



ForumIAS

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Prelims Marathon

1st Feb to 06th Feb, 2022

HISTORY

ECONOMICS

POLITY

SCIENCE AND TECHNOLOGY

GEOGRAPHY AND ENVIRONMENT



Polity

Q.1) Which of the following state/UT is/are not covered under schedule 6 of the Indian Constitution?

1. Assam
2. Ladakh
3. Nagaland

Which of the following state/UT is/are not covered under schedule 6 of the Indian Constitution?

Select the correct answer using the code given below:

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

ANS: D

Explanation: Leh had made demand for 6th schedule for Ladakh, while Kargil had asked for the reinstatement of special status under Article 35 and 370.

- Political parties and religious organizations in Leh, have called for an independent hill council to be established under the Sixth Schedule, similar to the Bodoland Territorial Council in Assam.
- The Sixth Schedule of the Constitution (Article 244 (2) and 275 (1)) safeguard tribal populations and offer considerable autonomy to vulnerable communities through the creation of Autonomous Development Councils (ADCs). It covers parts of Assam, Tripura, Meghalaya and Mizoram.

Source: EPIC July, 2021.

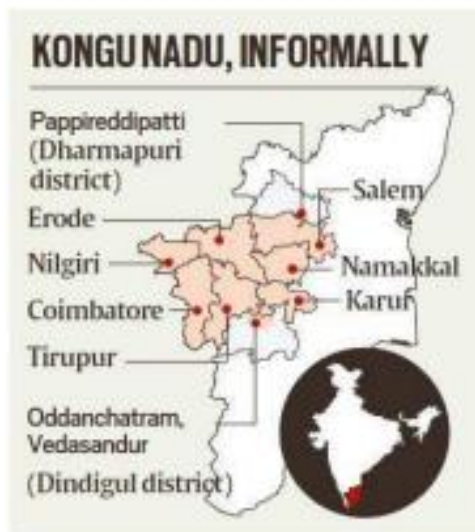
Q.2) Recently, the term '**Kongu Nadu**' has been in news. The term is used for which of the following region?

- a) Western part of Tamil Nadu
- b) Southern part of Kerala
- c) Southern part of Karnataka
- d) Eastern part of Andhra Pradesh

ANS: A

Explanation: A list of new Union Cabinet ministers issued in Tamil Nadu has triggered a debate in political circles, by referring to 'Kongu Nadu', the informal name for a region in the western part of the state.

- 'Kongu Nadu' is neither a place with a PIN code nor a name given formally to any region. It is a commonly used name for part of western Tamil Nadu.
- In Tamil literature, it was referred to as one of the five regions of ancient Tamil Nadu. There were mentions of 'Kongu Nadu' in Sangam literature as a separate territory.



- In the present state of Tamil Nadu, the term is informally used to refer to a region that includes the districts of Nilgiris, Coimbatore, Tirupur, Erode, Karur, Namakkal and Salem, as well as Oddanchatram and Vedsandur in Dindigul district, and Pappireddipatti in Dharmapuri district.

- The name derives from Kongu Vellala Gounder, an OBC community with a significant presence in these districts.

Source: EPIC, July 2021.

Q.3) Consider the following statements:

1. Article 311 of the Constitution deals with 'Dismissal, removal or reduction in rank of persons employed in civil capacities under the Union or a State'
2. The government employee dismissed under Article 311 of Constitution cannot approach either tribunal or courts.

Which of the statements given above is/are NOT correct?

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

ANS: B

Explanation: Article 311 of the Constitution deals with 'Dismissal, removal or reduction in rank of persons employed in civil capacities under the Union or a State'.

Subsections under Article 311:

- Article 311(1): It says that no government employee either of an all-India service or a state government shall be dismissed or removed by an authority subordinate to the one that appointed him/her.
- Article 311(2): It says that no civil servant shall be dismissed or removed or reduced in rank except after an inquiry in which s/he has been informed of the charges and given a reasonable opportunity of being heard in respect of those charges.
- Can the dismissal under section 311(2) be challenged by the government employee? Yes, the government employee dismissed under these provisions can approach either tribunal or courts.

Source: EPIC, July 2021.

Q.4) Consider the following statements about “dying declaration”:

1. Dying declaration can only be recorded in presence of a judicial or executive magistrate.
2. A dying declaration can form the sole basis of conviction.

Which of the statements given above is/are correct?

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

ANS: B

Explanation:

Dying Declaration: The Dying Declaration is the statement of a person who had died explaining the circumstances of his death.

- A dying declaration is considered credible and trustworthy evidence, based upon the general belief that most people who know that they are about to die, do not lie.
- Section 32 of the Indian Evidence Act deals with the cases related to that person who is dead or who cannot be found.

Who can record dying declarations?

Anyone can record the dying declaration of the deceased as per law. The law does not compulsorily require the presence of a Judicial or Executive Magistrate to record a dying declaration

Source: EPIC, July 2021.

Q.5) Consider the following statements about National Curriculum Framework (NCF):

1. Ministry of Education would be responsible for framing National Curriculum Framework.
2. NCF would be designed to take on board suggestions from CBSE and ICSE only.

Which of the statements given above is/are correct?

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

ANS: D

Explanation: About the National Curriculum Framework: The National Council of Educational Research and Training (NCERT) has tasked the State Councils of Educational Research and Training (SCERTs) to develop four State Curriculum Frameworks (SCFs). They pertain to School Education, Early Childhood Care and Education (ECCE), Teacher Education (TE) and Adult Education (AE). This is as in the recommendations of the National Education Policy (NEP) 2020.

- At the first level, the NCERT will provide templates to the States to develop four draft SCFs, the drafts will feed into formulating the National Curriculum Frameworks, or NCFs, and the final version of the NCFs will be used as guiding documents to finalize the SCFs.
- The cycle seems to be designed to take on board suggestions from all States, thereby making the NCFs representative and inclusive documents. The NCERT will also provide e-templates for each of these tasks, survey questionnaires/multiple-choice questions to conduct surveys, etc. Thus, massive data collection seems to be in progress.

Source: 9 PM Compilation of July, 2021

Q.6) Consider the following statements:

1. A bye-election for filling any vacancy shall be held within a period of six months from the date of the occurrence of the vacancy.
2. The process of the by-polls has been mentioned in the Indian Constitution.
3. A by-poll need not be held, if the remainder of the term of a member in relation to a vacancy is less than one year.

Which of the following statement is/are correct?

Select the correct answer using the code given below:

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

ANS: C

Explanation: Section 151-A of the Representation of the People Act 1951 states that a “a bye-election for filling any vacancy...shall be held within a period of six months from the date of the occurrence of the vacancy”. However, there are two exceptions in this section.

- Exception 1: A by-poll need not be held, if the remainder of the term of a member in relation to a vacancy is less than one year;
- Exception 2: A by-poll need not be held the Election Commission in consultation with the Central Government certifies that it is difficult to hold the by-election within the said period.

