

10 PM Current Affairs Quiz Compilation

February, 2022

*THIS IS A MONTHLY DOCUMENT CONTAINING ALL MCQS ASKED IN 10 PM
CURRENT AFFAIRS QUIZ BY FORUMIAS.*

PRELIMS

Q.1) Taxes work as an automatic stabilizer, which of the following explains this role of taxes most appropriately?

- a) Tax revenues automatically increase as GDP falls, which prevents consumption and real GDP from falling further
- b) Tax revenues automatically decrease as GDP falls, which prevents consumption and real GDP from falling further
- c) An automatic decrease in tax revenues causes government spending to decrease, which prevents real GDP from falling further
- d) None of the above

Answer- b

- When real GDP falls, incomes tend to fall. When incomes fall, taxes on that income will also fall. This means that disposable income that households have may increase which may drive consumption. As a result, the decrease in tax revenue offsets some of the impact of a recession.
- Tax revenues automatically decrease when GDP falls, not increase. A decrease in real GDP will lower incomes so that less tax revenue will be collected.
- During a recession, there is a decrease in tax revenues. However, this does not necessarily mean that government spending will necessarily decrease. Governments can run deficits during a recession when tax revenue is less than government spending.

Source- [Article](#)

Q.2) “Recombinant DNA technology” has applications in which the following?

- 1. Insulin Production
- 2. GM crop production
- 3. Vaccines

Select the correct answer using the code given below:

- a) 1 and 3 only
- b) 3 only
- c) 1 only
- d) All of the above

Answer-d

- Recombinant DNA technology has also proven important to the production of **vaccines and** protein therapies such as **human insulin**, interferon and **human growth hormone**.
- Recombinant DNA technology introduces foreign genes into microbes, plant, and animals in order to express new characteristics. The technique has been used in breeding crops and livestock to increase yields in food production.

Source- [Article](#)

Q.3) Which of the following can be the reasons for the High economic cost of rice and wheat to the Food Corporation of India (FCI)?

- 1.High Issue prices
- 2.Higher population coverage under the National Food Security Act (NFSA)

Select the correct answer using the given code below-

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

Answer-b

- Central Issue price(CIP) is the price at which the government makes available food grains for beneficiaries of the National Food Security Act, 2013 and other welfare schemes to the states from the central pool.
- Observing that the food subsidy is becoming “unmanageably large”, the Economic Survey 2020-21 has recommended the revision of Central Issue Prices (CIP) of food grains released from the central pool, which have been unchanged for the last several years.
- Food subsidy is ballooning as a result of the high economic cost of rice and wheat to the Food Corporation of India (FCI), reason for which are the low issue prices at which it has to supply grains for the public distribution system (PDS), and the large population (67 per cent) to be covered under the National Food Security Act (NFSA).

Source- [Article](#)

Q.4) Equator passes through which of the following south east Asian countries?

- 1.Malaysia
- 2.Indonesia
- 3.Philippines

Which of the statements given above is/are correct?

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

Answer-d

Equator passes through only one South east Asian country that is Indonesia

Source- [Article](#)

Q.5) Which of the following can be regarded as the negative effect of climate change on the ecosystem

1. Consistent, lower-than-average winter snowfall in a mountain ecosystem causing a decrease in water supply to rivers later in the year, impacting the survival of some populations.
2. Trawling in a marine ecosystem removes large quantities of fish and destroys corals, decreasing the amount of available food and habitat resources.

Select the correct answer using the given code below

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

Answer- a

- Trawling disrupts an ecosystem through overexploitation of resources and habitat loss. So, this example does not describe the effects of climate change, which disrupts an ecosystem by shifting typical weather patterns.
- Climate change involves long-term changes to weather patterns that can disrupt the balance of existing ecosystems. So, statement 1 does illustrate an effect of climate change, describing a consistent change in winter weather that is affecting the survival of populations.

Source- [Article](#)

Q.6) Which of the following are the examples of Controlled-environment agriculture (CEA)?

1. Crop diversification
2. Aquaculture
3. Vertical farming

Which of the statements given above is/are correct?

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

Answer- c

- The aim of CEA is to provide protection from the outdoor elements and maintain optimal growing conditions throughout the development of the crop. Production takes place within an enclosed growing structure such as a Greenhouse or Plant factory.
- Examples include vertical farming, Aquaculture, Hydroponics.

Source- [Article](#)

Q.7) Government made the Aarogya setu App open source soon after its launch, Which of the following can be the implications of the move

1. This means that users can look at exactly how the software was created using one or more programming languages.
2. It will expose the application to the hackers and may make it more vulnerable
3. It will allow experts and researchers to detect vulnerabilities

Which of the statements given above is/are correct?

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

Answer-d

- Making any application open source means that the source code for it is released. This means that users can look at exactly how the software was created using one or more programming languages.
- This is done on purpose so that anyone can benefit from using the code. This will allow experts and researchers to review and detect vulnerabilities. But this may have a drawback also as it also makes it vulnerable to hackers.

Source- [Article](#)

Q.8) Which of the following is/are not as per the basic tenets of the Federalism?

1. All-India Services
2. Zonal councils
3. Emergency provisions

Select the correct answer from the codes given below:

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

Answer: c

- The members of the All-India Services are recruited and trained by the Centre which also possess ultimate control over them. Thus, these services violate the principle of federalism under the Constitution.
- Zonal councils aim at promoting cooperation and coordination between states, union territories and the Centre. Hence, they promote the spirit of Federalism.
- Under Emergency provisions, the Indian state acquires a unitary character.

Source: [Article](#)

ECONOMY

Q.9) With reference to Cage aquaculture, consider the following statements:

1. Only fishes are grown in this process.
2. This type of aqua culture reduces water pollution as well as eutrophication.

Which of the statements given above is/are correct?

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

Answer: A

Statement 1 is correct: Cage aquaculture involves the growing of fishes in existing water resources while being enclosed in a net cage which allows free flow of water.

Statement 2 is incorrect: In cage aquaculture, accumulation of unused feed and excreta will lead to water pollution as well as eutrophication.

Source: [PIB](#)

SCIENCE AND TECHNOLOGY

Q.10) With reference to NeoCoV, consider the following statements:

1. NeoCov is a new Covid variant identified in South Africa.
2. NeoCoV virus has an extremely high transmission and fatality rate.

Which of the statements given above is/are correct?

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

Answer: B

Statement 1 is incorrect: Neo-Cov is not a new Covid-19 variant. It belongs to a distinctly different genera (a type of subclassification) of coronaviruses known as merbecovirus.

Statement 2 is correct: NeoCov is currently spreading only among animals. However, NeoCov is just one mutation away from being able to penetrate the human immune system.

NeoCoV virus also has an extremely high transmission and fatality rate, as it can cause death in at least one out of three infected people.

Source: [What is NeoCoV?](#)

PRELIMS

Q.1) Which of the following methods will possibly help in Sequestering Carbon to Avoid Climate Catastrophe?

1. Carbon farming
2. Adding Biochar to soil
3. Fertilizing the ocean

Select the correct answer using the code given below.

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

Answer-c

- Most farming is intended to produce something that's harvested from the land. Carbon farming is the opposite. It uses plants to trap CO₂, then strategically uses practices such as reducing tilling, planting longer rooted crops and incorporating organic materials into the soil to encourage the trapped carbon to move into and stay in the soil.
- Another way to enhance plants' ability to store carbon is to partly burn materials such as logging slash or crop waste to make a carbon-rich, slow-to-decompose substance known as biochar, which can then be buried or spread on farmland. Biochar has been used for centuries to enrich soil for farming, but of late has been drawing increased attention for its ability to sequester carbon.
- Plants and plant like organisms that live in the ocean absorb immeasurable amounts of CO₂ each year, their ability to do so limited only by the availability of iron, nitrogen and other nutrients they need to grow and multiply. So researchers are looking at strategies for fertilizing the ocean or bringing nutrients up from the depths to hyperdrive plants' ability to trap and store carbon.

Source- [Article](#)

Q.2) Which of the following show the impact of fuel price rise on Indian economy?

1. Fall in value of rupee
2. Fall in current account deficit
3. Lower discretionary spending

Which of the statements given above is/are correct?

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

Answer- C

Higher fuel prices take a toll on the consumer. Rise in fuel prices may eat up a major portion of income and they also lead to inflation. Hence, there is a reduction in discretionary spending. The rise in oil prices make the situation worse for the government as well. Every \$10 increment leads to an increase of about \$10 billion in current account deficit. Rising oil prices also reduce the GDP by about 0.5% for every \$10 increase.

Also as India is largely dependent on import for its fuel requirement, it will improve the import bill of the country. Increase in current account deficit (CAD) will have a negative impact on the value of rupee.

Source- [Article](#)

Q.3) Which of the following will possibly help in formalisation of Indian economy?

- 1.e-shram portal
- 2.Currency demonetisation
- 3.Introduction of goods and services tax
- 4.Digitalisation of financial transactions

Select the correct answer using the code given below.

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

Answer-c

- The larger purpose of demonetisation was to move INDIA from a Tax Non-compliant society to a compliant society. This necessarily involved the formalisation of the Economy and a blow to the black money.
- One of the objectives of the e -shram portal is to improve the implementation efficiency of the social security services for the unorganized workers.(ii) Integration of Social Security Schemes meant for UWs being administered by Ministry of labour and subsequently those run by other ministries as well.
- As the businesses that were previously outside the tax net will sought GST registration, formalization of economy is expected to rise.
- Digital technology can make it easier for firms to comply with tax requirements and other regulations. At the same time, the use of such tools can help governments remedy institutional weaknesses, which contribute to informality in developing countries.

Source- [Article](#)

Q.4) South Atlantic ocean and south east pacific ocean rarely see any tropical cyclone formation, which of the following can be the reasons for the same

- 1.Higher Sea surface temperature
- 2.Presence of warm currents

Which of the statements given above are correct?

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

Answer- d

- The most proximate reasons for the lack of cyclone formation in the regions are sea surface temperatures that tend to run a shade cooler than ideal for tropical cyclone formation even in the southern summer.
- Also there is presence of cold current on both the South east pacific coast(cold peruvian current present here) and on the south Atlantic coast (Cold Benguela Current). The cold currents lower the surface temperatures of these coasts making them unfit for the breeding of cyclonic storms.

Source- [Article](#)

Q.5) Which of the following tree species are usually found in tropical evergreen forests?

1. Rosewood
2. Teak
3. Shisham

Select the correct answer using the code given below:

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

Answer-a

Species found in Tropical evergreen forests include rosewood, mahogany, aini, ebony, etc. Tropical (moist) deciduous forests are found in the north-eastern states along the foothills of Himalayas, eastern slopes of the Western Ghats and Odisha. Teak, sal, shisham, hurra, mahua, amla, semul, kusum, and sandalwood etc. are the main species of these forests.

Source- [Article](#)

Q.6) Which of the following will help in increasing India's domestic capacity for solar cell/module manufacturing?

1. Provision of Domestic Content Requirement (DCR).
2. Discontinuation of customs duty concession benefits
3. Production Linked Incentive (PLI) Scheme

Select the correct answer using the given code below-

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

Answer-d

- Under Domestic Content Requirement (DCR) use of domestically manufactured Solar Cells & Modules is mandatory.
- If concessions for customs duty will be discontinued, it will lead to less import as the imported products will be expensive and this may provide an opportunity to domestic greenfield projects to grow.
- Government has in the recent time taken steps to enhance domestic manufacturing of solar PV cells and modules which includes modified special incentive package scheme (M-SIPS), Production Linked Incentive (PLI) Scheme, preference to local suppliers, domestic content requirement, imposition of basic customs duty on import of solar PV cells and modules.

Source- [Article](#)

Q.7) With reference to Treaty on the Non- Proliferation of Nuclear weapons (NPT), consider the following statements

1. It was designed to prevent the spread of nuclear weapons, to further the goals of nuclear disarmament and general and complete disarmament.
2. It promotes cooperation in the peaceful uses of nuclear energy.

Which of the statements given above is / are incorrect?

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

Answer-d

- The NPT is an international treaty whose objective is to prevent the spread of nuclear weapons and weapons technology, to promote cooperation in the peaceful uses of nuclear energy and to further the goal of achieving nuclear disarmament and general and complete disarmament.
- The Treaty represents the only binding commitment in a multilateral treaty to the goal of disarmament by the nuclear-weapon States. Four states—**India, Israel, Pakistan, and South Sudan**—have never signed the treaty.

Source- [Article](#)

Q.8) With reference to Parasitic Plants, consider the following statements:

1. Some parasitic plants are capable of Photosynthesis.
2. The defining structural feature of a parasitic plant is the haustorium.

Which of the statements given above is/are correct?

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

Answer: C

Both statements are correct.

- **Statement 1 is correct:** Hemiparasites are capable of photosynthesis to some extent.
- **Statement 2 is correct:** The defining structural feature of a parasitic plant is the haustorium, a specialized organ that penetrates the host and forms a vascular union between the plants.

Source: [Article](#)

GEOGRAPHY

Q.9) With reference to **Bomb Cyclone**, consider the following statements:

1. A bomb cyclone occurs when a cyclone rapidly increases its atmospheric pressure.
2. Bomb Cyclones are different from Hurricanes.

Which of the statements given above is/are correct?

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

Answer: B

Statement 1 is incorrect: A bomb cyclone occurs when a mid-latitude cyclone rapidly intensifies or quickly drops in atmospheric pressure, marking the strengthening of the storm.

Statement 2 is correct:

- Bomb cyclones form during winter while Hurricanes form from late spring to early fall.
- Bomb cyclones have cold air and fronts
- Bomb cyclones form at higher latitudes, on the other hand, Hurricanes form in tropical waters.

Hence, Bomb Cyclones are different from Hurricanes.

Source: [What is a Bomb Cyclone?](#)

ART AND CULTURE

Q.10) With reference to protected monuments/sites under the Archaeological Survey of India (ASI), consider the following statements:

1. Both the conservation and maintenance of the site will be done by ASI.
2. Maharashtra have the highest number of protected monuments/sites in India.
3. In India, to be declared as Ancient monument the site has to exist for at least 100 years.

Which of the statements given above is/are correct?

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

Answer: A

Statement 3 is correct: According to the Ancient Monuments and Archaeological Sites and Remains Act, 1958, an "Ancient Monument means any structure, erection or monument, or any tumulus or place of interment, or any cave, rock-sculpture, inscription or monolith which is of historical, archaeological or artistic interest and which has been in existence for not less than 100 years."

Statement 2 is incorrect: There were 3,686 centrally protected monuments/sites under the ASI in the country; the number has now increased to 3,693. Uttar Pradesh (745 monuments/sites), Karnataka (506) and Tamil Nadu (413) have the highest number of ASI-maintained sites.

Statement 3 is correct: Once declared as protected monuments/site, both the conservation and maintenance of the site will be done by ASI.

Source: [PIB](#)

PRELIMS

Q.1) Consider the following statements:

1. Generally the degree of cyber protective measures taken beforehand are more in the case of cryptocurrencies than digital currency.
2. While all cryptocurrency transaction details are in the public domain, details of digital currency transactions are not.
3. There is little encryption that happens in official digital currency and no special cybersecurity measures.

Which of the statements given above are *incorrect*?

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

Answer-d

- There is little encryption that happens in official digital currency and no special cybersecurity measures. Anyone with a regular online bank account, for instance, can store and use digital currencies.
- While it is true that some of the crypto wallets have been hacked, generally the degree of cyber protective measures taken beforehand are more in the case of cryptocurrencies.
- Digital currency does not require encryption, but users need to secure their digital wallets (banking apps) with strong passwords to minimise the risk of theft or hacking. However, Cryptocurrency is protected by strong encryption.
- Details of digital currency transactions are only available to the sender, receiver and banking authorities. All cryptocurrency transaction details are in the public domain by virtue of a decentralised ledger.

Source- [Article](#)

Q.2) Consider the following statements:

1. Mobile phones rely on microwaves for transmission, one of their characteristics is that they can travel through matter.
2. One cannot share files with others on a Wi-Fi network that does not have access to the internet.

Which of the statements given above is/are correct?

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

Answer-a

The ability of the microwaves used in cell phones to travel through matter allows for cell phones to work in many different locations like inside buildings. If it hadn't been the case, communication through enclosed spaces would have become difficult.

Wi-Fi is a wireless method of connecting devices to an internet connection. Wi-Fi is a wireless technology used to link to a broadband connection, you can still connect your wireless device to a **Wi-Fi** network that does not have access to the internet. While this will allow you to share files with other users on the same network, you will not be able to use the internet. Broadband is a type of internet connection that has some of the highest access speeds.

Source- [Article](#)

Q.3) Which of the following statements best describes “Economic Growth”?

- a) It is defined as an increase in nominal GDP.
- b) It is a sustained increase in real GDP per capita over time.
- c) It refers to any increase in nominal GDP per capita.
- d) It can be defined as an increase in real GDP.

Answer-b

An increase GDP per capita is only economic growth if it is 1) adjusted for inflation (“real”), 2) adjusted for population size (“per capita”), and 3) sustained over time. So the best option is statement b here.

Source- [Article](#)

Q.4) With reference to the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), consider the following statements:

- 1.Strengthening of the Panchayati Raj Institutions is one of its objectives.
- 2.It is the mandate of the MGNREGA to provide at least 100 days of guaranteed wage employment in a financial year to every household.
- 3.Resource transfer from Centre to States under the scheme is based on the demand for employment in each State.

Which of the statements given above are correct?

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

Answer-c

The mandate of the MGNREGA is to provide at least 100 days of guaranteed wage employment in a financial year to every **rural** household whose adult members volunteer to do unskilled manual work.

MGNREGA is demand driven wage employment programme and resource transfer from Centre to States is based on the demand for employment in each State.

Source- [Article](#)

Q.5) Which of the following best describes the circumstances in which a government will run a budget deficit?

- a) Tax revenues are less than the sum of the government spending component of real GDP and transfer payments
- b) The accumulation of budget shortfalls over time.
- c) Tax revenues are more than the sum of the government spending component of real GDP and transfer payments
- d) When a government engages in contractionary fiscal policy

Answer-a

A government’s budget balance is the difference between tax revenues and government purchases plus transfer payments in a given year. If the total of government spending and transfer payments is more than tax revenues, then the budget balance is negative, and the government is running a deficit

Statement b points out to government debt and not deficit, A deficit is a one-time shortfall; a debt is accumulated over time.

Question asks about budget deficit and also if a government engages in contractionary fiscal policy, it is more likely to run a budget surplus than a deficit.

Source- [Article](#)

Q.6) With reference to the International Financial Services Centre (IFSC), consider the following statements:

1. One of its objectives is to bring financial service experts sitting offshore back to Indian shores.
2. It seeks to attract the financial services transactions that are currently carried on outside to India
3. It is a jurisdiction that provides financial services to non-residents and residents Institutions

Which of the statements given above are correct?

- a) 1 only
- b) 2 only
- c) 1 and 2 only
- d) All of the above

Answer-d

An IFSC caters to the customers outside the jurisdiction of domestic economy. Such centres deal with the flow of finance, financial products, and services across the borders. IFSC as envisaged under the Indian context “is a jurisdiction that provides financial services to non-residents and residents (Institutions), in foreign currency other than Indian Rupee (INR) It aims to bring financial service experts sitting offshore back to Indian shores and transform India as a talent hub.

IFSC is set-up to undertake financial services transactions that are currently carried on outside India by overseas financial institutions and overseas branches/ subsidiaries of Indian financial institutions.

Source- [Article](#)

Q.7) Which of the following are advantages of appropriate use of scientific technologies and practices in agriculture?

1. It allows more quantum of production to get monetised.
2. It helps to mitigate inflationary pressures for the end-consumer.

Select the correct answer using the given code below-

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 or 2

Answer-c

Following are some immediate advantages from appropriate use of scientific technologies and practices in agriculture-

-Reducing input costs per unit of output, thereby reducing initial cost of production. This is important from the perspective of income to farmers, as well as to mitigate inflationary pressures for the end-consumer.

-Reducing wasteful production, and reducing losses to production. This too ensures that per unit price to consumers does not increase to cover such wasted output. It also allows a greater quantum of production to get monetised.

Source- [Article](#)

Q.8) With reference to Special Economic Zone (SEZ), consider the following statements:

1. It is deemed to be foreign territory for the purposes of trade operations and duties and tariffs.
2. All laws of India are applicable in SEZs unless specifically exempted as per the SEZ Act.

Which of the statements given above is/are correct?

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

Answer: c

Both statements are correct.

- **Statement 1 is correct:** Special Economic Zone (SEZ) is a specifically delineated duty-free enclave and shall be deemed to be foreign territory for the purposes of trade operations and duties and tariffs. In other words, SEZ is a geographical region that has economic laws different from a country's typical economic laws. Usually the goal is to increase foreign investments.
- **Statement 2 is correct:** All laws of India are applicable in SEZs unless specifically exempted as per the SEZ Act/ Rules.

Source: [Article](#)

Q.9) With reference to Leprosy, consider the following statements

1. Leprosy is one of the neglected tropical diseases.
2. Reconstructive Surgeries are conducted under National Leprosy Eradication Programme.

Which of the statements given above is/are correct?

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

Answer: C

Both the statements are correct.

Leprosy is one of the neglected tropical diseases.

National Leprosy Eradication Programme is a centrally sponsored scheme. Its vision is "Leprosy-free India". Under this, action is taken for early case detection, complete treatment of detected cases and to contain the onset of disease in close contacts.

Under the programme, Reconstructive Surgeries are conducted and welfare allowance is paid to each patient undergoing Reconstructive Surgeries.

Source: [All India Radio](#)

Q10) Which of the following pair(s) is/are correctly matched?

