- (c) 3 only
- (d) 1, 2 and 3

[ANS] c

[SOL] **Statement 1 and statement 2 are not correct:** The S-waves are not like sound waves. The P-waves are similar to sound waves. P-waves can travel through gaseous, liquid and solid materials.

**Statement 3 is correct:** The shadow zone of S-wave is much larger than that of the P-waves. The shadow zone of P-waves appears as a band around the earth between  $105^\circ$  and  $145^\circ$  away from the epicentre. The shadow zone of S-waves is not only larger in extent but it is also a little over 40 per cent of the earth surface.



**Q.76** With reference to the Inner Line Permit (ILP) system, consider the following statements:

1. It puts an obligation on the mentioned set of outsiders (foreigners and Indian natives) to reside in the protected area.
2. It is issued for the residential purpose only.
3. An Inner Line Permit issued by the Governor on the recommendation of the President of India.

Which of the statements given above are correct?

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

[ANS] d

[SOL] **In News-** Several organisations of Meghalaya demonstrated across the state demanding that **Inner Line Permit (ILP)** be implemented in the state to **protect the identity and rights of its indigenous people.**

**Option D is correct:** An Inner Line Permit is a document that allows an Indian citizen to visit or stay in a state that is protected under the ILP system. An **Inner Line Permit** is a travel document that is required by non-natives to visit four Northeastern states, namely, Arunachal Pradesh, Mizoram, Manipur and Nagaland. Both the **duration of stay and the areas** allowed to be accessed

for any non-native are determined by the ILP. The ILP is **issued by the concerned state government** and can be availed both by applying online or in person. All foreigners are required to have the Protection Area Permit or PAP for entering into an ILP system state. They can obtain the Protected Area Permit. Hence, all the statements are not correct.

**Q.77** With reference to the SITMEX-20 defence exercise, consider the following statements:

1. It is a naval exercise between the Quad members for enhancing maritime security in the Indo-Pacific region.
2. It was announced in Shangri-La Dialogue in June 2018 and conducted annually thereof.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) None of the above

**[ANS] b**

**[SOL] In News-** Recently, 2nd edition of SITMEX-20 Naval exercise concluded in the Andaman Sea.

**Option B is correct:** Indian Navy participated in the 2nd edition of India, Singapore and Thailand Trilateral Maritime Exercise SITMEX-20, which was concluded recently in the Andaman Sea. The Prime Minister of India, during his keynote address at Shangri-La Dialogue in June 2018 announced the conduct of a trilateral naval exercise between India, Singapore and Thailand. The first edition of Singapore-India-Thailand Maritime Exercise (SITMEX), hosted by Indian Navy, was conducted off Port Blair in September 2019. SITMEX is conducted annually. It will enhance mutual interoperability and imbibing best practices between Indian Navy, Republic of Singapore Navy (RSN) and Royal Thai Navy (RTN).

**Q.78** With reference to the International Criminal Police Organization (INTERPOL), consider the following statements:

1. It is an intergovernmental organization under the ambit of the United Nations to coordinate the police force of member states.
2. The National Investigation Agency is a designated agency to represent India in Interpol.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) None of the above

**[ANS] d**

**[SOL] In News-** Recently, over 2,000 representatives from 132 countries attended the **virtual 4th Global Conference on Criminal Finances and Cryptocurrencies** organised by the Interpol, Europol and the Basel Institute on Governance.

**Option D is correct:** The International Criminal Police Organization (INTERPOL) is an intergovernmental organization that helps coordinate the police force of 194 member countries. Each of the member countries hosts an INTERPOL National Central Bureau (NCB). This connects their national law enforcement with other countries and with the General Secretariat. The Central Bureau of Investigation (CBI) is designated as the National Central Bureau of India. It is headquartered in Lyon, France.

**Q.79** With reference to the Law Commission of India, consider the following statements:

1. It is a statutory body constituted by the Government of India from time to time.
2. The commission works as an advisory body to the Ministry of Law and Justice.
3. The retired Supreme Court judge or chief justice of a high court head the Commission.

