

**Key with Explanation**

<b>1</b>	<p><b>C</b></p> <p>Context: The finance minister and Agriculture Minister will inaugurate the 'Kisan Rin Portal' on September 19.</p> <p>About Kisan Rin Portal</p> <ul style="list-style-type: none"><li>• The portal helps farmers avail subsidised loans under the Kisan Credit Card (KCC).</li><li>• It was developed in collaboration with multiple government departments.</li><li>• It offers a comprehensive view of farmer data, loan disbursement specifics, interest subvention claims, and scheme utilisation progress.</li><li>• It fosters seamless integration with banks for more focused and efficient agriculture credit.</li></ul>	<ul style="list-style-type: none"><li>• It will also promote tourism and ocean literacy.</li></ul> <p>Features:</p> <ul style="list-style-type: none"><li>• It is designed with the capability of operating in the deep sea for 12 hours, while in case of emergency, it can also operate up to 96 hours with all the necessary measures for human safety.</li><li>• Made of 80mm-thick titanium alloy, it will be able to withstand a pressure 600 times greater than that at sea level.</li><li>• It relies only on gravity, water, and lithium-ion batteries for power. Statement 2 is correct.</li><li>• It will also feature the ultra-short baseline acoustic positioning system (USBL). This will allow the mothership carrying the transponder to send information and the submersible to respond, which will then let the mothership know where the submersible is.</li><li>• This is a flotation device that will rise to the top of the ocean - thus helping to find the submersible even in case it cannot resurface.</li></ul>
<b>2</b>	<p><b>B</b></p> <p>About Matsya-6000</p> <ul style="list-style-type: none"><li>• It is a manned submersible vehicle developed by the National Institute of Ocean Technology (NIOT), Chennai. Statement 1 is incorrect.</li><li>• It was developed under the Samudrayaan mission to facilitate humans in the deep ocean in exploring mineral resources.</li><li>• It would make India only one among six countries (US, Russia, Japan, France, and China) to have piloted a crewed under-sea expedition beyond 5,000 metres.</li></ul> <p>Objectives:</p> <ul style="list-style-type: none"><li>• It will look at chemosynthetic biodiversity in hydrothermal vents and low-temperature methane seeps in the ocean.</li></ul>	<p><b>3</b></p> <p><b>A</b></p> <p>Context: Recently, the Sacred Ensembles of the Hoysalas, which includes three temples in Karnataka, has been inscribed on UNESCO's World Heritage List.</p> <p>About Sacred Ensembles of the Hoysala:</p> <ul style="list-style-type: none"><li>• The Sacred Ensembles of the Hoysalas consist of a collection of Hoysala temples.</li><li>• These are built in the 12th-13th centuries and represented here by the</li></ul>

	<p>three components of Belur, Halebid and Somnathapura.</p> <p>The three temples include;</p> <ol style="list-style-type: none"> <li>1. The Chennakeshava temple: It is the main temple in the complex at Belur (Hassan district), located at the centre of the traditional settlement which is surrounded by the remnants of a mud fort and a moat.</li> <li>2. The Hoysaleswara Temple: It is on the banks of Dwarasamudra tank in Halebidu (Hassan district), a town which has many protected and unprotected temples, archaeological ruins and mounds.</li> <li>3. The Keshava Temple: It is at the centre of Somanathapura village (Mysore district). Only Pair 3 is correctly matched.</li> </ol> <p>These are primarily dedicated to Hindu deities like Shiva and Vishnu, with some also devoted to the Jain faith.</p> <p>The Hoysala temples have a basic Darvidian morphology but show strong influences of the Bhumija mode widely used in Central India, the Nagara traditions of northern and western India, and the Karntata Dravida modes favoured by the Kalyani Chalukyas.</p> <p>Features of the architecture:</p> <ul style="list-style-type: none"> <li>• The Hoysala architects made considered and informed eclectic selections of features from other temple typologies which they further modified and then complemented with their own particular innovations.</li> <li>• The Hoysala style was created through a careful selection of contemporary temple features and those from the past to create a different identity from neighbouring kingdoms.</li> <li>• The shrines are characterized by hyper-real sculptures and stone carvings that cover the entire architectural surface, a circumambulatory platform, a large-scale sculptural gallery, a multi-tiered</li> </ul>	<p>4</p> <p>5</p>	<p>frieze, and sculptures of the Sala legend.</p> <p><b>D</b></p> <p>About:</p> <ul style="list-style-type: none"> <li>• The PM-WANI scheme, launched by the Department of Telecommunications. Statement 1 is correct.</li> <li>• It aims to setup Public Wi-Fi Networks by Public Data Office Aggregators (PDOAs) to provide public Wi-Fi services through Public Data Offices (PDOs) spread across length and breadth of the country to accelerate proliferation of Broadband Internet services. Statement 2 is correct.</li> <li>• There shall be no license fee for providing Broadband Internet through these public Wi-Fi networks.</li> </ul> <p>Salient Features:</p> <p>PM-WANI eco-system will be operated by different players:</p> <ul style="list-style-type: none"> <li>• Public Data Office (PDO): It will establish, maintain, and operate only WANI compliant Wi-Fi Access Points and deliver broadband services to subscribers.</li> <li>• Public Data Office Aggregator (PDOA): It will be an aggregator of PDOs and perform the functions relating to Authorization and Accounting.</li> <li>• App Provider: It will develop an App to register users and discover WANI compliant Wi-Fi hotspots in the nearby area and display the same within the App for accessing the internet service.</li> <li>• Central Registry: It will maintain the details of App Providers, PDOAs, and PDOs. To begin with, the Central Registry will be maintained by C-DoT. Statement 3 is correct.</li> </ul> <p><b>C</b></p> <p>Black Summer</p> <p>A new report from the New South Wales (NSW) authorities in Australia said that they are facing worst bushfire risk since</p>
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	<p>'Black Summer'</p> <ul style="list-style-type: none"> <li>• The bushfire season of 2019-20 in Australia is known as Black Summer.</li> <li>• Black Summer fire season was the most severe ever recorded in NSW.</li> <li>• Impacts - It burnt 5.5 million hectares of land across NSW and displaced 3 billion vertebrate animals across southeast Australia.</li> <li>• Incidence of Fire - The suspected, immediate cause of ignition was lightning, often in remote, rugged and/or inaccessible terrain.</li> <li>• Factors that led to black summer - Dryness of the fuel and its availability to burn, weather conducive to fire spread (high temperatures, low humidity and wind) and ignition sources.</li> <li>• Other causes - Ember spotting, power lines, deliberate or accidental human activity, machinery and arson.</li> </ul> <p>Ember attack is also called fire spotting and occurs predominantly with distinct spatial patterns, short distance spotting, where the concentration of spot fires decreases with increasing distance from the ember source.</p> <p>An ember attack is when, during a bushfire, embers such as burning twigs, bark fragments, moss or leaves become temporarily airborne and are carried by winds in a cluster.</p>	<p>exhibits good corrosion resistance against alkalis and acids. Statement 2 is correct.</p> <p>Occurrence:</p> <ul style="list-style-type: none"> <li>• Found combined in various minerals, coal, and petroleum, vanadium is the 22nd most abundant element in Earth's crust.</li> <li>• It is found in over 60 different minerals, including vanadinite, carnotite, roscoelite and patronite.</li> <li>• The largest resources of vanadium minerals are found in South Africa and Russia.</li> <li>• Leading Producers: China, South Africa, and Russia. Statement 3 is correct.</li> </ul> <p>Applications:</p> <p>Alloys:</p> <ul style="list-style-type: none"> <li>• One of the primary uses of vanadium is as an alloying element in steel and other metals.</li> <li>• Vanadium steel, for example, is known for its strength, toughness, and ability to maintain hardness at high temperatures. It is commonly used in tools, cutlery, and structural materials.</li> </ul> <p>In Vanadium Flow Batteries (VFBs), vanadium is used to create a reliable, safe and stable solution for the storage of renewable energy.</p> <p>Chemical Catalysts: Vanadium compounds are used as catalysts in various chemical reactions, such as the production of sulfuric acid.</p> <p>Nuclear Applications: Vanadium is used in some nuclear reactors as a structural material and neutron moderator. Statement 4 is correct.</p> <p>In the medical sphere, vanadium is used to treat a number of ailments, including diabetes, heart disease and high cholesterol.</p>
6	<p><b>D</b></p> <p>Context:</p> <p>Vanadium, a critical raw material for many industrial applications, has been found recently in sediment samples collected from the Gulf of Khambhat in Gujarat.</p> <p>About Vanadium:</p> <ul style="list-style-type: none"> <li>• It is a chemical element with the symbol "V" and atomic number 23.</li> <li>• It is a silver-grey, ductile, and malleable metallic element. Statement 1 is incorrect.</li> <li>• It is harder than most metals and</li> </ul>	

7	<p><b>C</b></p> <p>About Weather Information Network Data Systems (WINDS) portal:</p> <ul style="list-style-type: none"> <li>It was launched in July, 2023 by the Ministry of Agriculture and Farmers' Welfare to leverage advanced weather data analytics to give stakeholders actionable insight to make informed weather decisions on agriculture.</li> <li>Crucial weather-related information and data will be available to the farmers through WINDS.</li> <li>The portal also shares the ministry's parametric crop insurance scheme, along with non-scheme parametric insurance programmes for crop risk mitigation and disaster risk reduction and mitigation being run by the insurance industry.</li> <li>The WINDS initiative is laying emphasis on setting up a strong network of weather stations.</li> <li>Through this initiative, the target is to establish a wide network of weather stations at the block and gram panchayat level.</li> <li>This extensive network of weather stations will enable accurate monitoring of weather patterns, effective planning, risk assessment and timely response to meteorological challenges.</li> <li>The goal is to bridge the gap in weather information availability and empower decision makers, farmers and stakeholders at the grassroots level.</li> </ul>	<p>system of reliable farm output estimation.</p> <ul style="list-style-type: none"> <li>As of now, we can estimate the extent of land which is getting covered under wheat, but we don't know what will be the output.</li> <li>A new automated real-time Yield Estimation System called YES-Tech was put in place from this Kharif season for the wheat and rice crop.</li> <li>The system, created with assistance from ISRO and ICAR, will be ramped up to cover other crops, particularly pulses and oilseeds.</li> <li>That would help the economy much better so that we can plan our imports to ensure that the farmer doesn't suffer because of policy relating to imports or exports.</li> </ul>
8	<p><b>D</b></p> <p>Context:</p> <p>The Finance and Corporate Affairs Minister recently made a pitch for generating real-time assessments of likely yields for all essential crops.</p> <p>About</p> <ul style="list-style-type: none"> <li>The demand is in vogue as the country suffers from a want of an automated</li> </ul>	<p><b>9 B</b></p> <p>Context:</p> <p>India's solar mission Aditya L1 has started studying energetic particles in the solar wind from space with the help of a device named Supra Thermal &amp; Energetic Particle Spectrometer (STEPS).</p> <p>About Supra Thermal &amp; Energetic Particle Spectrometer (STEPS):</p> <ul style="list-style-type: none"> <li>It is a sub-system of the ASPEX (Aditya Solar Wind Particle Experiment) payload on the spacecraft. Statement 1 is incorrect.</li> <li>The key aim of STEPS is to study the environment of energetic particles from the spacecraft's position on the L1 point till it will function.</li> <li>The data from STEPS in the long term will also help us understand how space weather changes. Statement 2 is correct.</li> <li>It comprises six sensors, each observing in different directions and measuring supra-thermal and energetic ions.</li> <li>The data collected during the Earth's</li> </ul>

	<p>orbits helps scientists to analyse the behaviour of particles surrounding the planet, especially in the presence of its magnetic field.</p> <ul style="list-style-type: none"> <li>It was developed by the Physical Research Laboratory PRL with support from the Space Application Centre (SAC) in Ahmedabad.</li> </ul>	<b>11</b>	<p><b>B</b></p> <p>Context:</p> <p>Centre for Development of Telematics (C-DOT) and CSIR-National Physical laboratory (NPL) has signed an agreement for 'Development of NavIC based IST traceable Primary Reference Time Clock (PRTC) for Telecom Sector'.</p> <p>The agreement is signed under the Telecom Technology Development Fund (TTDF) scheme.</p> <p>What is the Telecom Technology Development Fund (TTDF) scheme?</p> <p>Universal Service Obligation Fund (USOF), a body under the Department of Telecommunications, had launched the Telecom Technology Development Fund (TTDF) Scheme in 2022. Statement 1 is correct.</p> <p>Aim: To fund R&amp;D in rural-specific communication technology applications and form synergies among academia, start-ups, research institutes, and the industry to build and develop the telecom ecosystem. Statement 2 is correct.</p> <ul style="list-style-type: none"> <li>To promote technology ownership and indigenous manufacturing, create a culture of technology co-innovation, reduce imports, boost export opportunities and create Intellectual Property.</li> </ul> <p>Eligibility:</p> <p>The following Indian entities are only eligible for support from this fund:</p> <ul style="list-style-type: none"> <li>Domestic Companies with focus on telecom R&amp;D, Use case development</li> <li>Start-ups / MSMEs</li> <li>Academic institutions. Statement 3 is incorrect.</li> <li>R&amp;D institutions, Section 8 companies with focus on telecom research and development among others.</li> </ul> <p>Technology domains:</p> <ul style="list-style-type: none"> <li>5G development under 'India 5G Stack'</li> <li>6G &amp; Beyond technology development</li> </ul>
<b>10</b>	<p><b>B</b></p> <p>Context:</p> <p>Kerala has been accorded sanction by the Indian Council for Medical Research (ICMR) to use Truenat test to diagnose Nipah.</p> <p>TrueNat</p> <ul style="list-style-type: none"> <li>TrueNat is a portable, chip-based and battery-operated machine developed by a Goa-based company Molbio Diagnostics Private Limited. It is a cost-effective and a miniature version of the Polymerase Chain Reaction (PCR) test.</li> <li>It was originally developed to detect Tuberculosis (TB) in one hour. The World Health Organisation has approved TrueNat for detecting TB.</li> <li>ICMR has also approved the use of TrueNat for the diagnosis of infectious diseases such as Covid and Hepatitis, among others.</li> </ul> <p>TrueNat for Nipah and Biosafety levels (BSL)</p> <ul style="list-style-type: none"> <li>Hospitals with BSL 2 level labs can perform the TrueNat for Nipah.</li> <li>Biosafety levels (BSL) are used to identify the protective measures needed in a laboratory setting to protect workers, the environment, and the public.</li> <li>The four biosafety levels are BSL-1, BSL-2, BSL-3, and BSL-4, with BSL-4 being the highest (maximum) level of containment.</li> </ul>		

	<ul style="list-style-type: none"> <li>IoT &amp; M2M development</li> <li>Other Telecom Technologies under various research programs</li> <li>Entrepreneurship Cell (for early-stage Start-ups)</li> <li>Research Scholarship program.</li> </ul>		<p>Optical Properties:</p> <ul style="list-style-type: none"> <li>They are known for their exceptional optical properties. They can efficiently absorb and emit light across a wide range of wavelengths, from visible to near-infrared.</li> <li>This property has made them a promising candidate for solar cells and light-emitting devices.</li> </ul> <p>Applications:</p> <ul style="list-style-type: none"> <li>It includes uses in sensors and catalyst electrodes, certain types of fuel cells, solar cells, lasers, memory devices and spintronics applications. Statement 4 is correct.</li> <li>Solar cells are currently the most prominent perovskite application, as synthetic perovskites are recognized as potential inexpensive base materials for high-efficiency commercial photovoltaics.</li> </ul>
<b>12</b>	<p><b>D</b></p> <p>Context:</p> <p>Scientists recently discovered that a nanoscale "ink" coating could improve stability enough to make next-generation perovskite solar cells suitable for mass production.</p> <p>About Perovskite</p> <ul style="list-style-type: none"> <li>Perovskites are a class of materials that share a similar structure and which display a myriad of exciting properties like superconductivity, magnetoresistance, etc. Statement 3 is correct.</li> </ul> <p>Crystal Structure:</p> <ul style="list-style-type: none"> <li>It is a material that has the same crystal structure as the mineral calcium titanium oxide (<math>\text{CaTiO}_3</math>), the first-discovered perovskite crystal. Statement 1 is correct.</li> <li>It is characterized by a three-dimensional arrangement of atoms.</li> <li>It has the general formula <math>\text{ABX}_3</math>, where "A" and "B" represent cations (positively charged ions) and "X" represents anions (negatively charged ions).</li> </ul> <p>Discovery: The mineral was discovered in the Ural Mountains of Russia by Gustav Rose in 1839 and is named after Russian mineralogist Lev Perovski. Statement 2 is correct.</p> <p>Due to its compositional flexibility, scientists can design perovskite crystals to have a wide variety of physical, optical, and electrical characteristics from insulating, semiconducting, metallic, and superconducting characteristics.</p>		
		<b>13</b>	<p><b>A</b></p> <p>Context:</p> <p>Recently, the President of India inaugurated the Annual General Meeting and Biennial Conference of the Asia Pacific Forum on Human Rights in New Delhi.</p> <p>About Asia Pacific Forum:</p> <ul style="list-style-type: none"> <li>It was founded in 1996.</li> <li>It has created a strong and united platform that brings together National Human Rights Institutions (NHRIs) from all corners of the Asia Pacific. Statement 1 is incorrect.</li> <li>It addresses some of the most serious human rights challenges in Asia Pacific region.</li> <li>It has 17 full members and eight associate members.</li> <li>India has been a full-time member since 1996. Statement 2 is correct.</li> <li>To be admitted as a full member, a National Human Rights Institution must fully comply with the minimum international standards set out in the Paris Principles.</li> </ul>

	<ul style="list-style-type: none"> <li>National Human Rights Institutions that partially comply with the Paris Principles are granted associate membership.</li> <li>Decisions about the admission of new members to the APF are made by the Forum Council.</li> <li>A fundamental goal of the APF is to promote the establishment of independent NHRIs in the Asia Pacific region and to support our members to do their work as effectively as possible.</li> </ul>		<p>a monastic life. Statement 2 is correct.</p> <ul style="list-style-type: none"> <li>While Shankaracharya was a firm believer in ancient Hinduism, he condemned the 'Mimamsa school of Hinduism', which was purely based on ritual practices. Statement 3 is incorrect.</li> <li>Four Mathas: He established four prominent monastic centers in India, each associated with one of the cardinal directions: Sringeri in the south, Dwarka in the west, Puri in the east, and Badrinath in the north.</li> </ul>
<b>14</b>	<p><b>B</b></p> <p>Context:</p> <p>Madhya Pradesh Chief Minister recently unveiled a 108-foot statue of Adi Shankaracharya, 8th-century Vedic scholar and teacher, in Omkareshwar.</p> <p>About Adi Shankaracharya</p> <ul style="list-style-type: none"> <li>Adi Shankaracharya, or Shankara as he was known, was an ancient Indian philosopher and theologian who lived in the early 8th century CE.</li> <li>Birth: He was born in Kalady, a village in present-day Kerala.</li> </ul> <p>Philosophical Contributions:</p> <ul style="list-style-type: none"> <li>He is best known for his role in the development and propagation of Advaita Vedanta, a non-dualistic school of Hindu philosophy. Statement 1 is incorrect.</li> <li>He amalgamated the ideologies of 'Advaita Vedanta' and also explained the basic ideas of Upanishads.</li> <li>His most important work is his efforts to synthesize the six sub-sects, known as 'Shanmata.' 'Shanmata', which literally translates to 'six religions,' is the worship of six supreme deities.</li> <li>Shankaracharya explained the existence of one Supreme Being (Brahman) and that the six supreme deities are part of one divine power.</li> <li>He also founded 'Dashanami Sampradaya,' which talks about leading</li> </ul>		<p>Commentaries and Writings:</p> <ul style="list-style-type: none"> <li>He wrote 18 commentaries on major religious scriptures like the Bhagavad Gita, Brahmasutras, and 12 major Upanishads.</li> <li>His review of 'Brahma Sutra' is known as 'Brahmasutrabhasya', and it is the oldest surviving commentary on 'Brahma Sutra'.</li> <li>He wrote 23 books on the principles contained in the Advaita Vedanta philosophy, including Viveka Chudamani, AtmaBodha, Vakya Vritti, Upadesa Sahasri, etc. Statement 4 is correct.</li> <li>72 devotional hymns and meditational hymns like Soundarya Lahari, Nirvana Shatakam, Maneesha Panchakam.</li> </ul> <p>Death: Adi Shankaracharya is believed to have attained Samadhi (a state of deep meditation or realization) at the young age of 32 in Kedarnath in the Himalayas.</p>
		<b>15</b>	<p><b>A</b></p> <p>Context:</p> <p>Recently, the Government of India has come out with a new set of National Awards in the field of Science, Technology and Innovation known as "Rashtriya Vigyan Puraskar.</p> <p>It shall be one of the highest recognitions in the field of science, technology, and innovation in India. Statement 1 is correct.</p> <p>Scientists/ technologists/innovators</p>