Source: 9 PM Compilation of July, 2021

Q.7) Which of the following nation is not a member of Quad?

- a) South Korea
- b) India
- c) Japan
- d) USA

ANS: A

Explanation: Quadrilateral Security Dialogue (Quad) is the informal strategic dialogue between India, USA, Japan and Australia with a shared objective to ensure and support a “free, open and prosperous” Indo-Pacific region.

The idea of Quad was first mooted by Japanese Prime Minister Shinzo Abe in 2007. However, the idea couldn't move ahead with Australia pulling out of it, apparently due to Chinese pressure.

Source: 9 PM Compilation of July, 2021

Q.8) Durand line separates which of the following countries?

- a) India and Pakistan
- b) China and Pakistan
- c) Afghanistan and Pakistan
- d) India and Bangladesh

ANS: C

Explanation: Durand Line: Established in the Hindu Kush in 1893, it runs through the tribal lands between Afghanistan and British India. In modern times it has marked the border between Afghanistan and Pakistan.

- It is a legacy of the 19th century Great Game between the Russian and British empires in which Afghanistan was used as a buffer by the British against a feared Russian expansionism to its east.
- The agreement demarcating what became known as the Durand Line was signed between the British civil servant Sir Henry Mortimer Durand and Amir Abdur Rahman, and the Afghan ruler in 1893.

Source: 9 PM Compilation of July, 2021

Q.9) 'FASTER Scheme' is related to which of the following?

- a) Timely release of prisoners
- b) Promotion to research in AI
- c) Developing COVID-19 Vaccination
- d) Software for Online examination

ANS: A

Explanation: FASTER Scheme: The Chief Justice of India (CJI) announced the rollout of a new scheme called FASTER. It will ensure the timely release of prisoners from jail and uphold their dignity. It stands for 'Fast and Secure Transmission of Electronic Records'. It would enable the Supreme Court (SC) to instantly, directly, securely, and electronically transmit bail and other orders to jail authorities, district courts, and High Courts.

Source: 9 PM Compilation of July, 2021

Q.10) Which of the following is/are recommendations of "Sarkaria Commission"?

1. Permanent Inter-state council should be established under article 263.
2. Article 356 should be used very sparingly.
3. Residuary powers of taxation should be given to states.

Choose the correct code from below given options:

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

ANS: B

Explanation: In 1983, the Central government appointed a three-member Commission on Centre-state relations under the chairmanship of R S Sarkaria, a retired judge of the Supreme Court. The Commission made 247 recommendations to improve Centre-state relations. The important recommendations are mentioned below:

- A permanent Inter-State Council called the Inter-Governmental Council should be set up under Article 263.

PRELIMS MARATHON COMPILATION FOR THE MONTH OF FEBRUARY (FIRST WEEK), 2022

- Article 356 (President's Rule) should be used very sparingly, in extreme cases as a last resort when all the available alternatives fail.
- The institution of All-India Services should be further strengthened and some more such services should be created.
- The residuary powers of taxation should continue to remain with the Parliament, while the other residuary powers should be placed in the Concurrent List.
- When the president withholds his assent to the state bills, the reasons should be communicated to the state government.

Source: Laxmikanth

Economy

Q.1) Consider the following statements about BharatNet Project:

1. BharatNet Project has been launched in 2015.
2. The Project will be implemented in all states through Public-Private Partnership (PPP) 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

ANS: D

Explanation: BharatNet Project was originally launched in 2011 as the National Optical Fibre Network (NOFN) and renamed as Bharat-Net in 2015.

- Recently, Union Cabinet has accorded approval for the revised implementation strategy of BharatNet through Public-Private Partnership (PPP) mode in 16 States of the country.
- The 16 States covered under the project are: Kerala, Karnataka, Rajasthan, Himachal Pradesh, Punjab, Haryana, Uttar Pradesh, Madhya Pradesh, West Bengal, Assam, Meghalaya, Manipur, Mizoram, Tripura, Nagaland, and Arunachal Pradesh.
- Moreover, the project will be divided into nine packages, each corresponding to one or more telecom circles, and no private investor will be awarded more than four packages to avoid monopoly.

Source: EPIC, July 2021.

Q.2) Which of the following term is used for a grant to support projects that are economically justified but not financially viable?

- a) Viability Gap Fund
- b) Hedge funding
- c) Crowd funding
- d) Angel Funding

ANS: A

Explanation: Viability Gap Finance means a grant to support projects that are economically justified but not financially viable.

- The scheme is designed as a Plan Scheme to be administered by the Ministry of Finance and amount in the budget are made on a year-to-year basis.
- Such a grant under VGF is provided as a capital subsidy to attract the private sector players to participate in PPP projects that are otherwise financially unviable.
- Projects may not be commercially viable because of the long gestation period and small revenue flows in future.
- The VGF scheme was launched in 2004 to support projects that come under Public-Private Partnerships.

Source: EPIC, July 2021.

Q.3) Consider the following statements about RBI Retail Direct Scheme:

1. RBI Retail Direct Scheme is a one-stop solution to facilitate investment in government securities (G-secs) by individual investors.
2. Under the scheme, retail investors will have the facility to open and maintain the 'Retail Direct Gilt Account' (RDG Account) with the RBI.

Which of the statements given above is/are correct?

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

ANS: C

Explanation: RBI Retail Direct Scheme is a one-stop solution to facilitate investment in government securities (G-secs) by individual investors.

- Under the scheme, retail investors (individuals) will have the facility to open and maintain the 'Retail Direct Gilt Account' (RDG Account) with the RBI.
- Gilt Account means an account opened and maintained for holding Government securities.
- This RDG account can be opened through an online portal provided for the purpose of the scheme.
- The online portal will then allow the registered users access to primary issuance of G-secs and access to NDS-OM (Negotiated Dealing System — Order Matching (NDS-OM)).

Source: EPIC, July 2021.

Q.4) Which among the following states will have the single largest solar park, which is being setup by NTPC?

- a) Rajasthan
- b) Andhra Pradesh
- c) Gujarat
- d) Telangana

ANS: C

Explanation: NTPC Renewable Energy Ltd (NTPC REL), a 100% subsidiary of NTPC, will set up the country's single largest solar park at Rann of Kutch in Gujarat.

About the Solar Park in Gujarat:

- The 4,750-megawatt (MW) Solar Park at Rann of Kutch in Gujarat will be set up by NTPC Renewable Energy Ltd.
- The project has been approved under Mode 8 (Ultra Mega Renewable Energy Power Park) of Solar Park Scheme.
- This will be India's largest solar park to be built by the largest power producer of the country.

Other Projects of NTPC:

- NTPC has commissioned India's largest Floating Solar of 10 MW on the reservoir of Simhadri Thermal Power Plant, Andhra Pradesh.
- Further, a 100 MW Floating Solar Project on the reservoir of Ramagundam Thermal Power Plant, Telangana is in the advanced stage of implementation.

