

Answers

1) B

Statement 1 is incorrect. SOFIA, the Stratospheric Observatory for Infrared Astronomy, is a Boeing 747SP aircraft modified to carry a 2.7-meter (106-inch) reflecting telescope (with an effective diameter of 2.5 meters or 100 inches). Flying into the stratosphere at 38,000-45,000 feet puts SOFIA above 99 percent of Earth's infrared-blocking atmosphere, allowing astronomers to study the solar system and beyond in ways that are not possible with ground-based telescopes. SOFIA is designed to observe the infrared universe. Many objects in space emit almost all their energy at infrared wavelengths and are often invisible when observed with visible light. Statement 2 is correct. NASA's Stratospheric Observatory for Infrared Astronomy (SOFIA) has confirmed, for the first time, water on the sunlit surface of the Moon. This discovery indicates that water may be distributed across the lunar surface, and not limited to cold, shadowed places.

SOFIA has detected water molecules (H₂O) in Clavius Crater, one of the largest craters visible from Earth, located in the Moon's southern hemisphere.

2) D

3) C

eSanjeevani is Government of India's flagship telemedicine technology developed by Centre for Development of Advanced Computing (Mohali). 'eSanjeevani', is a web-based comprehensive telemedicine solution. It extends the reach of specialized healthcare services to masses in both rural areas and isolated communities. As per PIB [August release] eSanjeevani has been implemented so far by 23 States and other States are in the process of rolling it out. The top five States which have been utilizing the e-health services being offered through this platform are Tamil Nadu (56,346 consultations), Uttar Pradesh (33,325), Andhra Pradesh (29,400), Himachal Pradesh (26,535) and Kerala (21,433).

4) B

5) A

Statement 1 is correct. The Treaty on the Prohibition of Nuclear Weapons (TPNW) includes a comprehensive set of prohibitions on participating in any nuclear weapon activities. These include undertakings not to develop, test, produce, acquire, possess, stockpile, use or threaten to use nuclear weapons. The Treaty also prohibits the deployment of nuclear weapons on

national territory and the provision of assistance to any State in the conduct of prohibited activities. States parties will be obliged to prevent and suppress any activity prohibited under the TPNW undertaken by persons or on territory under its jurisdiction or control. Statement 2 is incorrect. The treaty was approved by the 193-member UN General Assembly in 2017 by a vote of 122 in favour. Among countries voting in favor was Iran. The five nuclear powers and four other countries known or believed to possess nuclear weapons — India, Pakistan, North Korea and Israel — boycotted negotiations and the vote on the treaty, along with many of their allies. India [2017] said that it supports the commencement of negotiations on a comprehensive Nuclear Weapons Convention in the Conference on Disarmament, which is the world's single multilateral disarmament negotiation forum working on the basis of consensus. # The United Nations recently announced that 50 countries have ratified a UN treaty to ban nuclear weapons triggering its entry into force in 90 days.

6) C

AIM (Atal Innovation Mission), in association with CSIRO, is organizing a two-day hackathon on circular economy, 'India–Australia Circular Economy Hackathon (I-ACE)' in collaboration with Australia's Commonwealth Scientific and Industrial Research Organisation (CSIRO). I-ACE will focus on identification and development of innovative technology solutions by bright-minded students, startups and MSMEs of both nations. Shortlisted students and startups/MSMEs will be called for the hackathon, where two winners (one student and one startup/MSME) per theme from each country will be awarded.

7) D

8) C

Statement 1 is correct. Convalescent plasma, extracted from the blood of patients recovering from an infection, is a source of antibodies against the infection. The therapy involves using their plasma to help others recover. Statement 2 is correct. Blood is a specialized body fluid. It has four main components: plasma, red blood cells, white blood cells, and platelets. Plasma is the largest part of your blood. It, makes up more than half (about 55%) of its overall content. When separated from the rest of the blood, plasma is a light-yellow liquid. Plasma carries water, salts and enzymes. The main role of plasma is to take nutrients, hormones, and proteins to the parts of the body that need it. Cells also put their waste products into the plasma. The plasma then helps remove this waste from the body. Blood plasma also carries all parts of the blood through your circulatory system.

9) A

“Integrity Pact” is a vigilance tool that envisages an agreement between the prospective vendors/bidders and the buyer, committing both (contracting) the parties not to exercise any corrupt influence on any aspect of the contract. The pact is also to ensure transparency, equity and competitiveness in public procurement.

10) B

Statement 1 is incorrect. Brown bears are not endemic to Himalaya, rather various subspecies of the Brown bear are found in Europe, Russia, Himalaya and Alaska. Statement 2 is correct. Himalayan Brown bear (*Ursus Arctos*) is listed in the Schedule I of the Wild Life Protection Act, 1972. The Brown Bear (*Ursus arctos*) is listed as Least Concern in the IUCN Red List.

A recent study by Zoological Survey of India on the Himalayan brown bear (*Ursus arctos isabellinus*) has predicted a significant reduction in suitable habitat and biological corridors of the species in the climate change scenario.

11) B

Statement 1 is incorrect. National Board for Wildlife (NBWL) is a statutory body constituted under Wildlife Protection Act, 1972. The functions of the board are also enumerated under the act.