<p>working in government, private sector organizations or any individual working outside any organization, who have made distinguished contributions in terms of path-breaking research or innovation or discovery in any field of science, technology, or technology- led innovation shall be eligible for the awards.</p> <p>People of Indian Origin staying abroad with exceptional contributions benefiting the Indian communities or society shall also be eligible for the awards. Statement 3 is correct.</p> <p>The awards shall be given in following four categories:</p> <ul style="list-style-type: none"> <li>• Vigyan Ratna (VR) award will recognize lifetime achievements &amp; contributions made in any field of science and technology.</li> <li>• Vigyan Shri (VS) award will recognize distinguished contributions in any field of science and technology.</li> <li>• Vigyan Yuva-Shanti Swarup Bhatnagar (VY-SSB) award will recognize &amp; encourage young scientists up to the age of 45 years who made an exceptional contribution in any field of science and technology.</li> <li>• Vigyan Team (VT) award to be given to a team comprising of three or more scientists/researchers/innovators who have made an exceptional contribution working in a team in any field of science and technology.</li> </ul> <p>It shall be given in the 13 domains, namely Physics, Chemistry, Biological Sciences, Mathematics &amp; Computer Science, Earth Science, Medicine, Engineering Sciences, Agricultural Science, Environmental Science, Technology &amp; Innovation, Atomic Energy, Space Science and Technology, and Others.</p> <p>Selection procedure:</p> <ul style="list-style-type: none"> <li>• All nominations received for the Rashtriya Vigyan Puraskar awards shall be placed before the Rashtriya</li> </ul>	<p>Vigyan Puraskar Committee (RVPC) to be headed by the Principal Scientific Adviser (PSA) to Government of India and comprising Secretaries of Science Departments, members of Science and Engineering Academies and some distinguished scientists and technologists from different fields of science and technology. Statement 2 is incorrect.</p> <ul style="list-style-type: none"> <li>• The nominations for these awards will be invited every year on 14th January which would remain open till 28th February (National Science Day) every year.</li> </ul> <p>These awards shall be announced on 11th May (National Technology Day) every year.</p> <p>The Award Ceremony for all categories of awards will be held on 23rd August (National Space Day).</p> <p>All Awards will have a Sanad &amp; a medal.</p> <p>It will be awarded providing at par status with other National Awards.</p>
<p><b>16</b></p>	<p><b>D</b></p> <p>Context:</p> <p>The Parliamentary Standing Committee on Education asks Centre to hold discussions with all stakeholders on the multiple entry, exit option in higher studies.</p> <p>Multiple Entry and Multiple Exit (MEME) in Higher Studies:</p> <ul style="list-style-type: none"> <li>• National Education Policy (NEP) 2020 seeks to reform the Higher Education system by providing, among other things, flexibility to students in terms of choice of subjects to study and academic pathways.</li> <li>• The multiple entry and exit points in the academic programmes offered at Higher Education Institutions (HEIs) would remove rigid boundaries and create new possibilities for students to choose and learn the subjects of their choice.</li> </ul>



	<ul style="list-style-type: none"> <li>In addition, it will pave the way for seamless student mobility, between or within degree-granting HEIs through a formal system of credit recognition, credit accumulation, credit transfers, and credit redemption.</li> </ul>	<b>18</b>	<p><b>D</b></p> <p>Context:</p> <p>Researchers have recently discovered a new deep-sea enzyme that can degrade Polyethylene Terephthalate (PET).</p> <p>About Polyethylene Terephthalate (PET):</p> <ul style="list-style-type: none"> <li>It is the most commonly used thermoplastic polymer in the world.</li> <li>It belongs to the family of polyesters.</li> </ul> <p>Production:</p> <ul style="list-style-type: none"> <li>PET is produced by the polymerization of ethylene glycol and terephthalic acid.</li> <li>When heated together under the influence of chemical catalysts, ethylene glycol and terephthalic acid produce PET in the form of a molten, viscous mass that can be spun directly to fibres or solidified for later processing as plastic.</li> </ul> <p>Properties:</p> <ul style="list-style-type: none"> <li>It is highly flexible, colourless and semi-crystalline resin in its natural state. Statement 1 is correct.</li> <li>It shows good dimensional stability, resistance to impact, moisture, alcohols and solvents.</li> <li>It exhibits excellent electrical insulating properties.</li> <li>It is very lightweight, which reduces transportation costs.</li> <li>It has good gas (oxygen, carbon dioxide) and moisture barrier properties.</li> <li>It is recyclable. It can be commercially recycled by thorough washing and re-melting, or by chemically breaking it down to its component materials to make new PET resin.</li> </ul> <p>Applications:</p> <ul style="list-style-type: none"> <li>It is widely used for packaging foods and beverages, especially convenience-sized soft drinks, juices and water.</li> <li>The polymer finds use in fabrics, and the textile industry. Statement 2 is correct.</li> </ul>
<b>17</b>	<p><b>B</b></p> <p>Context:</p> <p>Kaobal Gali-Mushkoh Valley, once the battlefield of the Kargil war, has been opened up for tourists.</p> <p>About</p> <ul style="list-style-type: none"> <li>The high-altitude passes of the Gurez valley, in north Kashmir is set to connect with the Mushkoh valley, in Kargil's Drass Sector, Ladakh, the site of the Kargil war in 1999.</li> <li>A 130-km road has been opened up for tourists. Kaobal Gali, the highest pass at a height of 4,166.9 meters in Gurez, connects the two valleys.</li> <li>The road connecting the two valleys is being maintained under Beacon (by the Border Roads Organisation) and at present is a fair-weather road.</li> </ul> <p>Gurez Valley</p> <ul style="list-style-type: none"> <li>The Gurez Valley is close to the Line of Control (LoC) in north Kashmir, situated at about 2,400 meters above sea level.</li> <li>It is also home to ibex, musk deer and marmots, Himalayan brown bear and snow leopard. The Kishanganga River flows through the valley.</li> <li>The Gurez valley is one of few habitations in Kashmir where villages with only log houses exist, with no intervention of urban concrete materials.</li> </ul> <p>Mushkoh Valley</p> <ul style="list-style-type: none"> <li>The Mushkoh Valley is situated in Dras, Ladakh.</li> </ul> <p>It is home to boisterous wild tulip flowers and endangered Himalayan yew.</p>		

	<ul style="list-style-type: none"> <li>It is also used in films to Mold parts for automotive, electronics, etc.</li> <li>PET's insulating properties and resistance to moisture make it suitable for various electrical and electronic components, such as insulation for electrical wires and connectors. Statement 3 is correct.</li> </ul>		<p>pancratium lily, grass lily, star lily), wild yam (suran), and Indian squill.</p> <p><b>Significance</b></p> <ul style="list-style-type: none"> <li>The primary job of these flowers is to act as an important source of nectar and pollen for native pollinators.</li> <li>Their presence in all micro habitats on a plateau ensures the appropriate presence of soil and, most importantly, water.</li> </ul>
<b>19</b>	<p><b>B</b></p> <p><b>Context:</b></p> <p>Researchers and environmental groups are documenting floral species in the State of Maharashtra and educating people about their existence through nature walks.</p> <p><b>About Ephemerals:</b></p> <ul style="list-style-type: none"> <li>These are any short-lived plant, usually one that has one or more generations per year.</li> <li>They grow only during favourable periods (as when adequate moisture is available) and passing the unfavourable periods in the form of seeds.</li> </ul> <p>They are of two types - annual and perennial</p> <p>Annual ephemerals form new individuals every year and are seen for a very short period.</p> <ul style="list-style-type: none"> <li>They form seeds at the end of their life cycle, remaining dormant till the next year.</li> </ul> <p>Perennials have a source like a tuber or a bulb in the soil, so it is the same individual, but the other parts (stem, flowers) are newly formed.</p> <ul style="list-style-type: none"> <li>Monsoon ephemerals bloom towards the end of May and throughout June, July, August, and September.</li> <li>Some other monsoon ephemerals will just form leaves and little branch structures after a few showers.</li> <li>These leaves stay for a month or more and then flowering starts, which goes on till July and August.</li> <li>The onset of monsoon brings flowers such as ground orchids (Nervilia and Eulophia), lilies (crinum lily,</li> </ul>	<b>20</b>	<p><b>C</b></p> <p><b>Context:</b></p> <p><b>About:</b></p> <ul style="list-style-type: none"> <li>Odhuvars sing devotional hymns in Tamil Nadu's Hindu temples but are not priests.</li> <li>They are in the service of Lord Shiva by singing his praise from Thirumurai in Saivite temples.</li> <li>They sing devotional hymns but do not enter the sanctum sanctorum.</li> </ul> <p><b>What is the Significance of Odhuvars in Present Context?</b></p> <ul style="list-style-type: none"> <li><b>Religious Significance:</b> Odhuvars continue to hold a crucial place in the daily and festive rituals of Tamil Nadu temples. They are responsible for reciting Thevaram and Thiruvagasam, two ancient Tamil texts filled with hymns and praises for Lord Shiva.</li> <li><b>Community Engagement:</b> Odhuvars often come from marginalized communities, and their role in temples offers economic opportunities. Moreover, their performances bring the local community together, fostering a sense of unity and belonging.</li> <li><b>Preservation of Tamil Language:</b> Odhuvars contribute to the preservation of the Tamil language. Through their recitations, they ensure that the ancient Tamil texts are understood and appreciated by successive generations.</li> <li><b>Promotion of Devotion:</b> Odhuvars help</li> </ul>

	create a devotional atmosphere within the temples. Their soul-stirring renditions instill a sense of piety and spiritual connection among the worshippers.		Norman E. Borlaug Award
<b>21</b>	<p><b>D</b></p> <p>Justice Gita Mittal Committee:</p> <p>In response to the escalating situation of May 2023 violence in Manipur, the Supreme Court appointed a three-member committee, led by former Jammu and Kashmir High Court Chief Justice Gita Mittal, in August 2023. Empowered to submit reports directly to the Supreme Court, the committee recently presented its thirteenth interim report.</p> <p>Major Findings and Recommendations:</p> <ul style="list-style-type: none"> <li>• The committee's key findings centre on the sensitive issue of handling the deceased. It recommends directing victims' relatives to perform the last rites, with state intervention if necessary.</li> <li>• The report highlights external pressures from civil society organizations, alleging interference with last rites due to "vested interests" and to extract "unwarranted" concessions from state authorities.</li> <li>• The committee urges the Supreme Court to intervene by compelling the next of kin to claim bodies and conduct last rites. Additionally, it recommends prohibiting civil society organizations from obstructing or interfering with the solemn process.</li> </ul>		<ul style="list-style-type: none"> <li>• The award is designed to honour exceptional scientists under the age of 40 who are actively engaged in addressing the global challenges of food and nutrition security and the eradication of hunger. Statement 1 is correct.</li> <li>• The award is named in memory of Dr. Norman E. Borlaug, a renowned agronomist and the chief architect of the Green Revolution. Dr. Borlaug was awarded the Nobel Peace Prize in 1970 for his contributions to increasing agricultural productivity and alleviating hunger.</li> <li>• Recipients of the award are individuals who work directly with farmers, animal herders, fishers, or others in rural communities. They can be from any discipline or enterprise related to food production, processing, and distribution.</li> <li>• Norman E. Borlaug Award is presented annually by the World Food Prize Foundation. The award includes a diploma featuring an image of Dr. Norman Borlaug at work in the fields of Mexico, symbolizing his dedication to agriculture and food security. In addition to the diploma, the recipient is awarded a cash prize of \$10,000.</li> </ul> <p>Why was Swati Nayak given Norman E Borlaug Award?</p> <p>Swati Nayak is credited with the successful dissemination and adoption of more than 20 climate-resilient and bio-fortified rice varieties.</p> <p>Among these are 'Sahbhagi Dhan', a drought-tolerant variety suitable for hilly uplands, and 'BINA Dhan-11', which is flood-tolerant.</p>
<b>22</b>	<p><b>B</b></p> <p>Context:</p> <p>Indian agriculture scientist Swati Nayak has become the third Indian agriculture scientist to win the prestigious Norman E Borlaug Award for 2023. Statement 3 is correct.</p> <p>The other two include Aditi Mukherjee (2012) and Mahalingam Govindaraj (2022). Statement 2 is incorrect.</p>		
		<b>23</b>	<p><b>A</b></p> <p>About:</p> <p>The FATF Plenary meets tri-annually - in February, June and October, to take stock</p>

	<p>of "Mutual Evaluation Reports" (MERs) of the countries it reviews.</p> <ul style="list-style-type: none"> <li>If a country appears to have major deficiencies in its AML/CFT regime, it is put on a list of "jurisdictions under increased monitoring" - "grey list" and if it fails to address FATF concerns, it is put on a "high-risk jurisdictions" list - "black list".</li> </ul>		<ul style="list-style-type: none"> <li>It is native to parts of North and South America, as well as parts of Africa.</li> </ul>
<b>24</b>	<p><b>D</b></p> <p>Context:</p> <p>Recently, the Gujarat state government banned Conocarpus tree plantation in forest or non-forest area, underlining its "adverse impacts on environment and human health".</p> <p>About Conocarpus Tree</p> <ul style="list-style-type: none"> <li>It is a flowering plant belonging to the family of Combretaceae.</li> <li>It is an invasive mangrove species. Statement 1 is correct.</li> <li>Trees of this species flower in winter and spread pollen in nearby areas.</li> <li>It has been used by various public authorities in India as landscaping for road medians, along roads, and in public gardens.</li> <li>Countries in the Arabian Peninsula have used the plant to block sand from desert storms and to control pollution. Statement 2 is correct.</li> <li>This tree is famous for its dark green leaves colour throughout the year and withstands harsh environmental conditions such as high and low temperatures.</li> <li>It is very adaptive and could grow even in areas with extreme salinity.</li> <li>It absorbs more water from soil than other species and is a threat to groundwater.</li> <li>This species goes deep into the ground and grows too much to damage the communication cables, drainage lines and drinking water pipelines.</li> </ul>	<b>25</b>	<p><b>B</b></p> <p>Context:</p> <p>India retains 40th rank out of 132 economies in the Global Innovation Index 2023 rankings.</p> <p>About Global Innovation Index 2023:</p> <ul style="list-style-type: none"> <li>It is published by the World Intellectual Property Organization. Statement 1 is correct.</li> <li>It is a reliable tool for governments across the world to assess the innovation-led social and economic changes in their respective countries.</li> <li>This year, the NITI Aayog, in partnership with the CII and the World Intellectual Property Organisation (WIPO), is hosting, virtually, the India Launch of the GII 2023 on 29th September 2023.</li> </ul> <p>Key findings</p> <ul style="list-style-type: none"> <li>The Global Innovation Index is built on a rich dataset - the collection of 80 indicators from international public and private sources - going beyond the traditional measures of innovation since the definition of innovation has broadened.</li> <li>Top 5 countries: Switzerland, Sweden, United States United Kingdom (4th) and Singapore (5th). Statement 2 is incorrect.</li> <li>It listed India as among the 21 economies that outperformed for a 13th consecutive year on innovation relative to level of development.</li> <li>It states that India, Iran, Philippines, Turkiye, Vietnam and Indonesia are among the economies within the GII top 65 that climbed fastest in the ranking over the last decade.</li> <li>India holds top ranking within the Central and Southern Asia region for Human capital and research (48th),</li> </ul>

	<p>Business sophistication (57th) and Knowledge and technology outputs (22nd).</p> <p>Strong indicators include ICT services exports (5th), Venture capital received (6th), Graduates in science and engineering (11th) and Global corporate R&amp;D investors (13th).</p>		<p>Early life:</p> <ul style="list-style-type: none"> <li>• She was born on 19 October 1870, in the small village of Hogla, near Tamluk in Bengal, she was the daughter of a poor peasant and did not receive a formal education.</li> </ul> <p>Role during freedom struggle</p> <ul style="list-style-type: none"> <li>• She was a revolutionary and actively participated in the Indian Independence Movement.</li> <li>• She was affectionately known as Gandhi Buri (Bengali for Old Lady Gandhi).</li> <li>• In 1905, she became actively interested in the Indian independence movement as a Gandhian.</li> <li>• She took part in the Non-Cooperation Movement and protested for the abolition of salt tax as a part of the civil disobedience movement.</li> <li>• It was during this time that she became an active member of the Indian National Congress, and started spinning her own khadi in Gandhi's footsteps.</li> <li>• She led a procession of 6000 protestors, mostly women as a part of the Quit India Movement.</li> <li>• She kept chanting Vande Mataram (Hail to the Motherland) during her last moments.</li> </ul> <p>Post Independence:</p> <ul style="list-style-type: none"> <li>• Numerous schools, colonies, and streets were named after Hazra.</li> <li>• The first statue of a woman put up in Kolkata, in independent India, was Hazra's in 1977.</li> <li>• In 2002, as part of a series of postage stamps commemorating sixty years of the Quit India Movement the Department of Posts of India issued a five-rupee postage stamp with Matangini Hazra's image.</li> </ul>
26	<p><b>C</b></p> <p>Context:</p> <p>Recently, the union minister for Education and Skill Development &amp; Entrepreneurship launched 'CRIIO 4 GOOD'.</p> <p>About CRIIO 4 GOOD Initiative</p> <ul style="list-style-type: none"> <li>• It is a new online life skill learning module.</li> <li>• It consists of a series of 8 cricket-based animation films to promote gender parity, equip girls with life skills and encourage their participation in sports.</li> <li>• Using the popularity and passion of cricket young audiences, ICC and UNICEF released these modules to inspire children and youth to adopt critical life skills and appreciate the importance of gender equality.</li> <li>• The programme is in three languages: English, Hindi and Gujarati.</li> <li>• The themes of the eight modules are: leadership, problem-solving, confidence, decision-making, negotiation, empathy, teamwork and goal setting and are visualized through state-of-the-art animation using cricketing examples.</li> <li>• The programme was launched in association with the International Cricket Council, UNICEF, and the Board of Control for Cricket in India.</li> </ul>		
27	<p><b>C</b></p> <p>Context:</p> <p>Remembering 'Matangini Hazra' on her 81st Anniversary of Martyrdom.</p> <p>About Matangini Hazra:</p>		

<p><b>28</b></p>	<p><b>A</b></p> <p>Context:</p> <p>In the digital realm, cookies help in personalisation and user convenience and also play a pivotal role in shaping any online experience.</p> <ul style="list-style-type: none"> <li>• Cookies contain tiny amounts of data about users in text files that act like a website's memory.</li> <li>• As soon as we use a server, tiny amounts of data start getting stored inside a cookie.</li> <li>• The website uses it to identify users and their devices, which also stores these cookies.</li> <li>• Whenever a user visits the same website, the cookies identify him/her and make it show relevant information.</li> </ul> <p>Types of cookies</p> <p>Session cookies: These are temporary cookies like post-it notes for websites.</p> <ul style="list-style-type: none"> <li>• They are stored in your computer's memory only during your browsing session. Once you close your browser, they vanish.</li> <li>• These can help websites remember your actions as you navigate, like items in your shopping cart.</li> </ul> <p>Persistent cookies: These are the digital equivalent of bookmarks.</p> <ul style="list-style-type: none"> <li>• They stay on your device after your browsing session ends.</li> <li>• Persistent cookies remember your login information, language preferences, and even the ads you have interacted with. They are handy for a more personalised web experience.</li> </ul> <p>Secure cookies: These are only sent over encrypted connections, making them safer from prying eyes. Secure cookies are often used for sensitive data like login credentials.</p>	<p><b>29</b></p> <p><b>D</b></p> <p>Context:</p> <p>Recently, Toto ShabdaSangraha, a dictionary has been compiled to save a language from extinction.</p> <ul style="list-style-type: none"> <li>• Toto is a Sino-Tibetan language spoken by the tribal Toto people and is written in the Bengali script. Statement 1 and 2 both are incorrect.</li> <li>• A prominent community member Dhaniram Toto developed a script as recently as in 2015.</li> <li>• It is spoken by barely 1,600 people living in parts of West Bengal bordering Bhutan.</li> </ul> <p>Key facts about Toto ShabdaSangraha</p> <ul style="list-style-type: none"> <li>• The dictionary has been compiled by Bhakta Toto, a bank employee-cum-poet, and published jointly by the trust and BhashaSamsad</li> <li>• The dictionary is a step in the direction of preserving the language, alive so far only orally, by putting its vocabulary in print.</li> <li>• Toto words, to be translated into Bengali and English, will be composed in the Bengali script, considering that the Toto script is still in a nascent stage and members of the tribe are more familiar with the Bengali script.</li> </ul> <p><b>30</b></p> <p><b>A</b></p> <p>The SASTRA Ramanujan Prize is founded by Shanmugha Arts, Science, Technology &amp; Research Academy (SASTRA) located near Kumbakonam, India. Statement 1 is incorrect.</p> <p>Ruixiang Zhang of the USA will be awarded with the 2023 SASTRA Ramanujan Prize for his outstanding contributions in Mathematics. Statement 2 is incorrect.</p> <p>The annual cash prize of USD 10,000 will be given at an international conference in Number Theory during December 20 and December 22 at SASTRA University in Kumbakonam, mathematician Srinivasa</p>
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	<p>Ramanujan's hometown.</p> <p>The age limit for the prize has been set at 32 influenced by Ramanujan's achievements in his brief life of 32 years. Statement 3 is correct</p>		<ul style="list-style-type: none"> <li>• Operation 'Uplabdh' - In this operation the touts were arrested and legal action was taken against them as per law. Pair 3 is incorrect.</li> <li>• Touts are the persons who sell tickets unofficially, at a much higher price than the official price, especially outside a theatre, stadium, railway station and other places.</li> <li>• Operation 'Yatri Suraksha' - In order to redress security related complaints of passengers in distress and for immediate assistance, this operation was launched. Pair 4 is incorrect.</li> <li>• Passengers can make complaint on Rail Madad Portal or through helpline No. 139 (integrated with Emergency Response Support System No. 112).</li> </ul>
<b>31</b>	<p><b>C</b></p> <p>The MQ-9B drone is a variant of the MQ-9 "Reaper" which was used to launch a modified version of the Hellfire missile that eliminated al-Qaeda leader Ayman al-Zawahiri in Kabul.</p> <p>The MQ-9B has two variants Sky Guardian and its sibling Sea Guardian, The Indian Navy has been operating the MQ-9B Sea Guardian since 2020.</p> <p>The drone can operate at over 40,000 feet, giving the Indian military surveillance capacity in the high-altitude Himalayan border areas.</p> <p>The Predator also has the maximum endurance of 40 hours, making it useful for long-hour surveillance.</p> <p>MQ-9B drones are equipped with advanced features such as automatic take-off and landing, detect and avoid system, anti-spoofing GPS, and encrypted communication links.</p>		
<b>32</b>	<p><b>B</b></p> <p>Nanhe Faristey, AAHT, Uplabdh and Yatri Suraksha</p> <ul style="list-style-type: none"> <li>• Operation 'Nanhe Faristey' - The operation aims to rescue children and reunite them with their family. Pair 1 is correct.</li> <li>• It was launched on Indian Railways by the Railway Protection Force (RPF).</li> <li>• Operation 'AAHT' - It is an effective operation to curb the evil plans of Human traffickers. Pair 2 is correct.</li> <li>• Anti-Human Trafficking Units of RPF are operational at the Post level (Thana level) over the Indian Railways.</li> <li>• During the month of September 2023, 29 persons were rescued from the clutches of traffickers with arrest of 14 traffickers.</li> </ul>	<b>33</b>	<p><b>C</b></p> <p>Amrit Kaal Vision 2047</p> <ul style="list-style-type: none"> <li>• Amrit Kaal Vision 2047 is the long-term blueprint for the Indian maritime blue economy for enhancing port, promoting sustainable practices and facilitating global collaboration. Statement 1 is correct.</li> <li>• The blueprint outlines strategic initiatives aimed at enhancing port facilities, promoting sustainable practices and facilitating international collaboration.</li> <li>• It includes strategies to make major ports carbon-neutral and push for domestic hydrogen production and distribution. Statement 3 is correct.</li> <li>• It aims to quadruple port capacity to 10,000 million tonnes per annum (mtpa) by 2047, aiming to get 100 % public private partnership (PPP) for 12 major ports. Statement 2 is correct.</li> <li>• The investments worth Rs 75-80 trillion over the next 25 years will be used to achieve the following goals:</li> <li>• Carbon neutrality at all major ports,</li> <li>• Attaining the highest rank in cruise tourism,</li> </ul>