Source: EPIC, July 2021.

Q.5) Which of the following institution released a report on “Renewable Integration in India 2021”?

- a) Ministry of New & Renewable Energy
- b) NITI Aayog and IEA
- c) International Solar Alliance
- d) Solar Energy Corporation of India

ANS: B

Explanation: The International Energy Agency (IEA) in association with NITI Aayog has released a report titled “Renewables Integration in India 2021”.

About Renewables Integration in India 2021 Report:

India’s Demand for Energy:

- India is the third largest energy-consuming country in the world.
- Also, India has made significant progress towards its universal electrification target for residential users. 100 million people gained electricity access in 2018 alone.
- Per capita electricity consumption across the 28 Indian states and eight union territories is still around a third of the world average and is expected to continue increasing.

Source: EPIC, July 2021.

Q.6) Consider the following statements about Fund for Industrial Research Engagement (FIRE) Initiative:

1. SEBI in collaboration with Intel India has launched the Fund for Industrial Research Engagement (FIRE) Program.
2. The FIRE program aims to promote innovative technology solutions and strengthen academic research through collaboration with key research and development (R&D) organizations in India.

Which of the statements given above is/are correct?

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

ANS: B

Explanation: Science and Engineering Research Board (SERB) in collaboration with Intel India has launched the Fund for Industrial Research Engagement (FIRE) Program.

The FIRE program is a joint government and industry initiative with an aim to promote innovative technology solutions and strengthen academic research through collaboration with key research and development (R&D) organizations in India.

Source: EPIC, July 2021.

Q.7) Consider the following statements about Electricity Bill, 2021:

1. The bill has allowed two or more discoms to register and distribute electricity in the same areas.
2. The Bill has replaced the term 'distribution licensee', and replaced it with 'Distribution Company'.

Which of the statements given above is/are NOT correct?

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

ANS: D

Explanation: About Electricity Bill, 2021:

- Section 24 (A) states that any company may supply electricity to consumers in its area of supply. It can do so using its own distribution system or using the distribution system of another distribution company.
- However, the company should fulfil the prescribed qualifications and must register itself with the Appropriate Commission.
- The Bill has replaced the term 'distribution licensee', and replaced it with 'Distribution Company'.
- It has also allowed two or more discoms to register and distribute electricity in the same areas.
- Existing power purchase agreements would be shared by all discoms in an area. Companies could also sign additional power purchase agreements.
- Providing consumers the right to choose their preferred power supplier would be challenging even after the amendments to the Electricity Act.

Source: 9 PM Compilation of July, 2021

Q.8) Consider the following statements about incremental capital-output ratio (ICOR):

1. ICOR for an economy refers to the units of capital needed to drive one unit of growth.
2. India's ICOR is about 3.5, which translates to a capital investment requirement of 30% of GDP.

Which of the statements given above is/are correct?

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

ANS: A

Explanation: India has set an ambitious target to grow GDP at 9% per annum and for this capital investment is needed to drive economic growth.

- The incremental capital-output ratio (ICOR) for an economy refers to the units of capital needed to drive one unit of growth.
- India's ICOR is about 4.5, which translates to a capital investment requirement of 40% of GDP. Further, India's domestic savings rate hovers at around 28% of GDP (World Bank).

Source: 9 PM Compilation of July, 2021

Q.9) Consider the following statements about Bilateral Investment Treaty (BIT):

1. A BIT is a reciprocal sovereign-to-sovereign guarantee that protects investments and investors of one country in the territory of the other.
2. It additionally provides for dispute resolution mechanisms, such as arbitration, and gives investors the right to private action.

Which of the statements given above is/are correct?

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

ANS: C

Explanation: A BIT is a reciprocal sovereign-to-sovereign guarantee that protects investments and investors of one country in the territory of the other. It additionally provides for dispute resolution mechanisms, such as arbitration, and gives investors the right to private action.

Model BIT:

- GoI recognised these issues emerging from its legacy BITs and issued a model BIT in 2016.
- The model BIT, which has since formed the basis of various renegotiated BITs, attempted to carve out an exception from liability against measures and laws regarding taxation.
- But it was also realised that carving out of such exceptions may not send the right signal to the investment community at large.
- Therefore, GoI has added a specific clarification that awards under the new BIT shall be treated as commercial, and will be enforceable under the existing legislative framework in India.

Source: 9 PM Compilation of July, 2021

Q.10) A graph showing the degree of inequality in income and wealth in a given population or an economy – describes which of the following?

- a) Laffer Curve
- b) Lorenz Curve
- c) Phillips Curve
- d) Kuznets Curve

ANS: B

Explanation: A graph showing the degree of inequality in income and wealth in a given population or an economy. It is a rigorous way to measure income inequality.

- In this method (for example), personal incomes in an economy are arranged in increasing order; the cumulative share of total income is then plotted against the cumulative share of the population.
- The curve's slope is thus proportional to per capita income at each point of the population distribution.
- In the case of complete equality of income, the lorenz curve will be a straight line and with greater curvature the inequality rises proportionally—the Gini Coefficient measures this inequality.

Source: TMH Ramesh Singh

Environment

Q.1) Consider the following statements about black carbon:

1. Black carbon is long lived climate pollutant.
2. It is formed after incomplete combustion of fossil fuels.
3. Southern India has a high burden of black carbon emission.

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

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

ANS: C

Explanation: According to a study, Black Carbon has a significant adverse effect on human health and leads to premature mortality.

Key Findings of the Study:

- The Indo-Gangetic plain has a high burden of black carbon with serious implications for regional climate and human health.
- A 10-point increase in air pollution from black carbon led to an average 5% increase in mortality.
- On the other hand, a similar rise in PM 2.5 led to an average 1% increase in mortality. Nitrogen dioxide (NO₂) and Sulphur Dioxide (SO₂) were both associated with a 2.3% and 1.3% increase in mortality.

About Black Carbon (BC):

- Black carbon (BC) is a short-lived climate pollutant. It is the second-largest contributor to warming the planet after carbon dioxide (CO₂).
- Black carbon is formed through the incomplete combustion of fossil fuels, biofuel, and biomass.
- Primary sources include emissions from diesel engines, cookstoves, wood burning and forest fires.

Source: EPIC, July 2021.

Q.2) Which among the following is light-absorbing particle in the Earth's atmosphere that has the unique characteristics of both cooling the planet's surface and warming its atmosphere?

- a) Black carbon
- b) Blue carbon
- c) Brown carbon
- d) Green carbon

ANS: C

Explanation:

Black carbon (BC) is a short-lived climate pollutant. It is the second-largest contributor to warming the planet after carbon dioxide (CO₂).

Blue Carbon: It refers to coastal, aquatic and marine carbon sinks held by vegetation, marine organisms, and sediments.

