

## Answers

1) C

Researchers from University of Madras and Presidency College, Chennai, have isolated an alga species that shows promise as an agent of biodegradation of plastic sheets.

### **Uronema africanum Borge**

- This is a species of microalgae that has the potential to digest low density plastic sheets.
- The species produced enzymes, hormones, and some polysaccharides which slowly degrade the sheets, and the structural integrity of the polymer and disintegrates into monomers.
- It is commonly found in Africa, Asia and Europe.
- In Rangoon, Burma, it was noted to be an epiphyte, attaching itself to other algae and plants.

2) C

### **National Road Safety Board**

- Ministry of Road Transport & Highways has notified constitution of the National Road Safety Board, along with Rules thereof.
- It shall consist of the Chairman and not less than 3, but not exceeding seven Members, to be appointed by the Central Government.
- The Head Office of the Board shall be in the National Capital Region and the Board may establish offices at other places in India.
- The Board shall promote road safety, innovation and adoption of new technology, and regulate traffic and motor vehicles.
- For this purposes, inter alia, the Board shall formulate specific standards for road safety; guidelines for capacity building and development of skills, etc for consideration by the Central Government.
- The Board shall provide technical advice and assistance to the Central Government, State Governments and local authorities on road safety and traffic management.

### **It will promote:**

- Good practices in road safety and traffic management; new vehicle technology in the field of vehicular engineering;

- Co-ordination with international organizations; and
- Consistency between international technical standards and domestic technical standards, conduct research to improve road safety, traffic management, crash investigation

### **3) A**

- Indian Vice-President has recently inaugurated the Mahabahu Brahmaputra River Heritage Centre on Guwahati's Barphukanar Tila, meaning Barphukan's Hillock.
- This British-era bungalow on a hillock used to be the 17th century military office of the Ahom rulers.
- Barpukhan was a post equivalent to Governor General created by Ahom king Pratap Simha or Susengpha (1603-1641).
- The hillock by the Brahmaputra, mentioned in ancient scriptures as Mandrachal, was from where Ahom General Lachit Barpukhan launched the Battle of Saraighat in March 1671 to inflict the most crushing defeat on the Mughals.

### **Battle of Saraighat**

- It is a naval battle fought in 1671 between the Mughal Empire (led by the Kachwaha king, Raja Ram Singh I), and the Ahom Kingdom (led by Lachit Borphukan) on the Brahmaputra river at Saraighat.
- Saraighat is regarded as the greatest naval battle ever fought in a river.
- Although weaker, the Ahom Army defeated the Mughal Army.
- The Battle of Saraighat was the last battle in the last major attempt by the Mughals to extend their empire into Assam.

### **4) A**

### **5) B**

### **Mosquirix**

- In a historic move, the World Health Organization (WHO) has recently endorsed the use of the first-ever malaria vaccine RTS, S/AS01 malaria or Mosquirix.
- It recommends the widespread application of the vaccine among children in sub-Saharan Africa and other regions with moderate to high malaria transmission.
- The vaccine was developed by the British drug-maker GlaxoSmithKline (GSK).
- Many vaccines exist against viruses and bacteria but this was the first time that the WHO recommended broad use of a vaccine against a human parasite.

### **6) B**

7) A

### **Malaria**

- It is a life-threatening disease caused by parasites that are transmitted to people through the bites of infected female Anopheles mosquitoes.
- It is preventable and curable.

### **Global burden of Malaria**

- Children aged under 5 years are the most vulnerable group affected by malaria.
- In 2019, they accounted for 67% (274,000) of all malaria deaths worldwide.
- In 2019, India had an estimated 5.6 million cases of malaria compared to about 20 million cases in 2020, according to WHO.

### **Malaria Elimination**

- Globally, the elimination net is widening, with more countries moving towards the goal of zero malaria.
- In 2019, 27 countries reported fewer than 100 indigenous cases of the disease, up from 6 countries in 2000.
- Countries that have achieved at least 3 consecutive years of zero indigenous cases of malaria are eligible to apply for the WHO certification of malaria elimination.
- Over the last two decades, 11 countries have been certified by the WHO Director-General as malaria-free: United Arab Emirates (2007), Morocco (2010), Turkmenistan (2010), Armenia (2011), Sri Lanka (2016), Kyrgyzstan (2016), Paraguay (2018), Uzbekistan (2018), Algeria (2019), Argentina (2019), and El Salvador (2021).