Digital currency - Country

1. Krona Norway
2. Sand Dollar Bahamas
3. e-RMB China

Select the correct answer from the codes given below:

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

Answer: b

According to the Bank for International Settlements, more than 60 countries are currently experimenting with the CBDC. There are few Countries that already rolled out their national digital currency. Such as,

- **Sweden** is conducting real-world trials of their digital currency (**krona**)
- **The Bahamas** already issued their digital currency "**Sand Dollar**" to all citizens
- **China** started a trial run of their digital currency **e- RMB** amid pandemic. They plan to implement pan-china in 2022. This is the first national digital currency operated by a major economy.

Source: [Article](#)

PRELIMS

Q1 Which of the following statements best describes “Participatory democracy”?

- a) It is a model of democracy in which no one group dominates politics and organized groups compete with each other to influence policy.
- b) It is a model of democracy in which a small number of people, usually those who are wealthy and well-educated, influence political decision making.
- c) It is a model of democracy in which citizens have the power to decide directly on policy and politicians are responsible for implementing those policy decisions.
- d) It is a model of democracy in which citizens are directly responsible for making policy decisions.

Ans - c

Pluralist democracy is a model of democracy in which no one group dominates politics and organized groups compete with each other to influence policy.

Elite democracy is a model of democracy in which a small number of people, usually those who are wealthy and well-educated, influence political decision making.

Participatory democracy is not the same as **direct democracy**, in which citizens are directly responsible for making policy decisions.

Source- [Article](#)

Q.2) Which of the following are the consequences of ground water depletion?

- 1. Diminishing surface water
- 2. Decrease in salt content in the water aquifers near ocean
- 3. Land subsidence

Select the correct answer using the code given below.

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

Answer-b

Surface waters are also affected by falling water tables. In various wetlands, for instance, the water table is essentially at or slightly above the ground surface. Dropping water tables results in wetlands drying up, with the ecological results described earlier. Further, as water tables drop springs and seeps dry up, diminishing streams and rivers even to the point of dryness. Thus, excessive groundwater removal leads to the same effects as the diversion of surface water.

Over the ages, groundwater has leached cavities in the Earth. Where these spaces are filled with water, the water helps support the overlying rock and soil, but as the water table drops, this support is lost. Then there may be a gradual settling of the land, a phenomenon known as **land Subsidence**

Another problem resulting from dropping water tables is **Saltwater intrusion**. In coastal regions, springs of outflowing groundwater may lie under the ocean. As long as a high-water table maintains a sufficient head of pressure in the aquifer, there is a flow of freshwater into

the ocean. Thus, wells near the ocean yield fresh water. However, a lowering of the water table or a rapid rate of groundwater removal may reduce the pressure in the aquifer permitting saltwater to flow back into the aquifer and hence into wells.

Source- [Article](#)

Q.3) Which of the following is true regarding the global distribution of biodiversity?

- a) Biodiversity is greatest closest to the equator and lessens as you move towards the north and south poles.
- b) Areas at high elevations contain greater biodiversity than areas at low elevations.
- c) As temperature decreases, biodiversity levels increase.
- d) All of the above

Answer-a

The climate near the equator is warm year-round and supports many species, so the biodiversity is rich. As one moves further from the equator, the presence of seasons causes more temperate regions to have less biodiversity because organisms must be adapted to multiple conditions.

Extreme regions with cold or dry conditions, such as the tundra and deserts, have the least biodiversity.

Areas at high elevations tend to have less biodiversity as the conditions are more difficult for many species to survive under.

In general, biodiversity increases as temperature increases. However, areas that experience extremes in either temperature, whether too hot or too cold, will have lower biodiversity.

Source- [Article](#)

Q.4) Consider the following pairs:

Wetland

State/UT

- | | |
|-----------------|-------------------|
| 1. Wular lake | Jammu and Kashmir |
| 2. Asan barrage | Assam |
| 3. Lonar lake | Telangana |

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

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

Answer-a

Lonar lake is in Maharashtra, It is the only crater lake in the country formed by the meteorite impact.

Wular lake, the largest freshwater lake in India with extensive marshes of emergent and floating vegetation is in J and k

Asan Barrage is in Uttarakhand

Source- [Article](#)

Q.5) Which of the following will help in strengthening South west monsoon?

- 1.Intense heating of Tibetan plateau during summer months.
- 2.Positive Indian Ocean dipole

Select the correct answer using the code given below.

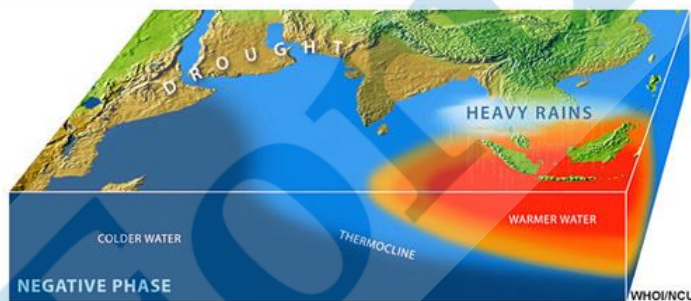
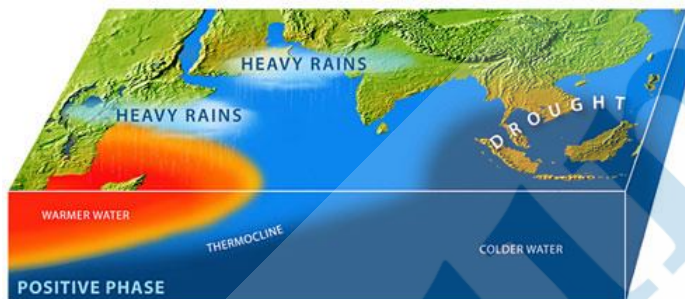
- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Answer-c

Warming of Tibetan plateau during summer months **heats the air above, which then rises and creates an area of low pressure**. That belt of low pressure then attracts the moisture from the oceans, thus initiating the monsoon.

The Indian Ocean Dipole (IOD) is defined by the difference in sea surface temperature between two areas (or poles, hence a dipole) – a western pole in the Arabian Sea (western Indian Ocean) and an eastern pole in the eastern Indian Ocean south of Indonesia.

During the positive phase of Indian ocean dipole(IOD), sea surface temperatures are warmer in the western Indian Ocean (which gives a boost to monsoon winds) as compared to the eastern Indian Ocean—hence a dipole nature.



Source-[Article](#)

Q.6) Which of the following would definitely be recorded as an increase in the current account?

- a) An increase in real GDP
- b) Selling bonds domestically
- c) An increase in net exports
- d) None of the above

Ans) c

The current account is part of the balance of payments, which records international transactions. The current account includes foreign transactions that are not associated with a future financial obligation, such as imports and exports. Therefore, when net exports increase, the current account balance increases.

The current account is part of the balance of payments, which records international transactions, not domestic.

An increase in real GDP does not necessarily mean an increase in the current account, so this is not the best option for this question. If real GDP increases because domestic spending increased, then the current account would not change. If this option read "An increase in real GDP due to an increase in net exports," then this option would be correct.

Source- [Article](#)

Q.7) Consider the following Statements:

1. A free-trade agreement (FTA) is one which eliminates tariffs, import quotas, and preferences on most goods and services traded between the two countries.
2. It is the first stage of economic integration of countries.

Which of the statements given above is/are correct?

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

Answer-a

A Preferential trade agreement and not FTA is the first stage of economic integration.

A free-trade area is a trade bloc whose member countries have signed a free-trade agreement (FTA), which eliminates tariffs, import quotas, and preferences on most (if not all) goods and services traded between them.

Source- [Article](#)

ENVIRONMENT

Q.8) With reference to Wetlands, consider the following statements:

1. A wetland may support both aquatic and terrestrial species.
2. wetlands are found on every continent except Antarctica.

Which of the statements given above is/are correct?

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

Answer: c

Both statements are correct.

Statement 1 is correct: Wetlands may support both aquatic and terrestrial species. The prolonged presence of water creates conditions that favor the growth of specially adapted plants (hydrophytes) and promote the development of characteristic wetland (hydric) soils.

Statement 2 is correct: Wetlands are found from the tundra to the tropics and on every continent except Antarctica

Source: [Article](#)

SCHEMES AND PROGRAMS

Q.9) With reference to **Nal Se Jal Yojana**, consider the following statements:

1. It is a separate scheme and has no link with Jal Jivan Mission.
2. The water committees comprising villagers will decide what they will pay for the water they consume.

Which of the statements given above is/are correct?

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

Answer: B

Statement 1 is incorrect: Nal Se Jal Yojana is a component of the government's Jal Jivan Mission.

Statement 2 is correct: The scheme is based on a unique model where paani samitis (water committee) comprising villagers will decide what they will pay for the water they consume. The tariff they fix will not be the same for everyone in the village. Those who have large households will pay more, while poor households or households where there is no earning member, will be exempted.

Source: [‘Nal Se Jal’ Yojana](#)

Q.10) With reference to **cartelisation**, consider the following statements:

1. Cartelisation undermines overall economic efficiency and innovations.
2. Competition Commission of India is responsible for restricting cartelisation.

Which of the statements given above is/are correct?

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

Answer: c

Both statements are correct.

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

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

Cartel raises the price above the competitive level and reduces output. Further, it undermines the overall economic efficiency and innovations.

Source: [PIB](#)

PRELIMS

Q.1) With reference to the quantum computers, consider the following statements:

1. They can be used by a pharmaceutical company which wants to simulate molecules to better understand drug interactions.
2. They can be employed by an investment company which wants to balance the risk of their investment portfolios.
3. Supercomputers don't have the working memory to hold the myriad combinations of above kind of real world problems.

Which of the statements given above is/are correct?

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

Answer-d

Quantum computers harnesses the phenomena of quantum mechanics to deliver a huge leap forward in computation to solve certain problems. Until now, we've relied on supercomputers to solve most problems.

These are very large classical computers, often with thousands of classical CPU and GPU cores. However, supercomputers aren't very good at solving certain types of problems, which seem easy at first glance. This is why we need quantum computers.

Supercomputers have to analyze each combination one after another, which can take a long time. Thus they are less suitable for these kind of problems than quantum computers.

Source- [Article](#)

Q.2) Which of the following is not a financial inclusion scheme/initiative?

- a) Pradhan Mantri Mudra Yojana (PMMY)
- b) Establishment of Payment banks
- c) Issuing Kisan credit cards
- d) AMRUT scheme

Answer-d

All the schemes other than AMRUT have financial inclusion as one of its goals.

About AMRUT scheme [here](#).

About PM MUDRA yojana, [here](#)

Source- [Article](#)

Q.3) With reference to Zero based budgeting, consider the following statements:

- 1.All budgeting begins from a zero base every year.
- 2.There are no pre-committed expenses.

Which of the statements given above is/are correct?

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

Answer-c

As the name suggests, zero-based Budget refers to planning and preparing the Budget from scratch or 'zero base'. It is different from a traditional Budget that is based on previous Budgets. The process of zero-based budgeting involves review and justification of each and every ministry's expenditure in order to receive funding at the beginning of each financial year. In zero-based Budget, no balances are carried forward, or there are no pre-committed expenses. Simply put, it is a procedure for preparing a Budget with zero prior bases.

Under zero-based Budget, all budgeting begins from a 'zero base' every year; that is, expenses must be justified afresh each year, no matter what was spent in the year before.

Source- [Article](#)

Q.4) Renminbi is the official currency of the People's Republic of China, suppose the Chinese Renminbi appreciated between Jan and Feb 2022.

What would this mean for tourists heading to China to watch the Winter Olympics in Feb 2022?

- a) Chinese goods would be relatively cheaper to tourists
- b) It would have taken more of their currency to buy the Renminbi
- c) The exchange rate of other currencies relative to the Renminbi would have increased
- d) Price level in China would have increased

Answer- b

If the Renminbi appreciates, then Chinese goods will be relatively more expensive to tourists. An appreciation of the Renminbi means that it takes more of another currency to obtain a Renminbi. That means that it will require more of other currencies, not less, to buy Chinese goods and services.

When a currency has been appreciated, it has increased in value relative to other currencies. That means the exchange rates of other currencies have decreased while the exchange rate of the Renminbi has increased.

The statement refers to inflation. If the price level has increased, then goods and services within China will become more expensive. It does not mean that its currency has increased in value (appreciation).

Source- [Article](#)

Q.5) With reference to the Graphene, consider the following statements:

- 1.It is impermeable to gases or liquids.
- 2.It is a non-conductor of electricity.
- 3.It is one of the thinnest and strongest materials known.

Which of the statements given above is/are correct?

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

Answer-d

Graphene is made of a single layers of carbon atoms arranged in a honeycomb lattice. Graphene is stronger and stiffer than diamond, yet can be stretched by a quarter of its length, like rubber. Its surface area is the largest known for its weight.

Despite graphene's thinness it is impermeable to gases or liquids. It conducts heat and electricity better than copper, and can be made into transistors which are faster than those made from silicon. It makes possible experiments with high-speed quantum particles.

Source- [Article](#)

Q.6) Which of the following countries share the biggest land border with India?

- a) (a)Bangladesh
- b) (b)Nepal
- c) (c)China
- d) (d)Pakistan

Answer-a

The length of our land borders with neighbouring countries is as under:

Name of country	Border length(km)
Bangladesh	4096
China	3488
Nepal	1751
Pakistan	3433

Q.7) With reference to Reservation in India, consider the following statements

1.Article 15 and 16 of the Constitution empower the State to make special provisions in education and jobs respectively for the socially and educationally backward section of society and for the economically weaker section.

2.The provisions under article 15 and 16 are binding on the government

3.Supreme Court observed that the Right to Reservation is not a fundamental Right

Which of the statements given above is / are correct?

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

Answer-c

Various **provisions in Article 15 and 16 of the Constitution** empower the State to make special provisions in **education and jobs** respectively for the **socially and educationally backward section of society** and for the **economically weaker section**.

Although these provisions are mentioned in **Part III (fundamental rights)** of the Constitution, **their nature is like directives to the state i.e.,** they are not binding on the state.

Supreme court of India had in 2020 observed that reservation of seats provided to certain communities is not a fundamental right.

A writ petition was filed under article 32 regarding non- implementation of reservation of medical seats for Other backward classes (OBC) candidates by the state of Tamil Nadu to the All India quota. The Supreme court bench held that there is no fundamental right to reservation. Hence, a petition filed under article 32 is not maintainable and directed petitioners to file the petition in the High court.

Source- [Article](#)

GEOGRAPHY

Q.8) With reference to Marine Heat Waves (MHWs), consider the following statements:

1. They are caused by an increase in the heat content of oceans, especially in the upper layers.
2. Over the years, the Bay of Bengal has witnessed more MHWs as compared to Western Indian Ocean.

Which of the statements given above is/are correct?

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

Answer: a

- **Statement 1 is correct:** Marine heat waves are caused by an increase in the heat content of oceans, especially in the upper layers. Worldwide, they are one of the major results of human-induced global warming.
- **Statement 2 is incorrect:** The number of MHWs in the west Indian ocean increased by around 1.5 events per decade between 1982 and 2018. The occurrences went up by around 0.5 events per decade in north Bay of Bengal in the same period.

Source: [Article](#)

SCIENCE AND TECHNOLOGY

Q.9) With reference to Quantum Communication, consider the following statements:

1. Quantum communication is considered 'Future-proof' since no future advancements in computational power can break quantum-cryptosystems.
2. The US had successfully launched the world's first quantum satellite.
3. The data encryption in quantum communication relies on mathematics.

Which of the statements given above is/are correct?

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

Answer: A

Statement 1 is correct: Since Quantum Communication uses Quantum Key Distribution (QKD), it is considered as 'Future-proof'. This denotes no future advancements in computational power can break quantum-cryptosystems.

Statement 2 is incorrect: China had successfully launched the world's first quantum satellite in August, 2016, dubbed as Quantum Experiments at Space Scales (QUESS) satellite. It was nicknamed as Micius after a 5th century BC Chinese philosopher and scientist.

Statement 3 is incorrect: Typical encryption relies on traditional mathematics. But, the Quantum Communication uses physics to encrypt data. Quantum Key Distribution (QKD) is a secure communication technique that uses quantum properties of photons, the elementary particles of light, to encrypt secret keys that can be shared by two parties to protect their communications.

Source: [ISRO demonstrates hack-proof quantum communication](#)

ECONOMY

Q.10) With reference to the recent budget announcement for coal gasification, consider the following statements:

- 1. Coal gasification produces more carbon dioxide than a conventional coal-powered thermal power plant.
- 2. Coal gasification also produces hydrogen which can be used for various purposes such as making ammonia, powering a hydrogen economy.

Which of the statements given above is/are correct?

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

Answer: c

Both statements are correct.

Coal gasification is a process in which coal is partially oxidised with air, oxygen, steam or carbon dioxide to form a fuel gas. The hydrogen obtained from coal gasification can be used for various purposes such as making ammonia, powering a hydrogen economy.

Concerns with Coal Gasification:

- Coal gasification actually produces more carbon dioxide than a conventional coal-powered thermal power plant. According to CSE estimates, one unit of electricity generated by burning gasified coal generates 2.5 times more carbon dioxide than what would result when burning the coal directly.

- The syngas process converts a relatively high-quality energy source (coal) to a lower quality state (gas) and consumes a lot of energy in doing so. Thus, the efficiency of conversion is also low.

Source: [Down To Earth](#)

Q.1) With reference to the Waves, consider the following statements:

1. Waves transfer energy and the size of a wave depends on the amount of energy that it carries.
2. Waves produce erosional formations like cliffs, wave cut platforms, sea arches.
3. Breakwaters and sea walls are structures that increase the intensity of waves.

Which of the statements given above are correct?

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

Answer-a

Waves are caused by wind on the surface of the water that creates friction between the air and the water. Other waves are caused by abrupt disruptions in the ocean or the movement of tides.

ocean waves do not actually cause the water to move but are instead the movement of energy through the water with very little movement of the actual water. Waves transfer energy and the size of a wave and the distance it travels depends on the amount of energy that it carries..

The energy of waves produces erosional formations like cliffs, wave cut platforms, sea arches, and sea stacks.

When waves reach the shore, deposits like beaches, spits, and barrier islands form in certain areas.

Groynes, jetties, breakwaters, and sea walls are structures humans build to protect the shore from the erosion of breaking waves.

Source- [Article](#)

Q.2) With reference to the Lok Adalat, consider the following statements:

1. There is no court fee payable when a matter is filed in a Lok Adalat.
2. The award (decision) made by the Lok Adalats is final and binding on all parties and no appeal against such an award lies before any court of law.
3. If the parties are not satisfied with the award of the Lok Adalat they are free to initiate litigation by approaching the court of appropriate jurisdiction.

Which of the statements given above is/are incorrect?

- a) 1 and 3 only
- b) 1 and 2 only
- c) 3 only
- d) None

Answer-d

NALSA along with other Legal Services Institutions conducts Lok Adalats. Lok Adalat is one of the alternative dispute redressal mechanisms, it is a forum where disputes/cases pending in the court of law or at pre-litigation stage are settled/ compromised amicably. Lok Adalats have been given statutory status under the Legal Services Authorities Act, 1987. Under the said Act, the award (decision) made by the Lok Adalats is deemed to be a decree of a civil court and is final and binding on all parties and no appeal against such an award lies before any court of law.

There is no court fee payable when a matter is filed in a Lok Adalat. If a matter pending in the court of law is referred to the Lok Adalat and is settled subsequently, the court fee originally paid in the court on the complaints/petition is also refunded back to the parties.

If the parties are not satisfied with the award of the Lok Adalat though there is no provision for an appeal against such an award, but they are free to initiate litigation by approaching the court of appropriate jurisdiction by filing a case by following the required procedure, in exercise of their right to litigate.

Source- [Article](#)

Q.3) Which of the following scientific questions would be most helpful in determining if the Golden langur is a keystone species in the community in which it lives?

- a) Is total species diversity lower in areas where Golden langur have been removed compared to areas where golden langurs are present?
- b) Are Golden langurs more abundant than other animals in the communities they inhabit?
- c) If all of the Golden langurs in a certain community are removed, does the total number of remaining organisms in the community decrease?
- d) All of the above

Answer-a

keystone species help maintain species diversity in their ecosystems, so one can expect species diversity to be lower in areas where a keystone species has been removed. So, investigating whether species diversity is lower in areas where Golden langurs have been removed could help determine whether they are a keystone species.

Keystone species play a central role in maintaining species diversity in their communities, but they are not necessarily more abundant than other species. Therefore, Statement b is wrong.

Keystone species play a central role in maintaining species diversity, not organism number, in their communities. So, statement c is wrong.

Source- [Article](#)

Q.4) With reference to Freedom of religion in India, consider the following statements:

1. Article 25 of the Constitution of India is available to both citizens as well as citizens of any foreigners currently in India.
2. The rights stated under Article 25 are subject to public order, morality, and health and also to other provisions which are related to Fundamental rights.

Which of the statements given above is/are correct?

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

Answer-C

Article 25 of the Constitution of India declares that everyone is equally entitled to the freedom of conscience and the right to freely profess, practice and propagate any religion. These rights are available to all, citizens of India as well as, citizens of any foreign nation currently in India. The freedom to manage religious affairs are stated under **Article 26** of the Constitution of India which declares every person's rights to religious denominations, in other words, Article 26 protects the collective freedom of religion.

The rights stated under Article 25 and 26 are both subject to public order, morality, health and other provisions related to Fundamental rights.

Source- [Article](#)

Q.5) What is/are the consequence/consequences of high Out Of Pocket Expenditure on health?

1. It can lead to increased level of poverty
2. It can reduce the life expectancy of the population
3. It is directly proportional to Public health expenditure.

Which of the statements given above is/are correct?

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

Answer-c

Health of a nation depends critically on its citizens having access to an equitable, affordable and accountable healthcare system. The Out of Pocket Expenditure (OOPE) as a share of total health expenditure of households drops precipitously when public health expenditure increases.

OOPE for health increases the risk of vulnerable groups slipping into poverty because of catastrophic health expenditure. The life expectancy in a country correlates positively with per capita public health expenditure.