Green Carbon: It is the carbon that is stored in terrestrial ecosystems such as forests, pastures, and soils.

Brown Carbon: It is a light-absorbing particle in the Earth's atmosphere that has the unique characteristics of both cooling the planet's surface and warming its atmosphere.

Source: EPIC, July 2021.

Q.3) Which among the following is last ice area?

- a) Antarctica
- b) Siberia
- c) Iceland
- d) Ellesmere Island

ANS: D

Explanation: About Last Ice Area:

- The Last Ice Area is located north of Greenland and in Ellesmere Island in the Canadian territory of Nunavut.
- Scientists had believed this area was strong enough to withstand global warming.
- In 2015, National Geographic had forecasted the total disappearance of summer ice in the Arctic by the year 2040. The only place that would be able to withstand a warming climate would be the "Last Ice Area".

Source: EPIC, July 2021.

Q.4) Consider the following statements about a new report titled "A future for all - the need for human-wildlife coexistence":

1. It has been released by WWF AND UNEP.
2. Conflict between humans and animals is one of the main threats to the long-term survival of some of the world's most iconic species.
3. India will not be affected by such human-animal conflicts.

Which of the statements given above is/are correct?

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

ANS: A

Explanation: World Wide Fund for Nature (WWF) and the UN Environment Programme (UNEP), have released a new report titled - A future for all - the need for human-wildlife coexistence.

Key findings

- Conflict between humans and animals is one of the main threats to the long-term survival of some of the world's most iconic species.
- Human-wildlife conflict, in combination with other threats, has driven the significant decline of species that were once abundant and species that are naturally less abundant, have been pushed to the brink of extinction. Global wildlife populations have fallen an average of 68% since 1970
- India will be most-affected by human-wildlife conflict, the report said. This was because it had the world's second-largest human population as well as large

populations of tigers, Asian elephants, one-horned rhinos, Asiatic lions and other species.

Source: EPIC, July 2021.

Q.5) Which of the following mangrove species is most salt tolerant?

- a) Grey mangrove
- b) Red mangrove
- c) Black mangrove
- d) White mangrove

ANS: A

Explanation: Scientists have completed the genome sequencing of one of the highly salt-tolerant mangrove species, named *Avicennia marina* (Grey Mangrove).

About *Avicennia marina*:

- It is also called Banhi in Odia. It is one of the most prominent mangroves species found in all mangrove formations in India.
- Features: It is a salt-secreting and extraordinarily salt-tolerant mangrove species that grows optimally in 75% seawater and tolerates >250% seawater.
- Significance: It is among the rare plant species which can excrete 40% of the salt through the salt glands in the leaves, besides its extraordinary capacity to exclude salt entry to the roots.

Source: EPIC, July 2021.

Q.6) Consider the following statements:

1. India's First Green Hydrogen Mobility Project will be set up in Andhra Pradesh.
2. It will be set up by NTPC.
3. Green Hydrogen is clean hydrogen generated by using renewable energy such as solar power and wind energy.

Which of the statements given above is/are correct?

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

ANS: B

Explanation: NTPC Renewable Energy Ltd has signed a MoU with the Union Territory of Ladakh to set up India's First Green Hydrogen Mobility Project in Ladakh Region.

Green Hydrogen is clean hydrogen generated by using renewable energy such as solar power and wind energy. The by-products are water and water vapor.

About India's First Green Hydrogen Mobility Project:

- The Green Hydrogen Mobility Project will enable NTPC to help Ladakh in developing a carbon-free economy based on renewable sources and green hydrogen.
- Features: As part of the project, NTPC has planned to ply 5 hydrogen buses in the Ladakh region. The company will also be setting up a solar plant and a green hydrogen generation unit in Leh.
- Significance: This project will put Leh as the first city in the country to implement a green hydrogen-based mobility project.

Source: EPIC, July 2021.

Q.7) Consider the following statements:

1. India's first cryptogamic garden opens in Dehradun.
2. A cryptogam is a plant or a plant-like organism that reproduces by spores without flowers or seeds.

Which of the statements given above is/are correct?

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

ANS: C

Explanation: India's first cryptogamic garden housing nearly 50 species of lichens, ferns, and fungi was inaugurated in the Chakran Town of Uttarakhand's Dehradun district.

Why was this Chakran Town chosen?

- The Cryptogamic Garden is located at Deoban in Chakrata at a height of 9,000 ft.
- This site was chosen because of its low pollution levels and moist conditions which are conducive for the growth of these species.
- Further, Deoban has pristine majestic forests of Deodar and Oak which create a natural habitat for cryptogamic species.

What is Cryptogam?

- A cryptogam is a plant or a plant-like organism that reproduces by spores without flowers or seeds.
- The term Cryptogamae means "hidden reproduction", referring to the fact that no seed is produced. Thus, cryptogams represent the non-seed-bearing plants.
- Cryptogamic plants include Algae, mosses, liverworts, lichens, ferns, and fungi

Source: EPIC, July 2021.

Q.8) Which among the following tiger reserves is not located in Rajasthan?

- a) Mukundra hill Tiger Reserve
- b) Ranthambore Tiger Reserve
- c) Ramgarh Tiger Reserve
- d) Bandhavgarh Tiger Reserve

ANS: D

Explanation: The Rajasthan government will develop a tiger corridor connecting the newly proposed 'Ramgarh Tiger Reserve', Ranthambore Tiger Reserve, and Mukundra Hills Tiger Reserve.

- Ramgarh Vishdhari wildlife sanctuary has recently received a nod from the National Tiger Conservation Authority's (NTCA) technical committee to become the 4th Tiger reserve of Rajasthan.
- Mukundra Tiger Reserve (TR) is located near Kota, Rajasthan. The Mukundra Hills was declared a Wildlife Sanctuary in 1955 and a National Park (Mukundra Hills (Darrah) National Park) in 2004.
- Ranthambore National Park and Tiger Reserve is located in Rajasthan. It is located at the junction of the Aravali and Vindhya hill ranges.

Source: EPIC, July 2021.

Q.9) Consider the following statements:

1. Article 48A directs the State to protect and improve the environment and to safeguard forests and wildlife of the country.
2. Animals too have the right to life under Article 21 of the Constitution.

Which of the statements given above is/are correct?

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

ANS: C

Explanation: In India, humans' right to privacy was famously recognised in the case of Justice KS Puttaswamy (Retd) vs Union of India in 2018.

But in the case of Animal Welfare Board of India vs A Nagaraja & Ors, the court held that animals too have the right to life under Article 21 of the Constitution. The issue is whether by recognising the existence of a right to life for animals under Article 21, it implicitly held that this includes the right to privacy as well.