8) C

Physicians at the University of California, San Francisco have successfully treated a patient with severe depression by recognising and tapping into the brain circuits linked with depressive brain patterns.

The physicians have tried to reset these patterns, which they have said is the equivalent of using a pacemaker for the heart.

The doctors used an existing technique called Deep Brain Stimulation (DBS), customising it for this patient's case.

Conditions that are traditionally treated using DBS include dystonia, epilepsy, essential tumour, obsessive-compulsive disorder and Parkinson's disease.

## Deep brain stimulation (DBS)

- It is a surgical procedure that involves implanting electrodes in the brain, which deliver electrical impulses that block or change the abnormal activity.
- A DBS system has three components:
- The electrode, or lead. This is a thin, insulated wire inserted through a small opening in the skull and implanted into a specific brain area.
- The extension wire. This too is insulated, and is passed under the skin of the head, neck and shoulder, connecting the electrode to the third component of the system.
- The internal pulse generator (IPG) is the third component. It is usually implanted under the skin in the upper chest.

9) A

10) D

- India has officially joined the High Ambition Coalition for Nature and People group recently.
- India is the first of the BRICS bloc of major emerging economies (Brazil, Russia, India, China and South Africa) to join the HAC.

## High Ambition Coalition (HAC) for Nature and People

- The High Ambition Coalition (HAC) for Nature and People is an intergovernmental group of 70 countries co-chaired by Costa Rica and France and by the United Kingdom as Ocean co-chair.
- It champions a global deal for nature and people with the central goal of protecting at least 30 percent of world's land and ocean by 2030.
- The 30x30 target is a global target which aims to halt the accelerating loss of species, and protect vital ecosystems that are the source of our economic security.

11) C

12) A

## India-Srilanka

13) D

## Right to clean, healthy and sustainable environment

- In a landmark decision, the UN Human Rights Council has recently recognised, for the first time, that having a clean, healthy and sustainable environment is a human right.
- The Council called on States to work together, and with other partners, to implement this newly recognized right.
- The resolution on the Human right to a safe, clean, healthy and sustainable environment was adopted by a vote of 43 in favour, none against and 4 abstentions.
- China, India, Japan and Russian Federation, abstained from voting on the resolution.
- The resolution was proposed by five members comprises Costa Rica, the Maldives, Morocco, Slovenia and Switzerland.
- The resolution emphasises the rights to life, liberty and security of human rights defenders working in environmental matters, referred to as environmental human rights defenders.
- The right to a clean environment was rooted in the 1972 Stockholm Declaration.

**14) A**

### **Indian Space Association (ISpA)**

- It is a private industry body to help boost space technology in India.
- It will be represented by leading homegrown and global corporations with advanced capabilities in space and satellite technologies.
- ISpA will participate and work with ISRO and others on the issue of policy around space technology and domain.
- It will focus on capacity building and space economic hubs and incubators in India.
- Its founding members include Larson & Toubro, Nelco (Tata Group), OneWeb, Bharti Airtel, Mapmyindia, Walchandnagar Industries and Ananth Technology Limited.
- Other core members include Godrej, Hughes India, Azista-BST Aerospace Private Limited, BEL, Centum Electronics, Maxar India.

**15) D**

- The Government has recently approved the setting up of 7 PM MITRA parks as announced in Union Budget for 2021-22.
- The Scheme aims to realise the vision of building an Aatmanirbhar Bharat and to position India strongly on the Global textiles map.
- PM MITRA is inspired by the 5F vision of Hon'ble Prime Minister.
- The '5F' Formula encompasses - Farm to fibre; fibre to factory; factory to fashion; fashion to foreign.
- This integrated vision will help furthering the growth of textile sector in the economy.

- No other competing nation has a complete textile ecosystem like us. India is strong in all five Fs.
- The 7 Mega Integrated Textile Region and Apparel Parks (PM MITRA) will be setup at Greenfield / Brownfield sites located in different States.

