



INSIGHTSIAS

SIMPLIFYING IAS EXAM PREPARATION

INSTA CURRENT AFFAIRS QUIZ

JUNE 2021

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1. Economy

1) Consider the following statements regarding Network for Greening the Financial System (NGFS).

1. Network for Greening the Financial System (NGFS) is a network of central banks and financial supervisors.
2. It aims to share the best practices and contribute to the development of the environment and climate risk management in the financial sector.
3. It was created by the Reserve Bank of India (RBI).

Which of the above statements is/are correct?

- a) 1, 2
- b) 1, 3
- c) 2, 3
- d) 1, 2, 3

Solution: a)

The Reserve Bank of India (RBI) has joined the Central Banks and Supervisors Network for Greening the Financial System (NGFS) as a Member on April 23, 2021.

Launched at the Paris One Planet Summit on December 12, 2017, the NGFS is **a group of central banks and supervisors willing to share best practices and contribute to the development of environment and climate risk management in the financial sector**, while mobilising mainstream finance to support the transition towards a sustainable economy.

The Reserve Bank expects to benefit from the membership of NGFS by learning from and contributing to global efforts on Green Finance which has assumed significance in the context of climate change.

Source

2) Consider the following statements regarding Anti-Dumping Duty.

1. Countries carry out anti-dumping probes to determine whether their domestic industries have been hurt because of a surge in cheap imports.
2. Countries impose Anti-Dumping duties outside the regime of the World Trade Organization (WTO).
3. In India, Directorate General of Trade Remedies (DGTR), under the Ministry of Commerce & Industry conducts anti-dumping investigations.

Which of the above statements is/are correct?

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

Solution: c)

Countries carry out anti-dumping probes to determine whether their domestic industries have been hurt because of a surge in cheap imports.

As a counter measure, they impose duties under the multilateral regime of the World Trade Organization (WTO).

Dumping is a process wherein a company exports a product at a price that is significantly lower than the price it normally charges in its home (or its domestic) market.

Directorate General of Trade Remedies (DGTR) conducts anti-dumping investigations, under the Customs Tariff Act, 1975 and the rules made thereunder, on the basis of a duly substantiated application filed by the domestic industry alleging dumping of goods into the country causing injury to the domestic industry. The basic intent of

anti-dumping measures is to eliminate injury caused to the domestic industry by the unfair trade practice of dumping and to create a level playing field for the domestic industry.

Source

3) Consider the following statements.

1. Recession is defined as a fall in the overall economic activity for two consecutive quarters accompanied by a decline in income, sales and employment.
2. Gross Value Added (GVA) data provides a measure of national income by looking at the value-added by different sectors of the economy.

Which of the above statements is/are incorrect?

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

Solution: d)

Recession is defined as a fall in the overall economic activity for two consecutive quarters (six months) accompanied by a decline in income, sales and employment.

Gross Value Added (GVA) data provides a measure of national income by looking at the value-added by different sectors of the economy in that quarter. If you want to compare which parts of the economy improved production and incomes from one quarter to another, the GVA is more apt.

4) Consider the following statements regarding National Automated Clearing House (NACH).

1. National Automated Clearing House (NACH) is the centralized web-based inter-bank payment/transaction processing system by National Payments Corporation of India.
2. NACH allows regular direct debit from a borrower's bank account towards his loan repayments.

Which of the above statements is/are correct?

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

Solution: c)

National Automated Clearing House (NACH) is the centralized web-based inter-bank payment/transaction processing system by the National Payments Corporation of India (NPCI). In simple words, NACH allows regular direct debit from a borrower's bank account towards his loan repayments. This is directly credited to the lender's bank account.

5) Geographical Indication tags are typically given for

1. Foodstuffs
2. Industrial products
3. Handicrafts
4. Wines and spirit drinks
5. Agricultural products

Select the correct answer code:

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

Solution: c)

The World Intellectual Property Organisation defines a GI as “a sign used on products that have a specific geographical origin and possess qualities or a reputation that are due to that origin”.

GIs are typically used for agricultural products, foodstuffs, handicrafts, industrial products, wines and spirit drinks. Darjeeling tea, Kullu shawl, Mysore agarbathi, champagne (France), Swiss watches etc are some of its examples.

Internationally, GIs are covered as an element of intellectual property rights under the Paris Convention for the Protection of Industrial Property. They are also covered under the Trade Related Aspects of Intellectual Property Rights (TRIPS) Agreement.

6) Consider the following statements.

1. Disinvestment involves Selling minority shares of Public Enterprises, to public or private entity.
2. When the government sells minority shares in a public sector entity, that is strategic disinvestment.

Which of the above statements is/are incorrect?

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

Solution: b)

What is strategic disinvestment or strategic sale?

When the government decides to transfer the ownership and control of a public sector entity to some other entity, either private or public, the process is called strategic disinvestment.

What is the difference between strategic disinvestment/sale and disinvestment

Selling minority shares of Public Enterprises, to another entity be it public or private is disinvestment. In this the government retains ownership of the enterprise. On the other hand, **when the government sells majority shares in an enterprise, that is strategic disinvestment/sale.** Here, the government gives up the ownership of the entity as well.

7) Consider the following statements regarding zero-coupon bond.

1. Zero Coupon Bonds are issued at a discount and redeemed at par.
2. No interest payment is made on such bonds at periodic intervals.
3. These are special types of bonds issued only by the Central government specifically to a particular institution.

Which of the above statements is/are incorrect?

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

Solution: b)

A zero-coupon bond is a debt security that does not pay interest but instead trades at a deep discount, rendering a profit at maturity, when the bond is redeemed for its full-face value.

It does not make periodic interest payments or have so-called coupons, hence the term zero coupon bond. When the bond reaches maturity, its investor receives its par (or face) value.

Zero coupon bonds by private companies are normally issued at discount.

8) Consider the following statements.

1. In India, the National Income estimates is released by the Ministry of Finance.

2. Gross Value Added (GVA) is a measure of the contribution to GDP made by an individual producer, industry or sector.

2. GDP is the total value of a country's annual output of goods and services and It gives the economic output from the consumers' side.

Which of the above statements is/are correct?

- a) 1, 2
- b) 1, 3
- c) 2, 3
- d) 1, 2, 3

Solution: c)

The **National Income estimates** is released by **National Statistical Office (NSO), Ministry of Statistics and Programme Implementation.**

About Gross Domestic product and Gross Value Added:

- **GDP** is a measure of economic activity in a country. It is the **total value of a country's annual output of goods and services. It gives the economic output from the consumers' side.**
- GVA is the sum of a country's GDP and net of subsidies and taxes in the economy.
- **GVA** is defined as the value of output minus the value of intermediate consumption and is a **measure of the contribution to growth made by an individual producer, industry or sector.**
- It provides the rupee value for the number of goods and services produced in an economy after deducting the cost of inputs and raw materials that have gone into the production of those goods and services.

Gross Value Added = GDP + subsidies on products – taxes on products.

9) Consider the following statements regarding National Bank for Financing Infrastructure and Development (NaBFID) Act 2021.

1. It seeks to establish National Bank for Financing Infrastructure and Development as the principal development financial institution for infrastructure financing.
2. It includes development of the bonds and derivatives markets necessary for infrastructure financing.
3. It also seek to attract investment for infrastructure projects located outside India.

Which of the above statements is/are correct?

- a) 1, 2
- b) 1, 3
- c) 2, 3
- d) 1, 2, 3

Solution: d)

THE NATIONAL BANK FOR FINANCING INFRASTRUCTURE AND DEVELOPMENT ACT, 2021:

An Act to establish the **National Bank for Financing Infrastructure and Development** to support the development of long-term non-recourse **infrastructure financing in India** including **development of the bonds and derivatives markets** necessary for infrastructure financing and to carry on the business of financing infrastructure and for matters connected therewith.

The developmental objective of the Institution shall be to co-ordinate with the Central and State Governments, regulators, financial institutions, institutional investors and such other relevant stakeholders, in India or outside India, to facilitate building and improving the relevant institutions to support the **development of long term non-recourse infrastructure financing in India including the domestic bonds and derivatives markets.**

The financial objective of the Institution shall be to **lend or invest, directly or indirectly**, and seek to **attract investment from private sector investors** and institutional investors, in **infrastructure projects located in India, or partly in India and partly outside India**, with a view to foster sustainable economic development in India.

[Source](#)

www.insightsonindia.com

10) Consider the following statements.

1. GDP can be measured by adding private consumption expenditure, government expenditure, investments made in the economy and net exports.
2. India's GDP shrank more than 7% in 2020-21 (in real terms adjusted for inflation), which is the worst performance of the Indian economy in any year since Independence.

Which of the above statements is/are correct?

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

Solution: c)

India's gross domestic product (GDP) shrank 7.3% to ₹135.13 trillion in 2020-21 (in real terms adjusted for inflation). It was at ₹145.69 trillion in 2019-20. GDP is a measure of the economic size of a country, and inflation is the rate of price rise.

This is the **worst performance of the Indian economy in any year since Independence**. The last time the Indian economy contracted was in 1979-80. The GDP had contracted by 5.2% that year, when global oil prices had gone through the roof.

One way of measuring GDP is by adding private consumption expenditure, the money that you and I spend on buying things, with government expenditure, investments made in the economy and net exports (or the difference between exports and imports).

[Source](#)

11) Consider the following statements.

1. A voluntary license is an authorization given by the patent holder to a generic company, allowing it to produce the patented product, such as a medicine, as if it were a generic.
2. Compulsory licenses cannot override patent rights to allow local production or import of drugs by generic manufacturers.

Which of the above statements is/are incorrect?

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

Solution: b)

A voluntary license is an authorization given by the patent holder to a generic company, allowing it to produce the patented article, such as a medicine, as if it were a generic. The license usually sets quality requirements and defines the markets in which the licensee can sell the product. The decision to grant a voluntary license, and the terms therein, can be tailored to account for many factors, including the nature of the epidemic/disease, social factors, economic considerations and the capacity of the licensee to meet and maintain quality standards for the product.

In the 1990s, the WTO began implementing a global intellectual property regime known as the Trade Related Aspects of Intellectual Property Rights agreement, or TRIPS. While TRIPS alarmed public health experts because of its potential to raise the price of essential medicines, voluntary licensing agreements between pharmaceutical producers were able to bring down the price of AIDS medications despite the TRIPS regulations.

It is also possible for governments to issue what are called "**compulsory licenses**" which **override patent rights to allow local production or import of drugs by generic manufacturers** in the event of a public health crisis. Since 2003, this right has been enshrined in the Doha Declaration addendum to the WTO's TRIPS agreement.

Source Source

12) Arrange the following in the chronological order of their establishment.

1. State Bank of India
2. Industrial Development Bank of India (IDBI)
3. Life insurance Corporation of India
4. Air India

Select the correct answer code:

- a) 4-1-3-2
- b) 1-4-3-2
- c) 4-1-2-3
- d) 1-4-2-3

Solution: a)

Air India was started by JRD Tata as Tata Airlines in **1932**.

State Bank of India was incorporated on **01 July 1955**. The Government of India nationalized the Imperial Bank of India in the year 1955 with the Reserve Bank of India taking a 60% stake and name was changed to State Bank of India.

The **Life insurance Corporation of India** was established on September 1, **1956**, when the Parliament of India passed the Life Insurance of India Act that nationalized the insurance industry in India.

India had set up extremely successful DFIs such as Industrial Finance Corporation of India (IFCI) in 1948, **Industrial Development Bank of India (IDBI) in 1964** and Industrial Credit and Investment Corporation of India (ICICI) in 1955.

13) Consider the following statements regarding the changes to The Banking Regulation Act approved by Parliament in September 2020.

1. The amended law has brought cooperative banks under the direct supervision of the RBI.
2. Urban cooperative banks will now be treated on a par with commercial banks.
3. Cooperative bank can issue equity shares, preference shares, or special shares to its members without prior approval of the RBI.

Which of the above statements is/are correct?

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

Solution: a)

Cooperative banks have long been under dual regulation by the state Registrar of Societies and the RBI. As a result, these banks have escaped scrutiny despite failures and frauds.

The changes to The Banking Regulation Act approved by Parliament in September 2020, brought cooperative banks under the direct supervision of the RBI.

The amended law has given RBI the power to supersede the board of directors of cooperative banks after consultations with the concerned state government. Earlier, it could issue such directions only to multi-state cooperative banks.

Also, **urban cooperative banks will now be treated on a par with commercial banks.**

And a **cooperative bank can, with prior approval of the RBI, issue equity shares, preference shares, or special shares to its members** or to any other person residing within its area of operation, by way of public issue or private placements.

It can also issue **unsecured debentures or bonds** with maturity of not less than 10 years. This essentially means non-members can become shareholders of the bank, and this will allow the RBI to merge failing banks quickly.

[Source](#)

14) Consider the following statements.

1. Unemployment rate helps in giving a measure of those who are willing to take on jobs but are not employed.
 2. Labour participation rate helps measure the section of the population that is willing to take on jobs.
- Which of the above statements is/are correct?

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

Solution: c)

The labour participation rate (LPR) for April 2021, at 40%, remained lower than the levels seen before last year's lockdown. **Labour participation helps measure the section of the population that is willing to take on jobs. Unemployment is a subset, which helps in giving a measure of those who are willing to take on jobs but are not employed.**

Source

15) Consider the following statements regarding GST Compensation to States.

1. Under the GST (Compensation to States) Act, 2017, states are guaranteed compensation for loss of revenue on account of implementation of GST for period of ten years.
2. The compensation is calculated based on the difference between the states current GST revenue and the protected revenue after estimating an annualised 14% growth rate from the base year of 2015-16.

Which of the above statements is/are correct?

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

Solution: b)

Under the GST (Compensation to States) Act, 2017, states are guaranteed compensation for loss of revenue on account of implementation of GST for a **transition period of five years between 2017 and 2022.**

The compensation is calculated based on the difference between the states current GST revenue and the protected revenue after estimating an annualised 14% growth rate from the base year of 2015-16.