	<ul style="list-style-type: none"> <li>• Development of 25 cruise terminals,</li> <li>• Increasing operational waterways more than two-fold and</li> <li>• 500 million tonne (mt) of cargo, development of 2 new major ports and</li> <li>• Becoming the leading nation in ship recycling.</li> <li>• Global Maritime India Summit 2023 is the 3rd edition of the summit that was held at Mumbai.</li> </ul>	<ul style="list-style-type: none"> <li>• In 1979, Egypt became the first Arab country to conclude a peace treaty with Israel (Camp David Accords). Statement 3 is correct.</li> <li>• Israel later agreed to a two-state solution with the Palestine Liberation Organization (PLO) in 1993, and, as a result, Jordan concluded a peace agreement with Israel in 1994.</li> <li>• However, the two-state solution failed to materialize within the intended time frame.</li> <li>• In 2002, the Arab League endorsed a Saudi proposal (known as the Arab Peace Initiative) for its member states to establish normal relations with Israel in exchange for an independent Palestinian state.</li> <li>• Negotiations between Israel and the Palestinian Authority soon dissipated, the proliferation of Israeli settlements compounded the challenges of creating a viable state in the West Bank and the Gaza Strip.</li> </ul>
34	<p><b>A</b></p> <p>What is Abraham Accord?</p> <ul style="list-style-type: none"> <li>• Signed in - 2020</li> <li>• Agreement between - United Arab Emirates, Bahrain and Israel. Statement 1 is incorrect.</li> <li>• Mediated by - The US</li> <li>• Objective- To normalise ties between these Arab Gulf states and Israel. Statement 2 is correct.</li> <li>• Following the signing of the Abraham Accords in 2020, 5 Arab states (Egypt, Jordan, UAE, Morocco and Sudan) have established diplomatic ties with Israel.</li> </ul> <p>Arab countries with diplomatic ties to Israel</p> <p>Background of Israel- Arab relation</p> <ul style="list-style-type: none"> <li>• Arab governments refused to extend diplomatic recognition to Israel after its independence in 1948.</li> <li>• A series of Arab-Israeli wars took place in the decades that followed which includes the Six-Day War (1967) and the Yom Kippur War (1973).</li> </ul>	<p>35</p> <p><b>B</b></p> <p>36</p> <p><b>A</b></p> <ul style="list-style-type: none"> <li>• The NAO is a climate pattern that affects the Atlantic Ocean, but its impact on the Amazon is indirect. The NAO affects the position of the Intertropical Convergence Zone (ITCZ), which is a band of low pressure that influences the movement of moisture in the atmosphere. When the ITCZ moves away from the Amazon, it can</li> </ul>

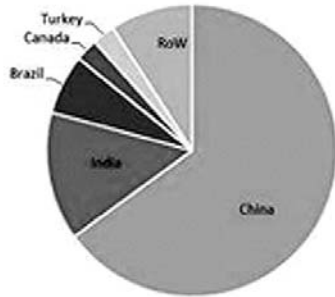


	<p>result in less rainfall and increased risk of drought. Statement 3 is incorrect.</p> <ul style="list-style-type: none"> <li>Volcanic eruptions can release large amounts of ash and sulphur dioxide into the atmosphere. This can block out the sun and reduce rainfall. However, volcanic eruptions are not a major cause of the Amazon drought. Statement 5 is incorrect.</li> <li>La Nina is a cooling phase of ENSO that can lead to increased rainfall in the Amazon whereas the opposite happens in El Nino. Statement 1 is correct and 4 is incorrect.</li> <li>High Atlantic Ocean Temperatures: The northern tropical Atlantic Ocean has unusually warm waters. When this warm water heats the air, it moves to the Amazon. This heated air stops clouds from forming and reduces rain. Statement 2 is correct.</li> </ul>	<ul style="list-style-type: none"> <li>Annex 2 detailing the parameters for screening events</li> <li>CTBTO - The Treaty establishes a CTBT Organization (CTBTO), located in Vienna, to ensure the implementation of its provisions</li> <li>The CTBTO consists of 2 organs,</li> <li>Preparatory Commission (a plenary body) and</li> <li>Provisional Technical Secretariat (PTS)</li> <li>Administered by - Preparatory Commission for CTBTO</li> <li>Condition- For the treaty to enter into force, 44 "Annex 2" States must sign and ratify the Treaty.</li> <li>Signed but not ratified- China, Egypt, Iran, Israel and the United States</li> <li>Non-signatories- India, North Korea and Pakistan Statement 4 is correct.</li> <li>Withdrawal- Each State Party has the right to withdraw from the CTBT if it decides that extraordinary events related to the subject matter of the Treaty have jeopardized the State Party's supreme national interests.</li> </ul> <p>Russia ratified the CTBT agreement in 2000.</p> <p>How did CTBT come into existence?</p> <ul style="list-style-type: none"> <li>1940s - USA conducted the world's 1st successful nuclear weapons test in 1945 whereas Soviet Union tested its 1st nuclear weapon in 1949.</li> <li>These tests triggered a decades-long arms race between the two superpowers.</li> <li>Between 1945 and 1996, more than 2,000 nuclear tests were carried out.</li> <li>1960s- Limited Nuclear Test-Ban Treaty (LTBT), 1963 prohibited nuclear testing in the atmosphere, outer space, and underwater, but underground tests were still permitted.</li> <li>1970s - The US and Soviet Union agreed to sign the Threshold Test Ban Treaty (TTBT), which established a</li> </ul>
37	<p><b>C</b></p> <p>What is Comprehensive Nuclear Test Ban Treaty (CTBT)?</p> <ul style="list-style-type: none"> <li>It is a multilateral treaty that bans all nuclear explosions, for both civilian and military purposes, in all environments. Statement 1 is correct.</li> <li>Adopted by- The United Nations General Assembly (UNGA) in 1996, However it is still in the ratification stage. Statement 2 is incorrect.</li> <li>Structure - The CTBT itself includes a Protocol in 3 parts.</li> <li>Part I detailing the International Monitoring System (IMS)</li> <li>Part II on On-Site Inspections (OSI)</li> <li>Part III on Confidence-Building Measures (CBMs) Statement 3 is correct.</li> <li>There are also 2 Annexes to the Protocol.</li> <li>Annex 1 detailing the location of various Treaty monitoring assets associated with the IMS</li> </ul>	

	<p>nuclear threshold by banning the two countries from conducting tests that would produce a yield exceeding 150 kilotons (equivalent to 150,000 tons of TNT).</p> <ul style="list-style-type: none"> <li>1990s- A major breakthrough came after the Cold War ended through the CTBT in 1996 that will prohibit all nuclear weapons tests and other nuclear explosions upon its entry into force.</li> </ul> <p>What is the status since the signing of CTBT?</p> <ul style="list-style-type: none"> <li>Timely information - Post 2011 Fukushima nuclear accident, CTBTO data provided timely information on the radioactive emissions from the crippled plant and their global dispersion.</li> <li>Monitoring - International Monitoring System monitors the Earth's crust, listens in the atmosphere and in the oceans and sniffs the air for traces of radioactivity.</li> <li>Nuclear testing- Since the CTBT, 10 nuclear tests have taken place in countries such as Pakistan, India and North Korea.</li> <li>Superpowers- The United States last tested in 1992, China and France in 1996 and the Soviet Union in 1990.</li> <li>Russia, which inherited most of the Soviet nuclear arsenal, has never conducted a nuclear test.</li> </ul> <p>What is India's stand on CTBT?</p> <p>India is a member of the Multilateral Export Control Regime (Australia Group, Wassenaar Agreement, Missile Technology Control Regime) except the Nuclear Suppliers Group.</p> <ul style="list-style-type: none"> <li>Standstill agreement- It was launched by India in 1954, by then Prime Minister Jawaharlal Nehru.</li> <li>Testing of all nuclear weapons was to be immediately suspended, pending an agreement on their complete prohibition.</li> </ul>	<ul style="list-style-type: none"> <li>LTBT- Nehru played an important role in building international momentum for the 1963 Limited Test Ban Treaty, which India joined.</li> <li>CTBT - India did not support the treaty in 1996 and still does not, but it had been very supportive during negotiations.</li> <li>Security concerns - India considers the enforcement of the treaty as a threat to national security.</li> <li>Discriminatory - US has already conducted more than 2000 tests suddenly realizes that there was no need to test nuclear devices any more.</li> <li>Time limit - No time-bound disarmament schedule for nuclear weapon states</li> <li>Limited Coverage- CTBT would not help towards nuclear disarmament since it only banned nuclear explosive testing, but not other activities related to nuclear weapons, such as sub-critical (non-nuclear explosive) experiments, or computer simulations.</li> <li>In 2016, the CTBTO has invited India to become an "Observer" in the CTBT.</li> </ul> <p>Conventions that Control the Weapons of Mass Destruction</p> <p>Convention Purpose</p> <p>Geneva Protocol 1925 Banned the use of chemical and biological weapons</p> <p>Biological Weapons Convention, 1972 Puts comprehensive ban on the biological weapons</p> <p>Chemical Weapons Convention, 1992 Puts comprehensive ban on the chemical weapons</p> <p>Nuclear Non-Proliferation Treaty (NPT) Regulates the use and proliferation of nuclear weapons.</p>
38		<p><b>B</b></p> <p>Under the Wild Bhattiyat Project initiated by the State Forest Department in 2022, a species of butterfly that is rare in the</p>


<p>western Himalayas, the paintbrush swift butterfly has been documented for the first time in Himachal Pradesh's Chamba district.</p> <ul style="list-style-type: none"> <li>It was first described by lepidopterist Frederic Moore more than 145 years ago.</li> </ul>  <p>Horace Tan</p> <p>About the Species:</p> <ul style="list-style-type: none"> <li>The paintbrush swift is a butterfly species of the HesperIIDae family. Statement 1 is correct.</li> <li>Scientific name: Baoris farri</li> <li>It is identified based on two separated spots in the upper forewing cell.</li> <li>The species' larvae feed on bamboo and some other grass species.</li> <li>Habitat: Its habitat is distributed in northeast, central and south India, and rare in Uttarakhand. Statement 2 is incorrect.</li> <li>Threats: Habitat loss and scarcity of larval host plants are major causes of the decline in the butterfly population. An increase in pesticide use, deforestation, and climate change. Statement 3 is correct.</li> <li>Conservation status: This species is legally protected in India under Schedule IV of the Wildlife (Protection) Act, 1972. Statement 4 is correct.</li> </ul>	<p><b>39 C</b></p> <p>Statements 1 and 2 are incorrect.</p> <ul style="list-style-type: none"> <li>India does believe in the principle of CBDR, but it does not believe that all nations bear an equal obligation to tackle worldwide environmental challenges.</li> <li>India argues that developed countries have a greater responsibility to reduce their emissions because they have polluted more in the past and have more resources to fight climate change.</li> <li>The principle of CBDR is not about developing nations sharing less responsibility for their involvement in global environmental issues.</li> <li>It is about recognizing that developed and developing nations have different levels of responsibility, based on their level of development and contribution to the problem.</li> <li>Developed countries have a greater responsibility to reduce their emissions because they have polluted more in the past and have more resources to fight climate change.</li> <li>Developing countries, on the other hand, have a right to develop their economies without harming the environment.</li> <li>However, they also have a responsibility to take steps to reduce their emissions, within their means.</li> </ul> <p>Statement 3 is correct.</p> <ul style="list-style-type: none"> <li>India believes that developed countries have a greater responsibility to reduce their emissions because they have polluted more in the past and have more resources to fight climate change.</li> <li>India also argues that developed countries should provide financial and technological assistance to developing countries to help them reduce their emissions.</li> <li>The principle of CBDR is essential for achieving sustainable development and</li> </ul>
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	<p>for achieving the goals of the Paris Agreement.</p> <ul style="list-style-type: none"> <li>It is also fair and equitable, as it takes into account the different capabilities of countries.</li> </ul>		<p>incurred. Statement 1 is correct.</p> <ul style="list-style-type: none"> <li>Second, it will reduce their cash flow, as they will have to pay more taxes upfront. Statement 2 is incorrect.</li> <li>Third, it will make it more difficult for them to raise capital, as investors will be less likely to invest in companies with higher tax liabilities and lower cash flow. Statement 3 is correct.</li> </ul>
<b>40</b>	<p><b>C</b></p> <p>Estivation is also known as aestivation. It is a biological phenomenon during which some animals enter a prolonged state of dormancy or inactivity during hot and dry conditions.</p> <p>It serves as a survival strategy to conserve energy and water. Animals during estivation seek shelter in cool places like underground burrows, crevices, or cocoons. During this time, animals will also reduce their metabolic activity which in turn reduces their energy consumption. This helps them avoid extreme dryness and safe from predators.</p> <ul style="list-style-type: none"> <li>Aestivation takes place in cold-blooded animals like snails, earthworms, frogs, etc.</li> <li>This can be seen in earthworms, molluscs, arthropods, reptiles and amphibians. A lungfish can aestivate and survive without water for three years.</li> <li>Examples of estivating animals include the West African lungfish, desert tortoises, and certain land snails.</li> </ul>	<b>42</b>	<p><b>B</b></p> <p>Who is a Senior Advocate?</p> <ul style="list-style-type: none"> <li>Under Section 16 of the Advocates Act 1961, two classes of advocates are classified: Senior Advocate and Junior or those who are not designated as seniors. Statement 1 is incorrect.</li> <li>The senior advocates play the role of legal experts in India who have significant knowledge in the field of law.</li> <li>They are associated with many prominent cases as they are good contributors to the principle of the Rule of Law.</li> <li>Special Provisions:</li> <li>A senior advocate shall not appear without an advocate on record in the SC or without an advocate in any other court. Statement 2 is correct.</li> <li>A senior advocate shall not accept instructions to draft pleadings or affidavits, advice on evidence, or to do any drafting work of an analogous kind in any Court or Tribunal or before any person or other authority. Statement 3 is incorrect.</li> <li>A senior advocate shall not accept directly from a client any brief or instructions to appear in any Court or Tribunal or before any person or other authority in India.</li> </ul> <p>Guidelines for Designation of Senior Advocates by the Supreme Court of India, 2023</p> <ul style="list-style-type: none"> <li>The candidates need to be at least ten years' standing as an Advocate or ten</li> </ul>
<b>41</b>	<p><b>C</b></p> <p>Capital expenditure is incurred on the acquisition or creation of assets that will benefit the business for more than one accounting period.</p> <p>Revenue expenditure, on the other hand, is incurred on day-to-day operations and is written off against revenue in the same accounting period.</p> <p>The Supreme Court's ruling will have a number of implications for telecommunications companies in India.</p> <ul style="list-style-type: none"> <li>First, it will increase their tax liability, as capital expenditure is not tax-deductible in the year in which it is</li> </ul>		

	<p>years' combined standing as an Advocate and as a District and Sessions Judge or as a Judicial Member of any Tribunal in India to be designated as Senior Advocates at the SC.</p> <ul style="list-style-type: none"><li>• They must practice mainly in the Supreme Court, but advocates with domain expertise in practising before specialised tribunals may be given concession.</li><li>• The age limit for applying for the designation of senior advocate is now 45 years, unless the age limit is relaxed.</li><li>• The age limit can be relaxed by the Committee for Designation of Senior Advocates or if the name has been recommended by the Chief Justice of India or a SC judge.</li><li>• Selection:</li><li>• The selection for the designation of senior advocates will be done by the Committee for Designation of Senior Advocates. The Committee is headed by CJI as the Chairperson.</li><li>• The applications will be invited once a year, and the committee will meet twice a year.</li><li>• It will also have a permanent secretariat, whose members will be selected by the CJI and the committee.</li></ul>	<p>light pressure, and has a very low specific gravity. Statement 2 is incorrect.</p> <ul style="list-style-type: none"><li>• In contrast, it is extremely resistant to heat and nearly inert in contact with almost any other material. Statement 3 is correct.</li><li>• These extreme properties give it a wide range of uses in metallurgy and manufacturing.</li><li>• Molecular structure</li><li>• It consists of a ring of six carbon atoms closely bonded together hexagonally in widely spaced layers.</li><li>• The bonds within the layers are strong but the bonds between the layers are less in number and therefore are weaker.</li><li>• Graphite is the stable form of carbon.</li><li>• Applications: It is used in pencils, lubricants, crucibles, foundry facings, polishes, arc lamps, batteries, brushes for electric motors, and cores of nuclear reactors.</li><li>• It is mined extensively in China, India, Brazil, North Korea, and Canada. Statement 4 is incorrect.</li></ul> <p><b>Graphite Mine Production Globally</b></p>  <table><caption>Graphite Mine Production Globally (Estimated)</caption><thead><tr><th>Country/Region</th><th>Production Share (Approximate)</th></tr></thead><tbody><tr><td>China</td><td>65%</td></tr><tr><td>India</td><td>15%</td></tr><tr><td>Brazil</td><td>10%</td></tr><tr><td>Turkey</td><td>5%</td></tr><tr><td>Canada</td><td>3%</td></tr><tr><td>RoW</td><td>2%</td></tr></tbody></table>	Country/Region	Production Share (Approximate)	China	65%	India	15%	Brazil	10%	Turkey	5%	Canada	3%	RoW	2%
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<b>43</b>	<p><b>C</b></p> <p>About Graphite</p> <ul style="list-style-type: none"><li>• It is an opaque, non-metallic carbon polymorph that is blackish silver in colour and metallic to dull in sheen.</li><li>• Since it resembles the metal lead, it is also known colloquially as black lead or plumbago.</li><li>• It is formed by the metamorphosis of sediments containing carbonaceous material. Statement 1 is correct.</li><li>• It is a naturally occurring form of crystalline carbon.</li><li>• It is extremely soft, cleaves with very</li></ul>	<p><b>44</b></p> <p><b>D</b></p> <p>What is Vienna Convention on Diplomatic Relations:</p> <ul style="list-style-type: none"><li>• The Vienna Convention on Diplomatic Relations was adopted in 1961 by the</li></ul>														

