

Q: According to Zoological Survey of India ((ZSI), Zoological Survey discovered 68% of the animal in 2021. Consider the following statement:

1. A new mammal species discovered is Crocidura narcondamica from Andaman and Nicobar.
2. New reptiles discovered was Boiga whitakeri from Tamil Nadu.
3. In State-wise analysis, the most number of discoveries were made from Tamil Nadu.

Choose the correct option from the codes given below:

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

Ans: a

Explanation:

- The new mammal species discovered is Crocidura narcondamica , a white-toothed shrew, from Narcondam Island of the Andaman and Nicobar group of islands.
- Among the reptiles discovered in 2021, notable is Boiga whitakeri , or Whitaker’s cat snake, from the Western Ghats in Tamil Nadu.
- The most number of new discoveries was from the faunal group Hymenoptera, an order of insects, comprising the sawflies, wasps, bees, and ants, in which 80 species, including one new genus, were discovered.
- According to the BSI, regions such as the Western Ghats and the northeastern regions have contributed 28% of the total discoveries.
- In State-wise analysis, the most number of discoveries were made from Kerala with 51 taxa followed by Maharashtra and Arunachal Pradesh.

Q: Consider the following statement regarding the role of Nitrogen in the development of plant:

1. Nitrogen does not form the part of chlorophyll, amino acids and nucleic acids.
2. Nitrates also play a role in controlling genome-wide gene expression.
3. The absorbed nitrates by the roots helps to regulate plant development.

Choose the correct option from the codes given below:

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

Ans: b

Explanation:

- Nitrogen is one of the most important macronutrients needed for development of a plant. It is a part of chlorophyll, amino acids and nucleic acids, among others.
- It is mostly sourced from the soil where it is mainly absorbed in the form of nitrates and ammonium by the roots.
- Nitrates also play a role in controlling genome-wide gene expression that in turn regulates root system architecture, flowering time, leaf development, etc
- Thus, while a lot of action takes place in the roots to absorb and convert nitrogen into useful nitrates, the absorbed nitrates in turn regulate plant development apart from being useful as a macronutrient.

Q: Consider the following statement:

1. Antimicrobial resistance is one of India’s major public health problems.
2. Antimicrobial resistance directly contributing to about 30% of deaths due to neonatal sepsis across India.

Choose the correct option from the codes given below:

- a) 1 Only
- b) 2 Only
- c) 1 and 2

d) None of the above

Ans: c

Explanation:

- Antimicrobial resistance (AMR) is one of India's major public health problems, directly contributing to about 30% of deaths due to neonatal sepsis across India. These are due to multidrug-resistant (MDR) hospital-acquired infections in many cases.
- Over 30% of the COVID-19 deaths in India could be attributed to failure to treat the secondary bacterial infections caused by MDR pathogens with the appropriate antibiotics.

Q: Consider the following statement:

1. Recently held BIMSTEC launched Partnership for Global Infrastructure and Investment (PGII).
2. G-7, 2022 meeting was held in Italy

Choose the correct option from the codes given below:

- a) 1 Only
- b) 2 Only
- c) 1 and 2
- d) None of the above

Ans: d

Explanation:

- Recently, the G-7 grouping launched a U.S.-led \$600 billion Partnership for Global Infrastructure and Investment (PGII) at their summit in Germany's Schloss Elmau, where India was among five special invitees.
- The initiative was billed as a "values-driven, high-impact, and transparent infrastructure partnership to meet the enormous infrastructure needs of low- and middle-income countries and support the U.S. and its allies' economic and national security interests."
- The PGII would offer a counter to China's Belt and Road Initiative (BRI) for projects worldwide that was formally launched five years ago.

Q: Consider the following statement:

1. Richter magnitude scale measure the magnitude of an earthquake.
2. Base on the intensity of the earthquake, India is divided into 3 zone only.

Choose the correct option from the codes given below:

- a) 1 Only
- b) 2 Only
- c) 1 and 2
- d) None of the above

Ans: a

Explanation:

- Richter magnitude scale is a measure of the magnitude of an earthquake and was first defined by Charles F. Richter of the California Institute of Technology, U.S., in 1935.
- The magnitude of an earthquake is the logarithm of the amplitude of the waves measured by the seismographs. Richter scale magnitudes are expressed as a whole number and a decimal part, for example 6.3 or 5.2.
- Since it is a logarithmic scale, an increase of the whole number by one unit signifies a tenfold increase in the amplitude of the wave and a 31-times increase of the energy released.
- Based on seismicity, intensity of earthquakes experienced, and geological and tectonic qualities of a region, countries are divided into several zones.
- In India, for example, there are four zones, designated Zone II-Zone V. Among these, **Zone V is the most hazardous and Zone II the least hazardous.**