16) Consider the following statements.

1. Trade-Related Aspects of Intellectual Property Rights (TRIPS) is founded on the principle of "product patents".
2. Product patents allow inventors of new drugs to have exclusive rights to produce and sell them for some years.

Which of the above statements is/are correct?

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

d) Neither 1 nor 2

Solution: c)

Trade-Related Aspects of Intellectual Property Rights (TRIPS) regime was promoted by the World Trade Organization in 1995 for uniform global IPR rules. **TRIPS is founded on the principle of “product patents”.** **Product patents allow inventors of new drugs to have exclusive rights to produce and sell them for some years.**

Source

17) Consider the following statements.

1. In the last 5 years, wholesale price index-based (WPI) inflation has always remained below 10 percent.
2. In the last 5 years, retail inflation has always remained within the target of $4\% \pm 2\%$ set by the Reserve Bank of India.

Bank of India.

Which of the above statements is/are incorrect?

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

Solution: c)

The wholesale price index-based (WPI) inflation scaled a record high of 12.94% in May, pushed by higher fuel and commodity prices, and a low base effect. It also translated into **retail inflation of 6.30%** in May — a six-month high that breached the inflation target of $4 \pm 2\%$ set by the Reserve Bank of India.

RIISING INFLATION SINCE NOVEMBER



Source

18) Consider the following statements.

1. GDP measures the monetary value of both intermediate and final goods and services.
2. GDP also measures the inequality in the economy.

Which of the above statements is/are correct?

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

Solution: d)

The International Monetary Fund states “**GDP measures the monetary value of final goods and services**—that is, those that are bought by the final user—produced in a country in a given period of time (say a quarter or a year)”. It is important to note that **GDP maps the “final” goods and services, not the intermediate ones.**

For a while now, GDP’s dominance has been questioned.

For instance, is GDP a faulty measure?

It all depends on what you use it for. GDP measures the total market value of goods and services in an economy in a year. Does it claim to measure welfare or wellbeing? No. Does it claim to measure happiness? No. **Does it claim to measure inequality? No.** Is it a measure of corruption or the lack of it? No. Does it measure the robustness of a democracy? No. Does it measure pollution or climate change? No. Such questions can go on with the same reply.

[Source](#)

2. Ecology and Environment

1) Consider the following statements regarding Deep Sea Trawling.

1. Deep Sea Trawling is the Industrial way of fishing in which large nets are carted across the seafloor to lift out the marine animals.
2. The Union Government has given permission for foreign trawlers for deep sea fishing in the exclusive economic zone of the country.

Which of the above statements is/are correct?

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

Solution: a)

The Union Government had in 2017 withdrawn permission given for foreign trawlers for deep sea fishing in the exclusive economic zone of the country.

- The EEZ of the country extends up to 370 km from the coastline.

What is Deep Sea Trawling?

The Deep Sea Trawling can be defined as the Industrial way or method fishing in which large nets with heavy weight are carted across the seafloor to lift out the catch marine animals such as fishes, shrimp, cod etc. It is considered as the most prominent method of fishing which is a practice across the world at large scale.

Impact of Deep Sea Trawling on Environment:

The gears of Deep Sea Trawling creates huge on the life of marine plants and animals as well as the seafloor by disrupting the sediment column structure, overturning boulders, re-suspending sediments and imprinting deep scars on muddy bottoms.

2) Which of the following are the conservation efforts to protect Snow Leopard?

1. Project Snow Leopard
2. Secure Himalaya
3. HimalSanrakshak

Select the correct answer code:

- a) 1 only

- b) 1, 2
- c) 1, 2, 3
- d) 1, 3

Solution: c)

Indian government launched **community volunteer programme “HimalSanrakshak”** to protect snow leopards.

India has been conserving snow leopard and its habitat through the **Project Snow Leopard (PSL)**.

Protection of snow leopard and other endangered species and their habitats is one of the key components of **SECURE Himalaya**.

3) Consider the following statements regarding **Permafrost**.

1. Permafrost is any ground that remains completely frozen for at least two years.
2. They are located only in high latitudes around the Arctic and Antarctic regions.
3. There is approximately twice as much carbon in permafrost than is currently in the Earth’s atmosphere.

Which of the above statements is/are correct?

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

Solution: b)

Permafrost is any ground that remains completely frozen—32°F (0°C) or colder—**for at least two years straight**. These permanently frozen grounds are most common in regions with high mountains and in Earth’s higher latitudes—near the North and South Poles.

Permafrost covers large regions of the Earth. Almost a quarter of the land area in the Northern Hemisphere has permafrost underneath. Although the ground is frozen, permafrost regions are not always covered in snow.

Most permafrost is located in high latitudes (in and around the Arctic and Antarctic regions), but at lower latitudes alpine permafrost occurs at higher elevations.

It can also be located in the Southern Hemisphere, just on mountain tops. Permafrost frequently occurs in ground ice, but it also can be presented in non-porous bedrock. Permafrost is formed from ice holding all different sorts of soil, sand, and rock combination together.

There is approximately twice as much carbon in permafrost than is currently in the Earth’s atmosphere.

[Source](#)

4) Consider the following statements.

1. Normally, cyclones weaken upon entering land.
2. When cyclones come under the influence of western disturbances, it can retain its intensity even after entering land.

Which of the above statements is/are correct?

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

Solution: c)

Unlike most cyclones that are forced to weaken post landfall as they detach from the sea, Tauktae retained its intensity as a cyclone and maintained wind speeds between 60 and 70 km/hr gusting to 80 km/hr.

Cyclones are formed between the tropics while western disturbances are formed in the mid-latitudes. When the two interact, they influence each other. Such an interaction occurred at the time of landfall on the evening of May 17.

As Cyclone Tauktae came under the influence of western disturbances, it slowed down as it was crossing over to land. This slow progress over the coast ensured that the cyclone continued to get sufficient moisture supply from the sea. Hence it did not weaken, but rather **retained its intensity even 24 hours after coming over land.**

[Source](#)

5) Consider the following statements regarding Greater one-horned rhinoceros.

1. Greater one-horned rhinoceros is native to the Indian subcontinent.
2. It is listed as Critically Endangered on the IUCN Red List.
3. Kaziranga National Park has the highest density of Greater one-horned rhinos in the world.

Which of the above statements is/are incorrect?

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

Solution: c)

Greater one-horned rhinoceros is a rhinoceros species native to the Indian subcontinent. It is listed as Vulnerable on the IUCN Red List

Pobitora is known for the highest density of Indian one-horned rhinos in the world along with Kaziranga National Park, the shelter for two thirds of the world's great one-horned rhinos.

6) Consider the following statements regarding tree transplantation.

1. Not all trees can be transplanted.
2. Trees like peepal and sheesham are tolerant to transplantation.
3. Any tree that has a tap root system can be transplanted without much effort.

Which of the above statements is/are correct?

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

Solution: a)

Not all trees can be transplanted. While **peepal**, ficus, semal and **sheesham** are tolerant to transplantation, trees such as dak, palash, arjun, shahtoot and jhilmil are not.

Any tree that has a tap root system cannot be transplanted, as the root goes deep into the soil, and it is not possible to isolate it without damage.

[Source](#)

7) Consider the following statements regarding Wetlands.

1. In India, Wetlands are regulated under the *Environment (Protection) Rules, 1986*.
2. Wetlands International is sub-branch of UN Environment, that works to sustain and restore wetlands and their resources for people and biodiversity.

Which of the above statements is/are correct?

- a) 1 only

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

Solution: d)

Wetlands are regulated under the Wetlands (Conservation and Management) Rules, 2017. The 2010 version of the Rules provided for a Central Wetland Regulatory Authority; the 2017 Rules replace it with state-level bodies and created a National Wetland Committee, which functions in an advisory role.

Wetlands International is a global organisation that works to sustain and restore wetlands and their resources for people and biodiversity. It is an independent, not-for-profit, global organisation, supported by government and NGO membership from around the world.

- 8) Which of the following states in North-East India do not have Tiger Reserves?
1. Assam
 2. Nagaland
 3. Arunachal Pradesh
 4. Manipur

Select the correct answer code:

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

Solution: a)

Only 3 states in North-East India have Tiger Reserves. They are in

- Assam (Manas, Nameria, Kaziranga and Orang),
- Arunachal Pradesh (Namdapha, Pakke or Pakhui and Kamlang) and
- Mizoram (Dampa).

Source

- 9) Consider the following statements regarding Polycrack Technology.
1. It is world's first patented heterogeneous catalytic process which converts multiple feed stocks into hydrocarbon liquid fuels, gas, carbon and water.
 2. Polycrack Plant can be fed with all types of Plastic, E-Waste and Organic waste.
 3. The process is a closed loop system and does not emit any hazardous pollutants into the atmosphere.

Which of the above statements is/are correct?

- a) 1, 2
- b) 1, 3
- c) 2, 3
- d) 1, 2, 3

Solution: d)

Indian Railways commissioned country's first governmental **Waste to Energy Plant**.

This Waste to Energy Plant, a patented technology called **POLYCRACK**, is first-of-its-kind in Indian Railways and fourth in India. It is **world's first patented heterogeneous catalytic process which converts multiple feed stocks into hydrocarbon liquid fuels, gas, carbon and water**. Polycrack Plant can be fed with all types of Plastic, Petroleum sludge, Un-segregated MSW (Municipal Solid Waste) with moisture up to 50%, E-Waste, Automobile fluff, Organic waste including bamboo, garden waste etc., and Jatropha fruit and palm bunch.

The process is a **closed loop system and does not emit any hazardous pollutants into the atmosphere**. The combustible, non-condensed gases are re-used for providing energy to the entire system and thus, the only emission comes from the combustion of gaseous fuels. The emissions from the combustion are found to be much less than prescribed environmental norms. This process will produce energy in the form of Light Diesel Oil which is used to light furnaces.

[Source](#)

10) Consider the following statements regarding Meteor shower.

1. A series of meteoroids, when encountered at once, is termed a meteor shower.
2. According to NASA, meteor shower is a very rare event which happens once in 100 years.

Which of the above statements is/are incorrect?

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

Solution: b)

A meteor is a space rock—or meteoroid—that enters Earth's atmosphere. As the space rock falls toward Earth, the resistance—or drag—of the air on the rock makes it extremely hot. What we see is a "shooting star." That bright streak is not actually the rock, but rather the glowing hot air as the hot rock zips through the atmosphere. **When Earth encounters many meteoroids at once, we call it a meteor shower.**

According to NASA, **over 30 meteor showers occur annually and are observable from the Earth.**

11) Consider the following statements regarding 'Zombie fires' sometimes seen in news.

1. A zombie fire is a fire that continues to burn underground and then reignites on the surface after a period of time.
2. It burrow deep in organic soils such as peat lands.
3. Due to its very low temperature, Arctic region is the only place on earth without the presence of Zombie fires.

Which of the above statements is/are correct?

- a) 1, 2
- b) 1, 3
- c) 2, 3
- d) 1, 2, 3

Solution: a)

Dormant "zombie fires" are scattered across the Arctic region. A zombie fire is a fire that continues to **burn underground and then reignites on the surface after a period of time. Embers deep in organic soils such as peat lands** can spark into flames weeks, months and even years later.

12) The first state to build eco-bridge for reptiles and smaller mammals is

- a) Tamil Nadu
- b) Uttarakhand
- c) Meghalaya
- d) Kerala

Solution: b)

Ramnagar Forest Division in Nainital district, **Uttarakhand, built its first eco-bridge for reptiles and smaller mammals.**

13) Consider the following statements regarding Sea Snot.

1. Sea snot is a slimy layer of grey or green sludge in the sea.
2. It is formed when algae are overloaded with nutrients as a result of water pollution combined with the effects of climate change.
3. If unchecked, it can collapse to the bottom and cover the sea floor, causing major damage to the marine ecosystem.

Which of the above statements is/are correct?

- a) 1, 2
- b) 1, 3
- c) 2, 3
- d) 1, 2, 3

Solution: d)

There has been growing environmental concern in Turkey over the **accumulation of 'sea snot', a slimy layer of grey or green sludge in the country's seas**, which can cause considerable damage to the marine ecosystem.

'Sea snot' is marine mucilage that is formed when **algae are overloaded with nutrients as a result of water pollution combined with the effects of climate change**. The nutrient overload occurs when algae feast on warm weather caused by global warming. Water pollution adds to the problem.

Environmental experts have said that overproduction of phytoplankton caused by climate change and the uncontrolled dumping of household and industrial waste into the seas has led to the present crisis.

The growth of the mucilage, which floats up on the surface of the sea like a brown phlegm, is posing a severe threat to the marine ecosystem of the country.

The mucilage is now covering the surface of the sea and has also spread to 80-100 feet below the surface. **If unchecked, this can collapse to the bottom and cover the sea floor, causing major damage to the marine ecosystem.**

Over a period of time, it could end up poisoning all aquatic life, including fishes, crabs, oysters, mussels and sea stars.

[Source](#)

14) Consider the following statements regarding anti-hail guns.

1. An anti-hail gun is a machine which disrupt the growth of hailstones in clouds.
2. The machine generates shock waves which travel faster than the speed of sound and that stops water droplets in clouds from turning into hailstones.

Which of the above statements is/are correct?

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

Solution: c)

To help out horticulturists who face crop damage due to hailstorms, the Himachal Pradesh government will be testing the use of indigenously developed 'anti-hail guns'.

An anti-hail gun is a machine which generates shock waves to disrupt the growth of hailstones in clouds, according to its makers. It comprises a tall, fixed structure somewhat resembling an inverted tower, several metres high, with a long and narrow cone opening towards the sky. The gun is "fired" by feeding an explosive mixture of acetylene gas and air into its lower chamber, which releases a shock wave (waves which travel faster

than the speed of sound, such as those produced by supersonic aircraft). **These shock waves supposedly stop water droplets in clouds from turning into hailstones, so that they fall simply as raindrops.**

[Source](#)

15) Consider the following statements regarding the formation of Hailstones.