Constitutional provisions that might lead to right to privacy for animals:

- Article 48A directs the State to protect and improve the environment and to safeguard forests and wildlife of the country.
- Article 51(g) casts a fundamental duty on every citizen to protect and improve the natural environment including wildlife, and to have compassion for living creatures.
- Similarly, Article 51-A(h) says that it shall be the duty of every citizen to develop scientific temper, humanism and the spirit of inquiry and reform.
- These articles read with the principles developed in Animal Welfare Board of India vs A Nagaraja & Ors, lead to the inference that animal species too have the right to privacy.

Source: 9 PM compilation of July, 2021.

Q.10) In which of the following states/UTs, Ganjam Slender Gecko has been discovered?

- a) Odisha
- b) Andaman and Nicobar
- c) Andhra Pradesh
- d) Telanagana

ANS: A

Explanation: Odisha's forest officials have announced measures to preserve the newly discovered tiny gecko species named Ganjam Slender Gecko.

About Ganjam Slender Gecko

- Ganjam Slender Gecko is a tiny gecko species of the genus Hemiphyllodactylus.
- The species was first spotted within the premises of a temple at Humma in Ganjam district in 2014.
- Features: They grow 6 cm in length. They feed on ants, termites, small roaches, spiders, and beetles.
- Habitat: The only habitat of the species is Jhadeshawar sacred grove. Moreover, they are only found in mango trees surrounding the temple. They were never found on concrete walls or below rock boulders, unlike other members of the genus.

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- Significance: This new species is the 7th Indian species of the genus, the second from the northern Eastern Ghats and 41st globally. It is also the first non-island species of the genus which is distributed in lowland habitats.

Source: EPIC July, 2021.

ForumIAS

History

Q.1) “Swadesh Sevak Home” related to which of the freedom initiative?

- a) Home rule movement
- b) Swadeshi movement
- c) Ghadr movement
- d) Non-cooperation movement

ANS: C

Explanation: The Ghadr Party was a revolutionary group organised around a weekly newspaper The Ghadr with its headquarters at San Francisco and branches along the US coast and in the Far East. These revolutionaries included mainly ex-soldiers and peasants who had migrated from the Punjab to the USA and Canada in search of better employment opportunities.

They were based in the US and Canadian cities along the western (Pacific) coast. Pre-Ghadr revolutionary activity had been carried on by Ramdas Puri, G.D. Kumar, Taraknath Das, Sohan Singh Bhakna and Lala Hardayal who reached there in 1911.

To carry out revolutionary activities, the earlier activists had set up a ‘Swadesh Sevak Home’ at Vancouver and ‘United India House’ at Seattle. Finally in 1913, the Ghadr was established.

Source: Spectrum’s A Brief History of Modern India.

Q.2) Consider the following statements with respect to All India Trade Union Congress (AITUC):

1. It was originally formed to give Indian representation at the League of Nations’ International Labor Organization (ILO).
2. Lala Lajpat Rai was first general secretary of AITUC.

Which of the statements given above is/are correct?

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

ANS: A

Explanation: The trade union movement was led by All India Trade Union Congress (AITUC) founded in 1920. Lala Lajpat Rai was its first president and Dewan Chaman Lal its general secretary. Tilak was also one of the moving spirits. In 1923, the first May Day was celebrated in India in Madras. Although the organization was originally formed to give Indian representation at the League of Nations’ International Labor Organization (ILO), it also met an increasing need for such a body for the rapidly expanding labor movement in India. There had been an increasing number of protests and organized lobbying in the late 1800s. This was during British rule and was a reaction against many of the conditions imposed at that time. In the wake of the upheaval caused by World War One, working people all over the world began to view their situations with new eyes. There was a huge amount of activity and protest involving working class people during these early years of the twentieth century.

Source: Spectrum’s A Brief History of Modern India.

Q.3) Match the following folk dances with the states they are associated with:

State	Folk Dance
1. Gujarat	a. Chhau
2. Assam	b. Gidda
3. Punjab	c. Garba
4. Odisha	d. Bhortal

Select the correct code:

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

ANS: C

Explanation:

- Bhortal Dance - It is a folk dance of Assam. Performers wield cymbals and dance in groups, with each group consisting of six or seven dancers. Dancers come up with a unique beat known as 'Thiya Nom' and engage in rapid foot movements
- Chhau - This dance form traces its roots to Odisha, Jharkhand and West Bengal but it is popular in other parts as well. As masks form an important feature of this dance it is called 'Chhau', which literally translates to 'mask'. The performers wield weapons such as swords and shields while dancing.
- Giddha - This dance form is performed in the state of Punjab. Giddha is the female version of 'Bhangra'. The dance aims at expressing the feminine grace. The women wear colorful clothes while performing. Giddha is usually accompanied by 'Bolliyan', a collection of couplets.
- Garba - This dance form originated in the state of Gujarat. Garba is traditionally performed during the nine-day Hindu festival 'Navaratri'. The dance is performed around a lamp. Often the lamp is replaced with a picture or statue of Goddess 'Shakti'.

Source: Spectrum's Facets of Indian Culture

Q.4) Consider the following statements with respect to "Delhi Manifesto":

1. The purpose of the Round Table Conference should be to determine whether or when dominion status was to be reached.
2. Congress and Muslim League should have equal representation.
3. General Amnesty for political prisoners.

Which of the statements given above is/are correct?

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

ANS: D

Explanation: On November 2, 1929, a conference of prominent national leaders issued a 'Delhi Manifesto' which put forward certain conditions for attending the Round Table Conference:

that the purpose of the Round Table Conference should be not to determine whether or when dominion status was to be reached but to formulate a constitution for implementation

of the dominion status (thus acting as a constituent assembly) and the basic principle of dominion status should be immediately accepted;

That the Congress should have majority representation at the conference; and

There should be a general amnesty for political prisoners and a policy of conciliation; Gandhi along with Motilal Nehru and other political leaders met Lord Irwin in December 1929 (after the viceroy had narrowly escaped after a bomb was detonated meaning to hit the train he was travelling in). They asked the viceroy for assurance that the purpose of the round table conference was to draft a constitutional scheme for dominion status. That was not the purpose of the conference, said Irwin. Viceroy Irwin rejected the demands put forward in the Delhi Manifesto.

Source: Spectrum's A Brief History of Modern India.

Q.5) Consider the following statements with respect to Indian councils Act, 1892:

1. Members in Imperial Legislative Council and State Legislative Councils are increased
2. No discussion on budget
3. Principal representation were introduced

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

ANS: C

Explanation:

Indian councils Act, 1892:

- Number of additional members in Imperial Legislative Councils and the Provincial Legislative Councils was raised. In Imperial Legislative Council, now the governor-general could have ten to sixteen non-officials (instead of six to ten previously).
- The non-official members of the Indian legislative council were to be nominated by the Bengal Chamber of Commerce and provincial legislative councils. The members could be recommended by universities, municipalities, zamindars and chambers of commerce. So the principle of representation was introduced.
- Budget could be discussed.
- Questions could be asked.

Source: Spectrum's A Brief History of Modern India.