Select the correct answer using the code given below:

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

**[ANS] b**

**[SOL] Option B is correct:** The Law Commission of India is neither a constitutional body nor a statutory body. The Government of India established the First Law Commission of Independent India in 1955 for a three-year term. The first Law Commission was established during the British Raj era in 1834 by the Charter Act of 1833 and was chaired by Lord Macaulay. The commission works as an advisory body to the Ministry of Law and Justice. Usually, a retired Supreme Court judge or chief justice of a high court head the Commission.

**Q.80** Consider the following statements?

1. Brahmaputra river passes through the Indian states of Arunachal Pradesh, Assam, and Meghalaya.
2. Lohit and Subansiri are the left side tributaries of Brahmaputra river.
3. The Bogibeel Bridge is India's rail-cum-road bridge constructed on the Brahmaputra river.

Which of the statements given is/are correct?

- (a) 1 only
- (b) 3 only
- (c) 1 and 2 only
- (d) 2 and 3 only

**[ANS] b**

**[SOL] In News-** The construction of several dams along the Yarlung (Brahmaputra) river on the Chinese side has been a repeated cause for concern for India.

**Option B is correct:** The Brahmaputra is a perennial river which originates under the name of Siang or Dihang, from the Chemayungdung glacier of the Kailash range near the Mansarovar lake. It enters India west of Sadiya town in Arunachal Pradesh. The Tributaries of Brahmaputra are Dibang, Lohit, Siang, Burhi Dihing, Tista, and Dhansari.



**Q.81** Consider the following statements:

1. The Bogor Declaration is one of its flagship initiatives of Asia-Pacific Economic Cooperation (APEC).

2. India is not the member state of Asia-Pacific Economic Cooperation (APEC).

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

**[ANS] c**

**[SOL] In News-** Leaders from the **Asia-Pacific Economic Cooperation forum** held a virtual meeting in order to work towards easing and opening of the economies which are marred by the COVID-19.

Option A is correct: The Bogor Goals of APEC is one of its flagship initiatives and the deadline set for the Goals was 2020.

- In 1994, APEC Leaders, gathering in Bogor, Indonesia at their second meeting, issued a Declaration of Common Resolve (the Bogor Declaration).
  - It aimed to strengthen the multilateral trading system, enhance trade and investment liberalization and facilitation in the Asia-Pacific region and to intensify Asia-Pacific development cooperation.
  - The Bogor Goals did not target specific nations although it provided guidance to member countries to implement bilateral, multilateral and unilateral policies.
- Asia-Pacific Economic Cooperation (APEC) is a regional economic forum established in 1989 in Canberra, Australia.
- Aim & Objectives- APEC operates as a cooperative, multilateral economic and trade forum. The main objectives are to:
  - Promote free and open trade and investment
  - promote and accelerate regional economic integration
  - encourage economic and technical cooperation,
  - enhance human security,
  - facilitate a favourable and sustainable business environment

- Members- Currently, APEC has 21 member economies. The founding members of APEC were Australia; Brunei Darussalam; Canada; Indonesia; Japan; Korea; Malaysia; New Zealand; the Philippines; Singapore; Thailand; and the United States.
- India is not the member state of this forum and requested for the same.
- APEC accounts for 50% of world trade and 57% of world GDP.

**Q.82** ‘Project Kirana’ was in the news recently, consider the following statements in this regards:

1. It is launched by Mastercard and the United States Agency for International Development (USAID).
2. It aims to increase the financial inclusion and digital payments adoption of Kirana shops in rural areas.
3. It is a two-year programme and will be implemented in pan India mode.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 1 and 2 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

[ANS] a

[SOL] **In News:** Recently, **Mastercard** and the **United States Agency for International Development (USAID)** announced their partnership to **launch Project Kirana**.

**Option A is correct:** It is a **two-year programme** and will be **implemented in select cities of Uttar Pradesh** namely Lucknow, Kanpur and Varanasi.

● **Aims and Objectives:**

- To increase revenue streams, expand financial inclusion and digital payments adoption of Kirana shops that are owned or operated by women.
- To build digital literacy and financial literacy of the women in the state. It will improve the business management skills of women.
- To improve business management skills that are critical to Kirana shops to improve their profitability
- To address cultural and other barriers to women becoming successful Kirana entrepreneurs; including outreach to men, family members, and the community.
- The project will be implemented by DAI Digital Frontiers and ACCESS Development Services.