	<p>United Nations Conference on Diplomatic Intercourse and Immunities held in Vienna, Austria.</p> <ul style="list-style-type: none"> <li>• It came into force on April 24, 1964 and is nearly universally ratified, with Palau and South Sudan being the exceptions.</li> <li>• It provides a complete framework for the establishment, maintenance and termination of diplomatic relations on a basis of consent between independent sovereign States.</li> <li>• The Vienna Convention applies not only to diplomats but also to both military and civilian personnel from the military departments, who are present in the country under the authority of the chief of the diplomatic mission.</li> <li>• It explains the functions of a diplomatic mission, including representing the State, protecting the State, promoting friendly relations between the sending and receiving State.</li> <li>• The security of any High Commission or Embassy is the responsibility of the host nation.</li> <li>• While diplomatic missions can also employ their own security, ultimately, the host nation is accountable for security.</li> <li>• The Convention codifies the longstanding custom of diplomatic immunity.</li> <li>• Under this, the diplomatic missions are granted privileges that enable diplomats to perform their functions without fear of coercion or harassment by the host country.</li> </ul> <p>What is Article 11.1 of the Vienna Convention on Diplomatic Relations:</p> <ul style="list-style-type: none"> <li>• It deals with the size of the diplomatic mission. Statement 1 is correct.</li> <li>• In the absence of specific agreement as to the size of the mission, the receiving State may require that the size of a mission be kept within limits</li> </ul>	<p>considered by it to be reasonable and normal, having regard to circumstances and conditions in the receiving State and to the needs of the particular mission.</p> <p>What are the other key provisions of Vienna Convention on Diplomatic Relations:</p> <ul style="list-style-type: none"> <li>• As per the Vienna Convention, a "receiving State" refers to the host nation where a diplomatic mission is located.</li> <li>• Article 9: The host State can prohibit a member of the Sending state (persona non grata) from entering or remaining in the host State. The host State can expel the envoys. This person could be the head of mission, member of the diplomatic staff, or any other member of the mission. Statement 2 is incorrect.</li> <li>• Article 22: It confirms the inviolability of mission premises.</li> <li>• It bars the enforcement officers of the host State from searching the premises of the diplomatic mission and seizing its property or documents.</li> <li>• Diplomatic bags may not be opened or detained.</li> <li>• The host State has a special duty to protect the premises of the diplomatic mission against intrusion, damage, disturbance of the peace or infringement of dignity.</li> <li>• Article 27: The host State shall permit and protect free communication of the mission for official purposes.</li> <li>• Article 29: Diplomatic members are not subject to any form of detention or arrest.</li> <li>• Article 31: Diplomats are exempt from the criminal, civil and administrative jurisdiction of the host State. It is possible for the diplomat's home country to waive immunity but this can happen only when the individual has committed a 'serious crime'. Statement 3 is correct.</li> </ul>
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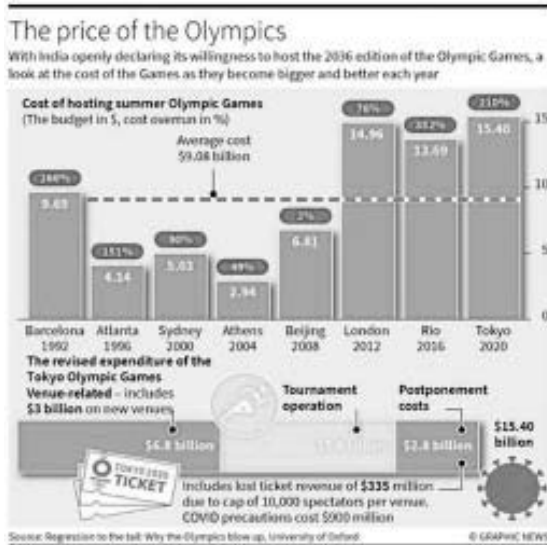
	<ul style="list-style-type: none"> <li>Article 34: Sets out the tax exemption accorded to diplomats along with detailed exceptions in respect of matters unrelated to their official duties or to ordinary life in the receiving State.</li> <li>Article 36: Provides for exemption from customs duties on diplomatic imports throughout a diplomat's posting.</li> <li>Article 38: It bars from all privileges and immunities, except for immunity for their official acts, nationals, and permanent residents of the receiving State.</li> </ul> <p>India and Vienna Convention on Diplomatic Relations.</p> <ul style="list-style-type: none"> <li>India acceded to the Vienna Convention on Diplomatic Relations in 1965.</li> <li>India has enacted the Diplomatic Relations (Vienna Convention) Act, 1972 to give effect to the Vienna Convention. Statement 4 is correct.</li> </ul>		<p>India formally commenced on September 17, 2022, to restore the population of cheetahs, which were declared extinct in the country in 1952.</p> <ul style="list-style-type: none"> <li>The project involves the translocation of cheetahs from South Africa and Namibia to Kuno National Park in Madhya Pradesh.</li> <li>The project is implemented by the National Tiger Conservation Authority (NTCA) in collaboration with the Madhya Pradesh Forest Department, Wildlife Institute of India (WII), and cheetah experts from Namibia and South Africa.</li> </ul>
<b>45</b>	<p><b>C</b></p> <p>Cheetahs were declared extinct in India in 1952.</p> <p>Statement 1 is correct: National Tiger Conservation Authority (NTCA), a statutory body under the Ministry of Environment, is the implementing agency of Project Cheetah.</p> <p>Objective: The Indian government hopes to bring 50 cheetahs from African countries to various national parks over the next five years.</p> <p>Currently, a total of 20 radio collared Cheetahs were brought from Namibia and South Africa to Kuno National Park, Madhya Pradesh, in a first ever transcontinental wild to wild translocation i.e., Africa to Asia.</p> <p>Statement 2 is correct: Asiatic Cheetah is critically Endangered whereas African cheetah is Vulnerable.</p> <p>What is the Cheetah Reintroduction Project?</p> <ul style="list-style-type: none"> <li>The Cheetah Reintroduction Project in</li> </ul>	<b>46</b>	<p><b>D</b></p> <p>Recently, the list of Best Tourism Villages 2023 has been released by United Nations World Tourism Organization (UNWTO) where the Dhordo village of Gujarat made to get included in it.</p> <p>About the List of Best Tourism Villages 2023:</p> <ul style="list-style-type: none"> <li>The villages are evaluated under nine key areas, including;</li> <li>Cultural and Natural Resources</li> <li>Promotion and Conservation of Cultural Resources</li> <li>Economic Sustainability</li> <li>Social Sustainability</li> <li>Environmental Sustainability</li> <li>Tourism Development and Value Chain Integration</li> <li>Governance and Prioritization of Tourism</li> <li>Infrastructure and Connectivity</li> <li>Health, Safety, and Security. Statement is 1 correct.</li> <li>Best Tourism Villages by UNWTO recognizes outstanding rural tourism destinations with accredited cultural and natural assets, a commitment to preserving community-based values, and a clear commitment to innovation and sustainability across economic,</li> </ul>

	<p>social, and environmental dimensions.</p> <p>About Dhordo Village:</p> <ul style="list-style-type: none"> <li>Dhordo village is famous for its cultural extravaganza that showcases the region's traditional art, music, and crafts.</li> <li>The village is home to an annual 3-month festival called 'Rann Utsav'. Statement 2 is correct.</li> <li>It also hosted the first Tourism Working Group Meeting of the G-20 held under India's presidency. Statement 3 is correct.</li> </ul> <p>Major Art forms:</p> <ul style="list-style-type: none"> <li>Dhamadka Block Printing: There are many printers using madder roots for printing red colour, rusty iron solution for black colour and indigo for blue colour.</li> <li>Bhujodi Textile Handicrafts: The weavers of Bhujodi are believed to be Vankars or Mughal migrants who came 500 years ago from Rajasthan. Statement 4 is correct.</li> <li>They were initially engaged in weaving woollen blankets and veil cloths for the Rabari community.</li> </ul>	48	<p><b>D</b></p> <p>About Yard 12706 (IMPHAL)</p> <ul style="list-style-type: none"> <li>The ship is constructed using Indigenous Steel DMR 249A and is amongst the largest Destroyers constructed in India, with an overall length of 164 meters and a displacement of over 7500 Tons. Statement 1 is correct.</li> <li>The ship is propelled by a powerful Combined Gas and Gas Propulsion Plant (COGAG), consisting of four reversible Gas Turbines, which enables her to achieve a speed of over 30 knots (approx 55 Kmph).</li> <li>The ship is a potent platform capable of undertaking a variety of tasks and missions, spanning the full spectrum of maritime warfare.</li> <li>It is armed with supersonic Surface-to-Surface 'Brahmos' missiles and 'Barak-8' Medium Range Surface to Air Missiles. Statement 2 is correct.</li> <li>Towards undersea warfare capability the Destroyer is fitted with indigenously developed anti-submarine weapons and sensors, prominently the Hull mounted Sonar Humsa NG, Heavy weight Torpedo Tube Launchers and ASW Rocket Launchers.</li> <li>It is more versatile than the previous classes of Destroyer and Frigates in Naval inventory.</li> <li>It has all-round capability against enemy submarines, surface warships, anti-ship missiles and fighter aircraft will enable it to operate independently without supporting vessels, and also to function as the flagship of a Naval task force</li> <li>Ship is the first amongst all P15B ships which is to be fitted with upgraded Brahmos missiles having dual role capability of Long Range &amp; Land attack. Further, IMPHAL is the first Naval Warship being commissioned with accommodation of Woman officers and sailors. Statement 3 is correct.</li> </ul>
47	<p><b>D</b></p> 		



	<p>Key points about Project 15B</p> <ul style="list-style-type: none"> <li>• Project 15B (P15B) / Visakhapatnam-class is the latest destroyer design currently under construction for the Indian Navy.</li> <li>• These ships have been designed indigenously by the Indian Navy's Directorate of Naval Design, New Delhi.</li> <li>• Each ship spans 163 meters in length and 17.4 meters in beam and displaces 7,300 tonnes.</li> <li>• These ships will be propelled by four gas turbines to achieve speed in excess of 30 knots.</li> <li>• According to the Indian Navy, the P15B destroyers incorporate new design concepts for improved survivability, seakeeping, stealth, and maneuverability.</li> <li>• The indigenous content in P15B Class Destroyers is 72% which is a notch above their predecessors P15A (59%) and P15 (42%) Class Destroyers, reaffirming the Government's focus in 'Atmanirbhar Bharat' Programme along with large eco system development of sub vendors. Statement 4 is correct.</li> <li>• The first Ship of P15B (Visakhapatnam) was commissioned on 21 Nov 2021.</li> <li>• The second ship (Mormugao) was commissioned on 18 Dec 2022. The third ship (IMPHAL) has been delivered to Indian Navy on 20 Oct 2023. The fourth ship (Surat) was launched on 17 May 2022 and is at an advance stage of outfitting.</li> </ul>	<p>Telangana. The area consists mostly of the Nallamala Hills. Statement 1 is incorrect.</p> <ul style="list-style-type: none"> <li>• The multipurpose reservoirs-Srisailem and Nagarjunasagar are located in the reserve.</li> <li>• Krishna river cuts the basin of this reserve.</li> </ul> <p>It is home to a vast variety of wild animals. In addition to the Bengal Tiger, which is the apex predator, many other species like leopard, rusty-spotted cat, pangolin, Mugger Crocodiles, Indian Rock Python, and innumerable varieties of birds are found here.</p> <p>Manas national park is a UNESCO World Heritage Site, a Project Tiger reserve, an elephant reserve and a biosphere reserve. Statement 2 is correct.</p> <ul style="list-style-type: none"> <li>• It is located in the Himalayan foothills in Assam. It is contiguous with the Royal Manas National Park in Bhutan.</li> <li>• The name of the park is originated from the Manas River.</li> <li>• Significance: The park is known for its rare and endangered endemic wildlife such as the Assam roofed turtle, hispid hare, golden langur and pygmy hog. It is also famous for its population of wild water buffalo.</li> <li>• Human History: Pagrang is the only forest village located in the core of the Manas national park.</li> <li>• River: Manas river flows through the west of the park. Manas is a major tributary of Brahmaputra river. The river is named after the serpent goddess Manasa.</li> </ul> <p>Dudhwa Tiger Reserve is a protected area in Uttar Pradesh located on the India-Nepal border.</p> <ul style="list-style-type: none"> <li>• It stretches mainly across the Lakhimpur Kheri and Bahraich districts.</li> </ul> <p>It comprises of:</p>
49	<p><b>B</b></p> <p>Nagarajunasagar Srisailem Tiger Reserve (NSTR) is the largest tiger reserve in India. Historical Background: It was notified in the year of 1978 and came under the protection of Project Tiger in 1983. In 1992, it was retitled as Rajiv Gandhi Wildlife Sanctuary. Geographical Aspects:</p> <ul style="list-style-type: none"> <li>• The Tiger reserve is spread over 5 districts in Andhra Pradesh and</li> </ul>	

	<ul style="list-style-type: none"> <li>• Dudhwa National Park through which Suheli and Mohana streams flow,</li> <li>• Kishanpur Wildlife Sanctuary through which Sharda River flows, and</li> <li>• Katarniaghat Wildlife Sanctuary through which Geruwa River flows.</li> <li>• All of these rivers are tributaries of the Ghagra River.</li> </ul> <p>The Dudhwa National Park has a number of species of birds, reptiles, wild elephants, aquatic animals, one-horned rhinos, wild elephants besides its enriched flora and fauna. Its undisturbed natural forest cover, vast spans of grasslands and wetlands.</p> <ul style="list-style-type: none"> <li>• It is the only place in U.P. where both Tigers and Rhinos can be spotted together. Statement 3 is correct.</li> </ul> <p>Jim Corbett Park It is located in the Nainital district of Uttarakhand. The Project Tiger was launched in 1973 in Corbett National Park (first National Park of India), which is part of Corbett Tiger Reserve.</p> <ul style="list-style-type: none"> <li>• The national park was established in 1936 as Hailey National Park to protect the endangered Bengal tiger.</li> <li>• It is named after Jim Corbett who played a key role in its establishment.</li> <li>• The entire area of the reserve is mountainous and falls in the Shivalik and Outer Himalaya geological provinces.</li> <li>• Ramganga, Sonanadi, Mandal, Palain and Kosi are the major rivers flowing through the Reserve.</li> <li>• Sprawling over 500 square kilometres, CTR is home to 230 tigers and has the world's highest tiger density - at 14 tigers per hundred square kilometres. Statement 4 is incorrect.</li> </ul>	<p>consider using dust suppressants on excavated earth surfaces, piles of construction and demolition waste, and access roads in construction areas.</p> <p>Use of dust suppressant along with water is relatively more effective in control of pollution than conventional methods of dust control i.e. water spraying. About 30% reduction in dust concentration (PM10, PM2.5, and PM1) was observed up to six hours for construction sites as well as roads with the use of dust suppressant. Statement 2 is correct.</p> <p>An advisory issued by the Delhi PWD in 2019 also noted that the "use of dust suppressants in water can be more effective than plain water sprinkling as it shows more efficiency to reduce particulate matter emission". The advisory, which mentioned "magnesium chloride hexahydrate flakes," added that the dust suppressant with bio-additives helps to reduce dust for five to six hours as compared to plain water which lasts for 15 to 30 minutes. Magnesium chloride absorbs moisture.</p> <p>Dust suppressants include:</p> <p>Water (fresh or salt); water absorbing salts such as sodium, magnesium, or calcium chloride salts or brines; organic non-petroleum adhesives such as lignosulfonate, animal fats, tall oil, and vegetable oil derivatives; organic petroleum products such as asphalt, organic solvents, oils and tars; electrochemical products such as enzymes, ionic solutions, and sulfonated oils; synthetic polymers such as polyvinyl acetate and vinyl acrylic emulsions; clay additives such as bentonite and montmorillonite; fibers, mulches, and geotextiles. Re-vegetation can also be used to control dust. Statement 3 is correct.</p> <p>In addition to cost, the following factors should be considered when choosing a dust suppressant:</p> <ul style="list-style-type: none"> <li>• its resistance to breakdown due to traffic and weather; Statement 4 is</li> </ul>
50	<p><b>D</b></p> <p>Dust suppressants may be salts of calcium or magnesium that can absorb moisture. Statement 1 is correct,</p> <p>In 2019, the Central Pollution Control Board (CPCB) told the NCR states that they may</p>	

	<p>correct.</p> <ul style="list-style-type: none"><li>its ability to stay on the road and not leach into the soil, groundwater, or surface water;</li><li>its potential toxicity to humans during handling; its toxicity to organisms living in the environment (ecotoxicity),</li><li>and its ability to bio-accumulate or bio-degrade.</li></ul>	<p>start a multi-year, multi-step evaluation process. Then a series of questionnaires, evaluated by the IOC.</p> <ul style="list-style-type: none"><li>Second step involves scrutiny from the IOC Evaluation Commission and a series of inspections of all venues before the final bids are put to vote at an IOC session, ending in a host being decided seven years in advance as per the Olympic Charter. It often leads to excessive spendings from the bidders.</li></ul>																																				
51	<p><b>B</b></p> <p>India has declared its intention to host the Olympic Games, preferably in 2036, and Youth Olympics in 2029 during the opening ceremony of the 141st International Olympic Committee (IOC) session in Mumbai on October 14.</p> <p>Details:</p> <p>Only three Asian countries have ever hosted the Olympics - China, South Korea and Japan, with Japan hosting the games twice in 1964 and 2020.</p> <div><p><b>The price of the Olympics</b></p><p>With India openly declaring its willingness to host the 2036 edition of the Olympic Games, a look at the cost of the Games as they become bigger and better each year</p><table><caption>Cost of hosting summer Olympic Games (The budget in \$, cost overrun in %)</caption><thead><tr><th>City</th><th>Year</th><th>Cost (\$ billion)</th><th>Cost Overrun (%)</th></tr></thead><tbody><tr><td>Barcelona</td><td>1992</td><td>9.63</td><td>284%</td></tr><tr><td>Atlanta</td><td>1996</td><td>4.34</td><td>333%</td></tr><tr><td>Sydney</td><td>2000</td><td>5.83</td><td>80%</td></tr><tr><td>Athens</td><td>2004</td><td>2.94</td><td>49%</td></tr><tr><td>Beijing</td><td>2008</td><td>6.81</td><td>72%</td></tr><tr><td>London</td><td>2012</td><td>14.96</td><td>76%</td></tr><tr><td>Rio</td><td>2016</td><td>13.69</td><td>332%</td></tr><tr><td>Tokyo</td><td>2020</td><td>15.40</td><td>210%</td></tr></tbody></table><p><b>The revised expenditure of the Tokyo Olympic Games</b></p><p>Venue-related - includes \$3 billion on new venues</p><p>Tournament operation</p><p>Postponement costs</p><p>Includes lost ticket revenue of \$335 million due to cap of 10,000 spectators per venue, COVID precautions cost \$900 million</p><p>Source: Regression to the fall: Why the Olympics blow up, University of Oxford © GRAPHIC NEWS</p></div> <p>How was a host country selected?</p> <p>Older system:</p> <ul style="list-style-type: none"><li>Cities, through their respective national Olympic committees, would submit a letter of interest to the IOC to</li></ul>	City	Year	Cost (\$ billion)	Cost Overrun (%)	Barcelona	1992	9.63	284%	Atlanta	1996	4.34	333%	Sydney	2000	5.83	80%	Athens	2004	2.94	49%	Beijing	2008	6.81	72%	London	2012	14.96	76%	Rio	2016	13.69	332%	Tokyo	2020	15.40	210%	<p>New system of host selection:</p> <p>Thomas Bach took over as the IOC president in 2013 and introduced the Olympic Agenda 2020 that includes the new process of host city selection, called the 'new norms', that was officially adopted during the 2019 IOC session in Lausanne. Statement 1 is correct,</p> <p>'New norms':</p> <ul style="list-style-type: none"><li>Emphasis on three main aspects - flexibility, sustainability and cost-effectiveness - with the motto being 'The Games adapt to the region, the region does not adapt to the Games'.</li><li>There is now a two-stage process - a continuous dialogue and a targeted dialogue - without any fixed deadlines, to assess, discuss and guide potential hosts. Statement 2 is incorrect.</li><li>Continuous dialogue: Unlike the past, the Games can be planned to be held across cities or even in conjunction with another country.</li><li>Targeted dialogue: It explores the proposals to host a specific edition of the Olympic Games and brings the IOC's executive board into the picture for detailed discussions. This is where each of the 'preferred hosts' answer the (Future Host Commission) FHC's questions and provides guarantees on infrastructure, accommodation, security and public services among others and makes the final submission. The FHC then prepares an advisory report for the executive board</li></ul>
City	Year	Cost (\$ billion)	Cost Overrun (%)																																			
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	<p>which has the power to either recommend a single host or shortlist more than one for elections by the IOC members. Statement 3 is correct.</p> <ul style="list-style-type: none"> <li>• In order to ensure the long-term sustainability of the infrastructure and to avoid any public backlash, hosts are encouraged as far as possible to use existing and temporary venues. Any new venues built must be in line with existing developmental plans and have a long-term justification irrespective of the Games. Statement 4 is incorrect.</li> <li>• The focus on using existing and temporary venues has led to an 80% decrease in the bid budgets for the 2026 Winter Games compared to the 2018 and 2022 editions.</li> </ul> <p>Who are the other potential bidders apart from India for the 2036 Games?</p> <ul style="list-style-type: none"> <li>• Mexico (spread across the four cities of Mexico City, Guadalajara, Monterrey and Tijuana), Indonesia (at the new capital of Nusantara which is still under construction), Turkey (Istanbul) and Poland (Warsaw). India has not yet decided the cities.</li> <li>• Among these, Mexico is the only one to have previously hosted the Games in 1968.</li> <li>• Other potential bidders include Egypt, Seoul, China, Qatar, Hungary, Italy, Denmark, Canada and Germany.</li> </ul> <p>Multi-discipline events held in India: Regional South Asian Games in 2016, 2010 Commonwealth Games, 2003 Afro-Asian Games, the Asian Games (1951 and 1982) and the 2007 World Military Games.</p>	<ul style="list-style-type: none"> <li>• Military Applications: Used in incendiary devices like grenades and artillery shells. Creates dense smoke screens for military operations.</li> <li>• Incendiary Effects: Can cause intense and persistent fires effective against people, equipment, and structures. Poses significant ethical concerns due to its potential for causing severe burns and suffering.</li> <li>• International Humanitarian Law (IHL): Governed by IHL principles, including distinction, proportionality, and the prohibition of indiscriminate attacks. Use in civilian areas raises concerns about adherence to these principles</li> </ul> <p>Legal Status:</p> <ul style="list-style-type: none"> <li>• White phosphorus munitions are not under a blanket ban, though their use is regulated under the IHL.</li> <li>• It is not considered a chemical weapon because its operational utility is primarily due to heat and smoke, rather than toxicity. Thus, its use is governed by the CCW, specifically Protocol III, which deals with incendiary weapons. Statement 2 is correct.</li> </ul> <p>Protocol III and Incendiary Weapons:</p> <ul style="list-style-type: none"> <li>• Protocol III under the CCW provides a specific framework for incendiary weapons. It defines an "incendiary weapon" as an armament primarily designed to set fire to objects or inflict burn injuries on individuals through the action of flame, heat, or a combination thereof, produced by a chemical reaction of a substance delivered on the target. Statement 4 is correct.</li> <li>• This definition includes an exemption for munitions that may cause unintended incendiary effects, like illuminants, tracers, smoke, or signaling systems.</li> <li>• White phosphorus munitions are primarily intended for producing</li> </ul>
52	<p><b>C</b></p> <p>Know about the White Phosphorus (WP):</p> <ul style="list-style-type: none"> <li>• Chemical Properties: WP is a chemical substance with phosphorus as its primary component. It has unique properties, including self-ignition in the presence of oxygen.</li> </ul>	

