

Q: Consider the following statement:

1. Perrhenate are carcinogenic pollutant found in fresh water.
2. It poses direct threat to humanity and living organisms.
3. Sorbent materials fails to trap the carcinogenic pollutants.

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:

- Systematic studies have identified various organic (organic dyes, antibiotics, pesticides, etc.) as well as inorganic toxic pollutants such as iodides, oxo-pollutants like perrhenate that are carcinogenic in fresh water sources and can pose direct threat to humanity and living organisms.
- In general, commonly utilised sorbent materials often trap these pollutants through ion-exchange strategy to purify water but suffer from poor kinetics and specificity.

Q: Consider the following statement regarding Viologen-unit grafted organic-framework (iVOFm).

1. This material features inherent anionic nature.
2. This material features macroporosity to allow fast diffusion of pollutants.
3. The material showed ultrafast removal of sulfadimethoxine antibiotic from water almost completely.

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:

- Viologen-unit grafted organic-framework (iVOFm) material features inherent cationic nature and macroporosity to allow fast diffusion of pollutants. When tested for a wide array of water pollutants, it showed ultrafast capture of all the pollutants, both organic and inorganic with over 93% removal in just 30 seconds.
- Among all the tested pollutants, the new material showed ultrafast removal of sulfadimethoxine antibiotic from water almost completely.
- Even in the presence of other co-existing anions such as nitrates, chloride, and bromide, the removal of sulfadimethoxine antibiotic was extremely high within a minute. The engineered material could remove sulfadimethoxine antibiotic with high efficiency when tested using different real water samples.

Q: Consider the following statement:

1. The average age of tigers is 12 to 18 years.
2. Madhya Pradesh have six Tiger reserve.

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:

- The average age of tigers is 12 to 18 years.
- In 2021, Madhya Pradesh lost 42 tigers out of 127 fatalities recorded in the country that year.

- Around 250 cubs are born annually in Madhya Pradesh, which is home to six tiger reserves—Kanha, Bandhavgarh, Pench, Satpura, Panna and Sanjay-Dubri.
- Of the 34 tiger fatalities recorded in Madhya Pradesh during 2022, the biggest loss was suffered by the Bandhavgarh Tiger Reserve, where nine big cats died in the 12-month period, followed by Pench (five) and Kanha (four).

Q: Consider the following statement regarding Tiger Census:

1. It is conducted once in every four years.
2. According to the data by National Tiger Conservation Authority (NTCA), Madhya Pradesh lost maximum tigers in 2022.
3. The NTCA is a statutory body under the Ministry of Environment, Forests and Climate Change.

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: d

Explanation:

- The national tiger census is conducted once in every four years. The latest All India Tiger Estimation (AITE) was conducted in 2022 and its report is scheduled to be released in 2023.
- Madhya Pradesh lost 34 tigers in 2022, while its nearest rival for the “tiger State” status, Karnataka recorded the death of 15 big cats, according to data by the National Tiger Conservation Authority (NTCA).
- The NTCA is a statutory body under the Ministry of Environment, Forests and Climate Change constituted under the Wildlife (Protection) Act, 1972, for strengthening tiger conservation.
- Total tiger deaths in India in the previous year stood at 117.

Q: Consider the following statement regarding the Aspirational Blocks Programme:

1. It is on the lines of the Aspirational District Programme.
2. This new programme is aimed at improving performance of blocks lagging on various development parameters.
3. Under this programme, Gujarat had maximum aspirational blocks.

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 Aspirational Blocks Programme is on the lines of the Aspirational District Programme that was launched in 2018 and covers 112 districts across the country.
- This new programme is aimed at improving performance of blocks lagging on various development parameters.
- This will enable holistic development in those areas that require added assistance.
- The programme will cover 500 districts across 31 states and Union Territories initially.
- Over half of these blocks are in 6 states—Uttar Pradesh (68 blocks), Bihar (61), Madhya Pradesh (42), Jharkhand (34), Odisha (29) and West Bengal (29).