**Q.83** “Prasanna Kumar Mohanty committee” was in the news recently, It is related to which among the following?

- (a) To Financing Infrastructure through PPP model
- (b) Company Law Reforms
- (c) Corporate structure for Indian private sector banks
- (d) Feminisation of Agriculture

[ANS] c

[SOL] **In News-** An **Internal Working Group (IWG)** of the **Reserve Bank of India (RBI)** has submitted its report.

**Option C is correct:** The **committee** was **constituted which is headed by Prasanna Kumar Mohanty**, Director Central Board of RBI.

- The committee was constituted to:
- To examine the preferred corporate structure for banks and harmonisation of norms.

- To review the norms of long-term shareholding in banks by the promoters and other shareholders.
- To review the eligibility criteria for individuals/ entities to apply for a banking license.

**Q.84** Which of the following Tiger reserves is/are correctly matched to the states in which they found?

**Tiger Reserve — States**

1. Mudumalai Tiger Reserve — Tamil Nadu
2. Nagarhole Tiger Reserve — Karnataka
3. Mudumalai Tiger Reserve — Kerala

Which of the pairs given above is/are correctly matched?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

**[ANS] a**

**[SOL] Option A is correct:** Recently, a rejuvenation camp for captive elephants was inaugurated in the Mudumalai Tiger Reserve (MTR) in Tamil Nadu. It shares its boundaries with the states of Karnataka and Kerala. The sanctuary is divided into five ranges – Masinagudi, Thepakadu, Mudumalai, Kargudi and Nellakota.

Nagarhole Tiger Reserve is located in Kodagu district and Mysore district in Karnataka and Mudumalai Tiger Reserve located in Tamil Nadu.

**Q.85** Consider the following statements:

1. Price to book value (P/BV) ratio concept is widely used in detecting the Non-Performing Assets of the Banks.
2. It is a relationship between the market capitalisation of an organisation and the value of assets it possesses.

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

**[ANS] c**

**[SOL] Option C is correct: The price to book value (P/BV) ratio is a valuation parameter used for valuing stocks.** In essence, the P/B ratio draws a relationship between the market capitalisation of an organisation and the value of assets it possesses. P/BV is arrived at by dividing the market price of a share with the respective company's book value per share. Book value (BV) is equal to the shareholder's equity (share capital plus reserves and surplus). BV can also be derived by subtracting current and non-current liabilities from total assets. For the banking and finance companies, book value is calculated as 'share capital plus reserves minus miscellaneous assets not written off. This formula then takes care of the bank's NPAs (non performing assets) and gives a correct picture.



**Q.86** With reference to the Negative-Yield Bonds, recently seen in the news, consider the following statements:

1. These are debt instruments that offer to pay the investor a maturity amount lower than the purchase price of the bond.
2. These are issued by the World Bank to the member states.

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

[ANS] a

[SOL] **In News-** Recently, China sold negative-yield debt for the first time, and this saw high demand from investors across the globe.

**Option A is correct:** A negative bond yield is when an investor receives less money at the bond's maturity than the original purchase price for the bond. A negative bond yield is an unusual situation in which issuers of debt are paid to borrow. These are generally issued by central banks or governments, and investors pay interest to the borrower to keep their money with them.

**Q.87** Which of the following statements are correct with respect to the BrahMos missile?

1. It is jointly developed by the DRDO and NPOM, an aerospace enterprise of Russia.
2. It is a two-stage missile with a solid propellant engine in the first stage and a liquid ramjet in the second.
3. It can be launched from land, water and air.

Select the correct answer using the codes given below:

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

[ANS] d

[SOL] **In News-** Recently, India has successfully test-fired a land-attack version of the BrahMos supersonic cruise missile from the Andaman and Nicobar Islands.

**Statement 1 is correct:** BrahMos missile is a supersonic cruise missile which is jointly developed by the DRDO and NPOM, a leading aerospace enterprise of Russia. Brahmos is named after the rivers Brahmaputra of India and Moskva of Russia.

**Statement 2 is correct:** BrahMos is a two-stage missile with a solid propellant booster engine as its first stage which brings it to supersonic speed and then gets separated. The liquid ramjet or the second stage then takes the missile closer to 3 Mach speed in cruise phase.