The WLP Act mandates that without the approval/recommendation of the NBWL, construction of tourist lodges, alteration of the boundaries of PAs, destruction or diversion of wildlife habitat and de-notification of Tiger Reserves, cannot be done.

Statement 2 is correct. The Prime minister is the chairperson of the board while Minister of Environment, Forests & Climate Change is the Vice-Chairperson.

Action Plan for Vulture Conservation 2020-2025 has been approved by the National Board for Wildlife (NBWL) recently.

12) D

13) D

Statement 1 is incorrect. Yellow dust refers to sand from Mongolian and Chinese deserts that blow into North and South Korea at certain times of the year. It is intermingled with toxic dust that for years has raised health concerns in both countries. Statement 2 is incorrect. WHO has not issued any such advisory. North Korea has though warned its citizens to stay indoors over fears that “yellow dust” which blows in from China could bring coronavirus with it.

The US Centres for Disease Control has said coronavirus can remain suspended in the air “for hours”. However, it also says it is extremely rare for someone to be infected this way – especially outdoors. The main way people get infected is from standing in close proximity to someone who is infected who then coughs, sneezes or talks, spreading the virus through droplets.

14) A

Statement 1 is correct. Carbon neutrality means having a balance between emitting carbon and absorbing carbon from the atmosphere in carbon sinks. Sometimes entities fund the equivalent amount of carbon savings elsewhere in the world to achieve neutrality. Statement 2 is incorrect. India's Intended Nationally Determined Contributions (INDCs) are:

- To reduce the emissions intensity of GDP by 33%–35% by 2030 below 2005 levels;
- To increase the share of non-fossil-based energy resources to 40% of installed electric power capacity by 2030, with help of transfer of technology and low-cost international finance including from Green Climate Fund (GCF);
- To create an additional (cumulative) carbon sink of 2.5–3 GtCO₂e through additional forest and tree cover by 2030.

15) C

The Emergency Credit Line Guarantee Scheme (ECLGS) has been formulated as a specific response to the unprecedented situation caused by COVID-19 and the consequent lockdown, which has severely impacted manufacturing and other activities in the MSME sector. The Scheme aims at mitigating the economic distress being faced by MSMEs by providing them additional funding of up to Rs. 3 lakh crores in the form of a fully guaranteed emergency credit line.

Under the Scheme, 100% guarantee coverage is provided by National Credit Guarantee Trustee Company Limited (NCGTC) for additional funding of up to Rs. three lakh crores to eligible MSMEs and interested MUDRA borrowers, in the form of a Guaranteed Emergency Credit Line (GECL) facility.

The GECL is a loan for which 100% guarantee would be provided by National Credit Guarantee Trustee Company (NCGTC) to Member Lending Institutions (MLIs).

16) D

17) B

18) A

Khadi Oaxaca is a farm-to-garment collective which comprises around 400 families, which live and work on traditional farms and homesteads in the Oaxaca region of southern Mexico.

19) D

20) D

21) A

Statement 1 is correct. COVAX is the vaccines pillar of the Access to COVID-19 Tools (ACT) Accelerator.

The ACT Accelerator is a ground-breaking global collaboration to accelerate the development, production, and equitable access to COVID-19 tests, treatments, and vaccines. Statement 2 is incorrect. COVAX is co-led by Gavi, the Coalition for Epidemic Preparedness Innovations (CEPI) and WHO. Its aim is to accelerate the development and manufacture of COVID-19 vaccines, and to guarantee fair and equitable access for every country in the world. # World Health Organization Director General Tedros Adhanom Ghebreyesus has said that 184 countries have now joined the COVAX facility.

22) B

It has been reported that the Feluda test, a coronavirus detection test developed by the Council of Scientific and Industrial Research (CSIR) and to be commercialised by Tata Sons, will be commercially available in laboratories this month. Statement 1 is incorrect. It is not an antibody-based test. It rather detects genes specific to SARS-CoV-2 virus.

Statement 2 is correct. FELUDA is an acronym for FNCAS9 Editor-Limited Uniform Detection Assay. It uses CRISPR-Cas technology for the detection of genes specific to SARS-CoV-2 virus. Test procedure: The nasopharyngeal swab is collected—RNA is extracted—A single step RTPCR is done—The FELUDA mix is prepared by incubating the dead FnCas9 protein, guide RNA and the amplified viral DNA—The dip stick is immersed in the FELUDA mix—Gold nanoparticle on the strip bind to the FELUDA complex—A protein called Streptavidin on the test line captures this gold nanoparticle bound-FELUDA complex—Unbound gold particles are captured on the control line—Colour develops on the test line and/or control line. One line indicates negative and two lines mean positive.

23) C

24) B

25) A

Statement 1 correct. The Regional Comprehensive Economic Partnership (RCEP) is a proposed free trade agreement between the ten member states of ASEAN (Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam) and five of their FTA partners—Australia, China, Japan, New Zealand, and South Korea.

India opted out of RCEP in November 2019 in ASEAN+3 summit, citing the adverse impact the deal would have on its citizens. Statement 2 is incorrect. The Quadrilateral Security Dialogue (Quad) is an informal strategic forum between the United States, Japan, Australia and India.

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