

Answers

1) C

The Zoological Survey of India (ZSI), Ministry of Environment, Forest and Climate Change has recently published a book titled 'Deep Sea Faunal Diversity in India'.

According to the publication, India is home to 4,371 species of deep-sea fauna, including 1,032 species under the kingdom Protista and 3,339 species under the kingdom Animalia.

India is surrounded by the Arabian Sea, the Bay of Bengal, the Andaman Sea and the Laccadive Sea (Lakshadweep Sea).

Of the 4,371 species, the maximum of 2,766 species has been reported from deep sea areas of the Arabian Sea, followed by 1,964 species from the Bay of Bengal, 1,396 species from the Andaman Sea, and only 253 species from the Laccadive Sea.

The deep-sea ecosystem is considered to be below a depth of 200 metres, where solar energy cannot support primary productivity through photosynthesis. This publication is the first detailed work on deep-sea organisms of the country.

Sea Mammals

There are 31 species of sea mammals which are found in deep sea ecosystem of Indian waters, including the Critically Endangered Irrawaddy Dolphin.

Two other species, the Indo-Pacific Finless Porpoise and the Sperm Whale, are recorded as 'Vulnerable' in the International Union for Conservation of Nature (IUCN) classification.

The list of mammals includes Cuvier's Beaked Whale and Short-beaked Common Dolphin, which dive as deep as 8,000 meters below the Earth's surface.

Marine turtles

Out of the seven species of marine turtles found across the world, five species have been recorded from Indian waters.

India is known as one of the best and largest breeding grounds for sea turtles, especially for Olive Ridley and Leatherback Turtles, across the world.

2) C

3) A

4) C

The World Health Organization (WHO) has recently formed a high-level expert panel 'One Health' to study the emergence and spread of zoonotic diseases like H5N1, avian influenza, MERS, Ebola, Zika and possibly the novel coronavirus disease (COVID-19). The panel will advise global agencies such as the Food and Agriculture Organization of the United Nations (FAO), the World Health Organization (WHO), the World Organization for Animal Health (OIE) and the United Nations Environment Programme (UNEP) on how future outbreaks, especially due to zoonotic diseases, can be averted.

It will also develop a surveillance framework and global action plan for the same.

Zoonotic diseases

- It is a pathogenic infections that transmit from animals to humans.
- Three of every four infectious diseases are caused by zoonosis.
- Scientists across the world suspect COVID-19 is also a zoonosis.

5) B

The Convention was signed at the 1992 Rio Earth Summit. It is a legally binding treaty dedicated to promoting sustainable development.

Objectives:

- conservation of biological diversity,
- sustainable use of the components of biological diversity
- Fair and equitable sharing of the benefits arising out of the utilization of genetic resources.

It is a legally binding treaty.

6) A

White Fungus Infections

- It is a fungal infection where there is formation of whitish membranes or discharge caused by candida group of organisms.

- It is a fungal infection called candidiasis, it can be caused by the unsterile use of oxygen cylinders or the overuse of steroids.
- The symptoms are whitish patches in the oral cavity, white discharge, skin lesions and symptoms of pneumonia of cough, chest pain and low oxygen level.
- The Anti-fungal drugs can be used to treat patients infected with White Fungus.
- Candidiasis can be treated with fluconazole or itraconazole orally.
- The tropical applications will be required for infections in the oral cavity or genitourinary regions.
- It can be prevented by proper sanitisation of ventilators/oxygen cylinders and also, by taking accurate care of the medical types of equipment that are used on the patients.
- It is more likely to infect people with low immunity, it can also be caused if people come in contact with water or unsanitary environment containing the moulds.
- The disease isn't contagious but a person is said to be vulnerable to the infection since these moulds can be easily inhaled by a patient.
- The fungus can further spread to vital organs and cause complications.
- White fungus is curable with commonly available medicines and does not need expensive injections unlike in the case of mucormycosis.
- The people with low immunity, comorbidities, diabetes, cancer or those using steroids regularly are at a higher risk of getting infected with the white fungus.

Black Fungus

- It is caused by a group of moulds known as mucormycetes present naturally in the environment.
- It mainly affects people who are on medication for health problems that reduces their ability to fight environmental pathogens.
- It is treated with antifungals and mucormycosis may eventually require surgery.

7) C

Renewable Energy Country Attractiveness Index (RECAI)

Recently, the London-based Ernst & Young (EY) has released the 57th edition of the Renewable Energy Country Attractiveness Index (RECAI). It looks at individual categories such as solar PV, concentrated solar power, onshore wind, offshore wind, biomass, geothermal, and hydro.