**Statement 3 is correct:** It can be launched from submarines, warships, fighter jets or land.

**Q.88** Which among the following statement(s) is/are correct with respect to the Electronic Vaccine Intelligence Network (eVIN) recently seen in the news?

1. It is an indigenously developed technology that digitises vaccine stocks and monitors the temperature of the cold chain through digital technology.
2. It was first launched across pan India in the year 2019.

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

[ANS] a

**[SOL] Statement 1 is correct:** The eVIN is an innovative technological solution aimed at strengthening immunization supply chain systems across the country. This is being implemented under the National Health Mission (NHM) by the Ministry of Health and Family Welfare. It aims to provide real-time information on vaccine stocks and flows, and storage temperatures across all cold chain points in the country.

**Statement 2 is not correct:** The innovative eVIN was first launched across 12 states in 2015 to support better vaccine logistics management at cold chain points. eVIN supports the central government's Universal Immunization Programme by providing real-time information on vaccine stocks and flows, and storage temperatures across all cold chain points across states and UTs.

**Q.89** With reference to the Indian Regional Navigation Satellite System (IRNSS), consider the following statements:

1. IRNSS has three satellites in geostationary and four satellites in geosynchronous orbits.
2. IRNSS is a global navigation system.
3. India will have its own satellite navigation system with full global coverage by the middle of 2022.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 1 and 2 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

[ANS] a

**[SOL] In News-** India has become the fourth country in the world to have its independent regional navigation satellite system recognised by the International Maritime Organisation (IMO) as a part of the World Wide Radio Navigation System (WWRNS).

**Option A is correct:** The IRNSS system consists of a constellation of seven satellites and a supporting ground segment. Three of the satellites in the constellation will be placed in a geostationary orbit and the remaining four in a geosynchronous inclined orbit of 29° relative to the equatorial plane. Such an arrangement would mean all seven satellites would have continuous radio visibility with Indian control stations. It will cover the entire country and an area extending about 1,500 sq. km beyond its border, with a position accuracy better than 20m in all weather conditions. IRNSS is a regional and not a global navigation system. With the recognition as a component of the WWRNS, the Indian navigation system is similarly placed as Global Positioning System (GPS - USA), most commonly used by marine shipping vessels across the world or the Russian Global Navigation Satellite System (GLONASS).

**Q.90** Which of the following statement(s) is/are correct regarding the Desalination Plants?

1. They are based on the principle of Reverse Osmosis.
2. They are safe to operate and does not pose any environmental problem.
3. Maharashtra is the first state to install Desalination Plants.

Select the correct answer using the codes given below:

- (a) 1 only

- (b) 1 and 2 only
- (c) 1 and 3 only
- (d) 2 and 3 only

[ANS] a

[SOL] In News- Recently, Maharashtra announced the setting up of a desalination plant in Mumbai.

**Option A is correct:** A desalination plant turns salt water into water that is fit to drink. The most commonly used technology used for the process is reverse osmosis where an external pressure is applied to push solvents from an area of high-solute concentration to an area of low-solute concentration through a membrane. The environmental impact is another disadvantage to water desalination plants. Disposal of the salt removed from the water is a major issue. This discharge, known as brine, can change the salinity and lower the amount of oxygen (Hypoxia) in the water at the disposal site, stressing or killing animals not used to the higher levels of salt.

Desalination has largely been limited to affluent countries in the Middle East and has recently started making inroads in parts of the United States and Australia. In India, Tamil Nadu has been the pioneer in using this technology, setting up two desalination plants near Chennai in 2010 and then 2013.

**Q.91** With reference to the National infrastructure investment fund (NIIF), consider the following statements:

1. It is the first sovereign wealth fund of India.
2. It was established to increase investment in Greenfield and Brownfield projects.
3. It currently manages three funds which are registered as Alternative Investment Fund with the Reserve Bank of India.

Which of the statements given above is/are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

[ANS] a

[SOL] In News- Recently, the Union Cabinet approved Rs 6,000 crores of capital infusion into the National Infrastructure Investment Fund as a part of the Atma Nirbhar Bharat Abhiyan.