	<p>illuminating and smokescreen effects, with the incendiary aspects being secondary or unintentional.</p> <ul style="list-style-type: none"> <li>Consequently, they fall within the exceptions outlined in Protocol III's definition of an "incendiary weapon."</li> </ul> <p>Criteria Chemical Weapons Convention (CWC) Convention on Certain Conventional Weapons (CCW)</p> <p>Objective Comprehensive elimination of chemical weapons, toxic chemicals, and precursors. Restriction of specific conventional weapons causing excessive harm. Statement 1 is incorrect.</p> <p>Coverage Covers a broad range of chemical agents used in warfare. Addresses particular categories such as incendiary weapons, blinding lasers.</p> <p>Focus Prohibits the development, production, and use of chemical weapons. Addresses concerns related to specific conventional weapons without complete prohibition. Statement 3 is correct.</p> <p>Verification Robust verification regime, including inspections and declarations. Less extensive verification mechanisms, more targeted to specific weapon categories.</p> <p>Examples Prohibition of nerve agents like Sarin and VX. Regulations on incendiary weapons like white phosphorus, blinding lasers.</p>		<p>educational institutions. It also applies to workplaces that are located outside of India, but where the employer is an Indian citizen or an Indian company.</p> <ul style="list-style-type: none"> <li>The POSH Act does define sexual harassment. Section 2(n) of the POSH Act defines sexual harassment as: any unwelcome sexual behaviour, whether directly or impliedly, such as: (i) physical contact and advances; or (ii) a demand or request for sexual favours; or (iii) making sexually coloured remarks; or (iv) showing pornography; or (v) any other unwelcome physical, verbal or non-verbal conduct of a sexual nature. The POSH Act also provides safeguards against false or malicious charges.</li> <li>Section 14 of the POSH Act states that the Internal Complaints Committee (ICC) shall inquire into the complaint and submit a report to the employer within 60 days. The report shall contain the findings of the inquiry and recommendations for action to be taken by the employer. The employer is required to take action on the recommendations of the ICC within 60 days of receiving the report. If the employer finds that the complaint is false or malicious, the employer may take disciplinary action against the complainant.</li> </ul>
53	<p><b>C</b></p> <p>Statements 1 and 2 are incorrect.</p> <ul style="list-style-type: none"> <li>The Act specifically addresses sexual harassment of women in the workplace, and its provisions apply to all organizations that employ women. While the Act does provide for the protection of all individuals in the workplace, regardless of their gender, its main focus is on protecting women from sexual harassment.</li> <li>The POSH Act applies to all workplaces in India, including public and private sector organizations, NGOs, and</li> </ul>		<p>Statement 3 is correct.</p> <p>The POSH Act mandates States to appoint a District Officer in every district. Functions of District Officer under POSH Act are: Constitute Local Complaints Committees (LCCs), Appoint Nodal Officers, Submit Annual reports to Government.</p>
		54	<p><b>C</b></p> <p>For about a decade, researchers have used the CRISPR technology for genome editing. However, there are some challenges in the use of CRISPR.</p> <p>The first challenge is that the phenotypic, or observable, effects caused by unexpected</p>

	<p>CRISPR dynamics are not quantitatively monitored.</p> <p>A second challenge is that the CRISPR technology generally depends on basic genomic data, including the reference genome. The reference genome is like a template that provides researchers with general information on the genome. Unexpected sequence editing with mismatches can occur. These off-target sites are always unexpected. Statement II is incorrect.</p> <p>The DANGER analysis overcomes these challenges and allows researchers to perform safer on- and off-target assessments without a reference genome. DANGER (Deleterious and ANTicipatable Guides Evaluated by RNA-sequencing)</p> <p>DANGER analysis is a new software tool that makes genome editing safer by overcoming limitations in current CRISPR technology. Statement I is correct.</p> <p>Unlike traditional methods that rely on a reference genome, DANGER works by conducting risk-averse on- and off-target assessments using RNA-sequencing data. It evaluates phenotypic effects based on gene expression changes caused by deleterious off-target sites.</p> <p>The software quantifies the phenotypic risk at the gene ontology level without the need for a reference genome.</p> <p>The tool successfully evaluated the phenotypic effects of gene editing in human cells and zebrafish brains.</p> <p>It can be performed on various organisms, personal human genomes, and atypical genomes created by diseases and viruses. The open-source nature of the software allows for its adaptation to different genome editing systems beyond CRISPR-Cas9.</p>	<p>Adarsh Gram Yojana (PMAGY), Special Central Assistance to Scheduled Castes Sub Plan (SCA to SCSP) and Babu Jagjivan Ram Chhatrawas Yojana(BJRCY).</p> <p>Aim:</p> <p>To reduce poverty of the SC communities by generation of additional employment opportunities through Skill development, income generating schemes and other initiatives</p> <p>To improve socio-economic developmental indicators by ensuring adequate infrastructure and requisite services in the SC dominated villages.</p> <p>The following are the components of the scheme:</p> <p>Development of SC dominated villages into an "Adarsh Gram": The objective of this component is to ensure integrated development of SC majority villages so that, inter alia, there is:, Adequate infrastructure, all requisite infrastructure necessary for socio-economic development needs are to be provided under the Scheme. STATEMENT 1 IS CORRECT.</p> <p>'Grants-in-aid' for District/State-level Projects for socio-economic betterment of SCs that may include creation of infrastructure in SC dominated villages including those selected under Adarsh Gram component, construction of Hostels/ Residential schools. STATEMENT 2 IS CORRECT</p> <p>Comprehensive Livelihood Projects which may include components such as Skill development, related infrastructure development, financial assistance towards loans taken by beneficiaries for acquisition/creation of assets required for livelihood generation etc. STATEMENT 3 IS CORRECT.</p> <p>Construction of Hostels in higher educational institutions which are top-ranked as per the National Institutional Ranking Framework (NIRF) of Government of India and are funded by the Centre/ State/UT Governments either fully or partially.</p>
55	<p><b>D</b></p> <p>Pradhan Mantri Anusuchit Jaati Abhuyday Yojana</p> <p>It is a merged scheme of 3 Centrally Sponsored Scheme namely Pradhan Mantri</p>	

<p><b>56</b></p>	<p><b>A</b></p> <p>Statements 1 and 2 are correct.</p> <ul style="list-style-type: none"> <li>• The Regional Comprehensive Economic Partnership (RCEP) is a free trade agreement between 15 countries in the Asia-Pacific region: Australia, Brunei, Cambodia, China, Indonesia, Japan, South Korea, Laos, Malaysia, Myanmar, New Zealand, the Philippines, Singapore, Thailand, and Vietnam.</li> <li>• RCEP is the largest free trade agreement in the world, covering over 30% of the global population and GDP. It aims to reduce tariffs, improve market access, and establish common rules for trade and investment across the region. Statement 1 is correct.</li> <li>• Out of many other reasons, India decided to opt out of RCEP because it was concerned that the RCEP would open the "floodgates for Chinese goods" to enter India, further raise India's trade deficits, and weaken its anti-dumping duties that it has imposed on Chinese items from the chemicals, iron, and steel industries. Statement 2 is correct.</li> </ul> <p>Statement 3 is incorrect.</p> <ul style="list-style-type: none"> <li>• India's withdrawal from RCEP does not necessarily mean that it is losing its status as a major player in the Asia-Pacific region. India is still a large and growing economy, and it is a member of other important regional organizations, such as the South Asian Association for Regional Cooperation (SAARC) and the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC).</li> <li>• India is also playing an increasingly important role in global affairs, and it is a member of the G20 and the BRICS group of emerging economies. However, India's withdrawal from RCEP does mean that it is missing out on an opportunity to boost its trade and investment with other countries in the Asia-Pacific region.</li> </ul>	<p><b>57</b></p> <p><b>D</b></p> <p>Statements 1, 2 and 3 are correct.</p> <ul style="list-style-type: none"> <li>• Kasturi Cotton Bharat is a website launched by the Ministry of Textiles, the Cotton Corporation of India, trade organizations, and the industry.</li> <li>• It aims to boost the global competitiveness of Indian cotton by taking charge of branding, traceability, and certification, with a focus on sustainability and benefiting all involved stakeholders.</li> <li>• Cotton Textiles Export Promotion Council (TEXPROCIL) has been designated as the implementing agency for Traceability, Certification and Branding of "KASTURI Cotton India".</li> <li>• According to the Ministry of Textiles, India got 1st place in the world in cotton acreage with 120.69 Lakh Hectares area under cotton cultivation, which is around 36% of the world area of 333 Lakh Hectares.</li> <li>• Gujarat is the largest producer of cotton in India. 67% of India's cotton is grown on rain-fed areas, and 33% on irrigated areas.</li> <li>• India's productivity is ranked 38th, with a yield of 510 kg/ha. India is the only country to grow all four species of cultivated cotton: <i>Gossypium arboreum</i> (tree cotton), <i>Gossypium herbaceum</i> (herb cotton), <i>Gossypium hirsutum</i> (upland cotton), and <i>Gossypium barbadense</i> (pima cotton).</li> <li>• This makes India a major player in the global cotton industry, with a large portion of the world's cotton production and export coming from the country.</li> <li>• The different cotton species grown in India are adapted to different growing conditions and have unique characteristics that make them desirable for various textiles and fabrics.</li> </ul>
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	<ul style="list-style-type: none"> <li>India's climate and soil conditions are particularly well-suited for cotton cultivation, making it a natural hub for the industry. Statement 4 is incorrect. Indian cotton is known for its high quality and is in high demand around the world.</li> <li>India is the world's second-largest producer of cotton, after China.</li> <li>It is also the largest producer and second largest consumer of cotton. Indian cotton is known for its long staple length, fine fiber, and high strength. These qualities make it ideal for spinning high-quality yarn and fabrics.</li> </ul>	<p>severely affected by climate disasters are also eligible.</p> <p>The COP is yet to finalize on the authority to oversee the Loss and Damage Fund. Statement 3 is incorrect.</p> <p>There is still no clear affirmation on which entity should oversee the fund, who should pay and which countries would be eligible to receive funding.</p>
<b>58</b>	<p><b>A</b></p> <p><b>'Loss and Damage' Fund</b></p> <p>Few countries involved in a committee tasked with designing a "loss and damage" have recently agreed to meet on November before the COP 28 to address the issues with the fund. Loss and Damage Fund (L&amp;D fund) is a financing mechanism to compensate the most vulnerable countries from climate-linked disasters. Statement 1 is correct.</p> <p>Loss and Damage refers to impacts of climate change that cannot be avoided either by mitigation or adaptation.</p> <p>In the 1990s, the Alliance of Small Island States, began calling for the establishment of a loss and damage fund.</p> <p>The G-77 (India is part of the group) and China had called for the immediate creation of an L&amp;D fund at COP 27 which was agreed. Statement 2 is incorrect.</p> <p>Source of funding - The fund will initially draw on contributions from developed countries and other private and public sources with an option for other major economies to join down the line.</p> <p>Eligibility - The fund will aid developing countries that are vulnerable to adverse effects of climate change.</p> <p>The middle-income countries that are</p>	<p><b>59</b></p> <p><b>A</b></p> <p><b>Nuclear Briefcase</b></p> <p>The Russian President Vladimir Putin during his recent visit to China was seen with officers carrying a "nuclear briefcase".</p> <p>Russian nuclear briefcase - It is also known as the 'Cheget', named after a mountain in Russia,</p> <p>The briefcase is part of a larger system in place for authorising the launch of nuclear strikes.</p> <p>It is a part of a secured communication setup, meant to convey orders for a nuclear strike to the rocket forces of the country.</p> <p>The communication among the forces is done via the 'Kazbek' electronic command-and-control network.</p> <p>Kazbek supports another system, known as 'Kavkaz'.</p> <p>Apart from the Russian President, the Defence Minister and the Chief of General Staff have a briefcase each and the 3 are supposed to coordinate in case of a potential order to strike.</p> <p>The President takes the briefcase on his visits abroad as well.</p> <p>USA's Nuclear Brief Case - It is officially called the Presidential Emergency Satchel. It was nicknamed the 'football' after a 1960s mission called 'Dropkick' (a term related to American football).</p> <p>The President can authorise a nuclear attack, which is then carried out by the military which is similar to the Russian system.</p>



	<p>The Vice President also has a briefcase near him/her, in case the President is incapacitated or has died.</p> <p>According to the US-based Center for Arms Control and Non-Proliferation (CACNP), the first and only known instance of a nuclear briefcase being "opened" during a crisis was in 1995.</p>		<p>HDSR aims to control man-made light pollution in the area in order to preserve the pristine dark skies for astronomical research. Statement 1 is correct.</p> <p>A dark sky is the night sky as nature meant for it to be, without any light pollution.</p> <p>The Reserve is promoted as a tourist destination for enjoying the night sky and also helps in socio-economic development of the local villages.</p> <p>HDSR is India's first dark sky region which is centred at Hanle in Eastern Ladakh, around the Indian Astronomical Observatory. Statement 2 is incorrect.</p> <p>It is India's first Night Sky that is located within the Changthang Wildlife Sanctuary. The Wildlife Sanctuary is adjacent to the Indian Astronomical Observatory, the second-highest optical telescope in the world.</p> <p>This Dark Sky Reserve is among only the 15 or 16 of its kind in the world that will offer a spectacular view of the night sky.</p> <p>The Star Party is also likely to evolve into an annual event.</p> <p>Bortle scale - The Bortle scale is a 9 level numeric scale that measures the night sky's brightness of a particular location. Statement 3 is incorrect.</p> <p>The scale ranges from Class 1, the darkest skies available over the earth, through to Class 9, which denotes the pale, light-marred skies over the insides of cities.</p> <p>HDSR region falls under the Bortle Class 1.</p>
<b>60</b>	<p><b>B</b></p> <ul style="list-style-type: none"> <li>It is located in the Eastern Sierra Nevada Mountains of California, United states of America (USA).</li> <li>It is a dormant supervolcano.</li> <li>It was formed by a super-eruption about 760,000 years ago that blasted 140 cubic miles of magma, covering much of east-central California in hot ash that was blown as far away as present-day Nebraska.</li> <li>It has been unleashing earthquake swarms on a regular basis since 1978, raising concerns that it might be at risk of erupting.</li> </ul> <p>What is Caldera?</p> <ul style="list-style-type: none"> <li>It is a depression created after a volcano releases the majority of the contents of its magma chamber in an explosive eruption.</li> <li>Without any structural support below, the land around the erupting volcanic vent or vents collapses inwardly, creating the bowl-shaped caldera.</li> <li>A caldera-causing eruption is the most devastating type of volcanic eruption.</li> <li>These are formed by the inward collapse of a volcano.</li> <li>Calderas may have parts of their sides missing because land collapses unevenly.</li> </ul>		
<b>61</b>	<p><b>A</b></p> <p>Hanle Dark Sky Reserve (HDSR)</p> <p>Recently the 1st official star party for experienced amateur astronomers was organised by the Indian Institute of Astrophysics (IIA) in at Hanle Dark Sky Reserve in eastern Ladakh.</p>		<p><b>62</b></p> <p><b>C</b></p> <p>Ethics Committee</p> <p>The Lok Sabha Ethics Committee will soon take up the complaint of the Nishikant Dubey's, Member of the Lok Sabha against Mahua Moitra, Member of Lok sabha in cash-for-query case.</p> <p>The Ethics Committee was constituted in Rajya Sabha in 1997 and in Lok Sabha in 2000.</p>

<ul style="list-style-type: none"> <li>• It enforces the code of conduct of members of Parliament, examines the cases of misconduct and recommends appropriate action.</li> <li>• It is engaged in maintaining discipline and decorum in Parliament.</li> <li>• The members of the Ethics Committee are appointed by the Speaker for a period of one year.</li> <li>• The Ethics Committee can take up only cases of misconduct that involve MPs. Statement 3 is correct.</li> </ul> <p>Lok Sabha Ethics Committee - It was an ad hoc Committee till 2000, which became a permanent part of the Lok Sabha House in 2015. Statement 2 is incorrect.</p> <ul style="list-style-type: none"> <li>• Any person can complain against a Member through another Lok Sabha MP, along with evidence and affidavit.</li> <li>• The evidence should be of the alleged misconduct and an affidavit stating that the complaint is not "false, frivolous or vexatious".</li> <li>• If the Member himself complains, the affidavit is not needed.</li> <li>• The Speaker can refer to the Committee any complaint against an MP.</li> <li>• The Committee presents its report to the Speaker, who asks the House if the report should be taken up for consideration.</li> <li>• The ethics committee in Lok Sabha was recommended by the Committee of Privileges during the 13th Lok Sabha.</li> </ul> <p>The work of the Ethics Committee and the Privileges Committee often overlap.</p> <p>Privileges Committee - The mandate of the Privileges Committee is to safeguard the "freedom, authority, and dignity of Parliament". Statement 1 is incorrect.</p> <p>These privileges are enjoyed by individual Members as well as the House as a whole.</p> <p>An MP can be examined for breach of privilege. A non-MP too can be accused of</p>	<p>breach of privilege for actions that attack the authority and dignity of the House.</p> <p><b>63</b></p> <p><b>C</b></p> <p>25 by 25 target</p> <p>Recent analysis by the Indian Council of Medical Research (ICMR) indicate that India will likely to miss target set by world health organisation in its 25 by 25 target. "25 by 25 target" is an initiative of World Health Organisation (WHO) to reduce by 25% in premature mortality from non-communicable diseases (NCDs) compared to 2010 by 2025.</p> <ul style="list-style-type: none"> <li>• It was adopted by the World Health Assembly in May 2012.</li> <li>• The framework is expected to drive progress in prevention and control of NCDs.</li> <li>• It provides the foundation for advocacy, raising awareness, reinforcing political commitment and promoting global action to tackle these deadly diseases.</li> <li>• The framework is comprised of nine global targets and 25 indicators and was adopted by Member States during the World Health Assembly (WHA) in May 2013.</li> <li>• The WHO has defined the unconditional probability of dying (UPoD) between the ages of 30 and 69 as the progress indicator for monitoring the reduction in premature mortality.</li> <li>• The 9 voluntary global targets are aimed at combatting global mortality from the 4 main NCDs.</li> <li>• The 4 main NCDs includes heart disease, cancer, chronic respiratory disease and diabetes.</li> <li>• The premature mortality rate for 4 major NCDs is projected to decrease by 13.9 % from 2010 to 2025 in India.</li> <li>• The SDG target to reduce premature deaths from the 4 major NCDs by a 1/3rd from 2015 to 2030.</li> <li>• This target will also likely be missed</li> </ul>
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	<p>by India as the researchers projected a decline of 15.6 % from 2015 to 2030.</p> <ul style="list-style-type: none"> <li>The recent analysis indicate that the UPoD from the 4NCDs was 24.4 % in 2010 and is projected to be 21.0 % and 20.0 % in 2025 and 2030.</li> <li>This data indicate that a relative reduction of 13.9 % by 2025 from 2010 and 15.6 % by 2030 from 2015.</li> <li>The study found that UPoD was higher among males, particularly around the age of 44, owing to risk factors such as tobacco use and alcohol consumption.</li> </ul>		<ul style="list-style-type: none"> <li>Eventually, the water gets pulled back up towards the surface and warms up in a process called upwelling, completing the cycle.</li> <li>As our climate continues to change there a possibility that the AMOC will slow down.</li> <li>Even though the whole process is slow on its own, there is some evidence that the AMOC is slowing down further.</li> <li>The recent study indicate that the AMOC may cross the tipping point and start to collapse between 2025 and 2095.</li> </ul>
<b>64</b>	<p><b>C</b></p> <p>Atlantic Meridional Overturning Circulation (AMOC)</p> <ul style="list-style-type: none"> <li>The Atlantic Meridional Overturning Circulation (AMOC) is a system of ocean currents that circulates water within the Atlantic Ocean by bringing warm water north and cold water south. STATEMENT 1 IS CORRECT.</li> <li>The slower currents that occur from the surface to the seafloor are driven by changes in the saltiness and ocean temperature is a process called thermohaline circulation.</li> <li>These currents are carried in a large "global conveyor belt," which includes the AMOC.</li> <li>AMOC circulation brings warmth to various parts of the globe and also carries nutrients necessary to sustain ocean life. STATEMENT 2 IS CORRECT.</li> <li>The circulation process begins as warm water near the equator moves toward the poles (such as the Gulf Stream in the North Atlantic), where it cools and forms sea ice.</li> <li>As this ice forms, salt is left behind in the ocean water.</li> <li>Due to the large amount of salt in the water, it becomes denser, sinks down and is carried southwards in the depths below.</li> </ul>	<b>65</b>	<p><b>A</b></p> <p>Statements 1 and 2 are correct.</p> <p>United Nations Strategic Plan for Forests 2017-2030 (UNSPF) is a global framework to achieve the sustainable management of all types of forests, including trees outside forests, and to combat deforestation and forest degradation.</p> <p>It was adopted by the UN General Assembly in 2017. Its target is to increase forest area by 3% worldwide by 2030. The plan contains a set of six Global Forest Goals and 26 associated targets to be reached by 2030. All these are voluntary in nature and universally applicable.</p> <p>Statement 3 and 4 are incorrect.</p> <p>The United Nations Strategic Plan for Forests 2017-2030 (UNSPF) does not promote forest management practices that ignore the role of forests in mitigating climate change.</p> <p>One of the key objectives of the UNSPF is to recognize and emphasize the critical role of forests in climate change mitigation.</p> <p>The UNSPF is implemented by the Collaborative Partnership on Forests (CPF), which is a voluntary partnership of over 15 international organizations.</p>
		<b>66</b>	<p><b>A</b></p> <p>Indigenous cattle breeds of India</p> <p>The Rashtriya Gokul Mission seeks to improve all Indigenous cattle breeds of</p>