The 57th edition estimated that future development to achieve net zero will require a further investment of \$5.2 trillion and highlighted the role of institutional investors in financing the energy transition.

The United States remained the most attractive market, followed by China for overall renewable. The index has once again ranked India as the most attractive destination for solar PV investment and deployment.

India scored 62.7 in solar attractiveness, with the sector expected to grow significantly and with generation from solar PV set to surpass coal before 2040. India rose one place to rank third in the overall renewables rankings.

India's position in the RECAI has fluctuated many times, including the slip from the 2nd position in 2017 to the 4th position in 2018. India moved up from the 7th to the 4th position in the 56th EY RECAI as a result of installed solar PV capacity skyrocketing, reaching more than 35GW.

8) D

9) C

The World Health Organization (WHO) and the Swiss Confederation has recently signed a Memorandum of Understanding to launch the first WHO BioHub Facility as part of the WHO BioHub System. The facility established in Spiez, Switzerland under the WHO BioHub System will enhance the rapid sharing of viruses and other pathogens between laboratories and partners globally.

The facility will serve as a centre for the safe receipt, sequencing, storage and preparation of biological materials for distribution to other laboratories, in order to inform risk assessments, and sustain global preparedness against these pathogens.

Bio Hub system

To address the issue, the World Health Organization (WHO) has established the BioHub System in November 2020. It will enable Member States to share biological materials with and via the BioHub under pre-agreed conditions, including biosafety, biosecurity, and other applicable regulations. This will ensure timeliness and predictability in response activities.

10) A

- Ministry of Power has recently decided to set up a National Mission on use of Biomass in coal based thermal power plants. National Mission on use of Biomass in coal based thermal power plants
- It would address the issue of air pollution due to farm stubble burning and would reduce carbon footprints of thermal power generation.

- This would further support the energy transition in the country and our targets to move towards cleaner energy sources.
- The proposed National Mission on biomass will also contribute in the National Clean Air Program (NCAP).

The mission will have the following objectives:

- To increase the level of co-firing from present 5% to higher levels to have a larger share of carbon neutral power generation from the thermal power plants.
- To take up R&D activity in boiler design to handle the higher amount of silica, alkalis in the biomass pellets.
- To facilitate overcoming the constraints in supply chain of bio mass pellets and agro-residue and its transport upto to the power plants.
- To consider regulatory issues in biomass co-firing.

11) C

12) D

A tropical cyclone is an intense circular storm that originates over warm tropical oceans. It is characterized by low atmospheric pressure, high winds, and heavy rain. Unique feature of tropical cyclones is the eye, a central region of clear skies, warm temperatures, and low atmospheric pressure.

Storms of this type are called hurricanes in the North Atlantic and eastern Pacific and typhoons in SouthEast Asia and China. They are called tropical cyclones in the southwest Pacific and Indian Ocean region and Willy-willies in north-western Australia.

The conditions favourable for the formation and intensification of tropical storms are:

- Large sea surface with temperature higher than 27° C and Upper divergence above the sea level system.
- Presence of the Coriolis force and Small variations in the vertical wind speed.
- A pre-existing weak low- pressure area or low-level-cyclonic circulation.

13) C

They are artificially created antibodies that aim to aid the body's natural immune system. They target a specific antigen a protein from the pathogen that induces immune response.

Monoclonal antibodies can be created in the lab by exposing white blood cells to a particular antigen. To increase the quantity of antibodies produced, a single white blood cell is cloned, which in turn is used to create identical copies of the antibodies.

In the case of Covid-19, scientists usually work with the spike protein of the SARS-CoV-2 virus, which facilitates the entry of the virus into the host cell. In a healthy body, the immune system is able to create antibodies — tiny Y-shaped proteins in our blood that recognise microbial enemies and bind to them, signalling the immune system to then launch an attack on the pathogen.

However, for people whose immune systems are unable to make sufficient amounts of these antibodies, scientists provide a helping hand- using monoclonal antibodies. Monoclonal antibodies are now relatively common, they are used in treating Ebola, HIV, psoriasis etc. Itolizumab and Tocilizumab are two important drugs used in monoclonal antibody therapy.

14) C

Union Minister of state (IC) for Ayush Shri Kiren Rijiju will launch the Ayush Clinical Case Repository (ACCR) portal and the third version of Ayush Sanjivani App tomorrow in a virtual event.