**Option A is correct:** National Investment and Infrastructure Fund Limited (NIIFL) is a collaborative investment platform for international and Indian investors, anchored by the Government of India. The objective behind creating this fund was to maximize economic impact mainly through infrastructure investment in commercially viable projects, both Greenfield and Brownfield. NIIF currently manages three funds each with its distinctive investment mandate. The funds are registered as Alternative Investment Fund (AIF) with the Securities and Exchange Board of India (SEBI). The three funds are- Master Fund is an infrastructure fund with the objective of primarily investing in operating assets in the core infrastructure sectors such as roads, ports, airports, power etc. Fund of Funds is managed by fund managers who have good track records in infrastructure and associated sectors in India. Some of the sectors of focus include Green Infrastructure, Mid-Income & Affordable Housing, Infrastructure services and allied sectors. Strategic Investment Fund is registered as an Alternative Investment Fund II under SEBI in India. The objective is to invest largely in equity and equity-linked instruments. It will focus on greenfield and brownfield investments in the core infrastructure sectors.

**Q.92** Which of the following statements is correct with respect to the ‘Change-5 Mission’ of China?

- (a) It is a navigation Satellite System that will provide positioning services to the Chinese military.
- (b) It is a mission to study the geography of Mars planet.
- (c) It first probe mission of China to bring back rock samples from the moon.
- (d) It envisages the development of the International Space Station of China.

[ANS] c

[SOL] **In News-** On November 24, China’s Chang’e-5 lunar mission will become the first probe in over four decades to bring back samples of lunar rock from a previously unexplored portion of the Moon.

**Option C is correct:** China recently launched the Change-5 Lunar Mission. The mission is the first probe in four decades to bring back rock samples from the moon from its previously unexplored portions. The mission is named after the Chinese moon goddess. It was launched from the Long March-5 carrier rocket, the largest carrier rocket of China. The mission will land in the Mons Rumker region of the moon. The mission will operate for one lunar day on the surface which is two weeks on the earth. If the mission is successful, China will become the third country to collect lunar samples after the USA and the Soviet Union.

**Q.93** Recently, India has procured ‘MQ-9B Sea Guardian UAV’ from which of the following countries?

- (a) Israel
- (b) Russia
- (c) France
- (d) USA

[ANS] d

[SOL] **In News-** The Indian Navy has leased a pair of MQ-9B SeaGuardian unmanned aerial vehicles (UAVs) from the United States.

**Option D is correct:** The Indian Navy has inducted two MQ-9B Sea Guardian unarmed drones procured from the U.S. on lease. The drones are on lease for one year. This will boost India’s intelligence, surveillance and reconnaissance capabilities, in the midst of a border row with China in the Ladakh theatre and increased Chinese activity in the Indian Ocean Region (IOR). The Defence Acquisition Procedure-2020, which came into effect on October 1, permits the leasing of military hardware to cut down on costs associated with buying equipment.

**Q.94** Which of the following Tiger Reserves receives the first TX2 International Award for doubling the Tiger population?

- (a) Nagarjunsagar-Srisailam Tiger Reserve
- (b) Pilibhit Tiger Reserve
- (c) Corbett Reserve
- (d) Bor Tiger Reserve

[ANS] b

[SOL] **In News-** Recently, Pilibhit Tiger Reserve receives first TX2 International Award for doubling its population.

**Option B is correct:** The Pilibhit Tiger Reserve (PTR) has bagged international award TX2 for doubling the number of tigers in the past four years. The number of tigers in the reserve area has

gone up to 65 from 25 in the period of just four years. The target was set by the partners of the award in 2010. The partners are Global Tiger Forum, United Nations Development Programme, Conservation Tiger Standards and Lion's Share. The Pilibhit Tiger Reserve was chosen based on the Tiger Census conducted by the National Tiger Conservation Authority in 2018.

**Q.95** With reference to the Cat Que virus (CQV), consider the following statements:

1. It belongs to the Simbu serogroup virus of the genus Orthobunyavirus.
2. It is non-zoonotic in nature.

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

**[ANS] a**

**[SOL]** In News- The study was conducted in 2017-2018 and undertaken to develop diagnostic tests for CQV prompted by the spread of similar species of Culex mosquitoes in India.