Q.6) The painting of Bodhisattva Padmapani is one of the most famous and oft-illustrated paintings at:

- a) Ajanta
- b) Badami
- c) Bagh
- d) Ellora

ANS: A

Explanation: The famous paintings of Padmapani and Vajrapani Bodhisattvas under Buddhism are found in Ajanta Caves near Aurangabad. All 29 caves in Ajanta are Buddhist caves.

Source: Spectrum's Facets of Indian Culture

Q.7) The Sarda Act which pushed up the marriage age to 18 and 14 for boys and girls, came into force in which year?

- a) 1929
- b) 1930
- c) 1931
- d) 1932

ANS: B

Explanation: The Native Marriage Act (or Civil Marriage Act), 1872 signified legislative action in prohibiting child marriage. It had a limited impact as the Act was not applicable to Hindus, Muslims and other recognised faiths. The relentless efforts of a Parsi reformer, B.M. Malabari, were rewarded by the enactment of the Age of Consent Act (1891) which forbade the marriage of girls below the age of 12. The Sarda Act (1930) further pushed up the marriage age to 18 and 14 for boys and girls, respectively. In free India, the Child Marriage Restraint (Amendment) Act, 1978 raised the age of marriage for girls from 15 to 18 years and for boys from 18 to 21.

Source: Spectrum's A Brief History of Modern India.

Q.8) Which of the following is/are famous for Sun temples?

- 1. Arasavalli
- 2. Amarakantak
- 3. Omkareshwar

Select the correct answer using the code given below:

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

ANS: A

Explanation: Arasavalli in Andhra Pradesh has one of the prominent Sun temple or suryanarayan temple. Temple at Amarkantak is dedicated to Goddess Narmada and Lord Shiva. Moreover, Omkareshwar temple on the banks of Narmada River in Madhya Pradesh is one of the 12 jyotirlingas dedicated to lord shiva.

Source: Nitin Singhania

Q.9) Treaty of Salbai is between Maratha Empire and which of the following Governor General?

- a) Lord Cornwallis
- b) Lord Hastings
- c) Lord Bentick
- d) Lord Eisenhower

ANS: B

Explanation: Treaty of Salbai (1782): End of the First Phase of the Struggle Warren Hastings, the Governor-General in Bengal, rejected the Treaty of Wadgaon and sent a large force of soldiers under Colonel Goddard who captured Ahmedabad in February 1779 and Bassein in December 1780. Another Bengal detachment led by Captain Popham captured Gwalior in August 1780. In February 1781 the English, under General Camac, finally

defeated Sindhia at Sipri. Sindhia proposed a new treaty between the Peshwa and the English, and the Treaty of Salbai was signed in May 1782; it was ratified by Hastings in June 1782 and by Phadnavis in February 1783.

Source: Spectrum's A Brief History of Modern India.

Q.10) Consider the following statements with respect to Khyal Music:

1. Khyal derived from Persian and it means idea or imagination.
2. The origin of this style was attributed to Amir Khusrau.

Which of the statements given above is/are correct?

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

ANS: C

Explanation: The word 'Khyal' is derived from Persian and means "idea or imagination". The origin of this style was attributed to Amir Khusrau. This form is popular amongst the artists as this provides greater scope for improvisation. Khyal is based on the repertoire of short songs ranging from two to eight lines. Generally, a Khyal composition is also referred to as a 'Bandish'.

Source: Spectrum's Facets of Indian Culture.

Schemes/Programs/Institutions

Q.1) Consider the following statements:

1. Freight Smart Cities Initiative has been launched by ministry of railways.
2. Freight Smart Cities Initiative aims to improve the efficiency of urban freight and create an opportunity for a reduction in logistics costs.

Which of the statements given above is/are correct?

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

ANS: B

Explanation: The Logistics Division under the Ministry of Commerce & Industry has released the roadmap for the 'Freight Smart Cities Initiative'.

About Freight Smart Cities Initiative:

- Freight Smart Cities Initiative aims to improve the efficiency of urban freight and create an opportunity for a reduction in logistics costs.
- Under the initiative, State Governments will identify ten cities, initially, to be developed as Freight Smart Cities.
- In these ten cities, city-level logistics committees would be formed. These committees would have members from the government as well as from the private sector.
- These committees would co-create City Logistics Plans like developing peri-urban freight centres, night-time deliveries, developing truck routes, Promoting electrification of urban freight among others.
- Further, the initiative will be expanded to 75 cities in the next phase before scaling up throughout the country. It will include all state capitals and cities that have more than one million populations.

Source: EPIC july, 2021.

Q.2) Consider the following statements:

1. National Initiative for Proficiency in Reading with Understanding and Numeracy (NIPUN Bharat) Mission has been launched by ministry of education.
2. It aims to improve foundational literacy and numeracy of children in the age group of 3 to 14 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

ANS: A

Explanation: The Ministry of Education has launched the National Initiative for Proficiency in Reading with Understanding and Numeracy (NIPUN Bharat) Mission. It aims to improve foundational literacy and numeracy of children in the age group of three to nine years.

Key Features of the Mission:

- **Implementation:** The mission will be implemented by the Union Education Ministry in collaboration with states through the flagship school education program Samagra Shiksha.
- **Target:** The mission has set a target that by 2026-27, every Class 3 child should be able to read with understanding at the rate of at least 60 words per minute. Further, the child should be able to read and write numbers up to 9,999 and solve simple multiplication problems.

Source: EPIC july, 2021.

Q.3) Consider the following statements about “SMILE - Support for Marginalized Individuals for Livelihood and Enterprise”:

1. It has been launched by ministry of MSME.
 2. It is a Central Sector Scheme.
- Which of the statements given above is/are correct?

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

ANS: B

Explanation: The Ministry of Social Justice and Empowerment has formulated a scheme “SMILE - Support for Marginalized Individuals for Livelihood and Enterprise”.

About SMILE

- Two Central Sector Schemes namely Comprehensive Rehabilitation of persons engaged in the Act of begging and Comprehensive Rehabilitation for Welfare of Transgender Persons have been merged in a single scheme named SMILE.
- Focus areas: Rehabilitation, provision of medical facilities, counselling, basic documentation, education, skill development, economic linkages and so on.
- The scheme would be implemented with the support of State/UT Governments/Local Urban Bodies, Voluntary Organizations, Community Based Organizations (CBOs), institutions and others.

Source: EPIC july, 2021.

Q.4) Consider the following statements about Adopt a Heritage scheme:

1. It is an initiative of the Ministry of Tourism in collaboration with the Ministry of Culture and the Archaeological Survey of India (ASI).
2. Under this scheme, the government invites only private sector firms and individuals, to develop selected monuments and heritage and tourist sites.

Which of the statements given above is/are correct?