1. Hail is produced by cumulonimbus clouds, which are generally large and dark.
2. Hailstones are formed when winds blow up the water droplets to heights where they freeze into ice.

Which of the above statements is/are correct?

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

Solution: c)

Hail is produced by cumulonimbus clouds, which are generally large and dark and may cause thunder and lightning. In such clouds, **winds can blow up the water droplets to heights where they freeze into ice.** The frozen droplets begin to fall but are soon pushed back up by the winds and more droplets freeze onto them, resulting in multiple layers of ice on the hailstones. This fall and rise is repeated several times, till the hailstones become too heavy and fall down.

16) Consider the following statements regarding Chipko Movement.

1. Chipko movement was a Gandhian form of protest against deforestation by locals in the Himalayan region.
2. The movement was led by Sunderlal Bahuguna.
3. The support for the movement came only from the women.

Which of the above statements is/are correct?

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

Solution: a)

The Chipko movement was a Gandhian form of protest against deforestation by locals in the Himalayan region. To stop deforestation, **locals - primarily women** - would make circles around trees and stop men from cutting them down.

The first Chipko action took place in April 1973 in Mandal village, now in Uttarakhand, and spread over the next five years to many Himalayan districts.

The movement sparked after the government decided to allot a plot of forest area in the Alaknanda valley to a sports goods company.

With the help from a local NGO, the women of the area went into the forest and formed a circle around the trees, protecting them from the men who came to cut down the trees.

Sunderlal Bahuguna, who was leading the movement, appealed to then Prime Minister Indira Gandhi to implement a ban on cutting down the trees. His appeal resulted in a 15-year ban on chopping green trees in 1980.

[Source](#)

17) Consider the following statements regarding Icebergs.

1. An iceberg is a large piece of freshwater ice that has broken off a glacier or an ice shelf and is floating freely in open water.

2. The ocean currents influence the movement of icebergs.
3. Icebergs carry dust which completely destroys ocean plankton.

Which of the above statements is/are correct?

- a) 1, 2
- b) 1, 2, 3
- c) 2, 3
- d) 1, 3

Solution: a)

An iceberg is a large piece of freshwater ice that has broken off a glacier or an ice shelf and is floating freely in open (salt) water.

The giant iceberg A68, the biggest block of free-floating ice from Antarctica with an area of about 5,800 sq. km, has been drifting in the Atlantic Ocean since 2017.

This year, due to an ocean current, the iceberg was propelled into the South Atlantic Ocean and since then it has been drifting towards the remote sub-Antarctic island of South Georgia, prompting fears about the impact the iceberg could have on the island's abundant wildlife.

Icebergs travel with ocean currents and either get caught up in shallow waters or ground themselves.

On the other hand, there are some **positives of an iceberg** being stuck in the open ocean, since **icebergs carry dust which fertilises ocean plankton**, which draws up carbon dioxide from the atmosphere.

18) Reykjavik declaration, 2021 recently seen in news is related to

- a) Addressing Climate crisis in Arctic region
- b) Middle East peace process
- c) Cooperation on Green Supply Chain
- d) Rights of Indigenous Peoples

Solution: a)

At the 12th Arctic Council Ministerial meeting in Reykjavik, Iceland, foreign ministers from all eight Arctic States signed onto the **2021 joint declaration reaffirming the Council's commitment to maintain peace, stability, and constructive cooperation in the Arctic region**, emphasizing Arctic States' unique position to promote responsible governance in the region, and asserting the importance of immediately addressing the climate crisis in the Arctic.

[Source](#)

[Source](#)

19) United Nations Decade on Ecosystem Restoration is led by

- a) United Nations Environment Programme (UNEP)
- b) Food and Agriculture Organization (FAO)
- c) Both a and b
- c) Neither a nor b

Solution: c)

The **United Nations Decade on Ecosystem Restoration** runs from 2021–2030. Similar to other nature related international decades, its purpose is to **promote the United Nation's enviromental goals**.

Following on from the 2011 - 2020 United Nations Decade on Biodiversity, the decade on Ecosystem Restoration was launched in June 2021.

The UN Decade on Ecosystem Restoration is **co-led by two UN agencies** - the **UNEP and the Food and Agriculture Organization (FAO)**. Other key bodies involved are the Center for International Forestry Research (CIFOR), the International Union for Conservation of Nature (IUCN), and the Global Landscapes Forum (GLF).

20) Consider the following statements regarding Pakke Tiger Reserve.

1. It falls completely within the Western Himalaya Biodiversity Hotspot.
2. It has won India Biodiversity Award in the category of 'Conservation of threatened species' for its Hornbill Nest Adoption Programme.

Which of the above statements is/are correct?

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

Solution: b)

Pakke tiger reserve:

- Pakke Tiger Reserve is also known as **Pakhui Tiger Reserve**.
- This Tiger Reserve has won **India Biodiversity Award 2016** in the category of 'Conservation of threatened species' for its **Hornbill Nest Adoption Programme**.
- It is bounded by **Bhareli or Kameng River in the west and north, and by Pakke River in the east**.
- **Neighbours:** Papum Reserve Forest in Arunachal Pradesh, Assam's Nameri National Park, Doimara Reserve Forest and Eaglenest Wildlife Sanctuary.
- **The main perennial streams in the area are** the Nameri, Khari and Upper Dikorai. West of Kameng River is Sessa Orchid Sanctuary.
- It falls within **the Eastern Himalaya Biodiversity Hotspot**.

21) Which of the following national parks are located in Assam?

1. Nameri
2. Dihing Patkai
3. Dibru-Saikhowa
4. Raimona

Select the correct answer code:

- a) 1, 2, 3
- b) 1, 3, 4
- c) 1, 3
- d) 1, 2, 3, 4

Solution: d)

The State government notified **Dihing Patkai** as a National Park, four days after creating the 422-sq. km **Raimona** National Park in western Assam's Kokrajhar district.

The five national parks that existed prior to the Raimona are **Kaziranga, Manas, Nameri, Orang and Dibru-Saikhowa**.

The Raimona National Park is within the Bodoland Territorial Region. The area of the park includes the northern part of the notified Ripu Reserve Forest (508.62 sq. km), which forms the western-most buffer to the Manas National Park that straddles the India-Bhutan border.

Source

22) Consider the following statements.

1. India has the second longest coastline in Asia.
2. Beaches, dunes, cliffs and rocks are the landforms associated with coastline.

Which of the above statements is/are incorrect?

- a) 1 only
- b) 2 only

- c) Both 1 and 2
- d) Neither 1 nor 2

Solution: a)

India has the seventh longest coastline in Asia. The coastline is 7,500 km long.

Coral reefs, mangroves, tidal mudflats, seagrass beds, and salt marshes are some of the fragile habitats found along the Indian coastline. Apart from these ecosystems, the **coastline features a variety of landforms such as sandy beaches, dunes, cliffs and rocks**, among others.

Source

23) Consider the following statements.

1. Assam has the second most number of National Parks in India after Madhya Pradesh.
2. Kaziranga and Manas National parks are declared as UNESCO World Heritage Sites.
3. Dihing Patkai National park is a major elephant habitat.

Which of the above statements is/are correct?

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

Solution: c)

Assam now has the third most National Parks after the 12 in Madhya Pradesh and nine in the Andaman and Nicobar Islands.

Kaziranga and Manas are UNESCO World Heritage Sites. They are also tiger reserves along with Nameri and Orang.

The 234.26-sq. km **Dihing Patkai** straddling eastern Assam's Dibrugarh and Tinsukia districts is a **major elephant habitat**.

Source

24) Consider the following statements.

1. The Bay of Bengal and the Arabian Sea generate around one-fourth of the world's cyclones.
2. The number of cyclones in the Arabian Sea before and after the monsoon has increased over the years and is attributed to climate change.

Which of the above statements is/are incorrect?

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

Solution: a)

The IPCC report shows that the number of cyclones in the Arabian Sea before and after the monsoon has increased over the years and is attributed to climate change.

The **Bay of Bengal and the Arabian Sea generate only 7 per cent of the world's cyclones.** However, their impact are huge as some of the most densely populated regions of the world, including some mega-cities, are susceptible.

[Source](#)

www.insightsonindia.com

- 25) The government of India, in 2011 came up with Coastal Regulation Zone (CRZ). The objectives of CRZ was to
1. Ensure livelihood security of fisher communities
 2. Sustainably promote coastal development
 3. Conserve the coastal environment

Select the correct answer code:

- a) 1, 2
- b) 1, 3
- c) 2, 3
- d) 1, 2, 3

Solution: d)

The government of India, in 2011, came up with Coastal Regulation Zone (CRZ). The objective of CRZ was three-fold — to **ensure livelihood security of fisher communities, conserve the coastal environment, and sustainably promote development via understanding the risks and hazards**. In 2019, CRZ was updated to develop and manage the coastal regions on scientific principles, considering the current global challenge of climate change and sea-level rise.

[Source](#)

- 26) The term Dendrochronology denotes

- a) Method of Plant tissue culture used to produce clones of a plant
- b) Production of multiples of plants in the absence of seeds
- c) Method of determining the age of the tree
- d) Alteration of the genome of a plant by the addition of new genetic material

Solution: c)

The most common method of determining the age of the tree is Dendrochronology – or tree-ring dating also called growth rings. Each year, roughly a tree adds to its girth, the new growth is called a tree ring. By counting the rings of a tree, the age can be determined.

[Source](#)

- 27) Consider the following statements.

1. The government of India has advanced the target for 20 per cent ethanol blending in petrol (E20) to 2025 from 2030.
2. Use of ethanol-blended petrol decreases emissions such as carbon monoxide (CO), hydrocarbons (HC) and nitrogen oxides (NOx).
3. The advantage of ethanol blended petrol is that it is not corrosive in nature.

Which of the above statements is/are correct?

- a) 1, 2
- b) 1, 3
- c) 2, 3
- d) 1, 2, 3

Solution: a)

The government of India has advanced the target for 20 per cent ethanol blending in petrol (also called E20) to 2025 from 2030. E20 will be rolled out from April 2023.

The use of E20 will require new engine specifications and changes to the fuel lines, as well as some plastic and rubber parts due to the **fuel's corrosive nature**.

The engines, moreover, will need to be recalibrated to achieve the required power-, efficiency- and emission-level balance due to the lower energy density of the fuel.

Use of ethanol-blended petrol decreases emissions such as carbon monoxide (CO), hydrocarbons (HC) and nitrogen oxides (NOx).

[Source](#)

3. Government Schemes and Programmes

1) Consider the following statements.

1. Island Development Agency is headed by the Prime Minister.
2. The weightage of each state in GST Council is equal.

Which of the above statements is/are correct?

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

Solution: b)

Every decision of the Goods and Services Tax Council shall be taken at a meeting, by a majority of not less than three-fourths of the weighted votes of the members present and voting, in accordance with the following principles, namely: —

the vote of the Central Government shall have a weightage of one third of the total votes cast, and the **votes of all the State Governments taken together shall have a weightage of two-thirds of the total votes cast**, in that meeting.

Island Development Agency:

The Union Government constituted the Island Development Agency on 1st June, 2017 for the development of islands.

The meetings of the Agency is chaired by the Union Home Minister.

2) Consider the following statements regarding Model Tenancy Act (MTA), 2021.

1. The Act is piloted by the Ministry of Housing and Urban Affairs.
2. The Act will be applicable prospectively and will not affect existing tenancies.
3. The Act seeks to cover urban and as well as rural areas.

Which of the above statements is/are correct?

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

Solution: d)

After releasing the draft in 2019, the Union Cabinet approved the Model Tenancy Act (MTA) to streamline the process of renting property in India and aid the rent economy in the estate sector.

The new Act, piloted by the Ministry of Housing and Urban Affairs.

States can adopt the Act as it is with fresh legislation, since it is a state subject, or they can amend their existing rent acts to factor in the new MTA.

The new Act will be applicable prospectively and will not affect existing tenancies.

The Act seeks to cover urban and as well as rural areas.

[Source](#)

3) Consider the following statements regarding Mid Day Meal scheme.

1. The largest component of Mid Day Meal scheme is the cooking cost.
2. The Midday Meal Scheme is covered by the National Food Security Act, 2013.
3. The cost for the Midday Meal Scheme is shared equally by the Centre and States.

Which of the above statements is/are correct?

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

Solution: a)

The Centre has decided to give about ₹100 each to children studying in Class 1 to Class 8 in government schools, who are beneficiaries of the Mid Day Meal scheme.

The total Central allocation for the Mid Day Meal scheme in 2021-22 is ₹11,500 crore. **It's largest component is cooking costs**, which cover the prices of ingredients such as pulses, vegetables, cooking oil, salt, and condiments.

The Midday Meal Scheme is covered by the National Food Security Act, 2013.

Under the MDM scheme, both the Centre and State government share the cooking cost for daily meals in the ratio of 60:40 for non-North eastern states and UTs with legislatures except Jammu and Kashmir and in the ratio of 90:10 for all others.

[Source](#) [Source](#)

4) The initiative DARPAN, sometimes seen in news is related to

- a) Improve the quality and governance of school education
- b) Platform for all voluntary organisations/NGOs engaged in development activities.
- c) Disaster preparedness, and responses during health emergencies
- d) Expand immunization coverage across the country.

Solution: b)

NGO-DARPAN is a platform that provides space for interface between Non-Government organizations (NGOs)/ Voluntary Organizations (VOs) in the country and key Government Ministries / Departments / Government Bodies.

It started out as an initiative of the Prime Minister's Office, to create and promote a healthy partnership between NGOs/VOs and the Government of India. Now it is an **e-governance application** offered by NITI Aayog to electronically maintain data and transparency regarding NGOs/VOs in the country.