**Option A is correct:** It is a Simbu serogroup virus of the genus Orthobunyavirus (family Bunyaviridae). The virus was first isolated in 2004 from mosquitoes during surveillance of arbovirus activity in acute pediatric encephalitis in northern Vietnam. The researchers reported the complete genome sequence of the virus (SC0806) isolated from mosquitoes (Culex tritaeniorhynchus) in Sichuan Province, China, in 2015. It infects both humans and economically important livestock species, hence it is zoonotic in character.

**Q.96** With reference to the Ariel Space Mission, sometimes seen in the news, consider the following statements:

1. It is a space exploration mission to study the chemical composition and thermal structures Saturn's largest moon, Titan.
2. It will be launched by the National Aeronautics and Space Administration in the year 2029.

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

**[ANS] d**

**[SOL]** In News: Recently, the **European Space Agency** formally adopted the **Ariel Space Mission**.

**Option D is correct:** Ariel stands for the **Atmospheric Remote-sensing Infrared Exoplanet Large-survey**. It is a **space exploration mission** that will study the **composition, nature and evolution** of about 1000 extrasolar planets, simultaneously in visible and infrared wavelengths. It is the **first mission dedicated** to measuring the **chemical composition and thermal structures** of transiting exoplanets which lie far beyond the boundaries of the Solar System. It will be **launched in 2029** and the **duration** of the mission will be **4 years**.

**Q.97** Consider the following statements:

1. Guillain Barre Syndrome (GBS) is an autoimmune disorder in which the immune system turns against the body's own tissues.

2. *Campylobacter jejuni* is a highly contagious viral infection that causes microcephaly among patients.

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

[ANS] d

[SOL] **In News-** Some patients infected with Covid-19 have been found suffering from Guillain Barre Syndrome (GBS).

**Option D is correct: Guillain Barre Syndrome (GBS)** a very rare autoimmune disorder in which the immune system attacks the nerves of the patient. As per the **World Health Organisation (WHO)**, GBS is often preceded by an infection. This could be a bacterial or viral infection. It may also be triggered by vaccine administration or surgery. **Symptoms-** Tingling or itching sensation in the skin, followed by muscle weakness, pain and numbness. In the past, patients of **Middle East Respiratory Syndrome** showed GBS symptoms, as did those infected with **Zika, HIV, Herpes virus and Campylobacter Jejuni**. **Treatment-** Intravenous immunoglobulin (IVIG) and Plasma Therapy. **Campylobacter Jejuni-** It is the most commonly reported bacterial cause of foodborne infection. It produces bloody diarrhoea or dysentery syndrome, mostly including cramps, fever and pain, it doesn't cause microcephaly. Hence, both statements are not correct.

**Q.98** Consider the following statements:

- 1. Article 72 of the Constitution defines the pardoning powers of the President.
- 2. The pardoning powers of the Governor have wider aspects as compared to those of the President.
- 3. Under the US Presidential system, the President is answerable for his pardons to the board of executives appointed by the congress.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

[ANS] a

[SOL] **In News-** Recently, the President of the United States of America (USA) has exercised his powers under the constitution to pardon his former National Security Advisor.

**Option A is correct:** Under Article 72 of the Constitution, “the President shall have the power to grant pardons, reprieves, respites or remissions of punishment or to suspend, remit or commute the sentence of any person convicted of any offence where the sentence is a sentence of death”. Under Article 161, the Governor too has pardoning powers but are not wider than President. Unlike the US President, whose powers to grant pardons are almost unfettered, the President of India has to act on the advice of the Cabinet. The President of the US has the constitutional right to pardon or commute sentences related to federal crimes. Clemency is a broad executive power and is discretionary — meaning the President is not answerable for his pardons and does not have to provide a reason for issuing one. But there are a few limitations.