Source- [Article](#)

Q.6) With reference to China's Belt and Road Initiative (BRI), Which of the following statement(s) describe India's objections regarding the project?

1. It has the objection that the corridor infringes on its sovereignty.
2. Apprehensions about lack of transparency.
3. It has the risk of creating financial instability in the region.

Select the correct answer using the code given below.

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

Answer-d

China Pakistan economic corridor(CPEC) projects constitute the bulk of BRI-related activities in Pakistan. China and Pakistan are jointly building the China-Pakistan Economic Corridor, which passes through Pakistan-occupied Kashmir. The corridor connects China's landlocked western province of Xinjiang to Gwadar port in south Pakistan. India feels that the corridor infringes on its sovereignty because it passes through Gilgit-Baltistan in Pakistan-occupied Kashmir (PoK).

India has also flagged apprehensions about lack of transparency and financial viability of mega infrastructure projects envisaged under BRI, along with resultant risks of financial instability in the region.

Source- [Article](#)

Q.7) Which of the following statements describes the impact of climate change on the balance of an ecosystem in a better manner?

- a) Agricultural expansion eliminating forest and forcing animals that lived there to move into new areas.
- b) Certain alignments of the sun and the moon result in extra-large tidal ranges that expose some aquatic animals to air.
- c) Consistent, milder-than-average winters allowing more insect eggs to survive which is increasing the frequency of severe insect infestations of trees.
- d) All of the above

Answer-c

Statement a is wrong, this example describes the effects of land-use change on woodland and meadow habitats. The example does not describe the effects of climate change, which impacts the balance of an ecosystem by shifting typical weather patterns.

Statement b is also wrong. This example describes a regularly occurring pattern in nature, so the affected ecosystems are likely adapted to these fluctuations.

Climate change involves long-term changes to weather patterns that can disrupt the balance of existing ecosystems. Statement c does illustrate an effect of climate change, describing a long-term change in winter weather that is affecting insect and tree populations.

Source- [Article](#)

ENVIRONMENT

Q8. With reference to Ramsar sites and wetlands, consider the following statements:

1. Indian government's definition of wetland does not include river channels & paddy fields.
2. Every Ramsar Site is a notified protected area under the Wildlife (Protection) Act, 1972.

Which of the statements given above is/are correct?

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

Answer: a

- **Statement 1 is correct:** The Indian government's definition of wetland excludes river channels, paddy fields and other areas where commercial activity takes place. The Wetlands (Conservation and Management) Rules, 2017 notified by the Union Ministry of Environment, Forest and Climate Change define wetlands as "area of marsh, fen, peatland or water; whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six meters, but does not include river channels, paddy fields, human-made water bodies/ tanks specifically constructed for drinking water purposes and structures specifically constructed for aquaculture, salt production, recreation and irrigation purposes."
- **Statement 2 is incorrect:** Not every Ramsar Site is a notified protected area under the Wildlife (Protection) Act, 1972.

Source: [Article](#)

ECONOMY

Q.9) With reference to the recent announcement of digital rupee, which of the following benefit/s will occur by launching digital rupee?

1. Prevent counterfeiting of currency
2. Lower the cost for financial transactions
3. Recognize the right to privacy

Select the correct answer from the code given below.

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

Answer-B

Statement 1 is correct: The Digital rupee will prevent counterfeiting of currency and a boost to the war on black money and corruption.

Statement 2 is correct: The Digital Rupee will accelerate financial inclusion, lower costs for financial transactions, especially in the case of cross-border transactions.

Statement 3 is incorrect: The digital currency must collect certain basic information of an individual so that the person can prove that he's the holder of that digital currency. This basic information can be sensitive to issues such as the person's identity, fingerprints etc. Hence the digital currency might violate right to privacy.

Further, CBDCs will leave a digital trail even with the phone turned off. For instance, trails such as paying for food, fare and lodging.

Source:

ENVIRONMENT

Q.10) Bakhira Wildlife Sanctuary is located in which of the following states?

- a) Jharkhand
- b) Uttar Pradesh
- c) Bihar
- d) West Bengal

Answer: b

- Bakhira Wildlife Sanctuary, located in the Sant Kabir Nagar district of Uttar Pradesh, provides a safe and favorable winter habitat for a large number of Central Asian bird species.

Source: [Article](#)

PRELIMS

Q.1) Which of the following statements best describes “Renewable Purchase obligation”?

- a) It is a policy instrument that requires distribution companies, energy producers and certain consumers to obtain a share of their electricity from renewable sources
- b) It refers to practices and policies undertaken by corporations established in India to increase their investment in renewable energy that will have a positive influence on the environment.
- c) It allows a country with an emission-reduction or emission-limitation commitment to implement a project in the renewable energy sector.
- d) It is a fee to be paid by an Individual to stop their personal vehicle from getting scrapped after it has failed the fitness test as announced in the recently released voluntary vehicle scrapping policy.

Answer-a

Renewable purchase obligation(RPOs) are a policy instrument to ensure the uptake of renewable energy. They require Distribution companies(discoms), energy producers and certain consumers to obtain a share of their electricity from renewable sources. As renewable deployment remains highly concentrated in a few resource-rich states.

Enabling greater inter-regional transfer of RE can help reduce the financial burden on discoms. This can be done through the physical transfer of power through grid interconnections, or through the mechanism of tradable renewable energy certificates.

Source- [Article](#)

Q.2) If the Reserve Bank of India lowered the interest, what will happen to the previously issued bonds in India, if all the other things remain constant in the economy?

- a) This will lead to an increase in bond prices
- b) The par value of bonds will increase
- c) Nothing will change because bonds are unaffected by interest rates
- d) The information provided is insufficient to reach any conclusion.

Answer-a

The price of previously issued bonds and the interest rate are inversely related. When the interest rate decreases, the return to previously issued bonds increases. This will make bonds more attractive, their demand will increase, and thus their price will also increase.

The Par value of the bond is different from the price of the bond. Par value is the “face value” of the bond. This is the amount that a bond issuer has agreed to pay the bondholder at some point in the future. This amount is set in advance and does not change in response to changes in interest rates or any other change in macroeconomic variables.

Source- [Article](#)

Q.3) Arrange the Following hill ranges from South to North

1. Palkonda Hills
2. Cardamom Hills
3. Baba budan hills
4. Nallamalla hills

Select the correct answer using the code given below.

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

Answer-c

Source- [Article](#)

Q.4) Some of the phenomenon can be very harmful for the health of the ecosystem. Which of the following scenarios will lead to a Negative change to an ecosystem?

- 1.Occurrence of frost in the Place having lot of budding plants and flowers
- 2.Around thousands of Siberian cranes resting for around a week at a large lake during their annual migration.
- 3.Failure of a large old dam led to flooding of nearby fields, vegetated by grasses, herbs, and other non-woody plants.

Select the correct answer from below

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

Answer-a

Seasonal weather fluctuations, such as a frost, may put stress on organisms in an ecosystem. An annual migration occurs every year, which means the event is likely part of normal ecosystem functioning and is largely beneficial for the health of the ecosystem. This makes statement b wrong.

Ecological disturbances, such as flooding, can alter an ecosystem so much that the ecosystem will no longer return to its original state.

Source- [Article](#)

Q.5) Which of the following was/were the important features of the Bhakti movement in India?

- 1.Equality of all people with the rejection of the ideas of the caste system
- 2.It evoked shared religiosity pursuit of spiritual ideas without the overhead of institutional superstructures.
- 3.It liberated poetry from singing the praises of kings and introduced spiritual themes.

Select the correct answer using the code given below.

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

Answer-c

As a social movement, the Bhakti movement challenged **caste hierarchy**, **emphasized the individual's direct connection to god** without the need for institutional superstructures. It provided possibility of salvation for all through good deeds and simple living. As a literary movement, it **liberated poetry from singing the praises of kings and introduced spiritual themes**.

Source- [Article](#)

Q.6) With reference to Ancient monuments in India, consider the following statements:

1. According to the Ancient Monuments and Archaeological Sites and Remains Act, ancient monument means any structure, erection or monument, cave, rock sculpture, inscription or monolith, which is of historical, archaeological or artistic interest provided it has been in existence for not less than fifty years.
2. Only State government in which the monument is located can declare it of national importance.

Which of the statements given above is/are correct?

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

Answer-d

In the Ancient Monuments and Archaeological Sites and Remains Act (AMASR Act), ancient monument means any structure, erection or monument, or any tumulus or place of interment, or any cave, rock sculpture, inscription or monolith, which is of historical, archaeological or artistic interest provided it has been in existence for not less than one hundred years. Definition of monument in the Act, also includes the remains or the site of an ancient monument.

Central Government is of the opinion that any ancient monument is of national importance it issues a notification (preliminary) in the Official Gazette, of its intention to declare such ancient monument to be of national importance.

Source- [Article](#)

Q.7) With reference to Coal sector in India, consider the following statements:

1. India is the second largest coal producer in the world and has fifth largest reserves of coal that may last 100 years.
2. India is self-sufficient in coal
3. Commercial mining allows the private sector to mine coal commercially without placing any end-use restrictions.

Which of the statements given above is/are correct?

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

Answer-c

Despite India being world's second largest coal producer and being the 5th largest country in terms of coal deposits, with coal reserves which may last at least 100 years more, the country is unable to produce adequate quantity of coal to meet the requirement of domestic industry and development.

Commercial mining allows the private sector to mine coal commercially without placing any end-use restrictions. The private firms have the option of either gasification of the coal or exporting it. They can also use it in their own end-use plants or sell them in the markets.

Source- [Article](#)

GEOGRAPHY

Q.8) Sahibi river is a tributary of which of the following?

- a) Yamuna
- b) Narmada
- c) Jhelum
- d) Sutlej

Answer: a

- It is a tributary of Yamuna which originates from the Aravalli range in Rajasthan and flows through west and South Haryana into Delhi where it is also known as the Najafgarh drain.

Source: [Article](#)

Economy

Q.9) With reference to the recent announcement to allow the use of surety insurance bonds, consider the following statements:

1. Surety bond is a legally binding contract.
2. These bonds are mainly aimed at infrastructure development.

Which of the statements given above is/are correct?

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

Answer: C

A surety bond is a legally binding contract entered into by three parties—the principal, the obligee, and the surety.

Surety bond is provided by the insurance company on behalf of the contractor to the entity which is awarding the project.

Surety bonds are mainly aimed at infrastructure development, mainly to reduce indirect cost for suppliers and work-contractors thereby diversifying their options and acting as a substitute for bank guarantee.

Source: [Indian Express](#)

History

Q.10) Consider the following statements.

1. He was a mentor for revolutionaries like Chandrasekhar Azad and Bhagat Singh.
2. He along with Rashbehari Bose attacked Viceroy Hardinge and injured him.
3. He was closely involved in the plans for the Ghadar Conspiracy.

Which of the following personality is referred in the statements above?

- a) Ram Prasad Bismil
- b) Sachindra Nath Sanyal
- c) Udham Singh
- d) Barindra Kumar Ghosh

Answer: B

Source: [AIR](#)

PRELIMS

Q.1) In the year 2020, Reserve Bank Constituted an Internal Working Group (IWG) to review the extant guidelines on ownership and corporate structure for Indian private sector banks. In light of this, which of the following are the apprehensions regarding allowing large corporate/industrial houses to promote banks

1. It will lower connected lending which is essential for a developing country like India to bridge inequality and improves financial inclusion
2. One of the reasons for Nationalisation of banks in 1969 was allegations of connected lending.

Which of the statements given above is/are correct?

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

Answer-b

Connected lending involves the controlling owner of a bank giving loans to himself or his related parties and group companies at favourable terms and conditions. Business groups need financing, and they can get it easily with no questions asked if they have an in-house bank. In short, companies can use the bank as a “private pool of readily available funds”. Big business groups already account for a major chunk of non-performing assets (NPAs) in the banking system even without becoming promoters of a bank.

Corporate houses were active in the banking sector till five decades ago when the banks promoted by them were nationalised in the late sixties amid allegations of connected lending and misuse of depositors’ money.

Source- [Article](#)

Q.2) With reference to the Indian Pharmaceutical Industry, consider the following statements:

1. According to the statics from the last five years, India has been a net exporter of pharmaceutical goods.
2. India is a preferred destination for clinical trials due to a Homogenous patient pool and cost competitiveness.
3. More than 70% of India’s Active Pharmaceutical Ingredient (API) imports are sourced from China.

Which of the statements given above is/are correct?

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

Answer-b

According to data from the World Trade Organisation, India ranked 3rd globally in terms of volumes of exports and 11th globally with respect to the value of exports in 2019.²⁴ India is a net exporter of pharmaceutical goods. Between 2016 and 2020, India's pharmaceutical exports grew at a CAGR of 5.98% and amounted to USD 16.29 Billion in FY20.²⁵ During the same period, Indian pharmaceutical imports grew at a CAGR of 9.21% and amounted to USD 2.3 Billion in FY20.

India is also a preferred destination for clinical trials due to a heterogeneous patient pool, cost competitiveness, a skilled labour pool, as well as rising costs in developed markets. Cost of clinical trials in India is 40%-60% lower than developed markets.²

India has been heavily dependent on China for APIs. In fact, up to 80% of India's API imports are sourced from China.

Source- [Article](#)

Q.3) Which of the following statements best describes "Regulatory Sandbox"?

- a) A joint initiative of United Nations Office and Drugs and Crime (UNODC) and the Shanghai Cooperation Organization (SCO) to control money laundering activities.
- b) A set of guidelines under the coastal Coastal Regulation Zone (CRZ) Notification 2018.
- c) It allows financial service providers to conduct tests for new financial innovations.
- d) None of the above

Answer- c

The Reserve Bank of India (RBI) set up an inter-regulatory Working Group (WG) to look into and report on the granular aspects of FinTech. One of the key recommendations of the WG was to introduce an appropriate framework for a regulatory sandbox (RS) within a well-defined space and duration where the financial sector regulator will provide the requisite regulatory guidance, so as to increase efficiency, manage risks and create new opportunities for consumers.

A regulatory sandbox (RS) usually refers to live testing of new products or services in a controlled/test regulatory environment for which regulators may (or may not) permit certain regulatory relaxations for the limited purpose of the testing. The RS allows the regulator, the innovators, the financial service providers (as potential deployers of the technology) and the customers (as final users) to conduct field tests to collect evidence on the benefits and risks of new financial innovations, while carefully monitoring and containing their risks.

Source- [Article](#)

Q.4) Consider the following statements:

- 1. It may result in a chain of effects across the whole food chain.
 - 2. Impacts tree species diversity and composition.
 - 3. Alters demographic and genetic structure of the species which are illegally traded.
- Which of the above is/are the possible environmental effects of illegal trade in Wildlife?

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

Answer-d

A key function of a species within its ecosystem is its role as a food source for other species, and/or as a consumer of other species. A decline in the population size of a particular species therefore has the potential to result in a chain of effects across the whole food chain, and there are a number of well-documented examples of these so-called 'trophic cascades'

Seeds of the majority of tree species are dispersed by animals; loss of these animals will therefore have considerable impacts on tree species diversity and composition.

In some cases, the tendency of illegal hunters to target individuals with specific characteristics within a population may have a disproportionate effect in reducing the long-term viability of that population. For example, Logging has the tendency to remove the largest and most reproductively valuable trees, which has disproportionately negative impacts on regeneration.

Reproductive collapse in saiga antelope has been attributed to a strong sex ratio bias resulting from selective illegal hunting of adult males for their horns. The tendency of fisheries to target larger, older individuals may lead to demographic effects, impacts on migration or parental effects that may disrupt the ability of a population to withstand, or adjust to, climate change.

Source- [Article](#)

Q.5) With reference to the Coalition for Disaster Resilient Infrastructure (CDRI), consider the following statements:

1.It is an intergovernmental organization with the objective of promoting the resilience of infrastructure systems to climate and disaster risks.

2.The policies, standards and other outputs of CDRI would be binding on its members.

Which of the statements given above is/are correct?

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

Answer-d

CDRI is a multi-stakeholder global partnership of national governments, UN agencies and programmes, multilateral development banks and financing mechanisms, the private sector, and academic and knowledge institutions. It is not an intergovernmental organization, which are ordinary treaty-based organizations.

Envisioned as a partnership, the CDRI is not organized around the notion of rights and obligations. However, national governments that endorse the Charter and become a member of the CDRI have a key role in setting its substantive agenda as well as in its governance. It may be noted that the policies, standards and other outputs of CDRI would not be binding on its members.

Source- [Article](#)

Q.6) Consider the following phenomena:

1. Algal blooms in Wular lake
2. An Incident of oil spill in the Arabian sea
3. Acid mine drainage phenomenon from an abandoned coal mine of North east India

Which of the above is/are likely to be associated with a nonpoint source of pollution?

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

Answer-c

Nonpoint source pollution comes from diffuse sources rather than from a single identifiable source. However, when acid mine drainage seeping from a coal mine abandoned years ago contaminated nearby streams and rivers, this pollution comes from a single, identifiable source which is the mine.

Pollution from a variety of sources together could cause an algal bloom, such as in Lake Wular. Oil spill are a result of a single, identifiable oil spill into the environment due to some accident or mishandling.

Source- [Article](#)

Q.7) Which of the following statements best describes “Liquidity”?

- a) It refers to the uncertainty about the value of an asset.
- b) It can be defined as the process of Investing in several different assets with unrelated risks
- c) The ability to convert a store of value to cash
- d) The amount that will be repaid at the end of a bond's term

Answer-c

Liquidity is the ability to convert the value of an asset into purchasing power without losing much of its value. Cash is the most liquid of all assets because it can be used to purchase things. Other assets, such as bonds, must first be sold to use that wealth to buy something.

The practice of investing in different assets with unrelated risks is called diversification. When someone engages in diversification, they lower the overall risk of holding a collection of assets, even if the risk of each individual asset is unchanged.

The amount that will be repaid at the end of a bond's term is its face value, which is sometimes also called par value.

Source- [Article](#)

Q.8) With reference to regulation of media content in India, consider the following statements:

1. There are no specific laws on content allowed or prohibited in print and electronic media, radio, films or OTT platforms.
2. Before Information Technology Rules, 2021 the Information and Broadcasting Ministry had no powers to regulate internet content in India.

Which of the statements given above is/are correct?

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

Answer: c

Both statements are correct.

- **Statement 1 is correct:** There are no specific laws on content allowed or prohibited in print and electronic media, radio, films or OTT platforms.
 - The content on any of these platforms has to follow the free speech rules of the country, Article 19(1) of the Constitution, while protecting the freedom of speech also lists certain “reasonable restrictions”.
 - Action can be taken if any of these restrictions is violated.
- **Statement 2:** Earlier, the I&B Ministry had the powers to regulate content across all sectors — TV channels, newspapers and magazines, movies in theatres and on TV, and the radio - barring the internet. But after the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021, the power has been extended over internet content too, especially on digital news platforms and OTT platforms.

Source: [Article](#)

Science and Technology

Q.9) With reference to Artificial Neural Networks, consider the following statements:

1. It is a computational model that mimics the way nerve cells work in the human brain.
2. It is like other machine learning algorithms that process the numbers or organise data.

Which of the statements given above is/are correct?

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

Answer: A

Recently, the global Artificial Neural Network (ANN) Market report was published. As per the current report, ANN Market to Set Phenomenal Growth from 2021 to 2028.

Statement 1 is correct: ANN is a computational model that mimics the way nerve cells work in the human brain. It is designed to simulate the way the human brain analyzes and processes information.

Statement 2 is incorrect: ANN is not like other machine learning algorithms that process numbers or organise data. Instead, it is an algorithm that learns from experience and repeated tasks performed by its users.

Source: [The Hindu](#)

Economy

Q.10) What is/are the advantages of promoting ropeways as a means of transportation?

1. Ideal for difficult, challenging terrains
2. Faster mode of transportation
3. No need for geological and environmental studies

Select the correct answer from the codes given below.

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

Answer: A

The major advantages of ropeways include,

- Ideal for difficult / challenging / sensitive terrain
 - Long rope spans: The system crosses obstacles like rivers, buildings, ravines, or roads without a problem.
 - Ropes guided over towers: Low space requirements on the ground, and no barrier for humans or animals.
- Environmentally friendly: Low dust emissions. Material containers can be designed so as to rule out any soiling of the environment.
- Faster mode of transportation: Owing to the aerial mode of transportation, ropeways have an advantage over roadway projects where ropeways can be built in a straight line, over a hilly terrain.
- Economical mode of transportation: Given that ropeway projects are built in a straight line over a hilly terrain, it also results in lower land acquisition costs. Hence, despite having a higher cost of construction per km than roadways, ropeway projects' construction cost may happen to be economical than roadways.

Statement 3 is incorrect: Ropeways may be environmentally less harmful in general but they are vulnerable in the fragile ecosystems like the Himalayas. Hence, they should be constructed only if geological studies and environmental impact assessment reports don't highlight any serious concerns.

Source: [PIB](#)

Science and Technology

Q.11) With reference to Active Pharmaceutical Ingredients (APIs), consider the following statements:

1. Fixed-dose combination drugs use multiple APIs.
2. Chemically active substances known as Excipients deliver the effect of APIs to one's system.

Which of the statements given above is/are correct?

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

Answer: a

- **Statement 1 is correct:** Fixed-dose combination drugs use multiple APIs, while single-dose drugs like Crocin use just one API.
- **Statement 2 is incorrect:** Every medicine is made up of two main ingredients — the chemically active APIs and chemically inactive, excipients, which is a substance that delivers the effect of APIs to one's system.

Source: [Article](#)

PRELIMS

Q1) Consider the following statements:

1. Agroecology and natural farming can prevent farmer indebtedness.
2. It is important to use biofertilizers along with chemical fertilizers and organic manures.

Which of the statements given above is/are correct?

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

Answer-c

Natural farming will reduce dependency on purchased inputs and will help to ease smallholder farmers from credits burden.