[Source](#) [Source](#)

5) The Kothari commission was setup by the Government of India to

- a) Study and report the representation of Backward Classes in the State public services.
- b) Look into various issues related to Linguistic and Religious minorities in India

- c) Examine all aspects of the educational sector in India
- d) Examine the balance of power between centre and state

Solution: c)

National Education Commission (1964-1966), popularly known as **Kothari Commission**, was an ad hoc commission set up by the Government of India to **examine all aspects of the educational sector in India**, to evolve a general pattern of education and to advise guidelines and policies for the development of education in India.

Kothari commission report said, there is a need and demand of spending at least 6 per cent of GDP on education.

- 6) The Prime Minister recently launched the E-100 pilot project. This is related to
 - a) Starting E-learning centres in 100 districts across India.
 - b) Establish Tele-medicine services across rural areas.
 - c) Set up a network for production and distribution of ethanol across the nation.
 - d) Vaccinating the citizens in the top 100 districts affected by Covid-19

Solution: c)

Prime Minister Narendra Modi launched the **E-100 pilot project** in Pune to mark the World Environment Day. The ambitious project **aims to set up a network for production and distribution of ethanol across the nation**. The Prime Minister also released the 'Report of the Expert Committee on Road Map for ethanol blending in India 2020-2025', in line with the theme for World Environment Day this year - promotion of biofuels for a better environment.

"Government has resolved to meet the **target of 20 per cent ethanol blending in petrol by 2025**. Earlier the resolve was to achieve the target by 2030 which is now preponed by 5 years. Till 2014, on an average, only 1.5 per cent of ethanol could be blended in India which has now reached about 8.5 per cent.

Source

- 7) Consider the following statements regarding Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021
 1. These rules broadly deal with social media and over-the-top (OTT) platforms.
 2. The Rules establish a self-regulatory architecture and a Code of Ethics and grievance redressal mechanism for digital media.
 3. These rules have been framed in exercise of powers under the Information Technology (IT) Act, 2000.

Which of the above statements is/are correct?

- a) 1, 2
- b) 1, 3
- c) 2, 3
- d) 1, 2, 3

Solution: d)

Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021:

- Recently, the government has notified **Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules 2021**.
- These new rules broadly deal with **social media and over-the-top (OTT) platforms**.
- These rules have been **framed in exercise of powers under section 87 (2) of the Information Technology (IT) Act, 2000** and in supersession of the earlier Information Technology (Intermediary Guidelines) Rules 2011.
- The Rules establish a soft-touch self-regulatory architecture and a Code of Ethics and three tier grievance redressal mechanism for news publishers and OTT Platforms and digital media.

- 8) Consider the following statements regarding Protection of Children from Sexual Offences Act (POCSO Act).
1. The Act is gender neutral.
 2. The Act defines a child as any person below fourteen years of age.
 3. Police should contact Child Welfare Committee (CWC) within 24 hours of report of abuse.

Which of the above statements is/are correct?

- a) 1, 2
- b) 1, 3
- c) 2, 3
- d) 1, 2, 3

Solution: b)

The Act is gender neutral and regards the best interests and welfare of the child as a matter of paramount importance at every stage so as to ensure the healthy physical, emotional, intellectual and social development of the child.

The Act defines a child as any person below eighteen years of age, and regards the best interests and well-being of the child as being of paramount importance at every stage, to ensure the healthy physical, emotional, intellectual and social development of the child.

To provide for relief and rehabilitation of the child, as soon as the complaint is made to the Special Juvenile Police Unit (SJPU) or local police, these will make immediate arrangements to give the child, care and protection such as admitting the child into shelter home or to the nearest hospital within twenty-four hours of the report. The SJPU or the local police are also required to report the matter to the Child Welfare Committee within 24 hours of recording the complaint, for long term rehabilitation of the child.

[Source](#)

[Source](#)

4. Science and Technology

- 1) Which of the following are the major applications of Zeolites?
1. Commercial adsorbents and catalysts
 2. Commercial water purification and softening
 3. Oxygen production
 4. Store solar heat harvested from solar thermal collectors

Select the correct answer code:

- a) 1, 2, 3
- b) 1, 3, 4
- c) 2, 3, 4
- d) 1, 2, 3, 4

Solution: d)

Zeolites are microporous, aluminosilicate minerals commonly used as **commercial adsorbents and catalysts**.

Zeolites are widely used as ion-exchange beds in domestic and **commercial water purification, softening**, and other applications.

Zeolite-based oxygen concentrator systems are widely used to produce medical-grade oxygen. The zeolite is used as a molecular sieve to create purified oxygen from air using its ability to trap impurities, in a process involving the adsorption of nitrogen, leaving highly purified oxygen and up to 5% argon.

Zeolites can be used to thermochemically **store solar heat harvested from solar thermal collectors.**

[Source](#)

2) Consider the following statements regarding Low Earth Orbit (LEO) satellites.

1. LEO satellites are positioned around 500km-2000km from earth, compared to stationary orbit satellites which are approximately 36,000km away.
2. They are able to provide stronger signals and faster speeds than traditional fixed-satellite systems.
3. Internet connectivity through Low Earth Orbit (LEO) satellites are cost effective compared to fibre-optic internet.

Which of the above statements is/are correct?

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

Solution: a)

LEO satellites have been orbiting the planet since the 1990s, providing companies and individuals with various communication services. LEO satellites are positioned around 500km-2000km from earth, compared to stationary orbit satellites which are approximately 36,000km away. Latency, or the time needed for data to be sent and received, is contingent on proximity. As LEO satellites orbit closer to the earth, they are able to provide stronger signals and faster speeds than traditional fixed-satellite systems. Additionally, because signals travel faster through space than through fibre-optic cables, they also have the potential to rival if not exceed existing ground-based networks.

However, LEO satellites travel at a speed of 27,000 kph and complete a full circuit of the planet in 90-120 minutes. As a result, individual satellites can only make direct contact with a land transmitter for a short period of time thus requiring massive LEO satellite fleets and consequently, a significant capital investment. Due to these costs, of the three mediums of Internet – fibre, spectrum and satellite – the latter is the most expensive.

[Source](#)

3) Consider the following statements regarding Space Hurricane, that was recently discovered.

1. A space hurricane is a huge, funnel-like, spiral geomagnetic storm that occurs above the polar Ionosphere of Earth.
2. These are completely disassociated from the aurora borealis phenomenon.
3. Space hurricane can disrupt GPS satellites, radio systems, and radars, and could also increase the drag on any nearby satellites.

Which of the above statements is/are correct?

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

Solution: b)

Scientists from China recently **discovered a space hurricane for the first time ever above the North pole.**

- Previously, it was believed, space hurricanes were a theoretical phenomenon.

What are space hurricanes?

- They are thought to be a result of the solar wind and Earth's magnetic field interacting.
- It is a huge, **funnel-like, spiral geomagnetic storm that occurs above the polar Ionosphere of Earth, during extremely quiet conditions.**

- They are **related to the aurora borealis phenomenon**, as the electron precipitation from the storm's funnel produces gigantic, cyclone-shaped auroras.
- They are made up of plasmas, consisting of extremely hot ionized gases that rotate at extremely high speeds.

Impact:

- The researchers think these kinds of storms could create more **drag on satellites** and **interfere with radio signals and communications**, making these events particularly important to understand.

4) Consider the following statements.

1. Supermoon occurs when the Moon's orbit is closest to the Earth and at the same time it is the Full Moon.
2. Supermoon cannot occur on a new moon day.
3. Apogee is a point of time when the distance between the Earth and Moon is the least.

Which of the above statements is/are correct?

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

Solution: a)

NASA notes that a **supermoon occurs when the Moon's orbit is closest to the Earth at the same time that the Moon is full**.

As the Moon orbits the Earth, there is a **point of time when the distance between the two is the least (called the perigee** when the average distance is about 360,000 km from the Earth) and a point of time when the distance is the most (called the apogee when the distance is about 405,000 km from the Earth).

Now, when a full Moon appears at the point when the distance between the Earth and the Moon is the least, not only does it appear to be brighter but it is also larger than a regular full moon. According to NASA, the term supermoon was coined by astrologer Richard Nolle in 1979. In a typical year, there may be **two to four full supermoons** and **two to four new supermoons** in a row.

[Source](#)

5) Electronic and Electrical Equipments (EEEs) contains which of the following metals?

1. Copper
2. Silver
3. Gold
4. manganese
5. chromium
6. zinc

Select the correct answer code:

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

Solution: d)

Electronic and Electrical Equipment (EEE)-manufacturing is dependent on high material consumption with metals like iron, copper, silver, gold, aluminum, manganese, chromium and zinc along with various rare earth elements.

[Source](#)

- 6) DAVINCI+ and VERITAS missions, recently seen in news are related to
- Build commercial spacecrafts powered by biofuel
 - Take tourists to space successfully
 - Study Venus' composition
 - large-scale survey of exoplanets

Solution: c)

NASA has selected **two missions to the planet Venus**, Earth's nearest neighbour. The missions called **DAVINCI+ and VERITAS** have been selected based on their potential for scientific value and the feasibility of their development plans.

Both missions are part of the space agency's Discovery Program, which began in 1992 to give scientists the chance to launch some missions that use fewer resources and have shorter developmental times.

DAVINCI+ is short for 'Deep Atmosphere Venus Investigation of Noble gases, Chemistry, and Imaging' and is the first US-led mission to the planet's atmosphere since 1978.

VERITAS is short for 'Venus Emissivity, Radio Science, InSAR, Topography, and Spectroscopy' and will map the planet's surface to determine its geologic history and understand the reasons why it developed so differently from Earth.

[Source](#)

- 7) Which of the following are the benefits of Blockchain Technology?
- No single point of failure
 - Real-time information processing and verification
 - Reduce the cost and complexity of cross-enterprise business processes
 - Reduced data duplication

Select the correct answer code:

- 2, 3, 4
- 1, 2, 3
- 1, 3, 4
- 1, 2, 3, 4

Solution: d)

The benefits that blockchain offer is actually simplifying the way we work.

Speeding up transactions: Blockchain provides all parties involved within a business network with a secure and synchronised record of transactions. Blockchain's verification system can enable **real-time information processing, verifying and maintaining all the way through to the settlement of transactions.**

Cutting cost and complexity: Implementing blockchain technology can allow you to leverage the power of your business' ecosystem to do things faster and vastly **reduce the cost and complexity of cross-enterprise business processes.** By removing the intermediary, settling transactions becomes quicker and simpler.

Increasing resilience: Due to the distributed and shared nature of the blockchain there is **no single point of failure.** This makes it significantly more resilient than current systems. Due to the distributed and shared nature of the blockchain, there is no single point of failure, makes it significantly more resilient than current systems.

[Source](#)

- 8) Consider the following statements regarding SWASTIIK Technology.
- It is the technique for disinfecting water by using natural oils.

2. The technique used is hydrodynamic cavitation that combines chemistry, biology, and chemical engineering, along with natural resources.
3. This technology can eliminate harmful bacteria, including antibiotic-resistant strains.
4. It was developed by DRDO.

Which of the above statements is/are correct?

- a) 1, 2, 3
- b) 1, 2, 4
- c) 1, 2
- d) 1, 2, 3, 4

Solution: a)

With water-borne diseases majorly contributing to India's disease burden, the **CSIR-National Chemical Laboratory (CSIR-NCL) at Pune** has come up with a new technique for disinfecting water by using natural oils.

Disinfection of water is essential for removing pathogenic microorganisms that are responsible for causing a number of water-borne diseases. However, the common drawbacks of chemical methods of disinfection, such as **chlorination, include the formation of harmful or carcinogenic by-products,**" according to a statement issued by the ministry of science and technology.

"SWASTIIK", which involves boiling of a liquid as a result of pressure reduction (cavitation) and also uses natural oils having antimicrobial properties.

This technology can **eliminate harmful bacteria, including antibiotic-resistant strains,** economically. The technique used—**hydrodynamic cavitation**—combines chemistry, biology, and chemical engineering, along with natural resources in the form of natural oils and plant extracts.

Source

- 9) Consider the following statements regarding Echolocation.
1. Echolocation is a process for locating distant or invisible objects.
 2. The technique uses light waves.
 3. Only animals can adapt to Echolocation.

Which of the above statements is/are correct?

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

Solution: a)

A technique used by animals such as dolphins, whales and bats to navigate their surroundings **can also be used by blind people** to get around better and have greater independence and well-being, researchers at Durham University in the UK have shown.

Using the method, called 'echolocation', animals **emit sounds** that bounce off objects and come back to them, providing information about what is around them. The same technique helps blind people locate still objects by producing clicking sounds from their mouth and hands.

[Source](#)

- 10) Consider the following statements.
1. Venus appears bright because of its thick cloud cover that reflects and scatters light.
 2. Venus is called the Earth's twin because of their similar sizes.
 3. Venus does have a moon and also rings around it.

Which of the above statements is/are correct?

- a) 1, 2
- b) 1, 3
- c) 1, 2, 3
- d) 2, 3

Solution: a)

For those on Earth, Venus is the second-brightest object in the sky after the moon. It appears bright **because of its thick cloud cover that reflects and scatters light**. But while Venus, which is the second closest planet to the Sun, is called the **Earth's twin because of their similar sizes**, the two planets have significant differences between them.

For one, the planet's thick atmosphere traps heat and is the reason that it is the hottest planet in the solar system, despite coming after Mercury, the closest planet to the Sun. Surface temperatures on Venus can go up to 471 degrees Celsius, which is hot enough to melt lead, NASA notes.

Further, Venus moves forward on its orbit around the Sun but spins backwards around its axis slowly. This means on Venus the Sun rises in the west and sets in the East. One day on Venus is equivalent to 243 Earth days because of its backward spinning, opposite to that of the Earth's and most other planets. **Venus also does not have a moon and no rings.**

[Source](#)

11) CIBER-2 mission, recently seen in news is related to

- a) Study atmospheric chemistry of Planet Venus
- b) Study the Martian environment and look for evidences of past and current lifeforms.
- c) Studying the supernova remnants
- d) Count the number of stars that exist in the Universe.