**Q.99** ‘90:90:90 Strategy’ is an ambitious treatment that targets to help in ending which of the following diseases?

- (a) Tuberculosis (Tb)
- (b) Citrus leprosy (CL)
- (c) Acquired immunodeficiency syndrome (AIDS)
- (d) Cancer

[ANS] c

[SOL] **In News-** Recently, the Union Minister for Health and Family Welfare digitally addressed the Ministerial meeting of the **Global Prevention Coalition (GPC) for Human immunodeficiency virus (HIV) Prevention.**

**Option C is correct:** In order to fight the war against HIV Aids, the government has launched this ‘90:90:90 Strategy’. It is a new HIV treatment that lays the groundwork to end the AIDS epidemic. 90% of all people living with HIV will know their HIV status (90% diagnosed). 90% of all people with diagnosed HIV infection will receive sustained antiretroviral therapy (90% on HIV treatment). 90% of all people receiving antiretroviral therapy will have viral suppression (90% suppressed)

**Q.100** ‘Chapare virus’ was in the news recently, consider the following statements in this regard:

1. It causes rare disease of arenavirus category and has been identified in Nambia region.
2. It is zoonotic in nature.
3. There are no specific drugs to treat the hemorrhagic fever disease caused by the virus.

Which of the statements given above is/are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

[ANS] b

[SOL] **In News-** Recently, Researchers from the US Centers for Disease Control and Prevention (CDC) has discovered **another virus called Chapare** that has re-emerged, and causes hemorrhagic fever like Ebola.

Option B is correct: The rare disease has been identified in Bolivia, with the first instance being reported in 2003 in a rural province called Chapare (from where it gets its name).

- The Chapare virus falls in the arenavirus category.
- Transmission- The Chapare virus is much more difficult to catch than the coronavirus as it is not transmissible via the respiratory route.
  - It can spread through direct contact with infected rodents or indirectly through the urine or feces (droppings) of infected rodents.
  - It can also spread through the infected person’s body fluids, hence it is zoonotic in nature.
  - Additionally, experts say the virus is present in the semen of a survivor for a duration of 24 weeks or 168 days after getting infected.
- Treatment- There are no specific drugs to treat the disease, patients generally receive supportive care such as intravenous fluids, maintenance of hydration, management of shock through fluid resuscitation, sedation, pain relief and transfusions as the supportive therapy.

**Q.101** With reference to the Information Management and Analysis Centre (IMAC), consider the following statements:

1. It is a nodal agency for maritime data fusion set up in the aftermath of Indian Parliament terrorist attack.
2. It is jointly operated by the Navy and Coast Guard.
3. It tracks military ships, which are known as white shipping.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) 1 and 3 only
- (d) 2 and 3 only

**[ANS] b**

**[SOL] In News-** Speaking on the 12th anniversary of the 26/11 attacks, Defence Minister Rajnath Singh said, the Indian Navy's Information Management and Analysis Centre (IMAC) will soon become a National Maritime Domain Awareness (NDMA) centre.

**Option B is correct:** The IMAC was approved by the Defence Acquisition Council in 2012 and became operational in 2014 at a cost of ₹450 crores, and is located in Gurugram. It is the nodal centre for maritime security information collation and dissemination. It is jointly operated by the Navy and Coast Guard and is the cornerstone of the National Command Control Communication and Intelligence Network for monitoring maritime traffic in India's area of interest. It is important to note that IMAC tracks only non-military or commercial ships, known as white shipping. Military ships, or grey hull ships, are tracked by the Directorate of Naval Operations, as this is on a classified network.

**Q.102** Consider the following statements:

1. Lingyats are the members are the Hindu sect having the wide following in Southern part of India.
2. They are the worshippers of Shiva.
3. Lingayats and the Veerashaivas both have rejected the Vedas and the caste system.

Which of the statements given above are correct?

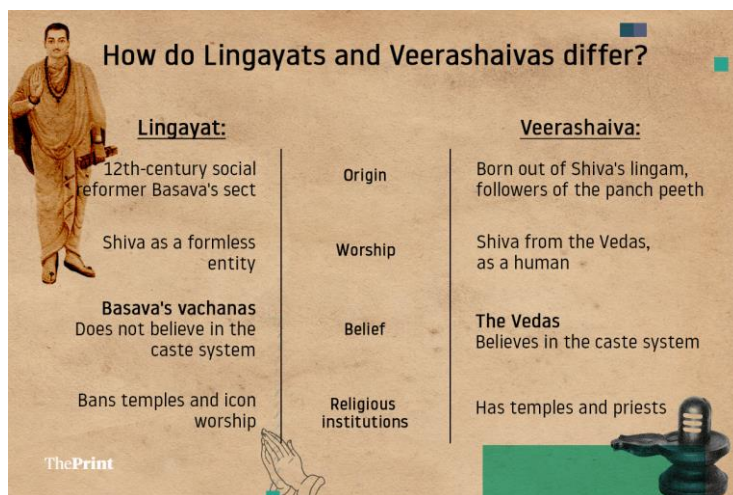
- (a) 1 and 2only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

**[ANS] a**

**[SOL] In News-** The Karnataka Cabinet deferred the decision on recommending to the Centre inclusion of Veerashaiva-Lingayat community in the Union list of Other Backward Classes (OBC).