As, Biofertilizers are not replacement of fertilizers but can only supplement plant nutrient requirements. It is important to use biofertilizers along with chemical fertilizers and organic manures.

Source- [Article](#)

Q.2) Crustacean attach themselves to the body of a whale so that they can migrate to new feeding grounds. The whale is not helped or harmed by the barnacles. Which of the following statements most appropriately defines the type of ecological interaction exists between the whale and the Crustaceans

- a) Commensalism
- b) Parasitism
- c) Predation
- d) Mutualism

Answer-a

Commensalism is a long-term, close association between two species in which one benefits and the other is unaffected. In this case the **Crustaceans** benefit since Whale help them migrate to new feeding grounds, but the whale is unaffected by their presence.

In parasitism, one organism (the parasite) feeds off of another (the host) without killing it. The parasite benefits while the host is harmed.

In predation, a member of one species eats a member of another species. In this case, neither species eats the other.

In mutualism, both species benefit.

Source- [Article](#)

Q.3) With reference to the Phenomenon of photosynthesis, consider the following statements:

1. Water molecules are produced and released into the soil.
2. Carbon dioxide is converted into organic molecules which are stored in the producer.
3. Oxygen is produced and released into the atmosphere.

Which of the statements given above is/are correct?

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

Answer-c

Water molecules are used, not produced, during photosynthesis

Oxygen is released as a waste product during photosynthesis.

Carbon dioxide is used during photosynthesis to produce glucose, which is stored for use by the producer.

Source- [Article](#)

Q.4) Which of the following provisions of the Constitution of India have a bearing on the healthcare?

1. Directive principles of state policy
2. Eleventh schedule
3. Twelfth schedule

Which of the statements given above is/are correct?

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

Answer-d

The Directive Principles of State Policy in Part IV of the India Constitution provide a basis for the right to health. Article 39 (E) directs the State to secure health of workers, Article 42 directs the State to just and humane conditions of work and maternity relief, Article 47 casts a duty on the State to raise the nutrition levels and standard of living of people and to improve public health. Moreover, the Constitution does not only oblige the State to enhance public health, it also endows the Panchayats and Municipalities to strengthen public health under Article 243G.

Provisions related to health fall in 11th schedule and 12th schedule as subjects of Panchayats and Municipalities respectively. These include drinking water, health and sanitation, family welfare, women and child development, social welfare etc.

Source- [Article](#)

Q.5) Consider the following:

1. Real Interest rates were increased from 4% to 6%
2. Decreasing exports to some neighbouring countries
3. Increased investment in the textile sector of the country

Which of the above will lead to an increase in the real GDP of the economy?

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

Answer-b

A decrease in exports would lead to lower real GDP. An increase in net exports would lead to an increase in real GDP.

An increase in real interest rates would cause real GDP to decrease. Higher interest rates would discourage investment spending, which is included in real GDP.

This will have a positive impact as an increase in investment would lead to an increase in real GDP because of the multiplier effect.

Source- [Article](#)

Q.6) In the context of India, FDI is prohibited in which of the following sectors?

1. Agricultural or plantation activities
2. Retail trading
3. Atomic energy

Which of the statements given above is/are correct?

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

Answer-a

Foreign investment in any form is prohibited in a company or a partnership firm or a proprietary concern or any entity, whether incorporated or not (such as Trusts) which is engaged or proposes to engage in the following activities:

- (i) Business of chit fund, or
- (ii) Nidhi Company, or
- (iii) Agricultural or plantation activities or
- (iv) Real estate business, or construction of farm houses
- (v) Trading in Transferable Development Rights (TDRs).

It is clarified that Real Estate Business does not include development of townships, construction of residential/commercial premises, roads or bridges. It is further clarified that partnership firms/proprietorship concerns having investments as per FEMA regulations are not allowed to engage in Print Media sector.

In addition to the above, investment in the form of FDI is also prohibited in certain sectors such as:

- (i) Retail Trading

- (ii) Atomic Energy
- (iii) Lottery Business
- (iv) Gambling and Betting
- (v) Agriculture (excluding Floriculture, Horticulture, Development of seeds, Animal Husbandry, Pisciculture and Cultivation of vegetables, mushrooms etc. under controlled conditions and services related to agro and allied sectors) and Plantations (Other than Tea plantations)

Source- [Article](#)

Q.7) Consider the following statements:

1. Viruses are free-living cells that can live inside or outside a body, while bacteria are a non-living collection of molecules that need a host to survive.
2. There are some good bacteria as well as some good viruses

Which of the statements given above is/are correct?

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

Answer-b

On a biological level, the main difference is that bacteria are free-living cells that can live inside or outside a body, while viruses are a non-living collection of molecules that need a host to survive.

Many bacteria help us: living in our gut digesting and helping absorption of our food, fixing nitrogen and decomposing organic materials in soil. Similarly, not all viruses are bad—there are also beneficial viruses present in our gut, skin and blood that can kill undesirable bacteria and more dangerous viruses.

Source- [Article](#)

Environment

Q.8) With reference to the other effective area-based conservation measures (OECM) tag, consider the following statements:

1. It is conferred on areas which are outside protected areas like national parks and sanctuaries.
2. OECM measures achieve positive and sustained long-term outcomes for the in-situ conservation of biodiversity.
3. The tag is granted under the Man and the Biosphere Programme by UNESCO.

Which of the statements given above is/are correct?

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

Answer: a

- **Statement 1 is correct:** The tag is conferred upon areas that are outside protected areas like national parks and sanctuaries.
- **Statement 2 is correct:** An 'other effective area-based conservation measure' is defined by the Convention on Biological Diversity(CBD) as: *A geographically defined area other than a Protected Area, which is governed and managed in ways that achieve positive and sustained long-term outcomes for the in situ conservation of biodiversity, with associated ecosystem functions and services and where applicable, cultural, spiritual, socio-economic, and other locally relevant values*
- **Statement 3 is incorrect:** The tag is granted by the international Union for Conservation of Nature (IUCN).

Source: [Article](#)

Economy

Q.9) Consider the following agricultural practices

1. Poly culture
2. Agro-Forestry
3. Genetic diversification in monoculture

Which of the above practices is/are considered as crop diversification?

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

Answer: D

Crop diversification is a strategy applied to grow more diverse crops from shrinking land resources with an increase in productivity in the same arable land.

Various types of crop-diversifications are

Type of diversification	Nature of diversification	Potential benefit
Improved structural diversity	Makes crops within field more structurally diverse	Pest suppression
Genetic diversification in monoculture	Cultivation of mixture of varieties of same species in a monoculture	Disease suppression, Increased production stability
Diversify field with fodder grasses	Growing fodder grasses alongside of food/pulse/oilseed/vegetables	Pest suppression, opportunity to livestock farming
Crop rotations	Temporal diversity through crop rotations	Disease suppression, Increased production
Polyculture	Spatial and temporal diversity of crops	Insect, pest disease suppression, climate change buffering
Agro-forestry	Growing crops and trees together	Pest suppression and climate change buffering
Mixed landscapes	Development of larger-scale diversified landscapes through mixture of crops and cropping system with multiple ecosystems	Pest suppression, climate change buffering and increased production stability
Micro-watershed based diversification	Integration of crop with other farming components for year round income and employment generation, besides sustaining soil	Insect, pest and disease suppression, climate change buffering and increased production, employment and income

Source: [DTE](#)

Environment

Q.10) With reference to **marine heatwaves**, consider the following statements:

1. Most common drivers of marine heatwaves include ocean currents.
2. Marine heatwaves reduce the risk of deoxygenation and acidification.

Which of the statements given above is/are correct?

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

Answer: A

Statement 1 is correct: Marine heatwaves are periods of extremely high temperatures in the ocean. The most common drivers of marine heatwaves include ocean currents which can build up areas of warm water and air-sea heat flux, or warming through the ocean surface from the atmosphere.

Statement 2 is incorrect: The impacts of marine heatwaves include

- Affect the structure of Ecosystem .
- Change Habitat Ranges of Certain Species
- Economic Losses
- Increase the Risk of Deoxygenation and Acidification

Source: [The Hindu](#)

ECONOMY

Q11). With reference to the Central Bank Digital Currency (CBDC) launch, consider the following statements:

1. It is like a wallet or an electronic purse, issued by a central bank.
2. Digital Rupee, once issued by RBI, could be exchanged for cash.

Which of the statements given above is/are correct?

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

Answer: c

Both statements are correct.

- **Statement 1 is correct:** CBDC is just a wallet or an electronic purse, issued by a central bank. There are many such wallets operating in the Indian financial system. The CBDC will be one of them, but with a difference that it will be issued by the nation's central bank.
- **Statement 2 is correct:** The digital rupee could be exchanged for cash and will open new opportunities in the fintech sector.

Source: [Article](#)

PRELIMS

Q.1) With respect to Hydrogen, Consider the following Statements:

1. Storing hydrogen is a challenge because its energy content by volume is high
2. Currently Hydrogen is not used at a mass scale in any industrial process.

Select the correct answer using the code given below:

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

Answer-d

Hydrogen's energy content by volume is low. This makes storing hydrogen a challenge because it requires high pressures, low temperatures, or chemical processes to be stored compactly. This has been a limiting factor in its mass adoption as a fuel.

Currently, hydrogen is used mostly in oil refining and for the production of fertilisers.

Source- [Article](#)

Q.2) Which of the following best illustrates the concept of separation of power in the context of India Constitution?

- a) (a)Constitution lays the provision of Presidential Rule in case of state emergency.
- b) (b)Article 213 of the Indian Constitution gives power to the Governor to issue ordinance when state legislative assembly is not in session.
- c) (c)President and the Governor are not accountable to any court for exercising their powers and performance of duties in his office.
- d) (d)Election of Vice-President is done by the electoral members of both the houses.

Answer-c

Some Articles that Substantiate Doctrine of Separation of Power

- Article 50 of the Indian Constitution encourages the separation of judiciary from the executive in the states.
- Article 361 of the Indian Constitution specifies that the President and the Governor are not accountable to any court for exercising their powers and performance of duties in his office.

Rest of the options except statement c represent the Overlapping of powers between various organs of the system.

Source- [Article](#)

Q.3) Consider the following pairs:

Ecological level		Definition
1)Ecosystem	-	All of the living and nonliving factors in an environment
2)Community	-	A group of one species living in a given area
3)Biosphere	-	Anything that meets all of the characteristics of life

Which of the pairs given above are correctly matched?

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

Answer-a

The biosphere consists of the regions on Earth that can support life. Anything that meets all of the characteristics of life is an organism.

A community is all of the species living in a given area. A group of one species living in a given area is a population.

An ecosystem consists of all of the biotic (living) and abiotic (nonliving) factors in an environment.

Source- [Article](#)

Q.4) Which of the following will be appropriate monetary policy response in a severe recession?

- 1. 1.Increase government spending
- 2. 2.Buying bonds
- 3. 3.Raise taxes

Select the correct answer using the code given below.

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

Answer-b

Increasing government spending and raising taxes are examples of Fiscal policy not monetary policy.

Buying bonds is an appropriate monetary policy response to a recession because buying bonds is expansionary (i.e. leads higher real GDP). If the Central bank buys bonds in the open market, it increases the money supply in the economy by swapping out bonds in exchange for cash to the general public.

Source- [Article](#)

Q.5) Which of the following Provisions of Indian constitution are related to the concept of Gender equality?

1. Fundamental Duties
2. Directive principle of state policy
3. Fundamental rights

Select the correct answer using the code given below:

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

Answer-d

Fundamental duty- Article 51A (e) enjoins upon every citizen to renounce practices derogatory to the dignity of women.

Fundamental rights-

- Article 15(1) and (2) prohibits the state from discriminating against any citizen only on the basis of any one or more of the aspects such as religion, race, caste, sex, place of birth or any of them.
- Article 16 provides for equality of opportunity for all citizens in matters relating to employment or appointment to any office under the State.

Directive principles Of state policy-

- Article 39 requires the State to direct its policy towards securing for men and women equally the right to an adequate means of livelihood [Article 39(a)], and equal pay for equal work for both men and women [Article 39(d)].
- Article 39A directs the State to promote justice, on the basis of equal opportunity and to promote free legal aid by suitable legislation or scheme or in any other way to ensure that opportunities for securing justice are not denied to any citizen by reason of economic or other disabilities.

Source- [Article](#)

Q.6) Consider the following Statements:

1. Great Barrier Reef is the world's largest coral reef system situated on the north eastern coast of Australia
2. Phenomenon of El-nino causes droughts in India and floods in Australia.

Select the correct answer using the code given below:

1. 1 only
2. 2 only
3. Both 1 and 2
4. Neither 1 nor 2

Answer-a

Great Barrier Reef, world's largest coral reef complex, located in the Pacific Ocean off northeastern Australia.

El-Nino increases the surface temperature of the sea and affects the movement of monsoon winds in the Indian Ocean and causes weak drought-like situation in the Indian subcontinent. It also causes droughts and leads to severe bushfire season in Australia.

Source- [Article](#)

Q.7) Consider the following Statements:

1. The Two plus two dialogue is held between the foreign and External affairs ministers of the two countries.
 2. India has held this dialogue with all of its QUAD partner countries.
- Select the correct answer using the code given below:

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

Answer-b

The 2+2 dialogue is held between the foreign and defence ministers of two countries and is generally seen to be aimed at creating a mechanism under which the bilateral relationship takes a decisive strategic turn with greater integration of defence, security and intelligence apparatus.

India now has a 2+2 format dialogue mechanism on strategic and security issues with all three of its QUAD partners that is Australia, the US and Japan.

Source- [Article](#)

Science and Technology

Q.8) With reference to Fairbank Disease, consider the following statements

1. It is a rare genetic disorder which affects the growing ends of bones.
2. Patients usually require management of pain and orthopedic procedures.

Which of the statements given above is/are correct?

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

Answer: c

Both statements are correct.

Fairbanks disease or multiple epiphyseal dysplasia (MED) is a rare genetic disorder (dominant form--1 in 10,000 births) which affects the growing ends of bones.

Bones usually elongate by a process that involves the depositing of cartilage at the ends of the bones, called ossification.

This cartilage then mineralizes and hardens to become bone. In MED, this process is defective.

The Fairbank's disease (Multiple epiphyseal dysplasia) patient usually requires management of pain and orthopedic procedures, for which facilities are available at tertiary care institutions in India.

Source: [PIB](#)

Schemes and Programs

Q.9) Which of the following is/are the benefit of Early Childhood Care and Education?

1. Far greater economic returns than the similar investment in other phases of children.
2. Ensure optimal learning and development
3. Reduce multilingualism

Select the correct answer from the codes given below.

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

Answer: B

Early Childhood Care and Education can result in

1. Far greater economic returns than the similar investment in other phases of children.
2. Ensure optimal learning and development
3. Enhance multilingualism
4. Provide Foundation of future

Source: <https://blog.forumias.com/yojana-february-summary-ecce-teach-them-young/>

INTERNATIONAL RELATIONS

Q.10) With reference to Society for Worldwide Interbank Financial Telecommunication (SWIFT), consider the following statements:

1. It is merely a platform that sends messages and does not hold any securities or money.
2. It is owned and controlled by the Bank for International Settlements (BIS).

Which of the statements given above is/are correct?

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

Answer: a

- ☐ **Statement 1 is correct:** It is merely a platform that sends messages and does not hold any securities or money.
- ☐ **Statement 2 is incorrect:** SWIFT is owned and controlled by its shareholders (financial institutions) representing approximately 3,500 firms from across the world.

Source: [Article](#)

PRELIMS

Q.1) With reference to Full employment, consider the following statements:

- 1.It is an economic situation in which all available labor resources are being used in the most efficient way possible.
- 2.It is a situation in which anyone who is willing and able to work can find a job.

Which of the statements given above is/are incorrect?

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

Answer-d

Full employment is an economic situation in which all available labor resources are being used in the most efficient way possible. Full employment embodies the highest amount of Skilled and unskilled labor that can be employed within an economy at any given time.

True full employment is an ideal—and probably unachievable—situation in which anyone who is willing and able to work can find a job, and unemployment is zero. It is a theoretical goal for economic policymakers to aim for rather than an actually observed state of the economy. In practical terms, economists can define various levels of full employment that are associated with low but non-zero rates of unemployment.

Source- [Article](#)

Q.2) With reference to Pardoning power of president, Consider the following statements:

1. Respite means delay allowed in the execution of a sentence especially that for a death sentence for a temporary period.
- 2.Remission means reducing the quantum or degree of punishment of the convicted person considering special circumstances.

Which of the statements given above is/are correct?

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

Answer-d

A reprieve means a delay allowed in the execution of a sentence especially that for a death sentence for a temporary period. The purpose of it enables the guilty person to seek presidential pardon or any other legal remedy to prove himself innocent.

Respite which means reducing the quantum or degree of punishment of the convicted person considering special circumstances such as in the case of pregnancy, the death penalty may be commuted to imprisonment for life.

Remission means changing the quantum of the punishment without changing its nature. Section 432 of the Code of Criminal Procedure, 1973 provides the power to suspend or remit sentences of punishment by the appropriate government. It states that the appropriate

government with or without conditions may at any time accept, suspend or remit the punishment for an offence wholly or any part of the punishment.

Source- [Article](#)

Q.3) With respect to carbon cycle, Consider the following statements:

1. Carbon cycle and global warming are intricately connected
2. It helps explain how energy moves through trophic levels of an ecosystem.
3. It describes how the adaptations of organisms change based on environmental pressures.

Select the correct answer from below

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

Answer-a

The carbon cycle ensures there is a balanced concentration of carbon in the different reservoirs on the planet. But a change in the amount of carbon in one reservoir affects all the others. Today, Carbon cycle is getting effected due to burning fossil fuels, which release large amounts of carbon dioxide into the atmosphere, and through land use changes that remove plants, which absorb carbon from the atmosphere.

Biogeochemical cycles like carbon cycle do not track changes in the adaptations of organisms. They also do not track how energy moves through tropic levels.

Food webs, rather than biogeochemical cycles, show how energy moves through an ecosystem.

Source- [Article](#)

Q.4) With reference to the Faster Adoption and Manufacturing of Hybrid & Electric Vehicles in India(FAME) scheme, consider the following statements:

1. There is emphasis on electrification of the public transportation in the scheme.
2. Ministry of electronics and information technology is the monitoring authority for the scheme.

Which of the statements given above is/are correct?

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

Answer-a

Under the phase 2 of the scheme Emphasis on electrification of the public transportation that includes shared transport.

Department of Heavy Industries, the Ministry of Heavy Industries and Public Enterprises is the monitoring authority for the scheme.

Source- [Article](#)

Q.5) With reference to the Zero Budget Natural Farming, consider the following statements:

1. It completely avoids the use of inorganic fertilisers, pesticides, and herbicides.
2. Tilling is preferred less in this farming practice.

Which of the statements given above is/are correct?

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

Answer-c

Zero Budget Natural Farming (ZBNF) technology uses locally available resources to manage soil nutrition, fertility, pests, and weeds. The technology completely avoids the use of inorganic fertilisers, pesticides, and herbicides. It emphasises the effective utilisation of water through specified methods and recommends less tilling, to produce higher yields. This farming practice asserts that ZBNF is resilient to climate change, reduces the cost of cultivation, and increases farmers' income.

Process does not prefer tilling as it is believed that plant nourishment should be left to nature. Nature has the capacity to take care of plants even if there is no human interference.

Source- [Article](#)

Q.6) Which of the following is an example of expansionary monetary policy?

1. Raising the reserve requirement
2. Central bank Buying bonds

Select the correct answer using the code given below:

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

Answer-b

Expansionary monetary policy is when a central bank uses its tools to stimulate the economy. That increases the money supply, lowers interest rates, and increases demand. It boosts economic growth. It lowers the value of the currency, thereby decreasing the exchange rate.

Buying bonds is a tool of expansionary monetary policy because buying bonds will lead to an increase in output. Buying bonds increases the money supply to decrease interest rates. When interest rates decrease, then output will increase.

Increasing the reserve requirement would be an example of *contractionary* monetary policy, not expansionary monetary policy.

Source- [Article](#)

Q.7) Which of the following phenomenon has a role in formation of stars like the sun in our solar system?

1. From a collision between two massive planetary objects
2. From a collapse of a cloud of matter under the pressure of gravity
3. Presence of Black hole

Select the correct answer using the code given below:

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

Collisions between planetary objects do occur, and these collisions actually play a very important role in the formation of rocky planets. But collisions like this do not form stars.

When a cloud of matter, called a nebula, collapses in on itself, the atoms within it jostle each other. This eventually creates enough heat that the atoms fuse together and create a great deal of energy. This energy is the birth of a star.

Black holes can form when massive stars die, or collapse. So they cannot help in formation of stars.

Source- [Article](#)

ECONOMY

Q.8) With reference to Capital Gains and the Capital Gains Tax in India, consider the following statements:

1. Capital gains tax is levied on both financial and non-financial assets.
2. Raw materials held by a person for the purposes of business are not categorized as Capital Assets.

Which of the statements given above is/are correct?

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

Answer: c

Both statements are correct.

- **Statement 1 is correct:** Capital Gains Tax is levied on the profits made on investments. It covers real estate, gold, stocks, mutual funds and various other financial and non-financial assets.
- **Statement 2 is correct:** Consumable stores or raw materials held for the purposes of business or profession are excluded from the category of capital assets.

Source: [Article](#)

SCIENCE AND TECHNOLOGY

Q.9) With reference to Solar flares/storms, consider the following statements:

1. Solar storms are magnetic plasma ejected at great speed from the solar surface.
2. All solar flares reach Earth, but only a few impacts space weather in near-Earth space and the upper atmosphere.

Which of the statements given above is/are correct?

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

Answer: a

Statement 1 is correct: Solar storms are magnetic plasma ejected at great speed from the solar surface. They occur during the release of magnetic energy associated with sunspots ('dark' regions on the Sun that are cooler than the surrounding photosphere), and can last for a few minutes or hours.