Solution: d)

CIBER-2:

The aim of this mission is to count the number of stars that exist in the Universe. While this is not the first time that such a mission has been undertaken, the CIBER-2 instrument has been improved upon to see if any stars had been undercounted in the previous counting attempts.

[Source](#)

12) Consider the following statements regarding Alzheimer's disease.

1. It is a progressive brain disorder that typically affects older people.
2. It does not affect in performing day-to-day activities like speaking, writing and completing familiar tasks.
3. There is no cure for Alzheimer's disease.

Which of the above statements is/are correct?

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

Solution: c)

USFDA has approved the first new drug for Alzheimer's disease in two decades. While it raises hope, it's costly, and not a cure — it seeks to slow progression.

- Alzheimer's disease is a **progressive brain disorder that typically affects people older than 65**. When it affects younger individuals, it is considered early onset.
- The disease destroys brain cells and nerves, and disrupts the message-carrying neurotransmitters.
- Eventually, a person with Alzheimer's **loses the ability to perform day-to-day activities**.
- Symptoms include memory loss, difficulty in completing familiar tasks, confusion with time or place, problems in speaking and writing, decreased or poor judgment, and changes in mood and personality.
- Alzheimer's disease is also the most common cause of dementia — which is a syndrome and not a disease in itself, and whose symptoms include loss of memory, thinking skills, problems with language, changes in mood and deterioration in behaviour.

Treatment:

There is no cure for Alzheimer's, because its exact causes are not known. Most drugs being developed try to slow down or stop the progression of the disease.

[Source](#)

13) Consider the following statements regarding Synthetic biology.

1. Synthetic biology is a technology which helps to manipulate biological organisms and processes by re-engineering cells.
2. Synthetic biology can help in treating deadly diseases.
3. The field of synthetic biology is regulated internationally by the World Health Organization.

Which of the above statements is/are correct?

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

Solution: b)

Synthetic biology is a revolutionary technology which can help us manipulate biological organisms and processes for human betterment, especially in treating diseases, by re-engineering cells.

Unlike the nuclear domain, the fields of biology or **synthetic biology are not regulated internationally.**

Source

14) Consider the following statements regarding Monoclonal Antibodies.

1. Monoclonal antibodies are artificial antibodies that mimic the activity of our immune systems.
2. They bind to specific part of the virus, thereby blocking its ability to infect healthy cells.
3. They are beneficial to those patients who are hospitalised with severe Covid-19 and those requiring oxygen.

Which of the above statements is/are correct?

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

Solution: a)

What are monoclonal antibodies?

To fight a viral infection, our bodies create proteins known as antibodies. **Monoclonal antibodies are artificial antibodies that mimic the activity of our immune systems. They are produced through a process that involves extracting specific antibodies from human blood and then cloning them.**

These monoclonal antibodies are **designed to target a virus or a specific part of one** — for instance, REGEN-COV2 is a cocktail of two monoclonal antibodies developed to target the SARS-CoV-2 spike protein. **The monoclonal antibodies bind to specific parts of the spike protein, blocking its ability to infect healthy cells.**

So far, these therapies have shown the most success in high-risk groups with mild to moderate Covid-19. **They are not approved for use in those hospitalised with severe Covid-19 and those requiring oxygen.**

Compared with plasma, scientists have expressed more confidence in the promise of monoclonal antibodies. Both antibody-based therapies, they differ in the way they are made.

Convalescent plasma therapy involves providing antibodies from a recovered Covid-19 patient's plasma. This means that those receiving this therapy would be getting all the antibodies the recovered patient has made.

Monoclonal antibodies are when you take a specific antibody and mass-manufacture it in a factory. For antibody cocktails, you provide a combination of two or more such antibodies.

[Source](#)

5. International Relations and Organisations

- 1) Consider the following statements regarding Indo-U.S. Science and Technology Forum (IUSSTF).
1. Indo-U.S. Science and Technology Forum (IUSSTF) was established through an act of Parliament.
 2. The fund aims to generate public good through the commercialization of technology developed through the partnerships between U.S. and Indian researchers.

Which of the above statements is/are correct?

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

Solution: b)

Indo-U.S. Science and Technology Forum (IUSSTF)

- **Established under an agreement between the Governments of India and the United States of America in March 2000.**
- It is a bilateral organization funded by the Department of Science & Technology (DST), Governments of India, and the U.S. Department of States.
- It promotes Science, Technology, Engineering and Innovation through substantive interaction among government, academia and industry.
- **The aim of the Fund is to support and foster joint applied R&D to generate public good through the commercialization of technology developed through sustained partnerships between U.S. and Indian researchers and entrepreneurs.**

- 2) The United Nations Security Council sanctions have taken a number of different forms, in pursuit of a variety of goals. The Security Council has applied sanctions to
1. Support peaceful transitions
 2. Constrain terrorism
 3. Protect public health
 4. Promote non-proliferation

Select the correct answer code:

- a) 1, 2, 3
- b) 1, 2, 4
- c) 1, 4

d) 1, 2, 3

Solution: b)

The UN has an elaborate system of imposing sanctions on member countries for not complying with UN resolutions. The UN Security Council is authorised to take action under Chapter VII of the UN Charter. Under Article 41, the sanctions cover a broad range from economic and trade sanctions to targeted measures like arms embargoes, travel bans, and financial or commodity restrictions.

According to the UN website, **“The Security Council has applied sanctions to support peaceful transitions, deter non-constitutional changes, constrain terrorism, protect human rights and promote non-proliferation”**. The time has come now to add public health to this list.

[Source](#) [Source](#)

3) World Health Organisation (WHO) inherited specific tasks relating to

1. Epidemic control
2. Quarantine measures
3. Drug standardisation

Select the correct answer code:

- a) 1, 2
- b) 1, 3
- c) 2, 3
- d) 1, 2, 3

Solution: d)

The World Health Organisation (WHO) came into being in 1948. It inherited specific tasks relating to **epidemic control, quarantine measures and drug standardisation**.

[Source](#)

4) Consider the following statements regarding International Renewable Energy Agency (IRENA).

1. It is the first international organisation to focus exclusively on renewable energy, addressing needs in both industrialized and developing countries.
2. IRENA is an official United Nations observer.
3. World Energy Outlook report is released by IRENA.

Which of the above statements is/are correct?

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

Solution: b)

About IRENA:

1. It is an intergovernmental organisation mandated to facilitate cooperation, advance knowledge, and promote the adoption and sustainable use of all forms of renewable energy, including bioenergy, geothermal, hydropower, ocean, solar and wind energy in the pursuit of sustainable development, energy access, energy security and low-carbon economic growth and prosperity.

2. It is the first international organisation to focus exclusively on renewable energy, addressing needs in both industrialized and developing countries.

3. It was founded in 2009 & its statute entered into force on 8 July 2010 and is headquartered in Masdar City, Abu Dhabi.

4. IRENA is an official United Nations observer.

World Energy Outlook report is released by International Energy Agency (IEA).

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

1. The Financial Action Task Force (FATF) is an inter-governmental body established on the initiative of G20.
2. It is a policy-making body which works to generate the necessary political will to bring about regulatory reforms in areas of money laundering and terrorist financing.
3. The FATF Secretariat is housed at the OECD headquarters.

Which of the above statements is/are correct?

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

Solution: c)

About FATF:

The Financial Action Task Force (FATF) is an inter-governmental body **established in 1989 on the initiative of the G7.**

- It is a **"policy-making body"** which works to generate the necessary political will to bring about national legislative and regulatory reforms in various areas.
- The FATF **Secretariat is housed at the OECD headquarters in Paris.**

Roles and functions:

1. Initially it was established to examine and develop measures to combat money laundering.
2. In October 2001, the FATF expanded its mandate to incorporate efforts to combat terrorist financing, in addition to money laundering.
3. In April 2012, it added efforts to counter the financing of proliferation of weapons of mass destruction.

6) Countries that are included in the FATF Grey list may face which of the following?

1. Economic sanctions from IMF and World Bank.
2. Reduction in international trade.
3. International boycott.
4. Problem in getting loans from other countries.

Select the correct answer code:

- a) 1, 2, 3
- b) 1, 3, 4
- c) 1, 2, 4
- d) 1, 2, 3, 4

Solution: d)

Considered in the grey list may face:

1. Economic sanctions from IMF, World Bank, ADB.
2. Problem in getting loans from IMF, World Bank, ADB and other countries.
3. Reduction in international trade.
4. International boycott.

7) Consider the following statements regarding Generalized System of Preferences (GSP)

1. The Generalized System of Preferences (GSP) is a preferential tariff system which provides tariff reduction on various products.
2. GSP can be imposed only on developing country.
3. GSP comes outside the purview of WTO.

Which of the above statements is/are correct?

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

Solution: b)

The **Generalized System of Preferences**, or **GSP**, is a **preferential tariff system** which provides tariff reduction on various products. The concept of GSP is very different from the concept of "most favored nation" (MFN). MFN status provides equal treatment in the case of tariff being imposed by a nation but in case of **GSP differential tariff could be imposed by a nation on various countries depending upon factors such as whether it is a developed country or a developing country**. Both the rules comes **under the purview of WTO**.

GSP provides tariff reduction for least developed countries but MFN is only for not discriminating among WTO members.

[Source](#)

8) Consider the following statements.

1. Trade-Related Aspects of Intellectual Property Rights (TRIPS) was promoted by the World Trade Organization in 1995 for uniform global IPR rules.

2. TRIPS does not have a provision to enable governments to enforce 'compulsory licensing'.

Which of the above statements is/are correct?

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

Solution: a)

Trade-Related Aspects of Intellectual Property Rights (TRIPS) regime was promoted by the World Trade Organization in 1995 for uniform global IPR rules. **TRIPS is founded on the principle of "product patents"**.

TRIPS does have a provision to enable governments to enforce 'compulsory licensing'. They can demand that an innovator company must allow domestic, lower cost, producers to increase the supply of the drug in an emergency, with compensation to the inventor of course.

Source

9) The Hutus and Tutsis, recently seen in news belong to

- a) Namibia
- b) Rwanda
- c) Kenya
- d) Zimbabwe

Solution: b)

The majority Hutus and minority Tutsis have had a troubled relationship in Rwanda that goes back to the German and Belgian colonial period.

Source

10) Consider the following statements regarding Special 301 Report.

1. It is prepared annually by WTO.

2. The Report includes a list of "Priority Foreign Countries" that have inadequate intellectual property laws.

www.insightsonindia.com

3. Those countries listed under "Priority Foreign Countries" may be subjected to trade sanctions.

4. India has never been listed under "Priority Foreign Countries".

Which of the above statements is/are correct?

a) 1, 2, 3

b) 2, 3, 4

c) 2, 3

d) 1, 2, 4

Solution: b)

Special 301 report is prepared annually by the Office of the **United States Trade Representative (USTR)** that identifies trade barriers to United States companies and products due to the intellectual property laws, such as copyright, patents and trademarks, in other countries.

- It is published pursuant to **Section 301 of the Trade Act of 1974**.
- The Report includes a list of "**Priority Foreign Countries**", that are judged to have inadequate intellectual property laws; these countries may be subject to sanctions.
- In addition, the report contains a "**Priority Watch List**" and a "**Watch List**", containing countries whose intellectual property regimes are deemed of concern.

Observations made about India in the latest report:

- India continues to be on the '**Priority Watch List**' for **lack of adequate intellectual property (IP) rights protection and enforcement**.

Source

11) Consider the following statements regarding Asia/Pacific Group on Money Laundering (APG).

1. The Asia/Pacific Group on Money Laundering (APG) is a NATO style regional inter-governmental body.

2. The members are committed to implement international standards against money laundering (AML)

and financing the proliferation of weapons of mass destruction.

Which of the above statements is/are correct?

a) 1 only

b) 2 only

c) Both 1 and 2

d) Neither 1 nor 2

Solution: b)

The **Asia/Pacific Group on Money Laundering (APG)** is a FATF style regional inter-governmental (international) body, the members of which are committed to implement **international standards against money laundering (AML), the financing of terrorism (CTF) and financing the proliferation of weapons of mass destruction**.

- APG was **founded in 1997 in Bangkok, Thailand**, and currently consists of 41 member jurisdictions in the Asia-Pacific region and a number of observer jurisdictions and international/regional observer organisations.
- Jurisdictions that join the APG, either as members or as observers, commit to the **Recommendations of the Financial Action Task Force (FATF)**.

12) Basic Exchange and Cooperation Agreement (BECA), sometimes seen in news was signed between India and

a) Japan

b) Russia

c) Australia

d) None of the above

Solution: d)

India and the United States signed the **Basic Exchange and Cooperation Agreement (BECA)**.

This agreement would facilitate exchange of geospatial information between India and United States for both military and civilian use.

BECA will allow India to use US expertise on geospatial intelligence and to enhance military accuracy of automated hardware systems and weapons like cruise, ballistic missiles and drones.

13) Consider the following statements regarding World Trade Organization (WTO).

1. The World Trade Organization (WTO) is the only global international organization dealing with the rules of trade between nations.
2. It officially commenced operations on 1 January 1995, under the Marrakesh Agreement.
3. India has been a founding member of WTO.

Which of the above statements is/are correct?

- a) 1, 2
- b) 1, 3
- c) 2, 3
- d) 1, 2, 3

Solution: d)

The World Trade Organization (WTO) is the only global international organization dealing with the rules of trade between nations.

World Trade Organization, as an institution, was established in 1995. It replaced General Agreement on Trade and Tariffs (GATT) which was in place since 1946.