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

ANS: A

Explanation: About Adopt a Heritage scheme:

- An initiative of the Ministry of Tourism in collaboration with the Ministry of Culture and the Archaeological Survey of India (ASI)
- Under this scheme, the government invites entities, including public sector companies, private sector firms and individuals, to develop selected monuments and heritage and tourist sites.
- Basic amenities like drinking water, ease of access for the differently-abled and senior citizens, standardised signage, cleanliness, public convenience, surveillance system and night-viewing facilities are provided and maintained under the scheme.

Source: EPIC july, 2021.

Q.5) Consider the following statements about SPARSH:

1. It is an integrated system for automation of sanction and disbursement of defense pension.
2. The portal is available for pensioners to access services and register complaints for redressal of grievances.

Which of the statements given above is/are correct?

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

ANS: C

Explanation: SPARSH is an integrated system for automation of sanction and disbursement of defence pension. The portal processes pension claims and credits pension directly into the bank accounts of defence pensioners without relying on any external intermediary. The portal is also available for pensioners to view their pension related information, access services and register complaints for redressal of grievances.

Source: EPIC july, 2021.

Q.6) Consider the following statements:

1. Matsya Setu app was developed by the ICAR-Central Institute of Freshwater Aquaculture (ICAR-CIFA), Bhubaneswar.
 2. The National Fisheries Development Board (NFDB) is headquartered at Chennai.
- Which of the statements given above is/are correct?

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

ANS: A

Explanation: Matsya Setu is an online course app. It aims to provide the latest freshwater aquaculture technologies to the aqua farmers of the country. It is developed by the ICAR-Central Institute of Freshwater Aquaculture (ICAR-CIFA), Bhubaneswar. The National Fisheries Development Board (NFDB), Hyderabad is providing the funding support.

Source: EPIC july, 2021.

Q.7) Consider the following statements about PMKSY:

1. PMKSY is a Centrally Sponsored Scheme.
2. The central grants to the State Governments for specific activities will be 90:10 for all states.

Which of the statements given above is/are correct?

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

ANS: A

Explanation: About PMKSY:

- It was launched in 2015 and is a Centrally Sponsored Scheme, providing central grants to the State Governments for specific activities (90:10 for NE states & 75:25 for rest).
- **The major objective of PMKSY is:**
 - to achieve convergence of investments in irrigation at the field level
 - expand cultivable area under assured irrigation
 - improve on-farm water use efficiency to reduce wastage of water
 - enhance the adoption of precision-irrigation and other water-saving technologies
 - In 2020, the Ministry of Jal Shakti launched a mobile application for Geo-Tagging of the components of projects under PMKSY.

Source: The Hindu

Q.8) Consider the following statements about POSHAN Abhiyan:

1. The Abhiyaan targets to reduce stunting, undernutrition, anemia (among young children, women and adolescent girls) and reduce low birth weight by 2%, 2%, 3% and 2% per annum respectively.
 2. National Council on Nutrition is headed by the Vice-Chairman of the NITI Aayog.
- Which of the statements given above is/are correct?

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

ANS: C

Explanation: POSHAN Abhiyaan:

- POSHAN Abhiyaan (National Nutrition Mission) was launched by the government on March 8, 2018.
- The Abhiyaan targets to reduce stunting, undernutrition, anemia (among young children, women and adolescent girls) and reduce low birth weight by 2%, 2%, 3% and 2% per annum respectively.
- The target of the mission is to bring down stunting among children in the age group 0-6 years from 38.4% to 25% by 2022.
- POSHAN Abhiyaan aims to ensure service delivery and interventions by use of technology, behavioural change through convergence and lays-down specific targets to be achieved across different monitoring parameters.

The National Council on India's Nutrition Challenges

- Set up under the Poshan Abhiyaan, the Council is also known as National Council on Nutrition (NCN).
- The NCN is headed by the Vice-Chairman of the NITI Aayog.
- It provides policy directions to address nutritional challenges in the country and review programmes.

Source: The Hindu

Q.9) Consider the following statements:

1. Pradhan Mantri Matru Vandana Yojana (PMMVY) is launched by Ministry of health and family welfare.
2. Cash benefits are provided to pregnant women in their bank account directly to meet enhanced nutritional needs and partially compensate for wage loss.

Which of the statements given above is/are correct?

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

ANS: C

Explanation: Pradhan Mantri Matru Vandana Yojana:

- Pradhan Mantri Matru Vandana Yojana (PMMVY) is a maternity benefit programme being implemented in all districts of the country with effect from 1st January, 2017.

- It is a centrally sponsored scheme being executed by the Ministry of Women and Child Development.
- Direct Benefit Transfer Scheme: Cash benefits are provided to pregnant women in their bank account directly to meet enhanced nutritional needs and partially compensate for wage loss.

Source: The Hindu

Q.10) Which of the following scheme envisages selection of one girl per family where family income is less than 6 lakhs / annum on merit at the qualifying examination to pursue technical education?

- a) PRAGATI
- b) SAKSHAM
- c) UDAAN
- d) Beti Bachao Beti Padhao

ANS: A

Explanation: PRAGATI: Providing Assistance for Girls' Advancement in Technical Education Initiative.

- The AICTE scheme envisages selection of one girl per family where family income is less than 6 lakhs / annum on merit at the qualifying examination to pursue technical education.
- The scheme is to be implemented by the authorised admission centre of respective State Governments.
- 4000 girls are expected to benefit of scholarships available per annum.
- The scholarship amount is Rs. 30,000 or tuition fees or actual whichever is less and Rs. 2000/ month for ten months as contingency allowance

Source: The Hindu

Science and Technology

Q.1) Consider the following statements:

1. A fungible asset is something that can be readily interchanged.
2. A non-fungible asset means it has unique properties which cannot be interchanged with something else.

Which of the statements given above is/are correct?

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

ANS: C

Explanation:

A fungible asset is something that can be readily interchanged like money. With money, you can swap Rs.10 note for two Rs.5 notes, and it will have the same value.

On the other hand, a non-fungible asset means it has unique properties which cannot be interchanged with something else. Example: It could be a painting that is one of a kind. You can take a photo of the painting or buy a print, but there will only ever be one original painting.

Source: EPIC, July 2021.

Q.2) Consider the following statements about African Swine Fever (ASF):

1. African Swine Fever (ASF) impacted livestock in Kerala.
2. It can be transmitted to humans.

Which of the statements given above is/are correct?

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

ANS: D

Explanation: The African Swine Fever (ASF) continues to impact livestock in Mizoram, affecting all 11 districts and killing 10,621 pigs since March 2021.

About African Swine Fever:

- African swine fever (ASF) is a highly contagious hemorrhagic viral disease of domestic and wild pigs which is responsible for serious economic and production losses.
- Caused by: It is caused by a large DNA virus of the Asfarviridae family, which also infects ticks of the genus Ornithodoros.

Human Transmission:

- ASF is not a threat to human beings, since it only spreads from animals to other animals.
- ASF is a disease listed in the World Organisation for Animal Health (OIE) Terrestrial Animal Health Code and must be reported to the OIE.