Statement 2 is incorrect: Not all solar flares reach Earth, but solar flares/storms, solar energetic particles (SEPs), high-speed solar winds, and coronal mass ejections (CMEs) that come close can impact space weather in near-Earth space and the upper atmosphere.

Source : [Indian Express](#)

Q.10) With reference to International Thermonuclear Experimental Reactor (ITER), consider the following statements:

1. The ITER will use the isotopes of hydrogen called deuterium and tritium.
2. India is not a participating country of ITER.
3. Although there are many experimental tokamaks worldwide none has demonstrated net energy production more than the input.

Which of the statements given above is/are correct?

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

Answer: D

The ITER fusion reaction will use the isotopes of hydrogen called deuterium and tritium. Thirty-five countries, including India, Russia, the United States, the United Kingdom, China, European Union, are collaborating to jointly build the largest Tokamak as part of the International Thermonuclear Experimental Reactor (ITER).

Although there are many experimental tokamaks worldwide none has demonstrated net energy production more than the input.

Source: [The Hindu](#)

PRELIMS

Q.1) Consider the following Statements:

1. India's definition of the Indo-Pacific region stretches from the western coast of India to the Western Coast of North America
2. Indian ocean rim association is an inter-governmental organisation comprising more than 50 countries of the Indo pacific region.

Select the correct answer using the code given below:

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

Answer-d

The Indo-Pacific construct means different things to different people. For the US, it extends up to the west coast of India which is also the geographic boundary of the US Indo-Pacific command whereas for India it includes the entire Indian Ocean and the western Pacific as highlighted by Prime Minister Narendra Modi at his keynote speech at the Shangrila Dialogue in 2018.

Indian ocean rim association an inter-governmental organisation aimed at strengthening regional cooperation and sustainable development within the Indian Ocean region through its 22 Member States bordering the Indian Ocean and 9 Dialogue Partners.

India's definition of the Indo-Pacific region stretches from the western coast of North America to the eastern shores of Africa.

The members include Australia, Bangladesh, Comoros, India, Indonesia, Iran, Kenya, Madagascar, Malaysia, Mauritius, Mozambique, Oman, Seychelles, Singapore, Somalia, South-Africa, Sri Lanka, Tanzania, Thailand, United Arab Emirates, Maldives and Yemen.

Source-[Article](#)

Q.2) Consider the following:

1. Currency in circulation
2. Forex reserves
3. Government securities

Which of the above will qualify as the asset of the Reserve Bank of India?

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

Answer-b

A typical central bank balance sheet is somewhat like this-The liabilities side of it comprises the currency in circulation, commercial bank reserves (money kept by lenders with it) and government reserves (State balances kept with it). The asset side has forex reserves, government securities and gold.

Source- [Article](#)

Q.3) With reference to the End to End Encryption, consider the following statements:

1. When data is being transferred using this technique , only the sender and recipient can decrypt it with key.
2. The message does not pass through an intermediary server.

Which of the statements given above is/are correct?

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

Answer-a

End to End encryption (E2EE) is a method of secure communication that prevents third parties from accessing data while it's transferred from one end system or device to another.

In E2EE, the data is encrypted on the sender's system or device, and only the intended recipient can decrypt it. As it travels to its destination through the server, the message cannot be read or tampered with by an internet service provider (ISP), application service provider, hacker or any other entity or service.

Source- [Article](#)

Q.4) Consider the following:

1. Mollusks
2. Green algae
3. Shark
4. Salmon fish

Arrange the following in the form of a food chain starting with the Primary producer?

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

Answer-b

Green algae is a primary producer, Mollusks are primary consumer, Salmon fish is secondary consumer while Large animals like whales, shark are always tertiary consumers.

Source- [Article](#)

Q.5) Consider the following statements:

1. A Patent is a statutory right for an invention granted for a limited period of time to the patentee by the Government.
2. The term of a patent is 10 years under the Indian system.

3. An Indian Patent give protection to the patentee worldwide from the date on which the patent was granted.

Which of the statements given above is/are correct?

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

Answer-a

A Patent is a statutory right for an invention granted for a limited period of time to the patentee by the Government, in exchange of full disclosure of his invention for excluding others, from making, using, selling, importing the patented product or process for producing that product for those purposes without his consent.

The term of every patent granted is 20 years from the date of filing of application.

Patent protection is a territorial right and therefore it is effective only within the territory of India. There is no concept of global patent.

Source- [Article](#)

Q.6) Consider the following statements:

- 1. Labour Force Participation Rate (LFPR) is defined as the percentage of employed persons in the population.
- 2. Unemployment Rate (UR) is defined as the percentage of persons unemployed among the persons in the population.

Which of the statements given above is/are correct?

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

Answer-d

Labour Force Participation Rate (LFPR): LFPR is defined as the percentage of persons in labour force (i.e. working or seeking or available for work) in the population.

Worker Population Ratio (WPR): WPR is defined as the percentage of employed persons in the population.

Unemployment Rate (UR): UR is defined as the percentage of persons unemployed among the persons in the labour force.

Source- [Article](#)

Q.7) With respect to Continental shelves, Consider the following Statements:

1. They Provide one of the richest fishing grounds
2. They may form due to submergence of a part of a continent or relative rise in sea level

Select the correct answer using the code given below:

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

Answer-c

Following are some of the important features of continental shelves- Marine food comes almost entirely from continental shelves.

They provide the richest fishing grounds.

They are potential sites for economic minerals [20% of the world production of petroleum and gas comes from shelves. Polymetallic nodules (manganese nodules; concentric layers of iron and manganese hydroxides) etc. are good sources of various mineral ores like manganese, iron copper, gold etc..]

The shelf is formed mainly due to submergence of a part of a continent or relative rise in sea level and also Sedimentary deposits brought down by rivers.

Source- [Article](#)

Q.8) Operation Smiling Buddha sometimes seen in news is associated with?

- a) Testing of a Nuclear bomb
- b) Illegal human trafficking
- c) India-China war
- d) Cuban Missile crisis

Answer: a

- Operation Smiling Buddha was the assigned code name of India's first successful nuclear bomb test on 18 May 1974. The bomb was detonated on the army base Pokhran Test Range, in Rajasthan, by the Indian Army under the supervision of several key Indian generals.

Source: [Article](#)

SCIENCE AND TECHNOLOGY

Q.9) What is/are the advantage of nuclear fusion?

1. Produce more energy than coal, oil, gas or nuclear fission
2. High chance of meltdown
3. Do not emit harmful toxins like CO₂ or other greenhouse gases

Select the correct answer from the codes given below:

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

Answer: C

Statement 1 is correct: Gram for gram, thermonuclear power produces four million times more energy than burning coal. A kilogram of fusion fuel contains about 10 million times as much energy as a kilogram of coal, oil or gas e.g., if four grams of hydrogen can be fused into helium, it can light a 60-watt light bulb for over 100 years.

Fusion reactors produce four times more energy than nuclear fission reactions.

Statement 2 is incorrect: Any disturbance/malfunction will lead to the cooldown of plasma within seconds and the fusion reaction stops. Hence, they have a low risk of meltdown.

Statement 3 is correct: Nuclear fusion does not emit harmful toxins like CO₂ or other greenhouse gases. The only waste product from nuclear fusion is the harmless helium which is an inert and non-toxic gas.

Source: [11 MW in 5 sec: breakthrough in nuclear fusion, and why it is significant](#)

SCIENCE AND TECHNOLOGY

Q.10) With reference to Volatile Organic Molecules, consider the following statements.

1. VOCs does not produced in nature.
2. VOCs can drive the formation of other dangerous pollutants.
3. VOCs can irritate the eyes, nose and throat, damage body organs and cause cancer.

Which of the statements given above is/are correct?

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

Answer: D

Statement 1 is incorrect: Plants emit VOCs to attract pollinators, defend themselves from pests and predators and adapt to environmental stress.

Statement 2 is correct: VOCs can drive the formation of other dangerous pollutants. For instance, they react with sunlight and nitrogen dioxide to form ground-level ozone.

Statement 3 is correct: VOCs can irritate the eyes, nose and throat, damage body organs and cause cancer.

Source: Electric vehicles can lower emissions of volatile organic compounds in India by 2030: Study

PRELIMS

Q.1) Consider the following:

1. Alternative wetting and drying in rice fields
2. Increasing soil compaction through Geotechnical engineering

Which of the above will help in achieving the goal of sustainable agriculture?

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

Answer-a

Alternate Wetting and Drying (AWD) is a water-saving technology that farmers can apply to reduce their irrigation water consumption in rice fields without decreasing its yield.

Soil compaction is usually a combination of both engineering compaction and consolidation, so may occur due to a lack of water in the soil, the applied stress being internal suction due to water evaporation as well as due to passage of animal feet. Affected soils become less able to absorb rainfall, thus increasing run off and erosion. Plants have difficulty in compacted soil because the mineral grains are pressed together, leaving little space for air and water, which are essential for root growth.

Source- [Article](#)

Q.2) Consider the following:

1. Capital expenditure
2. Salaries of employees
3. Borrowings by PSUs

Which of the above will increase the liability of central Government?

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

Answer-c

Borrowings by PSUs would increase the liabilities of the government. Capital expenditure creates assets for the government and causes reduction in liabilities for the government.

Unlike capital expenditure, revenue expenditure is one that neither creates assets nor reduces any liability of the government. Salaries of employees, interest payment on past debt, subsidies, pension, etc, fall under the category of revenue expenditure.

Source- [Article](#)

Q.3) With reference to the GST compensation cess, consider the following statements:

- 1.If a GST compensation cess is levied on any product, GST(Goods and services tax) is not levied on it to prevent cascading of prices.
2. The proceeds of the compensation cess will be credited to the Consolidated fund of India.

Which of the statements given above is/are correct?

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

Answer-d

In order to mobilise resources for compensation, a cess is being levied on such goods, as recommended by the Goods and Services Tax Council, over and above the GST on that item. It is called compensation cess. As on date, compensation cess is levied on products such as pan masala, tobacco, aerated waters and motor cars apart from coal.

The proceeds of the compensation cess will be credited to a non-lapsable fund known as the Goods and Services Tax Compensation Fund in the public account.

Source- [Article](#)

Q.4) With reference to the semiconductors, consider the following statements:

- 1.They are the materials which have a conductivity between conductors and insulators.
2. They are the basic building blocks of all modern electronics.

Which of the statements given above is/are correct?

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

Answer-c

Semiconductors are materials which have a conductivity between conductors and insulators. They are the basic building blocks of the modern electronics and information and communications technology products.

Source- [Article](#)

Q.5) Consider the following:

1. Uniform civil code(UCC) cover areas like Marriage, divorce, maintenance, inheritance, adoption and succession of the property.
4. It is laid down in the Directive principles of state policy(DPSP) of the Constitution that the state shall endeavour to secure a UCC for the citizens throughout the territory of India.

Select the correct option from below

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

Answer: C

A Uniform Civil Code means that all sections of the society irrespective of their religion shall be treated equally according to a national civil code, which shall be applicable to all uniformly.

They cover areas like- Marriage, divorce, maintenance, inheritance, adoption and succession of the property. Article 44(DPSP) of the Constitution lays down that the state shall endeavour to secure a UCC for the citizens throughout the territory of India.

Source- [Article](#)

Q.6) Consider the following:

1. All grassland ecosystems have the same species composition.
2. Ecosystem biodiversity refers to the number of different individuals contained within a single population of organisms.

Select the correct option from below

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

Answer-d

Similar looking ecosystems can have very different species makeups. Although two ecosystems may have the same name, this does not mean that the species in those ecosystems are exactly the same.

Ecosystem biodiversity refers to the variation between ecosystems within a geographical location.

Source- [Article](#)

Q.7) Consider the following statements:

1. Preventive detention means detention of a person without trial and conviction by a court.
2. The reason for detention cannot be conveyed to the Individual under preventive detention.

Select the correct option from below

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

Answer-a

Preventive Detention can be understood as imprisonment of a person without trial, an act that is supposedly justified for non-punitive ends and is often described as a preventive measure rather than a punitive one. Preventive detention is when a person is held in police custody only on the basis of a suspicion that they would conduct a criminal act or cause harm to society. The police have the authority to hold anyone they suspect of committing a criminal offence. The police have the ability to make arrests without a warrant or a magistrate's authorization in certain cases.

Clause 5 of Article 22 specifies that the reason for detention shall be conveyed to the individual as quickly as possible by any official when detaining any individual under preventive detention.

Source- [Article](#)

SCIENCE AND TECHNOLOGY

Q.8) With reference to RISAT series of satellites launched by India, consider the following statements:

1. Radar Imaging is unaffected by weather, cloud or fog.
2. In India radar imaging is also used for crop estimation.

Which of the statements given above is/are correct?

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

Answer: c

Both statements are correct.

- **Statement 1 is correct:** One big advantage that radar imaging has over optical instruments is that it is unaffected by weather, cloud or fog, or the lack of sunlight. It can produce high-quality images in all conditions and at all times, making it suitable for surveillance.
- **Statement 2 is correct:** In India radar imaging are used for crop estimation because our main crop growing season of kharif is in May-September when it rains and gets cloudy.

Source: [Article](#)

Schemes and Programs

Q.9) River Devika project was recently seen in the news. The project is located in which of the following state/Union Territory?

- a) Goa
- b) Tamil Nadu
- c) Jammu and Kashmir
- d) Karnataka

Answer: C

River Devika project will be complete by this year in Udhampur, Jammu and Kashmir. The project is North India's first river rejuvenation project. It will offer a unique destination both for pilgrim tourists as well as recreation tourists.

Source: [PIB](#)

SCIENCE AND TECHNOLOGY

Q.10) With reference to banning drone imports, consider the following advantages:

1. With an import ban, the Indian manufacturer will have control of the IP, design and software.
2. The ban will reduce the cost burden on Indian companies immediately.

Select the correct answer using the code given below:

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

Answer: A

Statement 1 is correct: With an import ban, the Indian manufacturer will have control of the IP, design and software. Hence, the ban will address the data security concerns associated with drones.

Statement 2 is incorrect: It will increase the cost burden on companies, as imported drones are cheaper than locally assembled ones.

Source: [Article](#)

PRELIMS

Q.1) Consider the following:

- 1.Subsidies
- 2.Taxes
- 3.Regulation
- 4.Public goods

Which of the above instruments can the government use to intervene in markets to address inefficiency?

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

Answer-d

Governments intervene in markets to address inefficiency. The government tries to combat these inequities through regulation, taxation, and subsidies.

In an unregulated inefficient market, cartels and other types of organizations can wield monopolistic power, raising entry costs and limiting the development of infrastructure. Without regulation, businesses can produce negative externalities without consequence. This all leads to diminished resources, stifled innovation, and minimized trade and its corresponding benefits. Government intervention through regulation can directly address these issues.

Another example of intervention to promote social welfare involves public goods. Certain depletable goods, like public parks, aren't owned by an individual. This means that no price is assigned to the use of that good and everyone can use it. As a result, it is very easy for these assets to be depleted. Governments intervene to ensure those resources are not depleted.

Governments also intervene to minimize the damage caused by naturally occurring economic events. Recessions and inflation are part of the natural business cycle but can have a devastating effect on citizens. In these cases, governments intervene through subsidies and manipulation of the money supply to minimize the harsh impact of economic forces on its constituents.

Governments may also intervene in markets to promote general economic fairness. Government often try, through taxation and welfare programs, to reallocate financial resources from the wealthy to those that are most in need.

Source- [Article](#)

Q.2) With reference to Zoonotic diseases, consider the following statements:

- 1.They can spread to humans through direct contact but not through food, water or the environment.
2. HIV (human immunodeficiency virus), Rabies, Ebola are all example of Zoonotic diseases.

Which of the statements given above is/are correct?

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

Answer-b

A zoonosis is an infectious disease that has jumped from a non-human animal to humans. Zoonotic pathogens may be bacterial, viral or parasitic, or may involve unconventional agents and can spread to humans through direct contact or through food, water or the environment. Some diseases, such as HIV, begin as a zoonosis but later mutate into human-only strains. Other zoonoses can cause recurring disease outbreaks, such as Ebola virus disease and salmonellosis. Still others, such as the novel coronavirus that causes COVID-19, have the potential to cause global pandemics.

Source- [Article](#)

Q.3) With reference to the Preferential trade arrangements (PTA), consider the following statements:

1. Under this a country may offer lower or zero tariff to other countries unilaterally.
2. Generalised system of Preferences is an example of PTA

Which of the statements given above is/are correct?

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

Answer-c

Preferential trade arrangement is the term used in the WTO for trade preferences, such as lower or zero tariffs, which a member may offer to a trade partner unilaterally. These include generalised system of preferences schemes, under which developed countries grant preferential tariffs to imports from developing countries.

Source- [Article](#)

Q4) With reference to the Pradhan Mantri Fasal Bima Yojana, consider the following statements:

1. Comprehensive risk insurance is provided to cover yield losses due to non-preventable risks, such as Natural Fire and Lightning and also certain local problems.
2. One of its objective is to encourage farmers to adopt innovative and modern agricultural practices.

Which of the statements given above is/are correct?

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

Answer-c

OBJECTIVES of the scheme- To provide insurance coverage and financial support to the farmers in the event of failure of any of the notified crop as a result of natural calamities, pests & diseases.

- To stabilise the income of farmers to ensure their continuance in farming.
- To encourage farmers to adopt innovative and modern agricultural practices.
- To ensure flow of credit to the agriculture sector.

Risks covered under the scheme-Yield Losses (standing crops, on notified area basis). Comprehensive risk insurance is provided to cover yield losses due to non-preventable risks, such as Natural Fire and Lightning, Storm, Hailstorm, Cyclone, Typhoon, Tempest, Hurricane,

Tornado. Risks due to Flood, Inundation and Landslide, Drought, Dry spells, Pests/ Diseases also will be covered.

For certain localized problems, Loss / damage resulting from occurrence of identified localized risks like hailstorm, landslide, and Inundation affecting isolated farms in the notified area would also be covered.

Source- [Article](#)

Q.5) With reference to Society for Worldwide Interbank Financial Telecommunication (SWIFT), consider the following statements:

1. It provides a network that enables financial institutions worldwide to send and receive information about financial transactions.
2. Instrument in Support of Trade Exchanges (INSTEX), a European special-purpose vehicle provides an alternative to SWIFT
3. It holds funds in US dollars to facilitate external client accounts.

Which of the statements given above is/are incorrect?

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

Answer-c

Society for Worldwide Interbank Financial Telecommunication (SWIFT) is a secure financial message carrier.

SWIFT neither holds funds on its own nor manages external client accounts.

Instex was launched as a “SWIFT alternative” to bypass U.S. sanctions on Iran.

Source- [Article](#)

Q.6) Consider the following:

1. Composite Water Management Index
2. Sustainable Development Goals Index
3. Financial Inclusion Index
4. India Innovation Index

Which of the above Indices are released by the NITI Aayog?

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

Answer-a

Some of the indices launched by NITI Aayog are School Education Quality Index, State Health Index, Composite Water Management Index, Sustainable Development Goals Index, India Innovation Index and Export Competitiveness Index.

Financial Inclusion Index is released by the Reserve Bank of India.

Source- [Article](#)

Q.7) Consider the following:

1. Urban Planning
2. Disaster management
3. Mineral Prospecting
4. Rural development

In which of the above areas does earth observation satellite has an application?

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

Answer-d

ISRO has launched many operational remote sensing satellites. Today, India has one of the largest constellations of remote sensing satellites in operation.

The data from these satellites are used for several applications covering agriculture, water resources, urban planning, rural development, mineral prospecting, environment, forestry, ocean resources and disaster management.

Source- [Article](#)

Q.8) With reference to international payment systems, consider the following statements:

1. Both India and China are on the governance board of Society for Worldwide Interbank Financial Telecommunications (SWIFT).
2. System for Transfer of Financial Messages (SPFS) is payment system launched by Russia.

Which of the statements given above is/are correct?

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

Answer: c

Both statements are correct.

- SWIFT has 3,500 shareholders who elect a 25-member governance board. Russia and China are represented on the governance board, but India is not.
- In 2014, during the time when Russia annexed Crimea and was threatened of SWIFT sanctions, it launched a messaging system, the System for Transfer of Financial Messages (SPFS).

Source: [Article](#)

Q.9) With reference to the Inter State Council in India, consider the following statements:

1. Sarkaria Commission recommended the establishment of Inter State Council in India.
2. Governor of a state under President's rule can also be a member of the council.

Which of the statements given above is/are incorrect?

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

Answer: d

- **Statement 1 is correct:** One of the important recommendations of Sarkaria Commission was for establishing a permanent Inter-State Council as an independent national forum for consultation with a mandate well defined in accordance with Article 263 of the Constitution of India. Pursuant to the recommendation, The Inter-State-Council was set up under Article 263 of the Constitution of India.
- **Statement 2 is correct:** Governors of States under President's Rule are members of the council.

Source: [Article](#)

Q.10) Consider the following statements:

1. He built impregnable Lohagarh Fort, which the British could not penetrate even after attacking 13 times.
2. He played a key role in the Third Battle of Panipat.
3. He was described as "the Plato of the Jat people".

Which of the following personality is described in the statements above?

- a) Maharana Jagat Singh
- b) Raja Mahendra Pratap Singh
- c) Maharaja Surajmal
- d) Chaudhary Devi Lal

Answer: C

Surajmal had built the impregnable Lohagarh Fort, which the British could not penetrate even after attacking 13 times. This is the only fort in the country, which has always been impenetrable.

He was described as "the Plato of the Jat people" and by a modern writer as the "Jat Odysseus", because of his political sense, steady intellect and clear vision.

He took care of the historical monuments built by the kings of other religions and employed people according to their abilities in higher posts, irrespective of their races.

He visualized "India as one nation" and believed humanity is the only religion of man.