- The WTO officially commenced on 1 January 1995 under **the Marrakesh Agreement, signed by 123 nations on 15 April 1994.**
- **India** has been a member of GATT since 1948; hence it was party to Uruguay Round and a **founding member of WTO.**
- While WTO came in to existence in 1995, GATT didn't cease to exist. It continues as WTO's umbrella treaty for trade in goods.

14) Which of the following statements are correct regarding various agreements signed between India and China on border management?

1. Both India and China must keep military forces in the areas along the line of actual control to a minimum level.
2. Both countries need not disclose when they are undertaking border exercises.
3. Neither side shall open fire, cause bio-degradation, use hazardous chemicals, conduct blast operations or hunt with guns or explosives within two kilometers from the line of actual control.

Select the correct answer code:

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

Solution: b)

India and China have signed various agreements on border management— signed in September 1993, November 1996, April 2005 and October 2013.

1. 1993 Agreement on the Maintenance of Peace and Tranquility along the Line of Actual Control in the Sino-Indian Border:

As per the agreement, both India and China agree to keep “military forces in the areas along the line of actual control to a minimum level” and “reduce troop levels” compatible with friendly and good relations between them.

2. 1996 Agreement on Confidence-Building Measures:

This agreement allows for “military disclosure when the parties are undertaking border exercises and for the reduction of troop levels in the border areas.

- It also allows the parties to observe and inspect troop movements in each other territory upon invitation.
- In this agreement too, the two sides agreed to reduce or limit their military forces within mutually-agreed geographical zones along the LAC.
- It also specifies the major categories of armaments to be reduced or limited: “combat tanks, infantry combat vehicles, guns etc.
- It also stipulates that “[n]either side shall open fire, cause bio-degradation, use hazardous chemicals, conduct blast operations or hunt with guns or explosives within two kilometers from the line of actual control.

15) Consider the following statements regarding International Criminal Court (ICC).

1. It is commonly referred to as World Court.
2. It is the court of last resort for prosecution of genocide and crimes against humanity.
3. It has the capacity to arrest suspects of war crimes.

Which of the above statements is/are correct?

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

Solution: c)

The International Criminal Court (ICC), located in **The Hague**, is **the court of last resort for prosecution of genocide, war crimes, and crimes against humanity**.

It does not have the capacity to arrest suspects and depends on member states for their cooperation.

The **International Court of Justice**, also known as the **World Court**, is the main judicial organ of the UN.

16) Consider the following statements regarding International Atomic Energy Agency (IAEA).

1. IAEA is the world’s centre for cooperation in the nuclear field.
2. It reports to both the United Nations General Assembly and United Nations Security Council.
3. It was established as an autonomous organization under the UN Statute.
4. It inhibits the complete use of nuclear technologies and nuclear energy.

Which of the above statements is/are correct?

- a) 1, 2
- b) 1, 2, 3
- c) 2, 3, 4
- d) 1, 2, 4

Solution: a)

- The IAEA is the world’s centre for cooperation in the nuclear field.
- **It was set up as the world’s “Atoms for Peace” organization in 1957.**
- It was established as an autonomous organization in 1957 through its own international treaty, the **IAEA Statute**.
- **Reports to** both the United Nations General Assembly and Security Council.
- **Headquarters** in Vienna, Austria.
- The IAEA serves as an **intergovernmental forum** for scientific and technical cooperation in the peaceful use of nuclear technology and nuclear power worldwide.

Functions:

- Works with its Member States and multiple partners worldwide to promote the safe, secure and peaceful use of nuclear technologies.
- Seeks to **promote the peaceful use of nuclear energy**, and to inhibit its use for any military purpose, including nuclear weapons.

- 17) International Labour Organization (ILO) Convention 138 and 182, sometimes seen in news are related to
- Elimination of All Kinds of Discrimination Against Women
 - Maternity protection for women
 - Equal Remuneration for men and women
 - Child Labour

Solution: d)

Ratifying International Labour Organization Conventions Nos. 138 and 182 in 2017, the Indian government further demonstrated its commitment to the **elimination of child labour** including those engaged in hazardous occupations.

- 18) Consider the following statements regarding International Organization of Securities Commissions (IOSCO).
1. It is the international body that brings together the world's securities regulators.
 2. It is recognized as the global standard setter for the securities sector.
 3. *Securities and Exchange Board of India (SEBI)* is the Associate Member of the International Organization of Securities Commissions (IOSCO).

Which of the above statements is/are correct?

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

Solution: a)

The International Financial Services Centres Authority (IFSCA) has become an **Associate Member of the International Organization of Securities Commissions (IOSCO)**.

About IOSCO:

- It is the international body that **brings together the world's securities regulators** and is recognized as the global standard setter for the securities sector.
- IOSCO develops, implements and promotes adherence to internationally recognized standards for securities regulation.
- It works intensively with **the G20 and the Financial Stability Board (FSB)** on the global regulatory reform agenda.

- 19) Consider the following statements regarding contributions that make up funding for the World Health Organisation (WHO).
1. Assessed contributions are the dues countries pay in order to be a member of WHO.
 2. Assessed contributions by the Member State is calculated relative to the country's wealth and population.
 3. The maximum share of funding to WHO comes from assessed contributions.

Which of the above statements is/are correct?

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

Solution: b)

Assessed contributions are the dues countries pay in order to be a member of the Organization. The amount each Member State must pay is calculated relative to the country's wealth and population.

Assessed contributions have declined as an overall percentage of the Programme Budget and have, for several years, accounted for less than one quarter of the Organization's financing. The balance is mobilized through voluntary contributions.

In recent years, **voluntary contributions have accounted for more than three quarters of the Organization's financing.**

Source

20) Consider the following statements.

1. The boundary between India and Pakistan was redesignated as the Line of Control following the Simla Agreement.

2. The original ceasefire agreement between India and Pakistan was reached soon after the Simla Agreement.

Which of the above statements is/are correct?

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

Solution: a)

The **Line of Control (LoC)** is a military control line between the Indian and Pakistani controlled parts of the former princely state of Jammu and Kashmir. Originally known as the **Cease-fire Line**, it was redesignated as the **Line of Control following the Simla Agreement**, which was **signed on 3 July 1972**.

The **ceasefire agreement was reached in November 2003**, four years after the Kargil War.

On November 26, 2003 the ceasefire took effect along the entire stretch of the India-Pakistan frontier.

It facilitated the opening of the Srinagar-Muzaffarabad and Poonch-Rawalkot routes, paving the way for bus and truck services linking the two Kashmirs for the first time in six decades and encouraging cross-LoC contacts, exchanges, travel, and trade.

21) Which of the following countries are part of G7 grouping?

- 1. France
- 2. South Korea
- 3. Germany
- 4. Japan
- 5. China

Select the correct answer code:

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

Solution: b)

The seven G7 countries are Canada, France, Germany, Italy, Japan, the UK and the US.

Source

22) Consider the following statements regarding G20 Countries.

1. G20 is an international forum of the governments and central bank governors from 20 major economies.

2. G20 was formed as a result of 2008 Global Financial Crisis.

3. It works to address issues related to climate change mitigation, and sustainable development.

Which of the above statements is/are correct?

- a) 1, 2
- b) 1, 3
- c) 2, 3
- d) 1, 2, 3

Solution: b)

Formed in 1999, the G20 is an international forum of the governments and central bank governors from 20 major economies.

It works to address major issues related to the global economy, such as international financial stability, climate change mitigation, and sustainable development

6. Polity

1) Consider the following statements.

1. According to Constitution of India, a lawmaker sentenced to prison for at least two years will lose membership of the house, be disqualified for the period of the sentence, and for six years after that period as well.

2. For making paid news an electoral offence, it requires amendments to the Representation of People's Act, 1951.

Which of the above statements is/are incorrect?

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

Solution: a)

The Election Commission of India is pushing for at least five key electoral reforms including making paid news an electoral offence, linking Aadhaar numbers to the electoral roll, and increasing the punishment for filing a false affidavit (to two years of imprisonment).

All the proposed reforms will require amendments to the Representation of People's Act, 1951.

A historic **Supreme Court judgement** in 2013 ruled that a lawmaker sentenced to prison for at least two years will lose membership of the house, be disqualified for the period of the sentence, and for six years after that period as well.

2) Consider the following statements regarding e-Courts Project.

- 1. e-Courts Project is an Integrated Mission Mode Project, part of National e-Governance Plan.
- 2. It is monitored and funded by the Supreme Court of India.

Which of the above statements is/are correct?

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

Solution: a)

As part of **National e-Governance Plan**, **e-Courts Project** is an **Integrated Mission Mode Project** under **implementation since 2007** for the **ICT development of the Indian Judiciary** based on the **‘National Policy and Action Plan for Implementation of Information and Communication Technology in Indian Judiciary’**.

It is a Pan-India Project, monitored and funded by **Department of Justice, Ministry of Law and Justice**, Government of India for the District Courts across the country.

Source Source

- 3) The famously known Kedar Nath Singh case is related to
- LGBT community
 - Sexual Harassment of a woman at her workplace
 - Information Technology Act
 - Sedition Law

Solution: d)

In the landmark **1962 Kedar Nath Singh case**, the **Supreme Court upheld the constitutional validity of the sedition law**, it attempted to restrict its scope for misuse. The court held that unless accompanied by an incitement or call for violence, criticism of the government cannot be labelled sedition.

Section 124A of the Indian Penal Code states: “Whoever, by words, either spoken or written, or by signs, or by visible representation, or otherwise, brings or attempts to bring into hatred or contempt, or excites or attempts to excite disaffection towards, the Government established by law in [India], shall be punished with imprisonment for life, to which fine may be added, or with imprisonment which may extend to three years, to which fine may be added, or with fine.”

[Source](#)

- 4) Consider the following statements.
- The original Indian Penal Code did not include the provisions related to Sedition.
 - The original Indian Penal Code had the provisions related to Sedition.
 - Sedition was incorporated into the Indian Penal Code as a response to the rising Wahabi movement.

Which of the above statements is/are correct?

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

Solution: c)

In the original Indian Penal Code, drafted in 1860, provision related to Sedition didn't even exist (hence, the 'A' after Section 124, signifying a later amendment). It was incorporated into the code in the 1870s, as a response to the rising Wahabi movement.

[Source](#)

- 5) Which of the following states have legislative council?
- Telangana
 - Tamil Nadu
 - Bihar
 - Punjab
 - Maharashtra

Select the correct answer code:

- 1, 2, 3, 4

- b) 1, 3, 4, 5
- c) 1, 3, 5
- d) 2, 3, 4, 5

Solution: c)

Andhra Pradesh, Bihar, Karnataka, Maharashtra, Telangana and UP have a legislative council.

Source

- 6) Part XVII of the Constitution deals with the official language. Its provisions are divided into
1. Official Language of the Union
 2. Regional languages
 3. Language of the judiciary and texts of laws

Select the correct answer code:

- a) 1, 2
- b) 1 only
- b) 1, 3
- d) 1, 2, 3

Solution: d)

Part XVII of the Constitution deals with the official language in Articles 343 to 351. Its provisions are divided into four heads—

- Language of the Union,
- Regional languages,
- Language of the judiciary and texts of laws and
- Special directives.

- 7) Consider the following statements.

1. In India, no person shall be convicted of any offence except for violation of the law in force at the time of the commission of the act charged as an offence.
2. The Constitution of India guarantees protection against double jeopardy.
3. In India no law can be amended retrospectively.

Which of the above statements is/are correct?

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

Solution: b)

Criminal laws cannot be amended retrospectively. Civil law can be amended retrospectively. For example, a tax can be imposed retrospectively.

Article 20 of the Constitution guarantees protection against double jeopardy. Article 20(1) says that no person shall be convicted of any offence except for violation of the law in force at the time of the commission of the act charged as an offence, nor be subjected to a penalty greater than that which might have been inflicted under the law in force at the time of the commission of the offence.

[Source](#)

- 8) Consider the following statements regarding Recusal of Judges.

1. Recusal of Judges implies that, when there is a conflict of interest, a judge can withdraw from hearing a case.
2. The practice comes from the principle that nobody can be a judge in her own case.

3. The Constitution provides the rules governing recusals.

Which of the above statements is/are correct?

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

Solution: b)

Recently two Supreme Court judges **have recused themselves** from hearing cases relating to West Bengal.

Why does a judge recuse?

When there is a conflict of interest, a judge can withdraw from hearing a case to prevent creating a perception that she carried a bias while deciding the case.

The practice stems from the cardinal principle of due process of law that nobody can be a judge in her own case.

The decision to recuse generally comes from the judge herself as it rests on the conscience and discretion of the judge to disclose any potential conflict of interest. In some circumstances, lawyers or parties in the case bring it up before the judge. If a judge recuses, the case is listed before the Chief Justice for allotment to a fresh Bench. **There are no formal rules governing recusals**, although several Supreme Court judgments have dealt with the issue.

Since there are no formal rules governing the process, it is often left to individual judges to record reasons for recusal. Some judges disclose the reasons in open court; in some cases, the reasons are apparent.

[Source](#)

9) Consider the following statements.

1. According to the Constitution of India, the regions of India are eligible to use any of the official languages of India for official purposes.
2. The regional language can be adopted as an official language of India, if the Prime Minister deems that a large enough proportion of the population of India desires it.
3. The parliament enacted the Official Languages Act, 1963, which provided for the continued use of English for official purposes along with Hindi, even after 1965.

Which of the above statements is/are correct?

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

Solution: b)

According to the Constitution the **regions of India are eligible to use any of the official languages of India for official purposes**. It also acknowledges the possibility of a **regional language being adopted and becoming an official language of India, if the President deems that a large enough proportion of the population of India desires it**.

The parliament enacted the **Official Languages Act, 1963, which provided for the continued use of English for official purposes along with Hindi, even after 1965**.

7. History, Art and Culture

- 1) India observes Mahaparinirvan Diwas every year. It marks the death anniversary of
- Mahatma Gandhi
 - Gopal Krishna Gokhale
 - BR Ambedkar
 - Lord Buddha

Solution: c)

On December 6, the country observed Mahaparinirvan Diwas, which marks the death anniversary of Dr Babasaheb Ambedkar.