Source: EPIC, July 2021.

Q.3) Consider the following statements:

1. Planetary conjunction takes place when two planets appear to have come closer, while in reality, they remain far away.
 2. The planetary conjunction of Mars and Venus is called as Great conjunction.
- Which of the statements given above is/are correct?

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

ANS: A

Explanation: Earth's two immediate neighbors Mars and Venus will come closest to each other. This event is called planetary conjunction.

Conjunction: The conjunction is the name given to any event where planets or asteroids appear to be very close together in the sky when viewed from the Earth.

Planetary Conjunction: Planetary conjunction takes place when two planets appear to have come closer, while in reality, they remain far away.

What is Great Conjunction?

- Astronomers use the term great conjunction to describe meetings of the two biggest planets in the solar system, Jupiter and Saturn.
- The Great Conjunction happens once in about 20 years, because of the time each of the planets takes to orbit around the Sun.

Source: EPIC, July 2021.

Q.4) Consider the following statements about NEA Scout:

1. NEA Scout is a mission of ISRO.
 2. NEA Scout is one of several payloads that will launch on Artemis I.
- Which of the statements given above is/are correct?

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

ANS: B

Explanation: NEA Scout:

- NASA has announced that its new spacecraft named NEA Scout has completed all required tests and has been safely tucked inside the Space Launch System (SLS) rocket.
- NEA Scout is one of several payloads that will launch on Artemis I which is expected to be launched in November 2021.
- **Artemis I:** It is a planned uncrewed test flight for NASA's Artemis program. Under the Artemis program, NASA has aimed to land the first woman on the Moon in 2024 and also establish sustainable lunar exploration programs by 2030.

Source: EPIC, July 2021.

Q.5) Which of the following is related to the terms 'AMLEX'?

- a) Oxygen Rationing Device
- b) Crypto currency
- c) Drones
- d) Missile system

ANS: A

Explanation: AMLEX:

- Indian Institute of Technology (IIT), Ropar has developed a first-of-its-kind Oxygen Rationing Device called AMLEX.
- AMLEX is an Oxygen Rationing Device that increases the life of medical oxygen cylinders threefold.
- The device can be easily connected between the oxygen supply line and the mask worn by the patient.
- It uses a sensor that senses and successfully supplies a required volume of oxygen to the patients (while inhaling) and trips when the patient is exhaling Carbon dioxide (CO₂).
- This process would help save oxygen, which gets unnecessarily wasted otherwise.

Source: EPIC, July 2021.

Q.6) Consider the following statements about UV-C radiation:

1. It has been used for decades to disinfect the air in hospitals, laboratories, and also in water treatment.
2. UV-C radiation can destroy the outer protein coating of the SARS-Coronavirus.
3. UV-C light does not harm human skin.

Which of the statements given above is/are correct?

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

ANS: D

Explanation: UV-C radiation:

- UV-C radiation (wavelength around 254 nm) has been used for decades to disinfect the air in hospitals, laboratories, and also in water treatment.
- A paper published in June 2020 in Scientific Reports noted that UV-C radiation can destroy the outer protein coating of the SARS-Coronavirus.
- Moreover, few studies have shown that far-UVC light does not harm human skin. This is because UV-C light has a very limited range and cannot penetrate through the outer dead-cell layer of human skin or the tear layer in the eye, so it's not a human health hazard. But because viruses and bacteria are much smaller than human cells, far-UVC light can reach their DNA and kill them.

Source: EPIC, July 2021.

Q.7) Consider the following statements about Volatiles Investigating Polar Exploration Rover (VIPER) Mission:

1. It is a mobile robot launched by NASA.
 2. It will be resource mapping mission to arctic region.
- Which of the statements given above is/are correct?

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

ANS: A

Explanation: NASA's VIPER Mission:

- NASA has announced the launch of the Volatiles Investigating Polar Exploration Rover (VIPER) Mission in 2023.
- VIPER Mission is a mobile robot to be launched by NASA in the year 2023.
- It will be the first resource mapping mission on any other celestial body.
- Celestial Body is any natural body outside the Earth's atmosphere. Easy examples are the Moon, Sun, and the other planets of our solar system.

Source: EPIC, July 2021.

Q.8) 'dbGENVOC' is a browsable online database of which of the following?

- a) SARS-Coronavirus
- b) Oral Cancer
- c) Obsessive Compulsive Disorder
- d) Cataract

ANS: B

Explanation: dbGENVOC is a browsable online database of GENomic Variants of Oral Cancer. The database is publicly available and is a free resource. The database will contain somatic and germline variants derived from oral cancer patients and also peer-reviewed published publications. The database also has a built-in search engine. This allows researchers to carry out analysis of identifying variants in associated altered pathways in oral cancer.

Source: EPIC, July 2021.

Q.9) Consider the following statements about Akash-NG Missile:

1. Akash-NG is a New Generation Air-to-Air Missile.
2. Akash-NG detects enemy fighters at ranges out to 80 km and initiates the launch sequence.

Which of the statements given above is/are correct?

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

ANS: B

Explanation: About Akash-NG:

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- Akash-NG is a New Generation Surface-to-Air Missile. It is developed by Defence Research & Development Laboratory (DRDL), Hyderabad in collaboration with other DRDO laboratories.
- Purpose: The Missile is capable of intercepting high manoeuvring low radar cross-section aerial targets.

Key Features of Akash NG Missile:

- **Rocket Motor:** Akash-NG uses a two-pulse solid rocket motor that replaces the old ramjet on the legacy Akash missile. The new motor not just reaches out to 30 kilometres (km), but also generates a high terminal velocity to strike even the fastest and most agile enemy fighters.
- **Lighter Weight:** The weight of the rocket has been brought down from 700 kg to 350 kg. This not just increases range, but also lets the vehicle carry more missiles.
- **New Seeker Head:** Akash-NG has a new seeker head. The seeker locks onto the enemy aircraft and continuously guides the missile to impact the target.
 - Akash-NG detects enemy fighters at ranges out to 80 km and initiates the launch sequence.
 - By the time the enemy aircraft is 50 km away, the Akash-NG's computers have calculated the launch trajectory and impact point and launched the missile.
 - In just over a minute, the missile blazes its way to the impact point 30 km away and destroys the target.

Source: EPIC, July 2021.

Q.10) Consider the following statements about Deep Fakes:

1. They are a subfield of AI that allows realistic forgeries of both video and audio.
2. Deep Fakes cannot be created by freely available software and computer processing power that can be rented.

Which of the statements given above is/are correct?

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

ANS: A

Explanation: About Deep Fakes:

- They are a subfield of AI that allows realistic forgeries of both video and audio.
- The speed of advances in AI have made it possible to create Deep Fakes using freely available software and computer processing power that can be rented.
- AI is perhaps the most transformative technology under development. Consequently, it also brings about entirely new risks.

Source: 9PM Compilation of July 2021.