	<p>India but recently it is found that it has promoted only the Gir indigenous cow breed. Rashtriya Gokul Mission aims to genetically improve the cattle population and promote and conserve indigenous cattle breeds.</p> <p>Indian Indigenous dairy breeds of cattle - Gir, Red Sindhi and Sahiwal. Statement 2 right</p> <p>Indian Indigenous Draught breeds of cattle - Hallikar, Amritmahal, Khillari, Kangayam, Bargur, Umblachery, Pulikulam and Alambadi. Statement 3 right.</p> <p>Indian Indigenous Dual purpose breeds of Cattle - Tharparkar, Haryana, Kankrej, Ongole, Krishna Valley and Deoni.</p> <p>Exotic dairy breeds of cattle - Jersey, Holstein Friesian, Brown Swiss, Red Dane, Ayrshire and Guernsey. Statement 5 wrong</p> <p>Cross bred Dairy Cattle - Jersey cross and Holstein Friesian cross.</p> <p>Jamunapari and Barbari are goats of Indian Breeds. Statement 1 and 4 right</p>		<p>emissions target.</p> <ul style="list-style-type: none"> <li>Annual CO2 emissions - To rises nearly 30% by 2050, which is one of the largest increases in the world.</li> <li>Implication over India's climate - Over the past 5 decades, more than 700 heatwave events occurred.</li> </ul>
<b>67</b>	<p><b>B</b></p> <p>Launched by - International Energy Agency (IEA)</p> <ul style="list-style-type: none"> <li>Time Period - Annual report</li> <li>It is the world's most authoritative source of energy analysis and projections.</li> </ul> <p>Findings of World Energy Outlook 2023 for India</p> <ul style="list-style-type: none"> <li>Power consumption - India will exceed the whole of Africa now.</li> <li>Air-conditioner usage - Residential ownership to see nine-fold increase by 2050.</li> <li>Energy demand - A sharp rise as temperatures cross the 25-degree Celsius threshold.</li> <li>Energy supply - To rise to 60.3 exajoules (EJ) by 2050.</li> <li>Investments - Need to nearly triple by the end of this decade to be on a trajectory to meet its net zero</li> </ul>	<b>68</b>	<p><b>B</b></p> <p>The GCC was formed in 1981 by an agreement among Saudi Arabia, Bahrain, Oman, Kuwait, Qatar and the United Arab Emirates (UAE), that was concluded in Riyadh, Saudi Arabia.</p> <ul style="list-style-type: none"> <li>It is an economic and political union comprising of all the Arab countries of the Persian Gulf except Iraq.</li> <li>Although its current official name is Cooperation Council for the Arab States of the Gulf, it is still popularly and unofficially known as the Gulf Cooperation Council, its former official name.</li> <li>The grouping was formed in view of the similar political establishments in the countries based on Islamic principles, their geographical proximity, joint destiny and common objectives.</li> </ul> <p>GCC Members</p> <p>The six members of the GCC are Saudi Arabia, Qatar, Oman, UAE, Bahrain and Kuwait. There are also discussions for possible future memberships for Yemen, Jordan and Morocco.</p> <p>The members comprise:</p> <ol style="list-style-type: none"> <li>2 absolute monarchies (Saudi Arabia, Oman)</li> <li>3 constitutional monarchies (Qatar, Bahrain, Kuwait)</li> <li>1 federal monarchy (UAE)</li> </ol>
		<b>69</b>	<p><b>D</b></p> <p>Recently, NASA's Subsurface Water Ice Mapping (SWIM) project has released its fourth set of maps.</p> <ul style="list-style-type: none"> <li>It aims to locate the best places to access water ice buried under the Martian</li> </ul>

	<p>surface.</p> <ul style="list-style-type: none"> <li>• The recently released fourth set of map is the most detailed and accurate ones since the project started in 2017.</li> <li>• It is led by the Planetary Science Institute in Tucson, Arizona, and managed by NASA's Jet Propulsion Laboratory in Southern California.</li> <li>• The project uses data from several NASA missions, such as the Mars Reconnaissance Orbiter (MRO), the 2001 Mars Odyssey, and the defunct Mars Global Surveyor.</li> <li>• SWIM used two higher-resolution cameras on MRO.</li> <li>• The Context Camera data was used to improve the maps of the Northern Hemisphere.</li> <li>• For the first time, the HiRISE (High-Resolution Imaging Science Experiment) data was used to provide the most detailed view of the ice's edge as close to the equator as possible.</li> <li>• The first phase of the SWIM project, completed in 2019, focused on the northern hemisphere. The second phase, completed in 2020 which include the southern hemisphere.</li> <li>• Highlight of the new map</li> <li>• The new map includes sightings of so-called "polygon terrain," where the seasonal expansion and contraction of subsurface ice causes the ground to form polygonal cracks, indicating more ice hidden beneath the surface.</li> </ul>	<p>Another Arab country that has established diplomatic relations with Israel is Jordan. In 2020, the United Arab Emirates (UAE) and Bahrain signed agreements with Israel to establish full diplomatic relations, known as the Abraham Accords.</p> <p>Statement II is incorrect: Arab Peace Initiative?was not signed by Israel.?The Arab Peace Initiative, also known as the "Saudi Initiative," was proposed by Saudi Arabia in 2002 at the Arab League Summit in Beirut. It was endorsed by the Arab League as a potential resolution to the Israeli-Palestinian conflict.</p> <p>The initiative called for the recognition of Israel by the Arab states and the establishment of normal diplomatic relations in exchange for Israel's complete withdrawal from the territories occupied during the 1967 Six-Day War, the creation of a Palestinian state with East Jerusalem as its capital, and a "just solution" for Palestinian refugees based on UN General Assembly Resolution 194. While Israel has not officially signed the Arab Peace Initiative, it has been the subject of discussions and negotiations between Israel and the Arab states.</p>
<b>70</b>	<p><b>C</b></p> <p>Statement I is correct: Israel has established diplomatic relations with some Arab countries over the years. The first Arab country to officially recognize and establish diplomatic relations with Israel was Egypt. The historic peace treaty between Israel and Egypt was signed in 1979 at Camp David, leading to diplomatic relations and normalization of ties between the two nations.</p>	<p><b>71</b></p> <p><b>C</b></p> <p>Exercises with India</p> <ul style="list-style-type: none"> <li>• KAZIND - Joint Military between India and Kazakhstan.</li> <li>• The KAZIND, 2023 will be held at Otar, Kazakhstan.</li> <li>• It was instituted as 'Exercise PRABAL DOSTYK' in the year 2016.</li> <li>• HARIMAU SHAKTI - Joint bilateral military training exercise between Malaysia &amp; India.</li> <li>• The previous edition of the exercise was conducted in Pulai, Kluang, Malaysia in 2022.</li> <li>• SAMPRITI - Joint army exercise between India and Bangladesh.</li> <li>• SIMBEX - Joint navy exercise between India and Singapore.</li> </ul>

	<ul style="list-style-type: none"> <li>SALVEX - Joint navy exercise between India and USA.</li> </ul>	<b>73</b>	<b>C</b>
<b>72</b>	<p><b>C</b></p> <p>Xerography</p> <ul style="list-style-type: none"> <li>Xerography is the basis of the most widely used document-copying machines.</li> <li>Xerography is an image-forming process that relies on a photoconductive substance whose electrical resistance decreases when light falls on it. Statement I is correct.</li> <li>The process was invented in the 1930s by U.S. physicist Chester F. Carlson (1906-1968) and developed in the 1940s and '50s by Xerox Corp. (then called Haloid).</li> <li>Haloid Photographic Company purchased a licence from Battelle to build a machine based on the technique.</li> <li>The company trademarked the name for this machine as the "Xerox machine" in 1948 and availed the first model for sale in 1949.</li> <li>Haloid itself changed its name to Haloid Xerox in 1958 and to Xerox Corporation in 1961.</li> <li>Later, Xerox also introduced the laser-based photocopier.</li> <li>Xerox machines refused to copy banknotes that included a particular marking of 5 small rings positioned like stars in the Orion constellation.</li> <li>Similar markings have since been found on the banknotes of at least 35 national banks.</li> <li>The Reserve Bank of India in 2005 said that the new Rs 50 notes at that time had "Omron anti-photocopying feature".</li> <li>"Omron anti-photocopying feature" prevents counterfeiters from duplicating or printing currency notes using xerographic machines. Statement II is incorrect.</li> </ul>		<p>Statement 01 is incorrect. The FATF was established in July 1989 by a G-7 Summit in Paris, initially to examine and develop measures to combat money laundering. India has been a member of the FATF since 2010.</p> <p>Statement 02 is incorrect. Countries under FATF grey list are officially referred to as Jurisdictions Under Increased Monitoring. The countries on this list may face economic sanctions from institutions like the IMF and the World Bank and experience adverse effects on trade.</p> <p>Statement 03 is correct. Countries known as Non-Cooperative Countries or Territories (NCCTs) are put on the blacklist. There are currently two "black-listed" countries: Iran and North Korea.</p>
		<b>74</b>	<b>A</b>
			<p>FATF Grey List</p> <ul style="list-style-type: none"> <li>The Financial Action Task Force (FATF) is the global money laundering and terrorist financing watchdog.</li> <li>It is 39-member body that was established in 1989 and is based in Paris.</li> <li>India is one of the member of it.</li> <li>FATF Plenary is the decision-making body of FATF meets three times per year and holds countries to account if they do not comply with the Standards.</li> <li>If a country repeatedly fails to implement FATF Standards, then it can be named a Jurisdiction under Increased Monitoring (the grey list) or a High Risk Jurisdiction (black list).</li> <li>Jurisdictions under Increased Monitoring (grey list) - Countries that are actively working with the FATF to address strategic deficiencies in their regimes to counter money laundering, terrorist financing and proliferation financing are placed under it.</li> <li>When a country is placed under grey list then the country has must commit</li> </ul>




	<p>to resolve swiftly the identified strategic deficiencies within agreed timeframes and is subject to increased monitoring.</p> <ul style="list-style-type: none"><li>Along with Cayman Islands, Jordan, Panama, and Albania were also removed from the FATF Grey List.</li><li>As of June 2023, the countries under grey list includes:</li></ul> <table><tr><td>Barbados</td><td>Bulgaria</td><td>Burkina Faso</td><td>Cameroon</td><td>Croatia</td></tr><tr><td>Democratic Republic of Congo</td><td>Gibraltar</td><td>Haiti</td><td>Jamaica</td><td>Mali</td></tr><tr><td>Mozambique</td><td>Nigeria</td><td>Philippines</td><td>Senegal</td><td>South Africa</td></tr><tr><td>South Sudan</td><td>Syria</td><td>Tanzania</td><td>Türkiye (Turkey)</td><td>Uganda</td></tr><tr><td></td><td>United Arab Emirates</td><td>Vietnam</td><td>Yemen</td><td></td></tr></table>	Barbados	Bulgaria	Burkina Faso	Cameroon	Croatia	Democratic Republic of Congo	Gibraltar	Haiti	Jamaica	Mali	Mozambique	Nigeria	Philippines	Senegal	South Africa	South Sudan	Syria	Tanzania	Türkiye (Turkey)	Uganda		United Arab Emirates	Vietnam	Yemen		<p>Statements 2 and 3 are incorrect.</p> <ul style="list-style-type: none"><li>GMCT is not a tax on the gross revenue of multinational corporations. It is a tax on the profits of multinational corporations. Statement 2 is incorrect.</li><li>The GMCT is designed to reduce the incentives for companies to shift their profits to low-tax jurisdictions.</li><li>The GMCT does not require all multinational corporations to pay the same tax amount, regardless of their size or location.</li><li>The tax rate will be applied to the net income or profit that enterprises make from their businesses, and the actual tax liability will depend on the size and location of the corporation. Statement 3 is incorrect.</li></ul>
Barbados	Bulgaria	Burkina Faso	Cameroon	Croatia																							
Democratic Republic of Congo	Gibraltar	Haiti	Jamaica	Mali																							
Mozambique	Nigeria	Philippines	Senegal	South Africa																							
South Sudan	Syria	Tanzania	Türkiye (Turkey)	Uganda																							
	United Arab Emirates	Vietnam	Yemen																								
75	<p><b>A</b></p> <p>Statement 1 is correct.</p> <p>GMCT is a proposed international tax reform that would set a minimum tax rate of 15% on multinational corporations. It is designed to address the problem of tax avoidance, where companies shift their profits to low-tax jurisdictions in order to reduce their overall tax burden. Statement 1 is correct.</p> <p>The GMCT will work through a two-pillar approach:</p> <ul style="list-style-type: none"><li>Pillar One: This pillar would allow countries to tax a share of the profits of multinational corporations that are generated in their markets, even if the company does not have a physical presence in the country.</li><li>Pillar Two: This pillar would introduce a global minimum tax rate of 15% on multinational corporations. If a company pays less than 15% tax in any country where it operates, its home country would be able to impose a top-up tax to bring the effective tax rate up to 15%.</li></ul>	<p><b>76</b></p> <p><b>C</b></p> <p>Dark patterns refer to deceptive and unethical design practices used in user interfaces to manipulate or trick individuals into taking actions they may not have intended to take.</p> <p>These practices are typically employed to benefit businesses or organizations at the expense of user autonomy and informed decision-making.</p> <p>Dark patterns are intentionally designed to be misleading and can manifest in various forms.</p> <p>"Dark Patterns" in Airline Practices</p> <ul style="list-style-type: none"><li>Deceptive Techniques: Airlines and online portals have been accused of employing "dark patterns" in their user interfaces, which manipulate consumers into purchasing products they did not intend to buy.</li><li>Consumer Affairs Secretary's Stance: The Consumer Affairs Secretary, Rohit Kumar Singh, defines "dark patterns" as tactics nudging consumers into unintended purchases, constituting unfair trading practices and possibly cybercrimes.</li><li>Pervasive Issue: Approximately 10,000</li></ul>																									

	<p>complaints related to these practices have been lodged with the Ministry via the National Consumers Helpline over the past eight to nine months.</p> <p><b>Manipulating Seat Selection</b></p> <ul style="list-style-type: none"> <li>• <b>IndiGo's Practice:</b> IndiGo Airlines, for instance, employs a tactic known as "false urgency," creating a sense of urgency by implying that consumers must pay an extra fee (₹99 to ₹1,500) for seat selection during booking, portraying all free seats as unavailable.</li> <li>• <b>Transparency Issue:</b> Passengers are not adequately informed that they will be auto-assigned free seats if they choose not to pay the extra fee.</li> <li>• <b>Obfuscation:</b> The "skip" option, although present, is inconspicuously located, demonstrating "interface interference."</li> </ul> <p><b>Additional Unfair Practices</b></p> <ul style="list-style-type: none"> <li>• <b>SpiceJet's Pressure for Insurance:</b> SpiceJet's website pressures passengers to purchase travel insurance by using alarming phrases like "I will risk my trip" if they opt out, playing on passengers' fears.</li> <li>• <b>"Basket Sneaking" by MakeMyTrip:</b> MakeMyTrip adds a convenience fee when customers reach the payment gateway after booking, a practice known as "basket sneaking."</li> </ul> <p><b>Draft Guidelines and Regulatory Perspective</b></p> <ul style="list-style-type: none"> <li>• <b>Ministry of Consumer Affairs Guidelines:</b> These dark patterns have been defined in the draft guidelines released by the Ministry of Consumer Affairs in September.</li> <li>• <b>DGCA's Stance:</b> The Directorate General of Civil Aviation (DGCA) permits "unbundling" airfares but emphasizes that these services must be offered on an "opt-in" basis, with clear descriptions without ambiguity.</li> <li>• <b>Parliamentary Committee Report:</b> A</li> </ul>	<p>parliamentary committee report urges transparency in seat-wise airfares, fair pricing mechanisms to ensure reasonable profit margins, and effective grievance redressal mechanisms.</p>
	<p><b>77</b></p>	<p><b>B</b></p> <p><b>About Mahabali Tug:</b></p> <ul style="list-style-type: none"> <li>• It is a 25-ton Bollard Pull (BP) Tug.</li> <li>• This vessel, a creation of Shoft Shipyard located in Bharuch, Gujarat, is one of three such tugs commissioned as part of a collaborative effort between the Ministry of Defence and the Shipyard.</li> <li>• It has been constructed in accordance with the classification rules set forth by the Indian Register of Shipping (IRS). Statement 1 is incorrect.</li> <li>• It will assume a crucial role in aiding naval ships and submarines during berthing and unberthing operations, as well as in navigating through confined waters.</li> <li>• It is equipped to enhance firefighting capabilities for ships both alongside and at anchorage.</li> <li>• It is also outfitted for limited Search and Rescue Operations.</li> </ul> <p><b>Key Facts about Indian Register of Shipping (IRS):</b></p> <ul style="list-style-type: none"> <li>• Indian Register of Shipping (IRS) is an international ship classification society providing ship classification and certification as well as technical inspection services.</li> <li>• The not for profit entity was founded in 1975.</li> <li>• It is a member of the International Association of Classification Societies (IACS), which represents classification societies worldwide.</li> <li>• IRClass Systems and Solutions Pvt Ltd. (ISSPL) is an organization promoted by the IRS and was set up in 2014.</li> <li>• The two companies, IRS and ISSPL,</li> </ul>




	<p>form the brand IRCLASS, which provides survey, inspection, and certification services to the maritime and industrial sectors.</p> <ul style="list-style-type: none"> <li>IRCLASS is committed to promoting safe and environmentally friendly engineering practices through its services to the business community.</li> </ul> <p>Hence only statement 2 is correct.</p>		<p>ensure data security.</p> <ul style="list-style-type: none"> <li>The development of HAWK started in 2017 in the state of Kerala by a joint team of Kerala Forest Department &amp; Wildlife Trust of India.</li> <li>The system was officially launched in 2019 in Kerala and since then it is the official system of the state forest department.</li> <li>The implementation of a customized version of HAWK initiated in 2022 in Karnataka in partnership with the ICT cell of Karnataka forest department and the system is being implemented across the state.</li> </ul>
<b>78</b>	<p><b>A</b></p> <ul style="list-style-type: none"> <li>Recently, the Karnataka Forest Department, along with the Wildlife Trust of India, has launched the Hostile Activity Watch Kernel (HAWK) system.</li> <li>It is Cloud Based Information Management System designed to manage interlinked databases of wildlife crime, wildlife criminals, and wildlife mortality.</li> <li>It will help officials analyse the information and develop actionable intelligence to prevent wildlife crimes and curb Illegal Wildlife Trade (IWT).</li> <li>Features</li> <li>The system connect the entire state forest department in real-time and the access is restricted through access levels.</li> <li>This system is a large ERP model cloud based system which use mobile and desk top interfaces to manage data.</li> <li>The entire HAWK system is divided into various modules which are interconnected with individual stand alone functions.</li> <li>This enables the system to be scaled up or down as per the need of the state forest department and ensure customization opportunity for each state to accommodate the changes in procedures and also to accommodate the interface in regional language.</li> <li>All the data managed by the HAWK system is secured with the government and industry standard security measures are applied to</li> </ul>	<b>79</b>	<p><b>A</b></p> <p>Recently the Union Finance Ministry launched the 4th phase of 'Operation Sesha' to curb the illegal trade of Timber, including Red Sanders.</p> <ul style="list-style-type: none"> <li>Operation Sesha was launched in 2015 to bust organised syndicates of smugglers of precious woods.</li> <li>The name Sesha has been derived from Seshachalam forest in Andhra Pradesh, bordering Karnataka.</li> <li>Under this initiative, the directorate of revenue intelligence of Indian Customs works in collaboration with probe agencies of several other countries to curb illegal trade of timber.</li> <li>The Indian customs department will run the 4th phase of Operation Sesha in collaboration with WCO's Regional Intelligence Liaison Offices (RILOs) in Asia-Pacific and Middle-East.</li> <li>Phase IV of 'Operation Sesha' aims to curb the illegal trade of Timber, including Red Sanders.</li> <li>The use of artificial intelligence could play a huge role in the 4th phase of the operation.</li> <li>World Customs Organization (WCO) was established in 1952 as the Customs Co-operation Council (CCC).</li> </ul>