Source: [PIB](#)

PRELIMS

Q.1) With reference to the De- Notified tribes, consider the following statements:

1. They are Homogenous nomadic communities
2. They are primarily matriarchal groups.
3. After being denotification in 1952, they were included in Scheduled Tribe (ST), Scheduled Caste (SC) and Other Backward Caste lists.

Which of the statements given above is/are incorrect?

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

Answer-b

The term 'De-notified Tribes' stands for all those communities which were once notified under the Criminal Tribes Acts, enforced by the British Raj between 1871 and 1947. These Acts were repealed by the Independent Indian Government in 1952, and these communities were "De-Notified". A few of these communities which were listed as de-notified were also nomadic.

After denotification in 1952, about 200 communities were included in Scheduled Tribe (ST), Scheduled Caste (SC) and Other Backward Caste lists because they come from diverse social backgrounds. While they mainly come from nomadic communities, these communities are not homogeneous. The De-notified and Nomadic communities **have diverse ideological patterns, culture, political and social lifestyle, customs and traditions.**

Given the historically embedded diversities between the NTs and DNTs, it is **difficult to treat them as a homogeneous social group** or an analytical category.

As is the case with most of the communities in India, large majority of De-notified and nomadic communities are **primarily patriarchal.**

Source- [Article](#)

Q.2) Education is a necessary Public good central to the task of nation building. Which of the following statements are associated with the term 'Public good'

1. Individuals cannot be effectively excluded from using these goods
2. Use by one individual does not reduce the good's availability to others

Which of the statements given above is/are correct?

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

Answer-c

Public goods are non-excludable and non-rival. Individuals cannot be effectively excluded from using them, and use by one individual does not reduce the good's availability to others. Examples of public goods include the air we breathe, public parks, and street lights.

Source- [Article](#)

Q.3) With reference to the Socio economic caste census(SECC), consider the following statements:

4. All data under census is considered confidential, whereas all the personal information given in the SECC is open for use by Government departments to grant and/or restrict benefits to households.

5. Both Urban and rural households have been covered under it

Which of the statements given above is/are correct?

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

Answer-c

SECC 2011 is a study of socio economic status of rural and urban households and allows ranking of households based on predefined parameters.

Since the Census falls under the Census Act of 1948, all data are considered confidential, whereas all the personal information given in the SECC is open for use by Government departments to grant and/or restrict benefits to households.

Source- [Article](#)

Q.4) Which of the following Policies will lead to increase in potential output in the long run?

1. Increase in Taxes on business investment

2. Policies that encourage more saving for retirement

Which of the statements given above is/are correct?

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

Answer-b

Taxing investment discourages investment in capital, which decreases potential output.

Policies that increase savings increase the supply for loanable fund, which lowers the real interest rate. This may encourage firms to increase the stock of capital which increases potential output on the long run.

Source- [Article](#)

Q.5) To Which of the below mentioned areas is the SWAMITVA scheme related?

- a) (a) Education of Children in the age group of 6-17
- b) (b) Primary Healthcare facilities
- c) (c) Documentation of residential property
- d) (d) Women safety and security at workplace

Answer-c

SVAMITVA (Survey of villages and mapping with improvised technology in village areas) scheme is a new initiative of the Ministry of Panchayati Raj. It aims to provide rural people with the right to document their residential properties so that they can use their property for economic purposes.

The scheme is for surveying the land parcels in rural inhabited area using Drone technology.

Source- [Article](#)

Q.6) With reference to Various cyber security threats, consider the following statements:

1. Malware can only be sent to a device if it is connected to the Internet,
2. Malware is designed to intentionally inflict damage on a computer While a software bug is an accident.

Which of the statements given above is/are correct?

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

Answer-d

Malware is software; the term malware comes from "malicious software".

Both malware and a software bug may damage a computer or compromise user data, but the difference is that malware is intentionally designed to do so.

Source- [Article](#)

Q.7) Which of the following Indian states share border with Myanmar?

1. Nagaland
2. Mizoram
3. Arunachal Pradesh

Which of the statements given above is/are correct?

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

Answer-d

Four Northeast Indian states share the border with Myanmar: **Arunachal Pradesh, Nagaland, Mizoram, and Manipur.**

Source- [Article](#)

ECONOMY

Q.8) With reference to Initial Public Offering (IPO), consider the following statements:

1. Public Sector Undertakings (PSUs) can also issue their IPOs.
2. Pension funds are not allowed to invest in an IPO.

Which of the statements given above is/are correct?

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

Answer: a

- **Statement 1 is correct:** An IPO or initial public offering is the process by which a privately held company, or a company owned by the government such as LIC, raises funds by offering shares to the public or to new investors. Following the IPO, the company is listed on the stock exchange.
- **Statement 2 is incorrect:** There are various categories of investors who can invest in an IPO. For instance: Qualified institutional buyers (QIBs) is a category of investors that includes foreign portfolio investors (FPIs), mutual funds, commercial banks, insurance companies, pension funds, etc.

Source: [Article](#)

Q.9) Which of the following statements correctly defines Engel's law?

- a) As a household's income increases, the percentage of income spent on food decreases while the proportion spent on other goods (such as luxury goods) increases.
- b) As an economy develops, market forces first increase and then decrease economic inequality.
- c) There is an optimum tax rate which maximises total tax revenue.
- d) With economic growth comes inflation, which in turn should lead to more jobs and less unemployment

Answer: a

- Engel's Law states that as household income rises, the percentage of income spent on food declines.

SCIENCE AND TECHNOLOGY

Q.10) With reference to Lassa Fever, consider the following statements:

1. The death rate associated with this disease is low, at around 1%.
2. The virus spreads through Mosquitoes.
3. It can spread through person-to-person transmission

Which of the statements given above is/are correct?

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

Answer: c

Statement 1 is correct: The death rate associated with this disease is low, at around 1%. But the death rate is higher for certain individuals such as pregnant women among others.

Statement 2 is incorrect: The virus spreads by rats.

Statement 3 is correct: It can also be spread if a person comes in contact with a sick person's infected bodily fluids or through mucous membranes such as the eyes, nose or the mouth.

Source: [Explained: What is Lassa fever, and what are its symptoms?](#)

PRELIMS

Q.1) With reference to Satellite Internet, consider the following statements:

1. Satellite Internet is a viable option for rural areas where internet infrastructure is underdeveloped.
2. Their services are not affected by natural events like heavy rain or storms

Which of the statements given above is/are correct?

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

Answer-a

Satellite Internet, which works similarly to satellite TV, is a wireless connection spread across satellite dishes located both in space and on the Earth.

Not all places on the Earth are able to establish various types of land-based internet connections like broadband, fiber optics, cable internet, etc. In fact, satellite Internet remains the only option if you live in a rural part of the country where internet infrastructure is underdeveloped.

Satellite internet is reliable most of the time. Heavy rain can interfere with satellite signals so satellite internet sometimes goes out during storms.

Source- [Article](#)

Q.2 With reference to Solar Power, consider the following statements:

1. Solar panels contain heavy metals and also some valuable materials like silver
2. In India the total installed capacity of coal fired power plants is lower than that of Hydro, wind and solar energy combined.

Which of the statements given above is/are correct?

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

Answer-a

Some governments classify solar panels as hazardous waste due to the small amounts of heavy metals (cadmium, lead, etc.) in them.

While panels contain small amounts of valuable materials such as silver, they are mostly made of glass, an extremely low-value material. This also disincentivizes recycling efforts in the sector.

Installed capacity for the Electricity generated from coal is 2,03,190 MW (51.9%) of the total while that for Wind, hydro and solar combined is 1,50,000 MW approx.(38.4%) of the total.

Source- [Article](#)

Q.3 With reference to Population Pyramid, consider the following statements:

- 1.They show the distribution of the population across both the variables of age and sex.
- 2.They are useful for studying the future of a region as well as examining historical and current population trends

Which of the statements given above is/are correct?

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

Answer-c

A population pyramid is a way to visualize two variables: age and sex. They are used by demographers, who study populations. A population pyramid is a graph that shows the distribution of ages across a population divided down the center between male and female members of the population. The graphic starts from youngest at the bottom to oldest at the top.

Population pyramids are useful for studying the future of a region as well as examining historical and current population trends. If part of the population has been affected by sudden changes, such as casualties from armed conflict, high female mortality in childbirth, or the migration of young workers out of poorer regions, the graph will offer a way to visualize how the future population will be affected.

Source-[Article](#)

Q.4) Which of the following process enabled the formation of inner rocky planets, including our planet Earth?

- a) Supernova
- b) Accretion
- c) Big bang event
- d) Collision

Answer-b

The rocky planets were formed when materials violently smashed into one another in space. These materials spun together in orbit, eventually **accreting** to form larger chunks of material over millions of years – our rocky planets.

The Big Bang is a theory about the creation of the Universe. It is not the process that describes the process by which rocky planets were formed.

Collisions were a part of this process, but a collision alone does not form a planet.

A supernova is a massive stellar explosion. Supernovas do not form planets, but they do create many of the complex elements that planets are made from.

Source- [Article](#)

Q.5) With reference to TERI(The energy and resources Institute), consider the following statements:

- 1.It is an intergovernmental collaboration that works in the fields of energy, environment and sustainable development.
2. World Sustainable Development Summit is the flagship event of The Energy and Resources Institute (TERI) that is held once in four years.

Which of the statements given above is/are correct?

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

Answer-d

TERI is a non-profit research institution that conducts research work in the fields of energy, environment and sustainable development.

The World Sustainable Development Summit is the annual flagship event of The Energy and Resources Institute (TERI).

Source- [Article](#)

Q.6) Consider the following statements:

1. Most electric vehicles currently run on Lithium-ion batteries.
2. Nickel- Cadmium(Ni-Cad) batteries are more advanced than Lithium ion batteries as Ni-Cad have a no self-discharge property.

Which of the statements given above is/are correct?

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

Answer-c

Lithium-ion batteries are currently used in most electric vehicles because of their high energy per unit mass relative to other electrical energy storage systems.

Typically, Lithium-ion batteries are smaller and lighter than a NiCad battery. Lithium-ion also two to three times more expensive than NiCad. On the other hand, Lithium-ion has virtually no self-discharge.

Source- [Article](#)

Q.7) With reference to Corporate social responsibility(CSR), consider the following statements:

- 1.CSR provisions **are** applicable to all companies established in India.
- 2.The CSR provisions in the company act, 2013 encourages companies to spend 20% of their average net profit in the previous three years on CSR activities.

Which of the statements given above is/are correct?

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

Answer-d

Concept of CSR is governed by clause 135 of the Companies Act, 2013.

The CSR provisions within the Act is applicable to companies with an annual turnover of 1,000 crore and more, or a net worth of Rs. 500 crore and more, or a net profit of Rs. 5 crore and more.

The Act encourages companies to spend 2% of their average net profit in the previous three years on CSR activities.

Source-[Article](#)

SCIENCE AND TECHNOLOGY

Q.8) Sputnik Planitia, sometimes seen in news, is associated with which of the following?

- a) Moon
- b) Pluto
- c) Kuiper belt
- d) Saturn

Answer: b

- It is a high-albedo ice-covered basin on Pluto.

Source: [Article](#)

INTERNATIONAL RELATIONS

Q.9 With reference to Energy Compacts, consider the following statements.

1. These are voluntary commitments of action, with specific targets and timelines to drive the progress on access to energy for all.
2. Submission of energy compacts is open to all relevant stakeholders including member states and non-state actors.

Which of the statements given above is/are correct?

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

Answer: C

During the recent “NEW FRONTIERS: A Programme on Renewable Energy” a compilation of all energy compacts submitted from India has been launched.

Energy Compacts are voluntary commitments of action, with specific targets and timelines to drive the progress on the achievement of SDG7, to accelerate action for clean, affordable energy for all.

Submission of energy compacts is open to all relevant stakeholders including member states and non-state actors, such as companies, regional/local governments, NGOs and others.

Twenty two compacts were submitted from India by PSUs, corporates and smart cities in addition to the national compact submitted by the Ministry of New and Renewable Energy, Government of India.

Source: [PIB](#)

ECONOMY

Q.10) Which of the following statements correctly defines Engel's law?

- a) As a household's income increases, the percentage of income spent on food decreases while the proportion spent on other goods (such as luxury goods) increases.
- b) As an economy develops, market forces first increase and then decrease economic inequality.
- c) There is an optimum tax rate which maximises total tax revenue.
- d) With economic growth comes inflation, which in turn should lead to more jobs and less unemployment

Answer: a

- Engel's Law states that as household income rises, the percentage of income spent on food declines.

Source: [Article](#)

PRELIMS

Q.1) With reference to the Neutrinos, consider the following statements:

1. Neutrinos can affect the atoms in living things, so it poses a health risk by damaging tissue and DNA in genes.
2. Scientists are facing an issue to study these particles as there are very few processes which emit them and can occur at standard temperature and pressure.

Which of the statements given above is/are correct?

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

Answer-d

Neutrinos are by far the most abundant particles in the universe. Once produced, these particles almost never interact with other matter. Tens of trillions of neutrinos from the sun stream through your body every second, but you can't feel them.

Neutrinos play a role in many fundamental aspects of our lives; they are produced in nuclear fusion processes that power the sun and stars, they are produced in radioactive decays that provide a source of heat inside our planet, and they are produced in nuclear reactors.

Every time atomic nuclei come together (like in the sun) or break apart (like in a nuclear reactor), they produce neutrinos.

Source- [Article](#)

Q.2) With reference to the Special Economic Zone(SEZ), consider the following statements:

1. SEZ is a geographical region that has economic laws different from a country's typical economic laws.
2. The incentives offered to SEZs are no application of labour laws and single window clearance.

Which of the statements given above is/are correct?

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

Answer-a

Special Economic Zone (SEZ) is a specifically delineated duty-free enclave and shall be deemed to be foreign territory for the purposes of trade operations and duties and tariffs. In order words, SEZ is a geographical region that has economic laws different from a country's typical economic laws.

Normal labour laws are applicable to SEZs, which are enforced by the respective state governments.

Source- [Article](#)

Q.3) With reference to the Online gambling and betting in India, consider the following statements:

1. Subject of gambling falls in the concurrent list.

Created with love ❤ by ForumIAS- the knowledge network for civil services.
Visit academy.forumias.com for our mentor based courses.

2. As online betting is still not legal in India , It does not come under GST
3. Legalising sports betting will increase Foreign direct investment(FDI) in the sector.

Which of the statements given above is/are incorrect?

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

Answer-c

Legalization of sports betting will improve FDI, Jobs in the sports-sector.

Subject of gambling figures in the State List.

GST and income tax are still applicable to these games. Its only a licensing fee which may not be applicable at this point of time. Dream 11 for instance, is paying GST, and the winners will end up paying income tax as well.

Source- [Article](#)

Q.4) Consider the following statements:

1. Around half of the installed renewable energy in India, comes from the states of Gujarat and Madhya Pradesh.
2. In India, Only Small Hydro power projects have renewable energy status.

Which of the statements given above is/are correct?

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

Answer-d

Tamil Nadu , Karnataka and Gujarat are the top three status in terms of installed renewable energy capacity .

Large hydel projects also have 'renewable energy status'.

Source- [Article](#)

Q.5) Consider the following statements:

1. Gondwanaland is an ancient supercontinent that incorporates present-day South America, Africa, Madagascar, India, Antarctica.
2. Western Ghats are older than the Himalayas.

Which of the statements given above is/are correct?

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

Answer-c

Gondwana, also called Gondwanaland, ancient supercontinent that incorporated present-day, South America, Africa, Madagascar, India, Antarctica. Africa, Arabia, Australia.

Western Ghats Older than the Himalaya mountains, the mountain chain of the Western Ghats represents geomorphic features of immense importance with unique biophysical and ecological

processes. The site's high montane forest ecosystems influence the Indian monsoon weather pattern

Source- [Article](#)

Q.6) With reference to the Periyar Tiger reserve, Consider the following statements:

1. The Sabarimala Temple complex is located inside it.
2. It is spread across the states of Kerala and Tamil Nadu.

Which of the statements given above is/are correct?

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

Answer-a

Periyar National Park, also known as Periyar Tiger Reserve, is in the mountainous Western Ghats of Kerala, southern India.

Sabarimala Temple complex is located inside the Periyar Tiger Reserve.

Source- [Article](#)

Q.7) With reference to Ammonia, Consider the following statements:

1. Green Ammonia is produced by using the hydrogen from water electrolysis and nitrogen separated from air.
2. One of the major application of Ammonia is its use in Agriculture as fertilizer.

Which of the statements given above is/are correct?

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

Answer-c

Green ammonia refers to ammonia, which has been produced through a process that is 100% renewable and carbon-free. One way of making Green Ammonia is by using the hydrogen from water electrolysis and nitrogen separated from air.

80% of Ammonia produced in the world is used in Agriculture as fertilizer.

Source- [Article](#)

Q.8) With reference to Inter-Operable Criminal Justice System (ICJS) Project, consider the following statements:

1. The system is being built on the principle of 'one data one entry'.
2. National Crime Records Bureau (NCRB) will be responsible for the implementation of the project
3. It is a Centrally Sponsored Scheme.

Which of the statements given above is/are correct?

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

Answer: a

- **Statement 1 is correct:** The system is being built on the principle of 'one data one entry' whereby data is entered only once in one pillar and the same is then available in all other pillars without the need to re-enter the data in each pillar.
- **Statement 2 is correct:** National Crime Records Bureau (NCRB) will be responsible for the implementation of the project in association with the National Informatics Center (NIC).
- **Statement 3 is incorrect:** It is a central sector scheme.

Source: [Article](#)

Q.9) With reference to Integrated Road Accident Database (IRAD), consider the following statements:

1. Its scope is currently limited to only National Highways.
2. Road users are also able to upload data on road accidents.

Which of the statements given above is/are correct?

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

Answer: b

- **Statement 1 is incorrect:** Its mission is to take necessary corrective measures and control accidents by analyzing the real causes of increasing road accidents across the country.
- **Statement 2 is correct:** Road users can also upload data on road accidents on a separate mobile application.

Source: [Article](#)

Q.10) With reference to President's Fleet review, consider the following statements:

1. The earliest recorded evidence of an Indian Fleet review dates back to the 18th century.
2. A fleet review is usually conducted once during the tenure of the President.

Which of the statements given above is/are correct?

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

Answer: c

Both statements are correct.

- The earliest recorded Indian Fleet Review was in the 18th Century by the powerful Maratha fleet consisting of 'Ghurabs' and 'Gallivats', under the renowned Sarkhel (Grand Admiral) Kanhoji Angre at the coastal fortress of Ratnagiri.
- A fleet review is usually conducted once during the tenure of the President.

Source: [Article](#)

PRELIMS

Q.1) Consider the following statements:

1. India is not party to the 1951 Refugee Convention and does not have a national refugee protection framework.
2. The regulation of refugees and asylum seekers in India is conducted on an ad-hoc basis.

Which of the statements given above is/are correct?

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

Answer-c

India is not party to the 1951 Refugee Convention or its 1967 Protocol and does not have a national refugee protection framework.

The regulation of refugees and asylum seekers in India is conducted on an ad-hoc basis through administrative decision-making. Since there is no official legislative or administrative framework for refugee-status determination, the government has taken to determining the status of different groups of refugees in different ways.

Source- [Article](#)

Q.2) With reference to the National Education Policy, consider the following statements:

1. It aims for 100% Gross Enrolment Ratio in higher education including vocational education by 2035.
2. It envisages that Centre and the States will work together to increase the public investment in Education sector to reach 6% of GDP at the earliest.

Which of the statements given above is/are correct?

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

Answer-b

NEP 2020 aims to increase the Gross Enrolment Ratio in higher education including vocational education from 26.3% (2018) to 50% by 2035.

The Centre and the States will work together to increase the public investment in Education sector to reach 6% of GDP at the earliest.

Source- [Article](#)

Q.3) Which of the following are the reasons that the concept of 'one health' has gained significant relevance in recent years

1. Increased International travel and trade
2. Growing and expanding human population
3. Intensive farming practices

Which of the statements given above is/are correct?

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

Answer-d

One Health is an approach that recognizes that the health of people is closely connected to the health of animals and our shared environment. One Health is not new, but it has become more important in recent years. This is because many factors have changed interactions between people, animals, plants, and our environment.

Human populations are growing and expanding into new geographic areas. As a result, more people live in close contact with wild and domestic animals, both livestock and pets. Animals play an important role in our lives, whether for food, fiber, livelihoods, travel, sport, education, or companionship. Close contact with animals and their environments provides more opportunities for diseases to pass between animals and people.

The earth has experienced changes in climate and land use, such as deforestation and intensive farming practices. Disruptions in environmental conditions and habitats can provide new opportunities for diseases to pass to animals.

The movement of people, animals, and animal products has increased from international travel and trade. As a result, diseases can spread quickly across borders and around the globe.

Source- [Article](#)

Q.4) Consider the following statements:

1. The term 'constitutional morality' is not mentioned in the constitution of India.
2. In a Constitutional democracy the authority of the majority is limited by legal and institutional means.

Which of the statements given above is/are correct?

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

Answer-c

Constitutional morality is not mentioned in the Constitution.

The evolution of the doctrine of constitutional morality is not found in the Constitution but in the judgments involving the interpretation of the constitutional provisions.

The basic difference between a democracy and a constitutional democracy is that while democracy can only guarantee that the power is vested with the people (the majority, in fact), the constitution preserves the rights of the minority and prevents them from unwelcome contingencies of the majority will. In a Constitutional democracy the authority of the majority is limited by legal and institutional means so that the rights of individuals and minorities are respected.

Source- [Article](#)

Q.5) Suppose a devastating fire destroys a great deal of a National Park. Although many of the organisms were killed or displaced, existing seeds began to immediately recolonize the park. Which of the following terms defines the incidence most appropriately?

- a) Natural selection
- b) Secondary succession
- c) Climax community
- d) Primary succession

Answer-b

Secondary succession occurs when a previously occupied area is recolonized after a disturbance kills most, or all, of its community.