What is Mahaparinirvan?

Parinirvan is one of the major principles and goals of Buddhism. The Sanskrit term (written in Pali as parinibbana) means "nirvana after death", which refers to the achievement of nirvana after the body dies. As per the Buddhist text, i.e. Mahaparinibbana Sutta, the death of Lord Buddha at the age of 80 is considered as the original Mahaparinirvan.

Why is BR Ambedkar linked to it?

Dr Ambedkar passed away on December 6, 1956, just a few days after completing his last work, **The Buddha and His Dhamma**.

- Because of his stature and contributions to the eradication of untouchability in India, he was considered to be a Buddhist guru.
- His followers and supporters believe that Ambedkar was as influential, pure and blessed as Lord Buddha. And this is the reason Ambedkar's death anniversary is referred to as Mahaparinirvan Divas.

- 2) Consider the following statements.

1. At the Mahabodhi temple, the Buddha is sitting in the bhoomi-sparsha mudra, where his hand is pointing towards the ground.
2. Bhoomi-sparsha mudra signifies preaching.

Which of the above statements is/are correct?

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

Solution: a)

At the Mahabodhi temple, the Buddha is sitting in the bhoomi-sparsha mudra, where his hand is pointing towards the ground. It symbolises earth as being witness to his enlightenment.

At Sarnath, where the Buddha gave his first sermon, the stone statue has a hand gesture called the **dharmachakra mudra, which signifies preaching**. This is also the most popular depiction in India, along with the Bodhi tree depiction.

Source

- 3) Consider the following statements.

1. At Sarnath, where the Buddha gave his first sermon, the stone statue has a hand gesture called the dharmachakra mudra.
2. The statues of Standing Buddha signifies rising to teach after reaching nirvana.

Which of the above statements is/are correct?

- a) 1 only
- b) 2 only

- c) Both 1 and 2
- d) Neither 1 nor 2

Solution: c)

At Sarnath, where the Buddha gave his first sermon, the stone statue has a hand gesture called the dharmachakra mudra.

Experts say the Buddha is depicted in over a hundred poses around the world. While the Sitting Buddha — most common depiction — is believed to be teaching or meditating, the **Standing Buddha signifies rising to teach after reaching nirvana.**

[Source](#)

- 4) Which of the following forts are located in Maharashtra?
1. Raigad Fort
 2. Sindhudurg Fort
 3. Khanderi Fort
 4. Torna Fort

Select the correct answer code:

- a) 1, 2, 3
- b) 1, 3, 4
- c) 2, 3, 4
- d) 1, 2, 3, 4

Solution: d)

The Maharashtra government has submitted a tentative “serial” nomination seeking the World Heritage Site tag for 14 forts from the era of 17th century Maratha king Chhatrapati Shivaji Maharaj on the theme of Maratha Military Architecture in Maharashtra.

The 14 Forts in Maharashtra’s proposal:

Raigad Fort: Originally called Rairi, it is built on a large wedge of a hill in the Sahyadris, separated from the main range by a ravine. The capital fort of the Maratha Empire, it was rebuilt for the coronation of Chhatrapati Shivaji Maharaj.

Rajgad Fort: Hill fort in Pune district, capital of the Maratha Empire under Chhatrapati Shivaji for almost 26 years, before the capital moved to the Raigad Fort.

Shivneri Fort: Near Junnar in Pune district. Shivaji’s birthplace, it consists of 7 gates. It is an example of Bahamani/Nizamshahi architecture providing a backdrop to narrative of guerrilla warfare.

Torna Fort: Fort in Pune district, captured by Shivaji in 1646, when he was 16, and marked the beginning of the Maratha empire.

Lohagad: Close to Lonavala, it overlooks one of the most picturesque valleys and is believed to have been built in the 14th century. It is an example of Maratha hill fort architecture until Peshwa period.

Salher Fort: One of the highest forts in the Sahyadris, located in Dolhari range of Nashik. The fort witnessed a key battle in 1672 between Marathas and Mughals.

Mulher Fort: In Nashik; one of three forts situated on a hill, flanked by Mora to the east and Hatgad to the west. The surrender of Mulher ended the third Maratha War.

Rangana Fort: In Kolhapur, bordering Sindhudurg. Aurangzeb tried to conquer it along with Bhudargad and Samangad in his Deccan campaign, did not succeed.

Ankai Tankai Forts: In Nashil district, Ankai and Tankai are separate forts on adjacent hills, with a common fortification wall.

Kasa Fort: Popularly known as Padmadurg, built on a rocky island off coast of Murud, and provided a base for naval military operations.

Sindhudurg Fort: Built by Chhatrapati Shivaji Maharaj in 1668, This sea fort is considered a masterpiece in military defence.

Alibag Fort: Popularly known as Kulaba Fort, it was chosen as one of the forts to be modelled as a naval base by Chhatrapati Shivaji.

Suvarnadurg: Built on an island, it was repaired and strengthened by Shivaji Maharaj in 1660.

Khanderi Fort: Khanderi, officially named as Kanhoji Angre Island in 1998, is 20 km south of Mumbai. Built in 1679, Khanderi Fort was the site of many battles between Shivaji Maharaj's forces and the navy of the Siddhis.

[Source](#)

5) Consider the following statements regarding statues of Walking Buddha.

1. The statues of Walking Buddha depicts either beginning his journey toward enlightenment or returning after giving a sermon.
2. This is the most common of the Buddha postures and is seen mainly in south-east Asia.

Which of the above statements is/are incorrect?

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

Solution: b)

The Walking Buddha is either **beginning his journey toward enlightenment or returning after giving a sermon. This is the least common of the Buddha postures, and is seen mostly in Thailand.**

[Source](#)

6) Consider the following statements regarding Statues and images of the Reclining Buddha.

1. A reclining Buddha statue or image represents the Buddha during his last illness.
2. The Reclining Buddha was first depicted in Gandhara art.
3. The reclining postures are more prevalent in Thailand and other parts of South East Asia.

Which of the above statements is/are correct?

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

Solution: d)

On May 26, 2021 Buddha Jayanti, Buddha Purnima, or Vesak — India's largest statue of the Reclining Buddha was to have been installed at the Buddha International Welfare Mission temple in Bodh Gaya.

A reclining Buddha statue or image represents The Buddha during his last illness, about to enter Parinirvana, the stage of great salvation after death that can only be attained by enlightened souls.

Statues and images of the Reclining Buddha show him lying on his right side, his head resting on a cushion or on his right elbow. It is a popular iconographic depiction in Buddhism, and is meant to show that all beings have the potential to be awakened and be released from the cycle of death and rebirth.

The Reclining Buddha was first depicted in Gandhara art, which began in the period between 50 BC and 75 AD, and peaked during the Kushana period from the first to the fifth centuries AD.

In Sri Lanka and India, the Buddha is mostly shown in sitting postures, while the reclining postures are more prevalent in Thailand and other parts of South East Asia.

The largest Reclining Buddha in the world is the 600-foot Winsein Tawya Buddha built in 1992 in Mawlamyine, Myanmar.

[Source](#)

8. States

1) 'Beed model' of the crop insurance, recently seen in news is related to which state?

- a) Tamil Nadu
- b) Punjab
- c) Maharashtra
- d) Karnataka

Solution: c)

What is the 'Beed Model'?

The issue:

- **Beed is a district located in the drought-prone Marathwada region.**
- The district presents a challenge for any insurance company because farmers here have repeatedly lost crops either to failure of rains or to heavy rains.
- Given the high payouts, insurance companies have sustained losses.

The solution:

- To attract the insurance companies, the state Agriculture Department decided to tweak the PMFBY guidelines for the district.
- Under the new guidelines, the insurance company provided a cover of 110% of the premium collected, with caveats.
- If the compensation exceeded the cover provided, the state government would pay the bridge amount.
- If the compensation was less than the premium collected, the insurance company would keep 20% of the amount as handling charges and reimburse the rest to the state government.

Source

2) Pran Vayu Devta Pension Scheme (PVDPS) and Oxy Van, recently seen in news was announced by the Government of

- a) Uttar Pradesh
- b) Madhya Pradesh
- c) Haryana
- d) New Delhi

Solution: c)

Amid the ongoing pandemic, several states including Haryana witnessed a crisis of medical oxygen that was needed for severely ill Covid-19 patients. To avoid such a deficit in the future, the **Haryana government** has come out with what it says is a “unique and first of its kind initiative”.

“Pran Vayu Devta Pension Scheme”, and Oxy Van (Oxygen Forests) was announced on the occasion of World Environment Day.

What is the Pran Vayu Devta Pension Scheme (PVDPS)?

- It is an initiative to honour all those trees which are of the age of 75 years and above and have served humanity throughout their life by producing oxygen, reducing pollution, providing shade and so on.
- Such trees will be identified throughout the state and these will be looked after by involving local people in this scheme.
- For maintenance of trees older than 75 years, a “pension amount” of Rs 2,500 would be given per year in the name of PVDPS. This ‘tree pension’ shall continue to increase every year, on lines similar to the Old Age Samman Pension Scheme in the state.
- The pension shall be given by the Urban Local Bodies department for the upkeep of the trees, installing plates, grilles etc.

What is an Oxy Van (Oxygen Forest)?

- Oxy Van are identified pieces of land, on which as many as 3 crore trees would be planted.
- The Oxy Vans will occupy 10 per cent of the 8 lakh hectares of land across Haryana.
- These van will house different varieties of plants and trees.

9. Agriculture

1) Which of the following are the primary sources of Edible Oils?

1. Mustard
2. Groundnut
3. Coconut
4. Oil palm
5. Soybean

Select the correct answer code:

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

Solution: b)

Primary sources (Soybean, Rapeseed & Mustard, Groundnut, Sunflower, Safflower & Niger) and secondary sources (Oil palm, Coconut, Rice Bran, Cotton seeds & Tree Borne Oilseeds)

India depends on imports to meet its demand. The major sources of these imports are Argentina and Brazil for soyabean oil; Indonesia and Malaysia palm oil; and Ukraine and Argentina again for sunflower oil.

[Source](#)

[Source](#)

2) Consider the following statements regarding the benefits of Nano urea liquid.

1. Nano urea liquid has high nutrient use efficiency compared to conventional urea.
2. In the long run, Nano urea liquid reduces the emissions of nitrous oxide into soil, air and water bodies.
3. It improves yield, biomass, soil health and nutritional quality of the produce.

Which of the above statements is/are correct?

- a) 1, 2
- b) 1, 3
- c) 2, 3
- d) 1, 2, 3

Solution: d)

Nano urea liquid is a patented technology of Indian Farmers Fertiliser Cooperative Ltd (IFFCO) developed at its Nano Biotechnology Research Center, Gujarat.

IFFCO has priced nano urea liquid at ₹240 per bottle, which is 10 per cent cheaper than the cost of a bag of conventional urea.

Nano urea liquid is environmental friendly, smart fertilizer **with high nutrient use efficiency** and a sustainable solution for curtailing pollution and reduction in global warming in the long run as it **reduces the emissions of nitrous oxide** into soil, air and water bodies.

The size of one nano urea particle is 30 nanometre and when compare to the conventional urea it has about 10,000 times more surface area to volume size when compare to granular urea.

Due to the ultra-small size and surface properties of nano urea, it gets absorbed by the plants when sprayed on their leaves. Upon penetration, these nanoparticles reach plant parts where nitrogen is required and release nutrients in a controlled manner.

IFFCO said **nano urea requirement will be lower than conventional urea fertiliser to fulfil plant's nitrogen requirement.**

The efficacy trials demonstrated that **nano urea increases crop productivity and can reduce the requirement of conventional Urea by 50 per cent.**

Further, **application of nano urea (liquid) improves yield, biomass, soil health and nutritional quality of the produce.**

Nano Urea liquid is completely safe for human, animals, birds, rhizosphere organisms and environment at the recommended levels of application.

[Source](#)

3) Consider the following statements.

1. Urea forms more than two-third of the total nitrogenous fertilisers consumed in India.
2. More than 90% of the nitrogen from urea is utilised by plants and very less gets wasted due to leaching, volatilization and run off.

Which of the above statements is/are incorrect?

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

Solution: b)

It may be noted that **urea forms 82 per cent of the total nitrogenous fertilisers consumed in India** and it has recorded **exponential increase in consumption over the years**.

Around 30-50 per cent of nitrogen from urea is utilised by plants and the rest gets wasted due to quick chemical transformation as a result of leaching, volatilization and run off, thereby low use efficiency.

[Source](#)

4) Consider the following statements.

1. In the last few years, India has increased its production of edible oils and only around 10 percent of its demand is met through imports.
2. Palm oil constitutes the major share of edible oils imports to India.
3. The major sources of Palm oil imports to India comes from Argentina and Brazil.

Which of the above statements is/are correct?

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

Solution: b)

According to the Agriculture Ministry, the demand for vegetable oils has been in the range of 23.48–25.92 million tonnes between 2015-16 and 2019-20. However, **domestic supply in this period has been much lower**, in the range of 8.63–10.65 million tonnes.

India depends on imports to meet its demand. In 2019-20, the country imported about 13.35 million tonnes of edible oils worth Rs 61,559 crore, or **about 56% of the demand**.

This mainly comprised **palm (7 million tonnes)**, soyabean (3.5 million tonnes) and sunflower (2.5 million tonnes). The major sources of these imports are **Argentina and Brazil for soyabean oil; Indonesia and Malaysia palm oil;** and Ukraine and Argentina again for sunflower oil.

[Source](#)

5) Which of the following programmes benefit the dairy farmers in India?

1. MGNREGA
2. Artificial insemination (AI) programme
3. Kisan Credit Card programme

Select the correct answer code:

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

Solution: d)

Though the value of milk produced outweighs the combined value of the output of wheat and rice in India, there is no official and periodical estimate of the cost of production and Minimum Support Price for milk.