	<ul style="list-style-type: none"> <li>It is an independent intergovernmental body whose mission is to enhance the effectiveness and efficiency of Customs administrations.</li> <li>WCO is the only international organization with competence in Customs matters and can rightly call itself the voice of the international Customs community.</li> </ul>		<p>Philippines</p> <ul style="list-style-type: none"> <li>Inspiration and Action - UK-based Ellen MacArthur Foundation.</li> <li>Entrepreneurial Vision - China's Blue Circle and José Manuel Moller of Chile.</li> <li>Science and Innovation - Council for Scientific and Industrial Research.</li> </ul> <p>The award has recognized 116 laureates, ranging from world leaders to technology inventors. They include 27 world leaders, 70 individuals and 19 groups or organizations. Statement 2 is correct.</p> <p>Indian Prime Minister Narendra Modi is one of the recipients of the Champions of the Earth for 2018. Statement 3 is correct.</p>
<b>80</b>	<p><b>D</b></p> <p>The Champions of the Earth award is the UN's highest environmental honour given annually Since 2005. Statement 1 is correct.</p> <p>Champions of the Earth are celebrated in 4 categories that includes:</p> <ul style="list-style-type: none"> <li>Policy leadership - In the public sector leading global or national action for the environment. They shape dialogue, lead commitments and act for the good of the planet.</li> <li>Inspiration and action - Taking bold steps to inspire positive change to protect our world. They lead by example, challenge behaviour and inspire millions.</li> <li>Entrepreneurial vision - Challenge the status quo to build a cleaner future. They build systems, create new technology and spearhead a ground breaking vision.</li> <li>Science and innovation - To push the boundaries of technology for profound environmental benefit. They invent possibilities for a more sustainable world.</li> </ul> <p>The 2023 Champions of the Earth announced by the United Nations Environment Programme (UNEP) includes a city mayor, a non-profit foundation, a social enterprise, a government initiative and a research council.</p> <ul style="list-style-type: none"> <li>Policy Leadership - Josefina Belmonte Belmonte, mayor of Quezon City in the</li> </ul>	<b>81</b>	<p><b>D</b></p> <p>With increasing Chinese presence in the Indian Ocean, there is the question whether India would take action in the Strait of Malacca or the Andaman Sea.</p> <ul style="list-style-type: none"> <li>Strait: A strait is a narrow body of water that connects two larger bodies of water. They are similar to canals, but canals are built by people.</li> <li>Pair 1 is correctly matched: Strait of Malacca is a waterway connecting the Andaman Sea (Indian Ocean) and the South China Sea (Pacific Ocean). It runs between the Indonesian island of Sumatra to the west and peninsular Malaysia and extreme southern Thailand to the east.</li> <li>Pair 2 is correctly matched: Bering Strait links the Arctic Ocean with the Bering Sea and separating the continents of Asia and North America. The U.S.-Russian boundary extends through the strait.</li> <li>Pair 3 is correctly matched: Strait of Gibraltar, channel connecting the Mediterranean Sea with the Atlantic Ocean, lying between southernmost Spain and Morocco.</li> </ul>

  	<p>and end-to-end support to artisans and craftspeople who work with their hands and tools.</p> <ul style="list-style-type: none"><li>Under the PM Vishwakarma Scheme, the registration and benefits under the Scheme are restricted to only one member of the family.</li><li>The scheme offers low-interest loans that can be used to buy equipment, materials, and other resources that are necessary for starting a business.</li></ul> <p>Statement 3 is incorrect.</p> <p>The PM Vishwakarma Scheme provides financial assistance to artisans in the form of loans, not grants. The loans are collateral-free and have a concessional interest rate of 5%.</p> <p>What is the PM Vishwakarma Scheme?</p> <table><tr><th>Aspects</th><th>Details</th></tr><tr><td>Launched in</td><td>2023</td></tr><tr><td>Nodal Ministry</td><td>Ministry of Micro, Small &amp; Medium Enterprise.</td></tr><tr><td>Type</td><td>Central Sector Scheme</td></tr><tr><td>Aim</td><td>To provide end-to-end support to artisans and craftspeople who work with their hands and tools</td></tr><tr><td>Beneficiaries</td><td>The Scheme covers artisans and craftspeople engaged in 18 trades such as carpenter, boat maker, blacksmith etc.</td></tr><tr><td>Benefits</td><td>1.Recognition of artisans through PM Vishwakarma certificate and ID card. 2.Skill Upgradation and advanced Training 3.Toolkit Incentive of upto Rs. 15,000 in the form of e-vouchers 4.Collateral free loans of upto Rs. 3 lakh at low rate of interest.</td></tr></table>	Aspects	Details	Launched in	2023	Nodal Ministry	Ministry of Micro, Small & Medium Enterprise.	Type	Central Sector Scheme	Aim	To provide end-to-end support to artisans and craftspeople who work with their hands and tools	Beneficiaries	The Scheme covers artisans and craftspeople engaged in 18 trades such as carpenter, boat maker, blacksmith etc.	Benefits	1.Recognition of artisans through PM Vishwakarma certificate and ID card. 2.Skill Upgradation and advanced Training 3.Toolkit Incentive of upto Rs. 15,000 in the form of e-vouchers 4.Collateral free loans of upto Rs. 3 lakh at low rate of interest.
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Benefits	1.Recognition of artisans through PM Vishwakarma certificate and ID card. 2.Skill Upgradation and advanced Training 3.Toolkit Incentive of upto Rs. 15,000 in the form of e-vouchers 4.Collateral free loans of upto Rs. 3 lakh at low rate of interest.														
82	<p><b>C</b></p> <p>Statements 1, 2 and 4 are correct.</p> <ul style="list-style-type: none"><li>The Pradhan Mantri Vishwakarma Scheme (PMVS) is a central sector scheme launched by the Ministry of Micro, Small and Medium Enterprises (MSME).</li><li>The scheme aims to provide holistic</li></ul>														

	<p>5.Incentive for Digital Transaction</p> <p>6.Marketing Support in the form of quality certification, branding, on boarding on e-commerce platforms</p> <p>1.Minimum age of beneficiary should be 18 years.</p> <p>2.The beneficiary should be engaged in the trade concerned.</p> <p>3.Should not have availed loans under similar credit-based schemes of Central Government or State Government.</p> <p>4.The registration and benefits under the Scheme shall be restricted to one member of the family.</p>		<ul style="list-style-type: none"> <li>The Trigonalalyidae family is found in abundance in parts of Europe, Northern Africa, and Asia.</li> </ul>
	<p><b>Eligibility Criteria</b></p>	<b>84</b>	<p><b>D</b></p> <p>Armenia is looking forward to early linkages between the International North South Transport Corridor (INSTC) and the Chabahar Port for seamless connectivity.</p> <ul style="list-style-type: none"> <li>INSTC is a multi-modal transportation project established in 2000 in St. Petersburg, by Iran, Russia and India.</li> </ul> <p>Purpose: It is a multi-modal transport project that spans over 7,200 kilometres and aims to ease the transportation of cargo among Afghanistan, Armenia, Azerbaijan, Russia, Central Asia, Europe, as well as India and Iran.</p> <p>Corridor: It connects the Indian Ocean and Persian Gulf to the Caspian Sea via Iran, then is connected to St. Petersburg and Northern Europe via Russia.</p> <ul style="list-style-type: none"> <li>It begins in Mumbai and goes to Bandar Abbas and Bandar-e-Anzali in Iran, then crosses the Caspian Sea to reach Astrakhan, Moscow, and St. Petersburg in Russia.</li> </ul> <p>The member countries of the INSTC include India, Iran, Russia, Azerbaijan, Armenia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkey, Ukraine, Belarus, Oman, Syria.</p>
<b>83</b>	<p><b>B</b></p> <p>Scientists of the Zoological Survey of India (ZSI) recently discovered a new species of wasp named 'Taeniogonalos dhritiae' in the Western Ghat hills part of Kerala.</p> <p>About Taeniogonalos dhritiae:</p> <p>It is a new species of wasp discovered in the Ranipuram Hills area in the Western Ghats of Kerala.</p> <ul style="list-style-type: none"> <li>It is named after Dr. Dhriti Banerjee, a noted entomologist.</li> <li>It is a species in the family Trigonalalyidae.</li> <li>While there are about 122 described species of Trigonalalyidae in 16 genes worldwide, the knowledge of Indian Trigonalalyidae is scanty, with only eight described species till date.</li> <li>These insects are hyperparasitoids (parasites of parasites) where females lay eggs on other parasitic wasps.</li> </ul>		<p><b>85</b></p> <p><b>A</b></p> <ul style="list-style-type: none"> <li>Researchers have named the new family Uranoscopicolaidae.</li> <li>This is also the first discovery and description of a new crustacean family from India.</li> <li>This parasitic copepod was found to depend upon the Dollfus' Stargazer (Uranoscopus guttatus), a fish dwelling in depths ranging from 300-550 m off the southwest Indian coast.</li> <li>The discovery of the new family has also led to the creation of a new genus and species, Hirodai ohstukai under it.</li> <li>These parasitic copepods are known to</li> </ul>

	<p>infest a wide range of hosts, from sponges to marine mammals.</p> <ul style="list-style-type: none"> <li>• New isopod species which has been named <i>Glyptothoa sagara</i>; 'Glypto' as the fish parasite was found in the deep sea fish <i>Glyptothidium macropus</i>, and 'sagara' for ocean.</li> <li>• Another new isopod crustacean parasite species named <i>Elthusa aquabio</i> was collected from an unknown fish.</li> <li>• The fourth new species is a 11-12 mm "flesh-penetrating parasitic copepod," which has been named as <i>Cardiodectes vampire</i>.</li> <li>• It was found to infest the deep-sea fish <i>Chlorophthalmus corniger</i>.</li> </ul> 	<ul style="list-style-type: none"> <li>• It occurs due to a biochemical reaction between luciferins, oxygen and the enzyme luciferase.</li> <li>• The benefit of bioluminescence in fungi is to attract insects for facilitating their spore dispersal.</li> </ul>
86	<p><b>D</b></p> <ul style="list-style-type: none"> <li>• <i>Mycena chlorophos</i> is a bioluminescent mushroom (fungus) primarily found in subtropical Asia.</li> <li>• It is characterized by a pristine white disc with a shallow depression in the centre and emits a bright, greenish light in the dark</li> <li>• <i>Mycena</i> species have bell-shaped caps and thin stems.</li> <li>• There are around 103 species of bioluminescent fungi in the world, of which seven are found in India.</li> </ul> <p>What is Bioluminescence?</p> <ul style="list-style-type: none"> <li>• It is the ability of living organisms to emit light.</li> </ul>	<p><b>87 B</b></p> <p>The Prime Minister's Science, Technology, and Innovation Advisory Council (PM-STIAC) is an overarching council that facilitates the Office of the Principal Scientific Adviser (PSA) to assess the status, challenges, and interventions needed in specific science and technology domains.</p> <p>It formulates interventions, develops a futuristic roadmap, and advises the Prime Minister accordingly. PM-STIAC has two main functions.</p> <ol style="list-style-type: none"> <li>1. First, it acts as a high-level advisory body to several ministries, providing guidance on science, technology, and innovation-related matters.</li> <li>2. Second, it executes mission-oriented programs to address various socio-economic challenges through innovation and technology-based solutions.</li> </ol> <p>PM-STIAC has identified nine national missions to ensure India's sustainable growth.</p> <p>These missions include: Natural Language Translation, Quantum Frontier, Artificial Intelligence, National Biodiversity Mission, Electric Vehicles, Bioscience for Human Health, Waste to Wealth, Deep Ocean Exploration, Accelerating Growth of New India's Innovations (AGNIi).</p>
		<p><b>88 B</b></p> <ul style="list-style-type: none"> <li>• The Doctrine of Dualism in international law is a legal concept that refers to the separation of international law and domestic (national) law within a state's legal system.</li> <li>• This doctrine asserts that international law and domestic law are</li> </ul>

	<p>distinct and separate legal systems, and they operate independently of each other.</p> <ul style="list-style-type: none"> <li>• It states that the international law, in and of itself, does not automatically apply within a state's legal system.</li> <li>• Domestic laws must be enacted or modified to reflect the state's obligations under international law.</li> <li>• In other words, international treaties do not automatically become part of domestic law without proper incorporation.</li> </ul>	<p>prison management the centre has come up with the Model Prisons Act 2023.</p> <p>It contains provisions for grant of parole, furlough, remission to prisoners to encourage good conduct, special provision for women/ transgender inmates, physical and mental well-being of prisoners and focus on the reformation and rehabilitation of inmates, etc.</p> <p>The comprehensive 'Model Prisons Act, 2023', by the Ministry of Home Affairs may serve as a guiding document for the States, and for adoption in their jurisdiction. The Constitution does not bind the states to reform their respective prison laws according to the Model Prisons Act, 2023.</p> <p>Statement-II is correct: 'Prisons'/'persons detained therein' is a "State-List" subject under Entry 4 of List II of the Seventh Schedule to the Constitution of India.</p> <p>Administration and management of prisons and prisoners is the responsibility of respective State Governments who are competent to take appropriate action in this regard.</p> <p>However, given the significance of prisons in the Criminal Justice System, the Ministry of Home Affairs has been providing regular guidance and support to the States and UTs on diverse issues relating to prison administration.</p> <p>Additional Information:</p> <p>Along with 'The Prisons Act, 1894', 'The Prisoners Act, 1900' and 'The Transfer of Prisoners Act, 1950' have also been reviewed by the Ministry of Home Affairs and relevant provisions of these Acts have been assimilated in the 'Model Prisons Act, 2023.'</p> <p>State Governments and Union Territory Administrations can benefit from the Model Prisons Act, 2023 by adopting it in their jurisdictions, with such modifications which they may consider necessary, and repeal the existing three Acts in their jurisdictions.</p>
<b>89</b>	<p><b>C</b></p> <p>Statement 1 is incorrect.</p> <p>'e-FIR' does not mean an automatic registration of an FIR using electronic means.</p> <p>e-FIRs need to be reviewed and registered by a police officer before they are considered valid. This is because the police officer needs to verify the identity of the complainant and the details of the complaint before registering the FIR.</p> <p>Statements 2, 3 and 4 are correct.</p> <p>As per Section 154 of the Criminal Procedure Code (CrPC), an e-FIR can be registered in cognizable offenses only.</p> <p>e-FIRs can be filed from anywhere at any time, as long as the complainant has access to the internet. This makes it a convenient and accessible way to report crimes to the police.</p> <p>e-FIRs can help to improve the transparency and accountability of the police. e-FIRs are recorded electronically and can be tracked by the complainant and the police department. This makes it more difficult for the police to tamper with FIRs or to ignore complaints.</p>	
<b>90</b>	<p><b>D</b></p> <p>Statement-I is incorrect: With the objective of holistically providing guidance and addressing the gaps in the existing Prisons Act, including the use of technology in</p>	

	<p>Some salient features of the new Model Prisons Act are:</p> <ul style="list-style-type: none"> <li>• Provision for security assessment and segregation of prisoners, individual sentence planning,</li> <li>• Grievance redressal, prison development board, attitudinal change towards prisoners.</li> <li>• Provision of separate accommodation for women prisoners, transgender, etc.</li> <li>• Provision for use of technology in prison administration with a view to bring transparency in prison administration.</li> <li>• Provision for video conferencing with courts, scientific and technological interventions in prisons, etc.</li> <li>• Provision of punishment for prisoners and jail staff for use of prohibited items like mobile phones etc. in jails.</li> <li>• Provision regarding establishment and management of high security jail, open jail (open and semi open), etc.</li> <li>• Provision for protecting the society from the criminal activities of hardened criminals and habitual offenders, etc.</li> <li>• Provision for legal aid to prisoners, provision of parole, furlough and premature release etc. to incentivise good conduct.</li> <li>• Focus on vocational training and skill development of prisoners and their reintegration into the society.</li> </ul> <p>The Mulla Committee on Prison Reforms (1980) and the Justice Krishna Iyer Committee (1987) made recommendations for improving prison conditions and administration.</p>		<p>guidelines governing the broadcasting sector. Statement 1 is correct.</p> <ul style="list-style-type: none"> <li>• Extension- It extends the regulatory purview to the OTT content, digital news and current affairs which are currently regulated through Information Technology Act, 2000. Statement 2 is correct.</li> <li>• Regulation- The bill provides regulatory provisions for various broadcasting services under a single legislative framework.</li> <li>• Adaptability- The bill adapts to the dynamic world of OTT, Digital Media, DTH, IPTV, and more, promoting technological advancement and service evolution.</li> <li>• Comprehensive - It provides definitions for contemporary broadcasting and other important technical terms for the first time.</li> <li>• Differentiated approach- It allows for a differentiated approach to Programme and Advertisement Code across various services and requires selfclassification by broadcasters and robust access control measures for restricted content.</li> <li>• Inclusivity- It aims to make broadcasting more inclusive and accessible to people with disabilities through the use of subtitles, audio descriptors, and sign language.</li> <li>• It also has a provision for Disability Grievance Officer.</li> <li>• Accessibility- It has provisions for infrastructure sharing among broadcasting network operators and carriage of platform services.</li> <li>• The Bill streamlines the 'Right of Way' section to address relocation and alterations more efficiently.</li> </ul>
<b>91</b>	<p><b>C</b></p> <p>What are the key features of Broadcasting Services (Regulation) Bill 2023?</p> <ul style="list-style-type: none"> <li>• Aim- To bring a consolidated legal framework for the broadcasting sector.</li> <li>• Modernization-The Bill seeks to replace Cable Television Networks (Regulation) Act, 1995 and other policy</li> </ul>	<b>92</b>	<p><b>D</b></p> <p>PM inaugurated a global centre for excellence called DAKSHIN in the Second Voice of Global South Summit. Statement</p>

<p>1 is correct.</p> <p>India had originally proposed setting up such a centre during the first VoGS Summit held in January 2023.</p> <p>At 'Voice of Global South Summit', India aims to ensure that the perspectives of developing countries gain prominence at global forums through initiatives like VoGS. The Global South Centre of Excellence will complement this objective by facilitating:</p> <ul style="list-style-type: none"> <li>• Knowledge sharing between Global South countries. Statement 2 is correct.</li> <li>• Providing policy inputs</li> <li>• Undertaking joint research</li> <li>• Building capacities</li> </ul> <p>The centre will give an institutional framework to sustain the momentum generated by forums like the VoGS Summit. It will promote technical cooperation and experience sharing among countries of the Global South.</p> <p>The VoGS Summit is an Indian initiative with the following features:</p> <ul style="list-style-type: none"> <li>• It provides a common platform for countries of the Global South to share their perspectives on major global issues.</li> <li>• It aims to find solutions for common challenges faced by developing countries.</li> <li>• The summit is inspired by India's vision of 'Sabka Saath Sabka Vikas'.</li> </ul> <p><b>Origin</b></p> <p>The summit was conceived considering recent global developments that have severely impacted the developing world. These include:</p> <ul style="list-style-type: none"> <li>• COVID pandemic</li> <li>• Ukraine conflict</li> </ul> <p>Challenges related to food and energy security</p> <p>Existing global platforms have been deficient in handling the unique</p>	<p>challenges and concerns of developing countries.</p> <p>Hence, India laid the foundation for the VoGS Summit to provide the Global South a platform to articulate their priorities and find solutions.</p> <tr> <td data-bbox="799 521 879 1328"> <p><b>93</b></p> </td><td data-bbox="879 521 1461 1328"> <p><b>A</b></p> <ul style="list-style-type: none"> <li>• Ayurveda, one of the world's oldest healing systems, has been practised in India for thousands of years. National Ayurveda Day celebrates this rich cultural heritage, emphasizing the importance of preserving and promoting ancient knowledge.</li> <li>• National Ayurveda Day, celebrated annually on Dhanvantari Jayanti (Dhanteras), is a significant event in India aimed at promoting the ancient system of Ayurvedic medicine. Statement 1 is correct.</li> </ul> <p><b>National Ayurveda Day 2023</b></p> <ul style="list-style-type: none"> <li>• In 2023, the theme for Ayurveda Day is "Ayurveda for One Health," aligning with India's G20 Presidency theme of 'Vasudhaiva Kutumbakam.' The focus is on the interconnectedness of human, animal, plant, and environmental health. 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	<p>Shri Narendra Modi on the occasion of Janjatiya Gaurav Diwas (Tribal Pride Day).</p> <ul style="list-style-type: none"> <li>PM also launched the Visksit Bharat Sankalp Yatra, a nationwide programme to reach out to all villages and include those eligible for various central schemes.</li> </ul>		<p>Yellow Sea region and Thailand in southeast Asia before proceeding to their southerly winter grounds, including Peninsular India along the Central Asian Flyway.</p>
<b>95</b>	<p><b>D</b></p> <p>The new species <i>Musseanda conferta</i> and <i>Rungia longistachya</i> were discovered during recent explorations by BSI scientists.</p> <p><i>Musseanda conferta</i></p> <ul style="list-style-type: none"> <li>It was discovered from the rocky areas of Kanyakumari Wildlife Sanctuary and is related to the <i>Musseanda hirsutissima</i> family.</li> <li>It prefers the vicinity of rocks in the high-altitude grassland ecosystems.</li> <li>It has attractive flowers and the ornamental potential of this plant can be explored. Option (d) is correct.</li> </ul> <p><i>Rungia longistachya</i></p> <ul style="list-style-type: none"> <li>It belongs to the family of Acanthaceae.</li> <li>It was discovered from the moist places of Anamalai regions near the Idukki dam site in Kerala.</li> <li>The plant is an herb and grows in the margins of evergreen forests.</li> <li>Only eleven species of <i>Rungia</i> have been reported from the Western Ghats and the newly discovered plant has got distinct narrow long spike with long slender peduncle and light pinkish white flowers.</li> </ul>	<b>97</b>	<p><b>B</b></p> <p>OPIOIDS:</p> <ul style="list-style-type: none"> <li>Opioids are the compounds that bind to opioid receptors present in the central and peripheral nervous system and also in the gastrointestinal tract.</li> <li>Opioids are generally used as an analgesic and given as a medicine for pain relief and also in diarrhoea. Opioids and cocaine are known as narcotics. It causes addiction and overdose can be fatal.</li> <li>Opioids are present naturally in some plants and also synthesised for medicinal purposes.</li> <li>Synthetic opioids are substances that are synthesized in a laboratory and that act on the same targets in the brain as natural opioids (e.g., morphine and codeine) to produce analgesic (pain relief) effects.</li> <li>Synthetic derivatives include fentanyl, hydromorphone, methadone, buprenorphine and others. Option (b) is correct.</li> <li>Heroin is a semi-synthetic opioid: it is made from morphine that has been chemically processed.</li> </ul>
<b>96</b>	<p><b>C</b></p> <p>Statement 01 is incorrect. The great knot is a small wader. It is the largest of the calidrid species.</p> <p>Statement 02 is incorrect. They are listed as 'Endangered' in the IUCN Red List of Threatened Species.</p> <p>Statement 03 is correct. They are long-distance migrants and they stay in the</p>	<b>98</b>	<p><b>C</b></p> <p>Physicists use the fractal geometry approach to study quantum systems.</p> <p>About Fractals:</p> <ul style="list-style-type: none"> <li>A fractal is a never-ending pattern.</li> <li>Fractals are infinitely complex patterns that are self-similar across different scales. Statement 1 is correct.</li> <li>In essence, a fractal is a pattern that repeats forever, and every part of the fractal, regardless of how zoomed in or zoomed out you are, it looks very</li> </ul>