Primary succession occurs when new land is formed or bare rock is exposed, providing a habitat that can be colonized for the first time. In this case, the habitat was not completely destroyed, allowing secondary succession to take place.

A climax community forms when a community reaches a steady, mature state. The early seedlings in this national park are far from this stage. The above mentioned incident is also not an example of natural selection as Natural selection is a mechanism of evolution.

Source- [Article](#)

Q.6) Consider the following statements:

1. Public key encryption is an asymmetric encryption technique which uses different keys for encryption and decryption, allowing computers over the Internet to securely communicate with each other.
2. Another application of public key encryption is the digital signature which are used for sender authentication.

Which of the statements given above is/are correct?

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

Answer-c

Public key encryption is an asymmetric encryption technique which uses different keys for encryption and decryption, allowing computers over the Internet to securely communicate with each other.

With public-key cryptography, robust authentication is also possible. A sender can combine a message with a private key to create a short digital signature on the message. Anyone with the sender's corresponding public key can combine that message with a claimed digital signature; if the signature matches the message, the origin of the message is verified (i.e., it must have been made by the owner of the corresponding private key)

Source- [Article](#)

Q.7) Consider the following:

- 1.Armenia
- 2.Georgia
- 3.Bulgaria
- 4.Ukraine

Which of the above countries border the black sea?

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

Answer-c

Six countries border with the Black Sea, including Ukraine to the north, Russia and Georgia to the east, Turkey to the south, and Bulgaria and Romania to the west.

Source- [Article](#)

SCIENCE AND TECHNOLOGY

Q.8 With reference to Cryptocurrency and Blockchain networks, consider the following statements:

1. Blockchain is a type of digital ledger technology in which transactions are recorded with an immutable cryptographic signature called a hash.
2. Crypto coins and tokens have their own blockchains.

Which of the statements given above is/are correct?

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

Answer: a

- **Statement 1 is correct:** Blockchain is a type of digital ledger technology in which transactions are recorded with an immutable cryptographic signature called a hash.
- **Statement 2 is incorrect:** Crypto coins have their own blockchains. Tokens are built on already existing blockchains.

Source: [Article](#)

Q.9) With reference to synthetic biology, consider the following statements:

1. It refers to the science of using genetic sequencing, editing, and modification to create organic molecules that can function in living systems.
2. Synthetic biology can help in agriculture to deliver fixed nitrogen to crops.

Which of the statements given above is/are correct?

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

Answer: C

Both the statements are correct.

Synthetic biology refers to the science of using genetic sequencing, editing, and modification to create unnatural organisms or organic molecules that can function in living systems.

Various applications of Synthetic biology includes,

Pharmaceutical industry: Synthetic biology can be used to make natural compounds such as artemisinin used for the treatment of malaria and Car T cell therapy for cancer treatment.

It can help in **a) Developing synthetic organisms for vaccination, b) Creating natural products in a lab** such as vanillin, extracted from vanilla seeds, can be grown in yeasts with additional plant genomes.

In Agriculture: Companies using synthetic biology to deliver fixed nitrogen to plants instead of using fertilisers, engineering microbes to create food additives or brew proteins.

Source: [Indian Express](#)

POLITY

Q.10) With reference to First Information Report (FIR), consider the following statements.

1. The term FIR is not defined in the Indian Penal Code (IPC), Code of Criminal Procedure (CrPC), 1973, or in any other law.
2. FIR can be filed for both cognizable and non-cognizable offences.

Which of the statements given above is/are correct?

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

Answer: A

Statement 1 is correct: The term FIR is not defined in the Indian Penal Code (IPC), Code of Criminal Procedure (CrPC), 1973, or in any other law. However, in police regulations or rules, information recorded under Section 154 of CrPC is known as First Information Report (FIR).

Statement 2 is incorrect: FIR is a written document prepared by the police when they receive information about the commission of a cognizable offence.

Source: [Indian Express](#)

PRELIMS

Q.1) Consider the following:

1. Warm and Humid Environments
2. Use of Gypsum
3. Use of Hard water for irrigation

Which of the above will lead to an increase in alkalinity of soils?

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

Answer-b

Temperature and rainfall affect the intensity of leaching and the weathering of soil minerals. In warm, humid environments, soil pH decreases over time through acidification due to leaching from high amounts of rainfall. In dry environments where weathering and leaching are less intense, soil pH may be neutral or alkaline.

Gypsum (Calcium Sulphate, $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$) is a sedimentary mineral. It is very important for the treatment of alkaline soil.

It's important to grasp that bicarbonate levels in your irrigation water—its hardness or softness—affects your growing media and crops. Bicarbonate level is also measured as alkalinity. Hard water has a high bicarbonate level and high alkalinity. Soft water has low amounts of dissolved bicarbonates and low alkalinity. With a hard water supply at your growing operation, the bicarbonates can react and make your growing media pH more alkaline over time. The extent and rate of change depends on how hard your water is and the volume of hard water applied to the crop.

Source- [Article](#)

Q.2) With reference to the Distributed generation, consider the following statements:

1. Distributed generation is the term used when electricity is generated from centralized generation sources like power plants.
2. Although it can help support delivery of clean, reliable power to additional customers but it has huge amount of electricity losses along transmission and distribution lines.

Which of the statements given above is/are correct?

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

Answer-d

Distributed generation is the term used when electricity is generated from sources, often renewable energy sources, near the point of use instead of centralized generation sources from power plants.

When connected to the electric utility's lower voltage distribution lines, distributed generation can help support delivery of clean, reliable power to additional customers and reduce electricity losses along transmission and distribution lines.

Source- [Article](#)

Q.3) Consider the following statements:

1. Decline in food and fuel prices will lead to more changes in the headline inflation than core inflation.
2. Headline inflation is more relevant for developing economies than developed economies.

Which of the statements given above is/are correct?

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

Answer- c

Core inflation is the change in the costs of goods and services but does not include those from the food and energy sectors.

Since the prices of fuel and food items tend to fluctuate and create 'noise' in inflation computation, core inflation is less volatile than headline inflation.

Headline inflation refers to the change in value of all goods in the basket because In a developed economy, food & fuel account for 10-15% of the household consumption basket and in developing economies it forms 30-40% of the basket.

Source- [Article](#)

Q.4) Consider the following statements:

1. In India, the lavender crop is cultivated in almost all of the low rainfall regions except the hilly areas of Northern India.
2. Aroma Mission or "Lavender or Purple Revolution aims to transform the lives of farmers who are able to grow lavender, make lucrative profit and improve their lives.

Which of the statements given above is/are correct?

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

Answer-b

In India, the lavender crop is cultivated in **low rainfall regions and on the slopes of hills of Himachal Pradesh(HP) and Uttar Pradesh(UP)**. The lavender crop is also successfully grown in the Kashmir valley region.

The Aroma Mission, also popularly referred as "Lavender or Purple Revolution", has started from J&K and transformed the lives of farmers who are able to grow lavender, make lucrative profit and improve their lives. The Aroma Mission is envisaged to bring transformative change in the aroma sector through desired interventions in the areas of agriculture, processing and product development for fuelling the growth of aroma industry and rural employment.

Source- [Article](#)

Q.5) Consider the following statements:

1. Food grain production in India has seen a positive growth every year in the last five year.
2. Irrigated area accounts for nearly 20 per cent of the agricultural land in India.

Which of the statements given above is/are correct?

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

Answer-a

According to the Second Advance Estimates of Production of Foodgrains for 2021-22, released by the Ministry of Agriculture and Farmers Welfare, Foodgrains production has gone up from 252 million tonnes in 2015-16 to 316 million tonnes now; rising every single year.

About 80 per cent of the current water use is drawn by agriculture. Irrigated area accounts for nearly 48.8 per cent of the 140 million hectare (mha) of agricultural land in India. The remaining 51.2 per cent is rainfed.

Source- [Article](#)

Q.6) Which of the following are India's commitment to control climate change as announced in CoP 26, Glasgow Summit?

1. India will fulfil 90 per cent of its energy requirements from renewable energy sources by 2030.
 2. India will reduce its total projected carbon emissions by 1 billion tonnes by 2030.
- a) 1 only
 - b) 2 only
 - c) Both 1 and 2
 - d) Neither 1 nor 2

Answer-b

At the COP26 summit in Glasgow, Prime Minister [Narendra Modi](#) made significant announcements, including the bold pledge of India becoming net zero by 2070.

Besides the net zero target, Modi also raised India's Nationally Determined Contributions (NDCs) of achieving 450 giga watt non-fossil energy capacity to 500 giga watt by 2030.

"India will increase its non-fossil energy capacity to 500 giga watt by 2030; India will fulfil 50 per cent of its energy requirements from renewable energy sources by 2030. Between now and 2030, India will reduce its total projected carbon emissions by 1 billion tonnes and by 2030.

Source- [Article](#)

Q.7) The Tribal Fair of Medaram Jatara is held in which of the following Indian state

- a) Jharkhand
- b) Madhya Pradesh
- c) Telangana
- d) Maharashtra

Answer-c

Medaram Jatara is the second-largest fair of India, after the Kumbh Mela, celebrated by the second-largest Tribal Community of Telangana- the Koya tribe for four days.

Source- [Article](#)

Science and Technology

Q.8) With reference to CV Raman, consider the following statements:

1. He was the first Asian to win a Nobel prize in the field of science.
2. Raman Spectroscopy can help identify pharmaceutical chemicals and discover counterfeit drugs.

Which of the statements given above is/are correct?

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

Answer: c

Both statements are correct.

- C.V. Raman was the first Asian to win a Nobel Prize in the field of science in 1930.
- Raman Spectroscopy can help in determining chemical bonding structures, characterise materials, determine temperature, find out crystalline orientation, identify pharmaceutical chemicals, discover counterfeit drugs, identify pigments in old paintings and historical documents, and detect explosives using lasers from a distance.

Source: [Article](#)

ECONOMY

Q.9) Recently, India's first water taxi service has been inaugurated in which of the following state?

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

Answer: C

India's first water taxi service was recently inaugurated in Maharashtra. It will connect the Navi Mumbai area to mainland Mumbai.

Source: [The Hindu](#)

Q.10) With reference to Distributed Renewable Energy (DRE), consider the following statements:

1. In this, electricity is generated from renewable energy sources near the point of energy utilization.
2. DRE Technologies offer better consumer affordability than centralised Renewable Energy systems.

Which of the statements given above is/are correct?

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

Answer: A

Statement 1 is correct: Distributed Renewable Energy(DRE) is the term used when electricity is generated from renewable energy sources near the point of use instead of centralized generation sources from power plants.

Statement 2 is incorrect: Lack of proper financing channels, consumer awareness, consumer affordability and quality products/standards are some of the major challenges facing DRE in India.

Source: [DTE](#)

INTERNATIONAL RELATION

Q.11) Normandy format sometimes seen in news is an informal forum set up by which of the following countries?

1. Germany
2. USA
3. France
4. Russia
5. Ukraine

Select the correct answer from the codes given below:

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

Answer: a

- **Normandy Format:** It is a diplomatic grouping created in June 2014 to find a peaceful resolution to the conflict in Ukraine due to Russia's military aggression. It is an informal forum that was set up by France, Germany, Russia, and Ukraine.

Source: [Article](#)

ECONOMY

Q.1) With reference to the Credit- deposit Ratio, consider the following statements:

1. It indicates how much of a bank's core funds are being used for lending.
2. A higher credit-deposit ratio may prevent banks from reducing deposit rates despite a rate cut from the central bank.

Which of the statements given above is/are correct?

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

Answer-c

It is the ratio of how much a bank lends out of the deposits it has mobilised. It indicates how much of a bank's core funds are being used for lending, the main banking activity. A higher ratio indicates more reliance on deposits for lending and vice-versa.

Banks may not reduce deposit rates despite the rate cut due to high credit-deposit ratio.

Source- [Article](#)

Q.2) Consider the following statements:

1. The Indian Manufacturing sector currently contributes 25% to GDP
2. India has very high labour and capital productivity as compared to most of the Asian countries.

Which of the statements given above is/are correct?

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

Answer- d

The Indian Manufacturing sector currently contributes 16-17% to GDP and gives employment to around 12% of the country's.

To become globally competitive, India's manufacturing value chains must lift their productivity—in GVA output per full-time-equivalent worker—closer to global standards. They have a long way to go in this regard: their labor productivity and capital productivity are both low. Compared with India, manufacturing productivity in Indonesia is twice as high; in China and South Korea, productivity is four times higher.

Source- [Article](#)

POLITY AND GOVERNANCE

Q.3) Consider the following statements:

1. Central Ground water Board(CGWB), is the National apex agency entrusted with the responsibilities of providing scientific inputs for management of ground water resources of the country.
2. CGWB was constituted under Environment protection act, 1986

Which of the statements given above is/are correct?

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

Answer- c

Central Ground water Board(CGWB), is the National apex agency entrusted with the responsibilities of providing scientific inputs for management, exploration, monitoring, assessment, augmentation and regulation of ground water resources of the country. It was constituted under Environment protection act, 1986.

Source- [Article](#)

ENVIRONMENT

Q.4) Consider the following statements:

1. Forest fires are a natural phenomenon.
2. Wildfires do not occur in humid tropical forests.

Which of the statements given above is/are correct?

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

Answer-a

Wildfires are a natural phenomenon, but are becoming more dangerous and affecting larger areas. The UN report has attributed this to climate change and human activities.

Wildfires seldom spread to humid tropical forests in the past. But these forests are now more vulnerable due to deforestation and forest fragmentation.

Source- [Article](#)

INTERNATIONAL RELATION

Q.5) Consider the following statements:

1. International Seabed Authority was created under the United Nations Convention on the Law of the Sea (UNCLOS)
2. UNCLOS is the only international convention which stipulates a framework for state jurisdiction in maritime spaces.

Which of the statements given above is/are correct?

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

Answer-c

UNCLOS was adopted and signed in 1982. UNCLOS is the only international convention which stipulates a framework for state jurisdiction in maritime spaces. It provides a different legal status to different maritime zones.

The International Seabed Authority was constituted under the convention.

Source- [Article](#)

ECONOMY

Q.6) Consider the following statements:

1. Credit rating agencies(CRA) provide information on the relative creditworthiness of an issuer or instrument.
2. The CRA Regulations in India currently recognise only the issuer-pays model.

Which of the statements given above is/are correct?

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

Answer-c

Credit rating agencies provide retail and institutional investors with information that assists them in determining if debtor will be able to meet their obligations. They help investors, customers etc. to get an overall idea of the strength and stability of an organization and enable them to make informed decisions.

The CRA Regulations in India currently recognise only the issuer-pays model, under which, the rating agencies charge issuers of bond and debt instruments a fee for providing a ratings opinion. Thus, this model has an inbuilt conflict of interest.

Source- [Article](#)

Q.7) Which of the following will be included in the current account of India?

1. Exports from India to Japan
2. Remittances from workers in Saudi Arabia sent back to family members in India
3. Imports to India from China

Select the correct answer using the code given below:

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

Answer-d

Exports are counted in the current account because they represent the movement of funds internationally, but do not represent a transaction that creates a future obligation. Exports create a current account credit.

Imports are counted in the current account because they represent the movement of funds internationally but do not represent a transaction that creates a future obligation. Imports create a current account debit.

Remittances are counted in the current account because they do not represent a transaction that has a future obligation tied to it. Remittances are simply a transfer of funds from one country to another that is not in exchange for anything.

Source- [Article](#)

Science and Technology

Q8) With reference to Phishing and Phishing attacks, consider the following statements:

1. Spear phishing targets specific individuals instead of a wide group of people.
2. Phone-based phishing scams are referred to as Vishing.

Which of the statements given above is/are correct?

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

Answer: c

Both statements are correct.

- **Statement 1 is correct:** Spear phishing targets specific individuals instead of a wide group of people. Attackers often research their victims on social media and other sites. That way, they can customize their communications and appear more authentic. Spear phishing is often the first step used to penetrate a company's defenses and carry out a targeted attack.
- **Statement 2 is correct:** Vishing is a type of phishing scam that happens on the phone. The word vishing is a combination of 'voice' and 'phishing'. To do this, they are looking for your personal details, such as your card, PIN, passwords or card reader codes.

Source: [Article](#)

HISTORY

Q.9) Consider the following statements.

1. He described the battle of Plassey and the arrival of British rule in India as “A Night of Eternal Gloom”.
2. His autobiography, Aamar Jiban-My Life is an important document highlighted the politics and social aspirations of the Bengali literates.
3. His novel Bhanumati and memoir of his travels 'Prabaser Patra' brought him fame.

Which of the following personalities is defined in the statement above?

- a) Shyamlal Gupta
- b) Makhanlal Chaturvedi
- c) Nabin Chandra Sen
- d) Mahadevi Varma

Answer: C

Source: [All India Radio](#)

Science and Technology

Q.10) With reference to Obstructive Sleep Apnoea (OSA), consider the following statements:

1. It is a disorder in which a person's breathing stops and starts repeatedly in their sleep.
2. The OSA leads to a lot of road traffic accidents.
3. There is no treatment for OSA.

Which of the statements given above is/are correct?

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

Answer: B

OSA is a disorder in which a person's breathing stops and starts repeatedly in their sleep. When a person is obese, they develop extra fat on their larynx and pharynx (muscles in the throat) that can close off their airway in sleep.

Although the condition doesn't kill by itself, it can lead to heart attacks and strokes due to the low oxygen level. In the long run, it can also result in increasing blood pressure, abnormal heart rhythms, and other metabolic disorders.

OSA also leads to a lot of road traffic accidents as people with OSA tend to doze off while driving. OSA is the most common cause of road accident in the US.

For treatment, the best method is to use a CPAP (Continuous Positive Airway Pressure) therapy.

Source: [Indian Express](#)

INTERNATIONAL RELATIONS

Q.11) With reference to UN Security Council (UNSC), consider the following statements:

1. One of the functions of the UNSC is to exercise the trusteeship functions of the United Nations in strategic areas.
2. The UN Peacebuilding Commission (PBC) is a subsidiary organ of the General Assembly and the Security Council.

Which of the statements given above is/are incorrect?

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

Answer: d

- **Statement 1 is correct:** One of its many functions is to exercise the trusteeship functions of the United Nations in strategic areas.
- **Statement 2 is correct:** The Peacebuilding Commission (PBC) is a subsidiary organ of both the GA and the Security Council. It was jointly established by the General Assembly and the Security Council in 2005 as a new intergovernmental advisory body of the United Nations that supported peace efforts in countries emerging from conflict. Its aim is to propose integrated strategies for post-conflict peacebuilding and recovery, bring together all of the relevant actors and marshal resources.

Source: [Article](#)

ECONOMY

Q.1) Consider the following statements:

1. Financial Stability and Development Council(FSDC) is a Statutory body.
2. It is chaired by Governor of Reserve Bank of India
3. One of the objectives of the council is to enhance inter-regulatory coordination.

Which of the statements given above is/are incorrect?

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

Answer-a

With a view to strengthening and institutionalizing the mechanism for maintaining financial stability, enhancing inter-regulatory coordination and promoting financial sector development, the Financial Stability and Development Council (FSDC) was set up by the Government as the apex level forum in December 2010.

The Chairman of the Council is the Finance Minister and its members include the heads of financial sector Regulators (RBI, SEBI, PFRDA, IRDA & FMC) Finance Secretary and/or Secretary, Department of Economic Affairs, Secretary, Department of Financial Services, and Chief Economic Adviser.

It is non-**statutory** apex **council** under the Ministry of **Finance** constituted by the Executive Order in 2010.

Source- [Article](#)

POLITY AND GOVERNANCE

Q.2) With reference to the Public Interest Litigation (PILs), consider the following statements:

1. PILs can be filed either before the Supreme Court of India or any High Court.
2. Supreme court has in its various judgements ruled that a letter or a postcard addressed to the Chief Justice of India cannot be converted to a PIL

Which of the statements given above is/are correct?

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

Answer-a

PILs are extensions of Writ Jurisdiction. Therefore, PILs may be filed either before the Hon'ble Supreme Court of India under Article 32 of the Indian Constitution or any High Court under Article 226 of the Indian Constitution.

However, even a simple letter or a postcard addressed to the Chief Justice of India or the Chief Justice of a High Court may suffice. The court may then choose to take cognizance of the letter and convert it into a PIL.

Source- [Article](#)

ENVIRONMENT

Q.3) Consider the following statements:

1. Endemic species are those that are only found in a particular geographical area and do not occur naturally in any other part of the world.
2. Namdapha Flying Squirrel and lion-tailed macaque are endemic to Western Ghats.

Which of the statements given above is/are correct?

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

Answer-a

Endemic species are those that are restricted to a geographical area and do not occur naturally in any other part of the world.

Namdapha Flying Squirrel is endemic to the state of Arunachal Pradesh.

Many species such as the Nilgiri tahr (*Hemitragus hylocrius*) and the lion-tailed macaque (*Macaca silenus*) are endemic to Western Ghats. In fact, 50 per cent of India's amphibians and 67 per cent of fish species are endemic to this region.

Source- [Article](#)

ECONOMY

Q.4) With reference to National Agriculture Market (e-NAM), consider the following statements:

1. It is a pan-India electronic trading portal which networks the existing APMC mandis to create a unified national market for agricultural commodities.
2. All states and some Union territories are integrated into the e-NAM network.
3. Small Farmers Agribusiness Consortium (SFAC) is the lead agency for its implementation.

Which of the statements given above is/are correct?

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

Answer-a

National Agriculture Market (eNAM) is a pan-India electronic trading portal which networks the existing APMC mandis to create a unified national market for agricultural commodities.

Small Farmers Agribusiness Consortium (SFAC) is the lead agency for implementing eNAM under the aegis of Ministry of Agriculture and Farmers' Welfare, Government of India.

Currently, 1,000 markets located in 21 states and three union territories (UTs) are integrated into the e-NAM network.