Ayush Clinical Case Repository (ACCR) Portal

- This portal will facilitate posting of success stories/successfully treated cases by Ayush practitioners.
- These cases will help Ayush practitioners to know approaches adopted by their colleagues in treatment of various patients.
- Public can also go through these cases and understand the strengths of various Ayush systems in treatment of various ailments/diseases and adopt informed choices for the treatment as and when required.
- This covers all the seven systems of Ayush viz. Ayurveda, Yoga, Naturopathy, Unani, Siddha, Homoeopathy and Sowa Rigpa.
- This portal will present to the public information about clinical cases in an easy format.
- It will increase their awareness about treatment options in Ayush systems and help to make informed choices when required. However, ACCR discourages self-medication in the strongest terms and advices consulting a qualified practitioner for finalising appropriate treatment.

15) D

National Green Tribunal

The NGT, established in 2010, as per the National Green Tribunal Act is a specialised judicial body equipped with expertise solely for the purpose of adjudicating environmental cases in the country. The NGT is not bound by the procedure laid down under the Code of Civil Procedure, 1908, but shall be guided by principles of natural justice.

The principle bench is located in New Delhi. The Tribunal's orders are binding and it has power to grant relief in the form of compensation and damages to affected persons.

The Tribunal's orders are enforceable as the powers vested are the same as in a civil court under the Code of Civil Procedure, 1908. The Tribunal is headed by the Chairperson who sits in the Principal Bench and has at least ten but not more than twenty judicial members and at least ten but not more than twenty expert members.

The Chairperson shall be appointed by the Central Government in consultation with the Chief Justice of India. The Tribunal has powers to review its own decisions. If this fails, the decision can be challenged before the Supreme Court within ninety days.

16) C

Pension Fund Regulatory and Development Authority (PFRDA)

- It is the statutory authority established by an enactment of the Parliament, Pension Fund Regulatory & Development Authority Act, 2013.
- It was established to regulate, promote and ensure orderly growth of the National Pension System (NPS) and pension schemes to which this Act applies.
- The basic function of the PFRDA mentioned under the Act is to promote old age income security by establishing, developing and regulating pension funds, to protect the interests of subscribers to schemes of pension funds and for matters connected therewith or incidental thereto.

National Pension System (NPS)

It was initially notified for central government employees and subsequently adopted by almost all State Governments for its employees. NPS was extended to all Indian citizens (resident/non-resident/overseas) on a voluntary basis and to corporate for its employees.

17) C

Union Defence Minister, Rajnath Singh has recently launched 'Services e-Health Assistance & Tele-consultation (SeHAT) OPD portal.

Services e-Health Assistance & Tele-consultation (SeHAT) OPD Portal

- The portal provides tele-medicine services to the serving Armed Forces personnel, veterans and their families.
- Tri service Tele consultation Service of the Ministry of Defence (MoD) is being offered to all entitled personnel of the three Services.
- It aims to provide healthcare services to patients in their homes.
- Safe and structured video based clinical consultations between a doctor in a hospital and a patient in the confines of his or her home is being enabled.
- Stay Home OPD has been developed by CDAC Mohali and HQ IDS and is based on the lines of e Sanjeevani a similar free OPD service run by the MoHFW for all citizens.
- SeHAT is based on the eSanjeevani OPD-GOI'S flagship telemedicine technology developed by CDAC (Mohali).
- SeHAT is a patient to doctor system, initially for a general OPD consultation and proposed to be extended to specialist OPD consultation subsequently.

18) B

Prime Minister Narendra Modi has recently chaired a high-level meeting to review the National Digital Health Mission (NDHM).

National Digital Health Mission (NDHM)

It aims to develop the backbone necessary to support the integrated digital health infrastructure of the country. It will bridge the existing gap amongst different stakeholders of Healthcare ecosystem through digital highways.

It aims to strengthen the accessibility and equity of health services, including continuum of care with citizen as the owner of data, in a holistic healthcare program approach leveraging IT & associated technologies and support the existing health systems in a 'citizen-centric' approach. It will come under the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana.

The National Health Authority has been entrusted with the role of designing strategy, building technological infrastructure, roll-out and implementation of the mission in India.

It comprises six key building blocks or digital systems namely

- HealthID
- DigiDoctor
- Health Facility Registry
- Personal Health Records
- e-Pharmacy
- Telemedicine

19) C

20) B