	<p>similar to the whole image.</p> <ul style="list-style-type: none"> <li>• They are created by repeating a simple process over and over in an ongoing feedback loop.</li> <li>• Driven by recursion, fractals are images of dynamic systems.</li> <li>• Fractals are distinct from the simple figures of classical, or Euclidean, geometry-the square, the circle, the sphere, and so forth.</li> <li>• Fractal patterns are extremely familiar, since nature is full of fractals. For instance, trees, rivers, coastlines, mountains, clouds, seashells, hurricanes, etc.</li> <li>• They are capable of describing many irregularly shaped objects or spatially nonuniform phenomena in nature, such as coastlines and mountain ranges.</li> <li>• Applications: Fractals are useful in modelling structures (such as eroded coastlines or snowflakes) in which similar patterns recur at progressively smaller scales, and in describing partly random or chaotic phenomena such as crystal growth, fluid turbulence, and galaxy formation. Statement 2 is correct.</li> </ul>		<p>Statement 1 is correct.</p> <p>Focus Themes: With a focus on Environment and Climate Technology, the program will be tailored to accelerate start-ups working on a range of areas:</p> <p>Climate Smart Agriculture</p> <ul style="list-style-type: none"> <li>• Clean Energy</li> <li>• Circular Economy and Waste Management ? Climate Smart Mobility</li> </ul> <p>Statement 2 is correct.</p> <p>Over the nine-month RISE Accelerator program will help start-ups navigate early steps in a new region, fast-track connections to the right partners, customers and talent, and build credibility to succeed in international markets.</p> <p>The accelerator, in its first round, will focus on supporting start-ups and SMEs working on technologies and solutions for the waste and circular economy</p> <p>Participating start-ups may also be eligible for up to INR 40,00,000 in non-equity grants.</p> <p>The future rounds of the accelerator will focus on climate smart agriculture, clean energy and climate smart mobility.</p>
99	<p><b>C</b></p> <p>Recently, AIM, NITI Aayog launched a new accelerator called Rapid Innovation and Start-up Expansion (RISE) to support Australian and Indian circular economy startups.</p> <p>The India Australia RISE Accelerator is delivered in partnership between CSIRO, Australia's national science agency, and Atal Innovation Mission (AIM), the Government of India's flagship initiative to promote a culture of innovation and entrepreneurship.</p> <p>This initiative focuses on start-ups and small to mid-sized enterprises (SMEs) in India and Australia working on circular economy technologies and solutions.</p>	100	<p><b>D</b></p> <p>Ayurveda Gyan Naipunya Initiative (AGNI)</p> <ul style="list-style-type: none"> <li>• AGNI was recently launched by the Central Council for Research in Ayurveda Sciences (CCRAS) to Promote Innovations by Ayurveda Practitioners. Statement 2 is correct.</li> </ul> <p>AGNI aims to provide a platform to Ayurveda practitioners for reporting their innovative practices &amp; and experiences in various disease conditions.</p> <ul style="list-style-type: none"> <li>• It also aims to document the reported successful therapeutic regimens for various disease conditions involving Single drug for the purpose of education and academics.</li> <li>• Interested Ayurveda practitioners can be identified for collaboration in the creation of a database through applications and capacity building</li> </ul>

	<p>through training in research methods and good clinical practices.</p> <ul style="list-style-type: none"> <li>It allows to undertake research for mainstreaming pragmatic practices through scientific validation and evidence-based appraisal. Statement 1 is correct.</li> <li>It is an initiative by the Central Council for Research in Ayurveda Sciences (CCRAS), Ministry of Ayush.</li> <li>CCRAS will document and publish the reported medical practices and therapeutic regimens for education and academic purposes in consultation with NCISM (National Commission for Indian System of Medicine).</li> <li>CCRAS, under Ministry of Ayush is an apex research organization committed to undertaking, coordinating, formulating, development and promotion of research on scientific lines in Ayurveda.</li> <li>There are over 500,000 registered Ayurveda practitioners who are mainly practicing in India.</li> </ul> <p>The theme emphasizes the symbiotic relationship between humans and nature, promoting sustainable agriculture, animal and plant health, food safety, and encouraging active participation from farmers, students, and the general public in Ayurveda-based initiatives.</p> <ul style="list-style-type: none"> <li>The Central Council for Research in Ayurvedic Science (CCRAS) coordinates the Ayurveda Day programs, collaborating with various ministries and departments of the Government of India.</li> <li>The celebrations aim to spread awareness about Ayurveda through Jan Sandesh (public messages), Jan Bhagidari (public participation), and Jan Aandolan (public movement) across the nation.</li> <li>The event emphasizes the importance of Ayurveda for farmers, students, and</li> </ul>		the general public, encouraging everyone to embrace the principles of Ayurveda for a healthier and more sustainable future.
		<b>101</b>	<p><b>C</b></p> <p>Pembarthi (Jangoan) and Chandlapur (Siddipet) have been chosen by the Ministry of Tourism as the best tourism villages in Telangana for the year 2023.</p> <p>Pembarthi has been in existence from the Kakatiya period and is known for brass and bronze products, which are exported to countries such as the U.S., Germany, Belgium and Japan.</p> <p>Chandlapur village is renowned for the famous Ranganayaka Swamy temple, 'Gollabama' saris and other crafts of the region.</p>
		<b>102</b>	<p><b>C</b></p> <p>Telangana government has launched the phase-i of the Rs. 50,000 crore Palamuru-Rangareddy Lift Irrigation Scheme. It seeks to pump up water from the river Krishna to provide drinking water and irrigation to over 12 lakh acres in the areas in the six districts in the southern part of the State.</p>
		<b>103</b>	<p><b>A</b></p> <p>The Medigadda Barrage, also known as the Lakshmi Barrage is Located on the mighty Godavari River. is a key component of the Kaleshwaram Lift Irrigation Scheme (KLIS), one of the largest irrigation projects in India.</p> <p>The primary purpose of the Medigadda Barrage is to divert water from the Godavari River for irrigation, Drinking water supply and industrial use</p>
		<b>104</b>	<p><b>A</b></p> <p>The Telangana Information and Communication Technology (ICT) Policy 2021-2026, often referred to as the Telangana IT Policy 2021, is an initiative launched by the Telangana government to promote the growth and development of the IT sector in the state.</p>

	<p>Goals:</p> <ul style="list-style-type: none"> <li>• Achieve Rs 3 lakh crore (approximately \$40 billion) in IT exports by 2026.</li> <li>• Promote digital empowerment of citizens by improving access to digital technology and skills.</li> <li>• Foster innovation and entrepreneurship in the IT sector.</li> <li>• Expand the reach of IT beyond major cities, focusing on "distributed development" in Tier 2 and Tier 3 cities.</li> </ul>		<p>Robotics, has demonstrated a weapons platform named Indrajaal - which it calls the world's only autonomous wide area, counter-unmanned aircraft system (C-UAS).</p> <p>Claimed to be the world's only anti-drone system capable of protecting against micro, mini, small, large and extra-large drones, this marks a breakthrough in Indian defence technology</p> <p>Indrajaal can defend areas of up to 4000 square kilometres against all classifications and levels of unmanned autonomous threats.</p>
<b>105</b>	<b>C</b>	<b>110</b>	<b>A</b>
	The 3D printed temple in Siddipet, Telangana holds the distinction of being the world's first-ever 3D printed temple.		In October 2023, 12-day World Heritage Volunteer (WHV) camp 2023 commenced at the UNESCO World Heritage site Ramappa temple in the Mulugu district
<b>106</b>	<b>C</b>	<b>111</b>	<b>D</b>
	Gollabhama sarees are handwoven sarees originating from Siddipet, Telangana, India. They are known for their intricate motifs of "gollabhama" or milkmaids, typically depicted on the pallu (end) and borders of the saree. These sarees are made from pure cotton and are known for their simplicity and elegance.		<p>Pembarthi (Jangoan) and Chandlapur (Siddipet) have been chosen by the Ministry of Tourism as the best tourism villages in Telangana for the year 2023.</p> <ul style="list-style-type: none"> <li>• Pembarthi has been in existence from the Kakatiya period and is known for brass and bronze products, which are exported to countries such as the U.S., Germany, Belgium and Japan.</li> <li>• Chandlapur village is renowned for the famous Ranganayaka Swamy temple, 'Gollabama' saris and other crafts of the region.</li> </ul>
<b>107</b>	<b>C</b>	<b>112</b>	<b>B</b>
	Among the 21 States for which the Central Water Commission (CWC) publishes reservoir data, all but five States have deficits. Of the five States that are in advantage, Telangana is on the top with a surplus of 68.3 per cent. It stands way ahead compared to Gujarat and Uttarakhand which registered a marginal surplus of 14.6 per cent and 12.1 per cent respectively.		<p>Chakali Ailamma (c. 1895 - 1985), also known as Chityala Ailamma, was a significant figure in the Telangana Rebellion (1946-1951), a struggle against feudalism and oppressive landownership practices.</p> <p>Ailamma challenged the exploitative practices of the then- Zamindar, Ramachandra Reddy, who controlled land in her village. When Reddy tried to seize her land, she bravely resisted and refused to give in.</p>
<b>108</b>	<b>D</b>		
	The Bathukamma festival is Celebrated for nine days. it coincides with the Hindu festivals of Sharad Navratri and Durga Puja. Primarily observed by women, it signifies the worship of the life-giving goddess, often referred to as "Mother Earth" or "Gauri Devi."		
<b>109</b>	<b>D</b>		
	Hyderabad-based private sector firm, Grene		

<b>113</b>	<b>D</b> The Telangana State Innovation Cell (TSIC) is an initiative by the Government of Telangana established in 2017 under the State Innovation Policy. It acts as the nodal agency for promoting a culture of innovation across the state. It mainly focuses on promoting and nurturing a culture of innovation across the state, including supporting startups and entrepreneurs		dedicated to Lord Vishnu, is located amidst the hills.
<b>114</b>	<b>C</b> Airports Council International (ACI) awarded GMR Hyderabad International Airport Ltd (GHIAL) Level 4+ Transition accreditation. This accreditation recognizes GHIAL's commitment to carbon management and its alignment with global climate goals The Airport Carbon Accreditation (ACA) program, established by ACI EUROPE in 2009, sets the industry standard for assessing an airport's efforts to reduce carbon emissions. GHIAL's achievement of Level 4 Transition is the highest level in this program.	<b>117</b>	<b>D</b> In the women's heptathlon, Nandini Agasara, a U20 world championships finalist, won the 800m race with a personal best time of 2:15.33 and won the bronze medal
<b>115</b>	<b>D</b> Kuntala Waterfall is Located in the Adilabad district. It is known for cascading down a series of steps, resembling a giant staircase. • Bogatha waterfall in Mulugu district of Telangana is Nicknamed as "Telangana Niagara" for its resemblance to the famous Niagara Falls.	<b>118</b>	<b>D</b> Telangana government has launched the phase-i of the Rs. 50,000 crore Palamuru-Rangareddy Lift Irrigation Scheme. It seeks to pump up water from the river Krishna to provide drinking water and irrigation to over 12 lakh acres in the areas in the six districts in the southern part of the State. The scheme seeks to lift 90 tmc of water in 60 days from the foreshore of Srisailem reservoir on the Krishna. The water is being pumped to an elevation of 670 metres at KP Lakshmidhevipalli village near Shadnagar town.
<b>116</b>	<b>A</b> Ananthagiri Hills, located in the Vikarabad district of Telangana. They are not high mountains but rather a series of low hills ranging in altitude from 500 to 800 meters The Musi River, which flows through Hyderabad, originates in these hills. The Swayambu Anantha Padmanabha Swamy Temple, an ancient temple	<b>119</b>	<b>B</b> The Ramappa Temple, also known as the Rudreswara Temple, is a UNESCO World Heritage Site located in Telangana, India. It is a Kakatiya style Hindu temple dedicated to the god Shiva. The temple complex was constructed between 1212 and 1234 and is named after its architect, Ramappa.
		<b>120</b>	<b>B</b> The Union Cabinet decided to amend the Central Tribal University Act for the establishment of Sammakka Sarakka Central Tribal University at Mulugu District in Telangana.
		<b>121</b>	<b>C</b> The Greater Warangal Municipal Corporation (GWMC) has been selected for the Asia Pacific Sanitation Excellence Award 2023 by United Cities and Local Governments- Asia Pacific

<b>122</b>	<b>B</b> Inda's Esha Singh won a silver medal in the women's 25m pistol event at the Asian Games 2023.	<b>126</b>	<b>B</b> Project iRASTE (intelligent Solutions for Road Safety through Technology and Engineering) applies a Safe Systems approach to aspects of Vehicle Safety, Mobility Analysis & Infrastructure Safety.
<b>123</b>	<b>C</b> Mulugu holds a biennial festival - the Sammakka Saralamma Jatara - which is considered among the largest gatherings of tribal people in the world. The event commemorates the battle of the 13th-century mother-daughter duo against the local rulers in protest against the imposition of taxes on the Koya people. The Jatara (yatra, or pilgrimage) begins at Medaram, and the rituals are conducted by the Koya priests, in accordance with their customs and traditions.'	<b>127</b>	<b>C</b>
<b>124</b>	<b>D</b> India's first law enforcement Chief Information Security Officers' (CISO) council was launched by Telangana police at the Cyberabad Police Commissionerate. The CISO council will partner with public and private institutions to tackle cyber security threat in real time.	<b>128</b>	<b>A</b> Home-grown electronics contract manufacturing services firm Kaynes Technology will be setting up a Rs. 2,800-crore semiconductor OSAT (outsourced semiconductor assembly and testing) and compound semiconductor facility in Telangana. The proposed facility will come up adjacent to the upcoming electronics manufacturing facility of Foxconn in Kongara Kalan and will generate direct employment for over 2,000 people.
<b>125</b>	<b>B</b> In October 2023, PM laid the foundation stone of the Krishnapatnam to Hyderabad multi-product pipeline, a significant infrastructure project undertaken by Bharat Petroleum Corporation Limited (BPCL) The Storage Terminal in Malkapur and the Krishnapatnam - Hyderabad Multi-Product Petroleum Pipeline will play a pivotal role in meeting the escalating demand for petroleum products in the state of Telangana.  The pipeline spans a length of 425 kilometers and is designed with a capacity of 2.6 Million Metric Tonnes Per Annum (MMTPA). It will establish a vital link between BPCL's POL Terminal at Krishnapatnam and a high-capacity Petroleum Storage Terminal in Malkapur, located near Hyderabad.	<b>129</b>	<b>C</b> The country's first ever 23 km-long bicycle track with a solar roof named as Health way was inaugurated in Hyderabad. The track stretches between Nanakramguda, TSPA circle, including Narsingi, and Kollur via ORR between the main carriageway and the city-side service road.
		<b>130</b>	<b>C</b> A geoglyph in the form of a circle said to be 3,000 years old has been recently unearthed on the outskirts of Mudichu Thalapalli in the Medchal-Malkajgiri district of Telangana.
		<b>131</b>	<b>A</b> The Padmalpuri Kako Etmasur temple, also known as the Kako Temple, is a Hindu temple located in the village of Gudirevu, Dandepalli mandal, Mancherial district, Telangana. It is Dedicated to the goddess Kako, a local tribal deity associated with fertility and well-being.  The temple attracts a large gathering of Adivasi (indigenous) tribes from Telangana, Maharashtra, and Chhattisgarh during the Dandari-Gussadi festival held in November every year.

<b>132</b>	<b>B</b> Sex ration of Telangana is 988	<b>135</b>	<b>C</b> World Spice Organization hosted the 2nd National Spice Conference (NSC) in Hyderabad . This year's NSC will revolve around the theme, "Food Safe Spices: The Way Forward to a Stable & Sustainable Income.
<b>133</b>	<b>A</b> Union Culture Minister laid the foundation stone for the Ramji Gond Memorial Freedom Fighters' Museum in Hyderabad. Ramji Gond was a revolutionary leader who fought against the tyrannical rule of the British in Nirmal and against the Nizam and Razakars to safeguard the self-respect of tribals in Telangana. The Museum will take shape in an area of over 70 thousand square feet at a total cost of over 35 crore rupees with an amphitheatre and all state-of-the-art facilities.  Many regions in Nizam's domains were aflame with anti-British sentiments when the mass insurrections broke out in 1857. Among these was the Adilabad district, where the resident Gond tribal community who were unhappy with the state's oppression and exploitation of the peasantry, and its support of the activities of the British colonial state. The Gonds were joined in their endeavour by the Rohillas, who proclaimed Nana Saheb as their leader and pledged to plunder the territory of the Nizam for allying with the British. Under the leadership of Ramji Gond, the Gonds and the Rohillas kept up the joint insurrection for almost two years. The British assigned a massive armed force to suppress this uprising but to no avail. It was only in 1860 that the rebellion was quelled after several armed clashes, in which several people, from both sides, died. However, Ramji Gond managed to escape the colonial pursuit and remained free. Though the British archival documents do not speak of Ramji's arrest, according to the legends preserved by the Gonds, he was arrested later, tried, and hanged. The tree from which he was hung is venerated even today as "Gondumarri".	<b>136</b>	<b>B</b> Students in Telangana will now be assigned a unique Permanent Education Number (PEN) as part of a new initiative by the state government. Starting from the academic year 2023-24, every school student in Telangana will receive a unique 11-digit PEN. The PEN aims to track a student's educational journey throughout their academic career, from pre-primary to higher education
		<b>137</b>	<b>A</b> The World Economic Forum (WEF) has announced the establishment of a Centre for the Fourth Industrial Revolution (C4IR Telangana) in Hyderabad. It will focus on healthcare and life sciences, with the goal of accelerating product development and delivery innovation within the Indian healthcare system.
		<b>138</b>	<b>A</b> Telangana Ku Haritha Haaram, a flagship programme envisages to increase the present 24% tree cover in the State to 33% of the total geographical area of the State
		<b>139</b>	<b>B</b> Eturnagaram Wildlife Sanctuary is located in Mulugu district
		<b>140</b>	<b>A</b> Godavari River is the longest river flowing through Telangana. Manjira River is a tributary of the Godavari River, flowing entirely within Telangana.
<b>134</b>	<b>D</b> Tadoba Andhari Tiger Reserve is located in Maharashtra	<b>141</b>	<b>C</b> The Dharani Portal, launched by the Telangana government's Revenue Department, is an online platform that aims to simplify and improve land record

	management and property transactions in the state.		The collaboration's goal is to shape the use and ethical development of AI
<b>142 B</b>	Rajiv Gandhi University of Knowledge Technologies (RGUKT) has been selected for CoP28 Green University Award-2023, and it is the only university in Telangana to receive the award.	<b>146 B</b>	Kinnerasani Wildlife Sanctuary is located in the Vikarabad district of Telangana. Kinnerasani Wildlife Sanctuary is not a UNESCO World Heritage Site.
<b>143 C</b>	Hyderabad-based Centre for Cellular and Molecular Biology (CCMB) announced that it is part of an international collaboration titled 'Diverse Epigenetic Epidemiology Partnership (DEEP)' to improve global health by uncovering the effects of genomic and environmental diversity on differences in disease risk observed across the global population.	<b>147 A</b>	Kaloji Narayana Rao literary award for 2023 was presented to writer, poet, historian and singer Jayaraj on the occasion of the 109th birth anniversary of litterateur and Padma Vibhushan awardee Kaloji Narayana Rao
<b>144 B</b>	The Information Technology, Electronics and Communication Department of Telangana has been awarded two gold medals at the ETGovernment DigiTech Conclave & Awards 2023 at Goa. The first award was for the iRASTE (Intelligent Solutions for Road Safety through Technology & Engineering) initiative, a comprehensive road safety management system that uses a variety of technologies to improve road safety in Telangana. The second award was for the Wildlife Species Identifications System - Forest Biodiversity Conservation Platform, which uses artificial intelligence to identify wildlife species in Telangana's forests.	<b>148 C</b>	T-Bridge is an international program offered by T-Hub, an innovation ecosystem incubator located in Hyderabad, Telangana. T-Bridge aims to connect and support Indian startups in their global expansion endeavors.
<b>145 C</b>	Telangana government and UNESCO signed a Letter of Intent to collaborate on the implementation of the UNESCO Recommendation on the Ethics of AI.	<b>149 D</b>	Narayanpet Handloom Sarees: Known for their intricate zari borders and weaving techniques Warangal Carpets: These carpets, characterized by their vibrant colors and geometric patterns Nirmal Paintings: This traditional art form, depicting mythological and other themes
		<b>150 C</b>	Telangana ranks first in the country in the recovery of stolen/lost mobile devices, as per consolidated data of the Central Equipment Identity Register (CEIR) portal CEIR stands for Central Equipment Identity Register. It is a central database maintained by the Department of Telecommunications, Government of India. This database stores information on all mobile equipment identifiers (MEIDs),