In August 2020, the Department of Animal Husbandry and Dairying reported a requirement of 2.02 lakh **artificial insemination (AI) technicians** in India whereas the availability is only 1.16 lakh. The nation-wide AI programme was scheduled to be completed by May 2021 and it is targeted to augment milk productivity from 1,860 kg/per animal/per year to 3,000 kg/per annum/per animal on completion of the insemination programme.

Dairy farmers have been included in the **Kisan Credit Card programme**.

Dairying was brought under **MGNREGA** to compensate farmers for the income loss due to Covid-19.

[Source](#)

6) Consider the following statements.

1. The Department of Agriculture, Co-operation and Farmers Welfare conducts agriculture census every five years to collect data on the size of agriculture land holdings in the country.
2. As per the latest information available from Agriculture Census, the average size of operational holdings has increased from 1970-71 to 2015-16.
3. Except in the years of adverse weather and natural calamities, the production and productivity of agriculture crops in the country has been generally increasing.

Which of the above statements is/are correct?

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

Solution: b)

The **Department of Agriculture, Co-operation and Farmers Welfare conducts agriculture census every five years** to collect data on structural characteristics of agricultural sector including size of agriculture land holdings in the country. As per the latest information available from Agriculture Census, **the average size of operational holdings has decreased** from 2.28 hectares in 1970-71 to 1.84 hectares in 1980-81, to 1.41 hectares in 1995-96 and to 1.08 hectares in 2015-16.

Except in the years of adverse weather, rainfall, temperature conditions, natural calamities etc., the production and productivity (per hectare production) of agriculture crops in the country has been generally increasing. Thus, there is no conclusive evidence to suggest that fragmentation of land holdings has resulted in adverse impact on agricultural production/yield.

[Source](#)

7) Consider the following statements regarding Ammonia.

1. Ammonia is naturally present in the human body and secreted by the kidneys to neutralise excess acid.
2. Ammonia is highly soluble in water, and is found in soil and air.
3. Ammonia is critical in the manufacturing of fertilizers, and is one of the largest-volume synthetic chemicals produced in the world.

Which of the above statements is/are correct?

- a) 1, 2
- b) 1, 3
- c) 2, 3
- d) 1, 2, 3

Solution: d)

Ammonia, which is **highly soluble in water, is found in soil, air, and water**; it is **naturally present in the body and secreted by the kidneys to neutralise excess acid**. However, it is highly diluted when in the environment and does not affect the human body to a noticeable level.

Ammonia is critical in the manufacturing of fertilizers, and is one of the largest-volume synthetic chemicals produced in the world. More than 80 per cent of ammonia made is consumed in the manufacturing of fertilizer, and most of the remainder goes into the production of formaldehyde.

8) Consider the following statements.

1. India is the world's largest exporter of basmati rice.

2. In India, the basmati rice has been cultivated in Indo-Gangetic plains at the foothills of the Himalayas.
3. In India, the GI tag for basmati rice is granted for all the basmati rice growing states.

Which of the above statements is/are correct?

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

Solution: b)

India, the world's largest exporter of basmati rice, has applied to the European Union for protected geographical indication (PGI) status of basmati rice. Pakistan has opposed this move.

In India, historically, the long-grained, aromatic rice has been **cultivated in Indo-Gangetic plains at the foothills of the Himalayas**. In modern India, this region is spread over Himachal Pradesh, Punjab, Haryana, Uttarakhand, Uttar Pradesh, Delhi and Jammu and Kashmir. Basmati has also been grown for centuries in the Kalar tract, which lies between the Ravi and Chenab rivers in Pakistan's Punjab province.

Though basmati rice is grown in many parts of India, APEDA got the GI tag for seven states located in the Indo-Gangetic plains, including Himachal Pradesh, Punjab, Haryana, Uttarakhand, outskirts of Delhi, western Uttar Pradesh, and parts of Jammu and Kashmir.

[Source](#)

10. Defence and Security

1) Consider the following statements regarding 'Positive Indigenisation List', recently seen in news.

1. The items listed includes weapons/ systems that will be procured from indigenous sources as per provisions given in Defence Acquisition Procedure (DAP) 2020.
2. It aims in achieving self-reliance and promoting defence exports.
3. The complex systems, Air Borne Early Warning and Control (AEW&C) systems and Tank Engines are not included in the list.

Which of the above statements is/are correct?

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

Solution: a)

The 'Second Positive Indigenisation List' of 108 items was notified by the Ministry of Defence. This will give further boost to indigenisation with active participation of public and private sector for fulfilling the twin objectives of **achieving self-reliance and promoting defence exports**. **All the 108 items will now be procured from indigenous sources as per provisions given in Defence Acquisition Procedure (DAP) 2020.**

Like the first list, import substitution of ammunition which is a recurring requirement has been given special focus.

The 'Second Positive Indigenisation List' comprises **complex systems**, sensors, simulator, weapons and ammunitions like Helicopters, Next Generation Corvettes, **Air Borne Early Warning and Control (AEW&C) systems, Tank Engines**, Medium Power Radar for Mountains, MRSAM Weapon Systems and many more such

items to fulfil the requirements of Indian Armed Forces. This second list is planned to be implemented progressively with effect from December 2021 to December 2025.

[Source](#)

11. Reports and Indices

- 1) India Energy Outlook 2021 report is released by
- The Energy and Resources Institute
 - International Renewable Energy Agency
 - Ministry of New and Renewable Energy
 - International Energy Agency

Solution: d)

[Source](#)

- 2) Protected Planet Report 2020, was released by
- United Nations Environment Programme (UNEP)
 - Bombay Natural history Society (BNHS)
 - World Wide Fund for Nature
 - United Nations Food and Agriculture Organization (FAO).

Solution: a)

As many as 82 per cent of countries and territories increased their share of protected area and coverage of other effective area-based conservation measures (OECM) since 2010.

This was reported by United Nations Environment Programme (UNEP) and the International Union for the Conservation of Nature (IUCN) May 19, 2021.

The report, titled **Protected Planet Report 2020**, underlined the progress the world has made toward the ambitious goals agreed by countries in 2010 at the United Nations Convention on Biological Diversity — to conserve 17 per cent of land and inland water ecosystems and 10 per cent of its coastal waters and oceans by 2020, known as Aichi Biodiversity Target 11, a set of 20 targets of the Convention on Biological Diversity.

[Source](#)

12. Maps / Places

- 1) The lands around the Persian Gulf are shared by
- Iran
 - Iraq
 - Bahrain
 - Saudi Arabia
 - Qatar

Select the correct answer code:

- 1, 3, 4, 5
- 1, 2, 4, 5
- 1, 2, 3, 4, 5
- 1, 2, 3, 5

Solution: c)

The lands around the Persian Gulf are shared by **eight countries**- Bahrain, Iran, Iraq, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates.



- 2) 8 Degree Channel (8 degrees north latitude) separates which of the following?
- India and Sri Lanka
 - Minicoy and Maldives
 - Kalpeni and Minicoy
 - Andaman Islands and the Nicobar Islands

Solution: b)

8 Degree Channel (8 degrees north latitude) separates islands of Minicoy and Maldives.

[Source](#)

- 3) Which of the following rivers originate outside the Indian Territory?
- Brahmaputra
 - Sutlej
 - Ravi
 - Beas

Select the correct answer code:

- 1, 2
- 1, 3, 4
- 1, 2, 3

d) 3, 4

Solution: a)

The **Brahmaputra's** source is the Chemayungdung Glacier, which covers the slopes of the Himalayas about 60 miles southeast of Lake Mapam in **southwestern Tibet**.

The source of the **Sutlej** is west of the catchment area of Lake Rakshastal in **Tibet**, as springs in an ephemeral stream.

Ravi river rises in the Bara Bhangal, District Kangra in **Himachal Pradesh**.

The **Beas River** rises in the Himalayas in central **Himachal Pradesh**.

4) Arrange the following from North to South.

1. Black Sea
2. Aegean Sea
3. Dardanelles strait
4. Sea of Marmara

Select the correct answer code:

- a) 1-4-3-2
- b) 4-1-3-2
- c) 1-4-2-3
- d) 4-1-2-3

Solution: a)



5) Namibia shares land borders with which of the following countries?

1. Angola
2. South Africa
3. Zambia
4. Zimbabwe

Select the correct answer code:

- a) 1, 2, 3
- b) 1, 2, 4
- c) 1, 3, 4
- d) 1, 3

Solution: a)

Namibia shares land borders with **Zambia and Angola** to the north, Botswana to the east and **South Africa** to the south and east. Although it **does not border Zimbabwe**, less than 200 metres of the Zambezi River separates the two countries.

6) Arrange these places from South to North.

1. Chagos Islands
2. Reunion Island
3. Maldives
4. Lakshadweep

Select the correct answer code:

- a) 2-3-1-4
- b) 2-1-3-4
- c) 3-2-1-4
- d) 1-2-3-4

Solution: b)



7) Consider the following statements regarding Lakshadweep.

1. Lakshadweep is a uni-district Union Territory.
2. The Total Forest Cover in Lakshadweep is around 90% of its geographical area.
3. In recent years the largest component of Electricity generation is through Solar Energy.

Which of the above statements is/are correct?

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

Solution: a)

Lakshadweep is a uni-district Union Territory.

Lakshadweep is unique. It is an egalitarian coconut tree owning society, with little economic inequality, a very high level of both literacy and unemployment. The Muslim community is designated as Scheduled Tribes. The land area is fully covered with coconut trees, the main agricultural crop, and fisheries is the main economic activity employing a quarter of the working population. Electricity generation is mainly through diesel generators and is expensive and solar electricity has limitations as it requires a large land area.

The Forest Cover in the UT is 27.10 sq km which is 90.33% of the UT's geographical area.

Source

13. Miscellaneous

1) Who among the following are listed as the Particularly Vulnerable Tribal Groups in Andaman & Nicobar Islands?

1. Jarawa
2. Koraga
3. Sentinelese
4. Onge

Select the correct answer code:

- a) 1, 2, 3
- b) 2, 3, 4
- c) 1, 3, 4
- d) 1, 2, 3, 4

Solution: c)

Name of the Particularly Vulnerable Tribal Group(s) in Andaman & Nicobar Islands - Great Andamanese, Jarawa, Onge, Sentinelese and Shompen.

2) Consider the following statements regarding Bru or Reang Community.

1. Bru or Reang community is indigenous to Northeast India, living in Tripura, Mizoram, and Assam.
2. They are recognised as a Particularly Vulnerable Tribal Group (PVTG).

Which of the above statements is/are incorrect?

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

Solution: d)

The Bru or Reang are a community indigenous to Northeast India, living mostly in Tripura, Mizoram, and Assam. In Tripura, they are recognised as a Particularly Vulnerable Tribal Group (PVTG).

3) Consider the following statements regarding Indemnity.

1. Once the government of India grants indemnity to the vaccine manufacturer, and if that vaccine is perceived to have caused death or any lasting damage to a recipient, then any claim of compensation arising from it will have to be met by the vaccine manufacturer.
2. The law on drugs in India does not have the provision for indemnity related to the grant of approval for any new drug or vaccine in the country.

Which of the above statements is/are correct?

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

Solution: b)

Indemnity is a form of contract. **The law on drugs in India does not have a provision for indemnity related to the grant of approval for any new drug or vaccine in the country.** If at all any indemnity is to be granted to any company for a particular drug or vaccine, it can only be in the form of an indemnity bond executed on behalf of the government of India, or a clause or set of clauses in any contract that the government may sign with the supplier.

Section 124 of the Indian Contract Act, 1872, defines a contract of indemnity as one by which one party promises to save the other from any loss caused to the latter. **Once the government of India grants such indemnity to the vaccine manufacturer or importer, it would mean that if a particular vaccine is perceived to have caused death or any lasting damage to a recipient, any claim of compensation arising from it will have to be met by the government, and not by the company.** In the event of a court ordering payment, the company will be in a position to recover the amount from the government.

Source

- 4) Hallmarking in India is available for jewellery of which of the following metals?
1. Gold
 2. Silver
 3. Platinum

Select the correct answer code:

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

Solution: b)

Hallmarking in India is available for jewellery of only two metals—**gold and silver.**

[Source](#)

- 5) Etherium and Tether, sometimes seen in news are
- a) Central Bank Digital currencies
 - b) Computer Malwares
 - c) Ransomware attacks
 - d) Cryptocurrencies

Solution: d)

Bitcoin is the first and biggest of decentralised cryptocurrencies, which are online payment systems that are increasingly becoming mainstream. **Etherium, Tether, and Binance Coin are some of the many others that have emerged after Bitcoin.**

Source

- 6) Consider the following statements.
1. Hallmarking is a guarantee of purity or fineness of precious metal articles.
 2. Bureau of Indian Standard operates the hallmarking scheme in India
 3. It is mandatory to get the hallmarking of all gold jewellery and gold artefacts in India.

Which of the above statements is/are correct?

- a) 1, 2
- b) 1, 3
- c) 2, 3
- d) 1, 2, 3

Solution: a)

The Bureau of Indian Standard (BIS), which operates gold and silver hallmarking scheme in India, defines hallmarking as the “accurate determination and official recording of the proportionate content of precious metal in precious metal articles.” So, it is a “**guarantee of purity or fineness**” of precious metal articles.

However, a certain category of jewellery and items will be exempted from the mandatory requirement of hallmarking.

According to the Department of Consumer Affairs, "Export and re-import of jewellery as per Trade Policy of Government of India — Jewellery for international exhibitions, jewellery for government-approved B2B domestic exhibitions will be exempted from mandatory Hallmarking."

The Ministry of Consumer Affairs, Food and Public Distribution said that watches, fountain pens and special types of jewellery such as Kundan, Polki and Jadau will be exempted from hallmarking.

[Source](#)

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