**Option D is correct:** The Lingayat/Veerashaiva community, a politically dominant group in Karnataka, are devotees of Shiva. The Lingayats follow 12th-century saint-philosopher Basavanna who had rejected ritualistic worship and pre-eminence of the Vedas. They having the wide following in Southern part of India. Lingayats constitute 17% of the total population in Karnataka.





**Q.103** With reference to the ‘Honey Farmer Producer Organisation (FPO) Programme’, consider the following statements:

1. It pan India programme that aimed at upgrading skills in scientific beekeeping.
2. It is a Central Sponsored Scheme.
3. It is being implemented by the Khadi and Village Industries Commission (KVIC).

Which of the statements given above is/are correct?

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

[ANS] d

[SOL] In News- Recently, the Minister of Agriculture and Farmers’ Welfare has virtually inaugurated the Honey Farmer Producer Organisation (FPO) Programme of the National Agricultural Cooperative Marketing Federation of India Limited (NAFED).

**Option D is correct:** The Union Minister of Agriculture and Farmers’ Welfare virtually inaugurated the Honey Farmer Producer Organizations (FPO) Programs of National Agricultural Cooperative Marketing Federation of India Limited (NAFED) under the “Formation & Promotion of 10,000 FPOs” Scheme in 5 states (West Bengal, Bihar, Uttar Pradesh, Madhya Pradesh and Rajasthan). It helps in Skill Upgradation in scientific beekeeping and developing State of the art infrastructural facilities for processing honey and allied beekeeping products like bee’s wax, propolis, royal jelly, bee venom, etc. The NAFED, one of the Implementing Agencies(IAs) of the Ministry of Agriculture and Farmers’ Welfare, will support the establishment of the Honey FPO programme in the five states.

**Q.104** With reference to the “Brain Electrical Oscillation Signature Profiling (BEOSP)”, consider the following statements:

1. It is a neuropsychological interrogation carried out by electroencephalogram.
2. It involves a question-answer session with the accused.

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

**[ANS] a**

**[SOL] In News-** A brain electrical oscillation signature profiling (BEOSP) test will be conducted on the convicts of the alleged rape and murder in Hathras, Uttar Pradesh.

**Option A is correct:** BEOSP also known as brain fingerprinting is a neuro-psychological method of interrogation in which the accused's participation in the crime is investigated by studying their brain's response. The BEOSP test is carried out via a process known as an electroencephalogram, conducted to study the electrical behaviour of the human brain.

Under this test, the consent of the accused is first taken and they are then made to wear caps with dozens of electrodes attached to them. The accused are then shown visuals or played audio clips related to the crime to check if there is any triggering of neurons in their brains which then generate brainwaves. The BEOSP procedure does not involve a question-answer session with the accused and is rather a neuropsychological study of their brain. In a polygraph test, the accused person's physiological indicators are taken into account which includes blood pressure, pulse rate, respiration and skin conductivity.

**Q.105** Recently, 'India Climate Change Knowledge Portal' was seen in the news, it is launched by which of the following ministries?

- (a) Ministry of Environment, Forest and Climate Change
- (b) Ministry of Science and Technology
- (c) Ministry of New and Renewable Energy
- (d) None of the above

**[ANS] a**

**[SOL] In News-** Recently, the Minister of Environment, Forest and Climate Change launched the India Climate Change Knowledge Portal.

**Option A is correct:** It is launched by the Minister of Environment, Forest and Climate Change. The portal will have all the major steps the Government is taking at both national and international levels to address the climate change issues. It is a single-point information resource that provides information on the different climate initiatives taken by various Line Ministries enabling users to access d status on these initiatives.