Source- [Article](#)

Science and Technology

Q.5) With reference to the term Metadata, consider the following statements:

1. It can be defined as the information that describes other information.
2. It Complicates the process of data management and makes it cumbersome and unmanageable.
3. Government has been focusing on it to enhance Inter-departmental information exchange.

Which of the statements given above is/are correct?

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

Answer-d

The most common definition of the term 'metadata' is structured data about data, information that describes other information. A metadata record is a label, like the label we might find on an everyday product in a supermarket. The label describes the product, and quite often contains information that is useful both to consumers and to the electronic systems that control the store.

With the use of this Inter-departmental information exchange becomes easier. Hence, metadata increases the visibility and accessibility of Government services over the Internet Modernizing Government calls for better use of official information, joined-up systems and policies, and services designed around the needs of citizens. Metadata makes it easier to manage or find information be it in the form of web pages, electronic documents, paper files, databases, anything.

Source- [Article](#)

INTERNATIONAL RELATIONS

Q.6) With reference to the Trade-Related Aspects of Intellectual Property Rights agreement(TRIPS), consider the following statements:

1. TRIPS Agreement require all member's rules on protection of intellectual property to be identical.
2. It does not allow compulsory licensing of patents.

Which of the statements given above is/are correct?

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

Answer- d

TRIPS Agreement does not require all member's rules on protection of intellectual property to be identical, in only requires members to comply with certain minimum standards for the protection of intellectual property rights covered in it.

It allows compulsory licensing and government use of a patent without the authorization of its owner.

Source- [article](#)

ENVIRONMENT

Q.7) Which of the following have launched the initiative 'Forum for Decarbonizing Transport in India'?

- a) NITI Aayog
- b) Ministry of heavy Industries
- c) Ministry of environment , forests and climate change
- d) Central pollution control board

Answer-a

NITI Aayog and World Resources Institute(WRI), India, jointly launched the 'Forum for Decarbonizing Transport' in India as part of the NDC-Transport Initiative for Asia (NDC-TIA) project.

Source- [Article](#)

SCIENCE AND TECHNOLOGY

Q.8) With reference to Magnetars, consider the following statements:

- 1. The magnetic field of a typical neutron star is many times stronger than that of a Magnetar.
- 2. Scientists have found them to be one of the possible sources of Fast Radio Bursts (FRBs).

Which of the statements given above is/are correct?

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

Answer: b

- **Statement 1 is incorrect:** As per NASA, a magnetar is a neutron star, "the crushed, city-size remains of a star many times more massive than our Sun." The magnetic field of such a star is very powerful, which can be over 10 trillion times stronger than a refrigerator magnet and up to a thousand times stronger than a typical neutron star's.
- **Statement 2 is correct:** As per a study in 2020, some Magnetars have been found to emit Fast Radio Bursts.

Source: [Article](#)

INTERNATIONAL RELATIONS

Q.9) With reference to Munich Security Conference, Consider the following statements:

1. It is an annual conference on international security policy.
2. It is organised by the European Union.
3. India participated in the conference in 2022.

Which of the statements given above is/are correct?

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

Answer: C

Statement 1 is correct: The Munich Security Conference is an annual conference on international security policy that has been held in Munich, Bavaria, Germany since 1963.

(Statement 2 is incorrect) Statement 3 is correct: The Munich Security Conference is being organised by Germany. India is taking part in it.

Source: [DW](#)

ENVIRONMENT

Q.10) The term ‘Euphlyctis Jaladhara’ sometimes seen in news, is associated with which of the following species?

- a) Skittering frog
- b) Jumping spider
- c) Slender Gecko
- d) Wood snake

Answer: a

- A new frog species was recently discovered from the freshwater bodies of the western coastal plains of India.
- The frog had been scientifically named Euphlyctis Jaladhara with a common name “Jaladhara skittering frog”, suggestive of the frog’s habitat - a small body of water or reservoir. Initially, it was first spotted in fresh water bodies around the Thattekad Bird Sanctuary in Ernakulam, and then multiple populations were identified all along the western coastal plains from Kerala to Gujarat.

Source: [Article](#)

ECONOMY

Q.1) With reference to Practice of Mulching in agriculture, Consider the following statements:

1. It refers to the process of covering the plants with a layer of dried straw or fallen leaves.
2. It is one of the key components of Zero Budget Natural Farming (ZBNF).
3. Although helpful in conserving soil moisture, it also increases the temperature of soil which affects soil microorganisms negatively.

Which of the statements given above is/are correct?

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

Answer-b

Mulching, or covering the plants with a layer of dried straw or fallen leaves, is meant to conserve soil moisture and keep the temperature around the roots at 25-32 degrees Celsius, which allows the microorganisms to do their job.

Mulching is one of the four wheels” of ZBNF.

Source- [Article](#)

POLITY AND GOVERNANCE

Q.2) Which of the following statements best describes “Limited government”?

- a) It is an agreement between the government and citizens, defining the rights and duties of each.
- b) It is a political system in which there are certain restrictions placed on the government to protect individual rights and liberties.
- c) It is an Opportunity available to all the citizens of the state to develop themselves fully.
- d) It refers to constitutionally allocated distribution of powers between two or more levels of government.

Answer- b

Statement a defines social contract.

Statement c refers to the term liberty, Positive liberty is the possibility of acting — or the fact of acting — in such a way as to take control of one’s life and realize one’s fundamental purposes. One may surmise that the purpose of ensuring that one has no obstacles is to realize one’s full potential.

Statement d refers to the term ‘federalism’, it refers to the constitutionally allocated distribution of powers between two or more levels of government in the modern nation-state system—one, at the national level and the other, at the provincial, state or local level.

Source- [Article](#)

SCIENCE AND TECHNOLOGY

Q.3) To Which of the following areas, the “Quantum key distribution” is most closely interlinked?

- a) Internet of things
- b) Secure communication model
- c) Virtual reality
- d) Blockchain technology

Answer- b

Quantum key distribution (QKD) is a secure communication method which implements a cryptographic protocol involving components of quantum mechanics.

Source- [article](#)

ECONOMY

Q.4) Consider the following statements:

1. In the last five years, India has emerged as one among the top five arms exporting nations of the world.
2. Increasing the Foreign Direct Investment (FDI) limit in defense production will help India achieve self-reliance in defence manufacturing.
3. A Negative import list of weapons systems will harm the domestic arms production efforts in the country.

Which of the statements given above is/are incorrect?

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

Answer-a

India emerged as the second-largest importer of arms transferred between 2016-20, with a share of 9.5% of global arms imports. It is not among the top 5 arms exporting nations.

From creating a new “Buy (Global — Manufacture in India)” procurement category to implementing a negative import list of 101 weapons systems and increasing the Foreign Direct Investment (FDI) limit in defence production to 74% through the automatic route, India’s defence establishment has introduced several measures to achieve self-reliance in defence manufacturing.

Source- [Article](#)

INTERNATIONAL RELATIONS

Q.5) Which one of the following group of countries is member of NATO?

1. Spain, Turkey, United kingdom.
2. Spain, United kingdom, Ukraine
3. Turkey, Ukraine, United states
4. Germany, France, Sweden

Answer-a

Ukraine is not currently a member of **NATO**, but it is a partner country.

Source- [Article](#)

SCIENCE AND TECHNOLOGY

Q.6) Which of the following is India's first indigenously-built aircraft carrier?

- a) INS Viraaz
- b) INS Vikramaditya
- c) INS Vikrant
- d) INS Viraat

Answer-c

The indigenously-built aircraft carrier (IAC) Vikrant, the first of its kind and a symbol of India's atmanirbharta in defence, is expected to be commissioned later this year.

Source- [Article](#)

Q.7) Consider the following statements:

1. Wular lake is fed by Jhelum river
2. Char Chinar is an island on Wular lake

Which of the statements given above is/are correct?

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

Answer-a

A famous landmark in Srinagar is an island on Dal called Island of Char Chinar.

Source- [Article](#)

Q.8) With reference to Super computers, consider the following statements:

1. Multiple users are capable of accessing the supercomputer at same time.
2. They do not require water cooling to bring down heat.

Which of the statements given above is/are correct?

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

Answer: A

Statement 1 is correct: These types of computers are able to solve large amounts of calculations, and complicated calculations as well. Multiple users are capable of accessing the supercomputer at same time.

Statement 2 is incorrect: A supercomputer produces more heat during processing time so they need water cooling in addition to an A/C system.

Source: [The Hindu](#)

ECONOMY

Q.9) What is/are the advantages of shifting to natural farming?

1. Reduce the dependence on credit.
2. Less flexible than organic farming.
3. Higher carbon fixation into the soil.

Select the correct answer from the codes given below.

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

Answer: C

Statement 1 is correct: A panel survey of 260 farm households which were surveyed in 2018-19 and 2019-20, found that natural farming reduced the dependence on credit, freeing many farmers from exploitative and interlinked input and credit markets.

Statement 2 is incorrect: Organic farming is more about certification, while natural farming is a gradual process. But there is relative flexibility in natural farming for adoption. This makes it easier for small farmers to transition.

Statement 3 is correct: Natural farming not just creates cost savings for farmers, but also ensures higher carbon fixation into the soil, which can mitigate climate change.

Source: [Indian Express](#)

SCIENCE AND TECHNOLOGY

Q.10) With reference to **gravitational lensing**, consider the following statements:

1. Gravitational lensing is an effect of Einstein's theory of general relativity, I.e., mass bends light.
2. It is directly sensitive to the amount and distribution of dark matter.

Which of the statements given above is/are correct?

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

Answer: C

Gravitational lensing is an effect of Einstein's theory of general relativity – simply put, mass bends light.

The more massive the object, the stronger its gravitational field and hence the greater the bending of light rays – just like using denser materials to make optical lenses results in a greater amount of refraction.

Gravitational lensing is useful to cosmologists because it is directly sensitive to the amount and distribution of dark matter.

Source: [The Hindu](#)

SCIENCE AND TECHNOLOGY

Q.1) With reference to the CERT-IN, consider the following statements:

1. It is the national nodal agency for responding to computer security incidents as and when they occur.
2. It is under the Ministry of Electronics and Information Technology.

Which of the statements given above is/are correct?

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

Answer-c

CERT-In is operational since January 2004. The constituency of CERT-In is the Indian Cyber Community. CERT-In is the national nodal agency for responding to computer security incidents as and when they occur. It is under the Ministry of Electronics and Information Technology.

Source- [Article](#)

POLITY

Q.2) Which of the following are the functions performed by the Central Drugs Standard Control Organisation (CDSCO):

1. Regulatory control over the import of drugs
2. Approval of new drugs
3. Controlling the Prices of Pharmaceutical drugs

Which of the statements given above is/are correct?

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

Answer-a

National Pharmaceutical Pricing Authority (NPPA) is a government regulatory agency that controls the prices of pharmaceutical drugs in India.

CDSCO has regulatory control over the import of drugs, approval of new drugs and clinical trials.

Source- [Article](#)

ENVIRONMENT

Q.3) With reference to the Saltwater crocodile, consider the following statements:

1. Apart from the eastern coast of India, the saltwater crocodile is extremely rare on the Indian subcontinent.
2. They are in the critically endangered category of the IUCN Red list.

Which of the statements given above is/are correct?

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

Answer-a

Apart from the eastern coast of India, the saltwater crocodile is extremely rare on the Indian subcontinent (de Vos, 1984). The saltwater crocodile is also found in Bangladesh. A large population is present within the Bhitarkanika Wildlife Sanctuary of Odisha while smaller populations occur throughout the Sundarbans.

IUCN status- Least concern

Source- [Article](#)

SCIENCE AND TECHNOLOGY

Q.4) With reference to the 3D Printing technology, consider the following statements:

1. It is a technology that produces objects layer by layer.
2. Subtractive manufacturing is a more advanced version of this technology that is going to play a pivotal role in Industrial revolution 4.0

Which of the statements given above is/are correct?

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

Answer-a

Subtractive manufacturing or Machining (traditional method) is an umbrella term for various controlled machining and material removal processes that start with solid blocks, bars, rods of plastic, metal, or other materials that are shaped by removing material through cutting, boring, drilling, and grinding.

In contrast to the subtractive process of removing material from a larger piece, additive manufacturing or 3D printing processes build objects by adding material one layer at a time, with each successive layer bonding to the preceding layer until the part is complete.

Source- [Article](#)

Q.5) Which of the following Principle is behind the working of wireless chargers?

- a) Electromagnetic Induction
- b) Hooke's law
- c) Wien's Law
- d) Kirchhoff's law

Answer-a

Wireless charging is based on the principle of electromagnetic induction. When an electric current is sent through a coil (a wound-up cable), it creates a magnetic field whose action generates another electric current in a second coil that's some distance away.

Source- [Article](#)

INTERNATIONAL RELATION

Q.6) Which of the following publishes the Global competitiveness report?

- a) World economic forum
- b) United Nations Conference on Trade and Development
- c) World Intellectual Property Organization
- d) International Monetary Fund

Answer-a

World economic forum Publishes Global competitiveness report.

Source- [Article](#)

SCIENCE AND TECHNOLOGY

Q.7) Terms like Gothic Panda, Stone Panda, Red Echo have been in news in the recent years, to which of the following areas are they related to?

- a) Cyber security
- b) Civil society organizations
- c) Wildlife species conservation
- d) Mini satellites

Answer-a

These are names of some hacker groups so these terms are related to the cyber security area.

Source- [Article](#)

Q.8) With reference to wireless charging, consider the following statements:

1. Wireless charging produces less heat than wired charging.
2. Wireless charging is less efficient and more power-consuming than wired charging.

Which of the statements given above is/are correct?

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

Answer: B

Statement 1 is incorrect: Wireless charging produce more heat than wired charging.

Statement 2 is correct: Wireless charging is less efficient and more power-consuming than wired charging. Studies have found that wireless charging averagely uses 47 per cent more power than wired charging. The extra power consumption by a single wireless charger won't significantly increase your energy bill, but all smartphone users in the world switching to wireless charging would have a critical impact on the environment.

Source: [TOI](#)

ENVIRONMENT

Q.9) With reference to **Net Zero Carbon Cities' mission**, consider the following statements:

1. It aims to create an enabling environment for clean electrification and circularity, resulting in urban decarbonization and resilience.
2. It is an initiative of the World Economic Forum.

Which of the statements given above is/are correct?

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

Answer: C

The World Economic Forum's Net Zero Carbon Cities' mission is to create an enabling environment for clean electrification and circularity, resulting in urban decarbonization and resilience. The program aims to do this by fostering public-private collaboration to bridge the gap across the energy, built environment and transport sectors.

Source: [PIB](#)

Q.10) What are the applications of Carbon Capture, Utilization, and Storage (CCUS) technologies?

1. Reduce the rate of CO₂ emissions.
2. Enhance Oil Recovery.
3. Cheaper way to capture CO₂.

Select the correct answer from the codes given below.

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

Answer: a

Statement 1 is correct: CCUS can reduce the rate of CO₂ emissions. Thereby mitigating Climate Change.

Statement 2 is correct: Oil and Natural Gas Corporation signed a MoU with Indian Oil Corporation Limited (IOCL) for Enhanced Oil Recovery (EOR) by injecting CO₂.

Statement 3 is incorrect: Carbon capture involves the development of sorbents that can effectively bind to the CO₂ present in flue gas or the atmosphere, which is expensive.

Source: [DTE](#) [PIB](#)

INTERNATIONAL RELATIONS

Q.1) Which of the following states has publicly announced the successful detonation test of nuclear weapons?

1. Israel
2. North Korea
3. Ukraine

Select the correct answer using the code given below:

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

Answer-b

Eight States have publicly announced successful detonation of nuclear weapons. Five are considered to be nuclear-weapon states (NWS) under the terms of the Treaty on the Non-Proliferation of Nuclear Weapons(NPT). In order of acquisition of nuclear weapons these are the United States, Russia , United kingdom, France, and China .

Since the NPT entered into force in 1970, three states that were not parties to the Treaty have conducted overt nuclear tests , namely India, Pakistan , and North Korea. North Korea had been a party to the NPT but withdrew in 2003.

Israel is also generally understood to have nuclear weapons, but does not acknowledge it.

States that formerly possessed nuclear weapons are South Africa (developed nuclear weapons but then disassembled its arsenal before joining the NPT) and the former Soviet republics of Belarus, Kazakhstan, and Ukraine, whose weapons were repatriated to Russia.

Source- [Article](#)

POLITY AND GOVERNANCE

Q.2) Consider the following statements:

1. Constitutional bodies can only be created or changed by passing a regular, government or Private bill.
2. Central Bureau of Investigation (CBI) is a statutory body
3. Securities and Exchange Board of India (SEBI) is a statutory body that regulates both the securities and commodity market in India.

Which of the statements given above is/are incorrect?

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

Answer-b

In India, a constitutional body is a body or institute established by the Constitution of India. They can only be created or changed by passing a Constitution amendment bill, rather than by a regular, government or private bill.

The Securities and Exchange Board of India is the regulatory body for securities and commodity market in India under the ownership of Ministry of Finance, Government of India. It was established on 12 April 1988 and given Statutory Powers on 30 January 1992 through the SEBI Act, 1992.

The CBI is not a statutory body although it derives its powers from the Delhi Special Police Establishment (DSPE) Act, 1946, which was passed in British India.

Source- [Article](#)

SCIENCE AND TECHNOLOGY

Q.3) Recently terms like Sandes and Samvad have been in news, with reference to these, consider the following statements:

1. These are two communication apps
2. They are being developed through a joint collaboration between the India and USA.
3. They have set of unique features to enhance its usability for official communication/meeting.

Which of the statements given above is/are correct?

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

Answer-a

Sandes and Samvad are two apps that have been built by different departments of the government and are currently being tested before a final rollout happens. Sandes is being developed by the National Informatics Centre, the technology infrastructure arm of the government under the Ministry of Electronics and Information Technology (MeitY). Samvad is being developed by the Centre for Development of Telematics (C-DoT), under the Ministry of Communications.

Source- [Article](#)

POLITY AND GOVERNANCE

Q.4) Consider the following:

1. Education
2. Public health and sanitation
3. Agriculture, including agricultural education and research.

Which of the above is/are the part of the State list under the seventh schedule of the Indian constitution?

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

Answer-c

By an amendment in 1976 and education became a concurrent list subject which enables the central government to legislate it in the manner suited to it.

Public health and sanitation and Agriculture, including agricultural education and research are in the state list.

Source- [Article](#)

INTERNATIONAL RELATIONS

Q.5) Which of the following statements best describes the objective of the “Minsk agreement”?

- (a) It is a collaborative effort to certify infrastructure projects that meet robust international quality standards.
- (b) The agreement ensures that space exploration is conducted in a safe, sustainable and transparent manner and in full compliance with international law.
- (c) They are a set of agreements designed to end a separatist war
- (d) It is an agreement with the objective to develop a worldwide grid through which clean energy can be transmitted.

Answer-c

The Minsk agreements were a series of international agreements which sought to end the war in the Donbas region of Ukraine.

Source- [Article](#)

SCIENCE AND TECHNOLOGY

Q.6) Consider the following:

- 1. Coking coal
- 2. Iron ore scrap
- 3. Limestone

Which of the above is/are the key raw materials to manufacture steel?

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

Answer-d

For the production of steel, there is a need for iron raw material in the form of iron ore or scrap metal, together with alloying elements so that the material acquires the desired properties. In the production of ore-based steel, coal is also needed as a reducing agent and limestone as a slag former.

Source- [Article](#)

GEOGRAPHY

Q.7) Consider the following:

- 1. Palk bay
- 2. Gulf of Mannar
- 3. Palk strait

Arrange the above locations/features from North to South?

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

Answer-c

Source- [Article](#)

SCHEMES AND PROGRAMS

Q.8) With reference to Bhasha Sangam Initiative, consider the following statements:

1. It aims to teach basic sentences of everyday usage in 22 Indian languages.
2. It is an initiative of the Ministry of Culture.

Which of the statements given above is/are correct?

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

Answer: A

Statement 1 is correct: It aims to teach school students basic sentences of everyday usage in 22 Indian languages.

Statement 2 is incorrect: It is an initiative of the Ministry of Education under Ek Bharat Shreshtha Bharat.

Source: [PIB](#)

GEOGRAPHY

Q.9) Razzaza Lake was recently seen in the news. It was located in which of the following country?

- a) Turkey
- b) Iraq
- c) Russia
- d) Ukraine

Answer: B

Iraq's Razzaza Lake was once a tourist attraction known for its beautiful scenery and an abundance of fish that locals depended on. Now, dead fish litter its shores and the once-fertile lands around it have turned into a barren desert.

About the Razzaza Lake

Razzaza Lake, also known as Lake Milh, Arabic for Salt Lake, is located in Iraq. It is the second-largest lake in Iraq and is part of a wide valley that includes the lakes of Habbaniyah, Tharthar and Bahr al-Najaf.

The lake was constructed as a measure to control floods in the Euphrates and to be used as a huge reservoir for irrigation purposes.

Source: [Indian Express](#)

ART AND CULTURE

Q.10) Consider the following pairs.

Indian Mathematicians - Contributions

1. Sulbasutras - Pythagorean theorem
2. Aryabhata - Introduced the profound 'bhavana' law
3. Madhava - Discovered the infinite series for pi

Which of the above pair is/are matched correctly?

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

Answer: C

Indian Mathematicians - Contributions

1. Sulbasutras - Pythagorean theorem
2. Aryabhata - Described algorithms for extracting square root and cube root
3. Brahmagupta - Introduced the profound 'bhavana' law of composition for solving quadratic indeterminate equations.
4. Madhava - Discovered the infinite series for pi

Source: [PIB](#)

ENVIRONMENT

Q.11) Consider the following:

1. Saline formations
2. Unmineable coal seams
3. Basalt formations

Which of the above can serve as viable options for Carbon capture and storage?

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

Answer-d

Saline formations, Oil and natural gas reservoirs, Unmineable coal seams, Organic-rich shales, Basalt formations have the potential to serve as Carbon capture and storage sites.

Source- [Article](#)